



**NEMA Rated Full Voltage Power Devices**

Application Information and Technical Data (300-Line).....1-4

**Magnetic Nonreversing Starters (CR306, CR386)**

Basic Features (300-Line) and Technical Features (CR306, CR386).....1-7

Non-combination, NEMA Sizes 00-9 with Thermal Overload Relays — Application Information and Selection Instructions (CR306, CR386).....1-8

Non-combination, NEMA Sizes 00-9 with Thermal Overload Relays (CR306, CR386).....1-9

Non-combination, NEMA Sizes 1-6 with Solid State Overload Relays — Selection Instructions and Technical Features (CR306).....1-11

Non-combination, NEMA Sizes 1-6 with Solid State Overload Relays .....1-12

Outlines and Dimensions (CR306, CR386).....1-13

**Magnetic Reversing Starters (CR309)**

Application Information and Selection Instructions .....1-17

Non-combination, NEMA Sizes 00-7 with Thermal Overload Relays, Three-Phase .....1-18

Non-combination, NEMA Sizes 00-1 with Thermal Overload Relays, Single-Phase.....1-19

Outlines and Dimensions (CR309).....1-20

**Magnetic Two-Speed Starters (CR309)**

Application Information and Selection Instructions .....1-24

Non-combination, NEMA Sizes 0-5 with Thermal Overload Relays, Two-Winding.....1-25

Non-combination, NEMA Sizes 0-5 with Thermal Overload Relays, One-Winding .....1-26

Outlines and Dimensions (CR309).....1-27

**Magnetic Nonreversing Starters (CR307, CR407, CR308, CR408)**

Application Information and Selection Instructions .....1-30

Nonfusible Disconnect Type (CR308, CR408).....1-31

Fusible Disconnect Type (CR308, CR408) .....1-32

**Magnetic Nonreversing Starters (CR307, CR407, CR308, CR408) (continued)**

Nonfusible and Fusible Part Number Configuration

Size 0-2, NEMA Type 1 (CR308).....1-34

Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR408).....1-37

Thermal Magnetic Circuit Breaker Type (CR307, CR407) .....1-42

Thermal Magnetic Part Number Configuration

Size 0-2, NEMA Type 1 (CR307).....1-43

Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR407).....1-46

Outlines and Dimensions.....1-59

**Mag-Break Magnetic Nonreversing Starters (CR387, CR487)**

Application Information and Selection Instructions .....1-50

Mag-Break Circuit Breaker Type (CR387, CR487) .....1-51

Mag-Break Part Number Configuration

Size 0-2, NEMA Type 1 (CR387).....1-52

Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR487).....1-55

Outlines and Dimensions.....1-59

**Magnetic Reversing Starters (CR310, CR410, CR311, CR411)**

Application Information and Selection Instructions .....1-64

Nonfusible Disconnect Type (CR311, CR411).....1-65

Fusible Disconnect Type (CR311, CR411) .....1-66

Nonfusible and Fusible Part Number Configuration

Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR411).....1-68

Thermal Magnetic Circuit Breaker Type (CR310, CR410) .....1-73

Thermal Magnetic Part Number Configuration

Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR410).....1-74

Outlines and Dimensions.....1-84

**Mag-Break Magnetic Reversing Starters (CR390, CR490)**

Application Information and Selection Instructions .....1-78

Mag-Break Circuit Breaker Type (CR390, CR490) .....1-79

Mag-Break Part Number Configuration

Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR490).....1-80

Outlines and Dimensions.....1-84

**Magnetic Two-speed Controllers (CR412, CR413, CR492)**

Application Information and Selection Instructions .....1-86

Nonfusible Disconnect Type (CR413).....1-87



## Magnetic Two-speed Controllers (CR412, CR413, CR492) (continued)

Fusible Disconnect Type (CR413).....	1-88
Nonfusible and Fusible Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR413).....	1-89
Thermal Magnetic Circuit Breaker Type (CR412).....	1-94
Thermal Magnetic Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR412).....	1-95
Mag-Break Circuit Breaker Type (CR492).....	1-99
Mag-Break Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR492).....	1-100
Outlines and Dimensions.....	1-122

## Magnetic Two-speed Controllers (CR414, CR415, CR494)

Application Information and Selection Instructions.....	1-104
Nonfusible Disconnect Type (CR415).....	1-105
Fusible Disconnect Type (CR415).....	1-106
Nonfusible and Fusible Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR415).....	1-107
Thermal Magnetic Circuit Breaker Type (CR414).....	1-112
Thermal Magnetic Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR414).....	1-113
Mag-Break Circuit Breaker Type (CR494).....	1-117
Mag-Break Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR494).....	1-118
Outlines and Dimensions.....	1-122

## Factory-Installed Modifications for Magnetic Starters

NEMA Sizes 00-6 (CR306, CR307, CR308, CR309, CR310, CR311, CR387, CR390, CR407, CR408, CR410, CR411, CR487, CR490).....	1-124
NEMA Sizes 00-9 (CR306, CR307, CR308, CR310).....	1-130

## Field-Installed Modifications for Magnetic Starters

Auxiliary Contact Kits (CR305X, CR385X).....	1-132
Modification Kits.....	1-135
Fuse-Clip Kits (CR308X).....	1-139

## Enclosures for NEMA Rated Full Voltage Starters (300-Line)

Application Information and Selection Instructions.....	1-141
Selection Tables.....	1-142
Combination Starter Enclosure Kits.....	1-143

## Overload Relays for Panel Mounting

Application Information and Selection Instructions (CR324).....	1-145
Three-Pole, 135 Maximum Amperes Continuous (CR324).....	1-146
Outlines and Dimensions (CR324, CR124).....	1-147

## Electronic Overload Relays.....1-149

## Approximate Motor Full-Load Current Ratings.....1-151

### Heaters Selection

Motor Starter Heaters (CR123C, CR123F).....	1-153
Panel Mounted Overload Relays Heaters (CR123C, CR123F).....	1-157
Panel Mounted Overload Relays Heaters (CR123K, CR123L).....	1-159

## Solid State Overload Relays for Panel Mounting (CR324X)

Technical Features.....	1-160
Selection Instructions.....	1-161
Outlines and Dimensions.....	1-163

## NEMA Rated Full Voltage Manual Starters

Application Information and Selection Instructions (CR101H, CR101Y).....	1-164
Non-combination, Single Phase.....	1-165
Enclosure Components.....	1-166
Outlines and Dimensions (CR101H, CR101Y).....	1-167
Application Information and Selection Instructions (CR1062).....	1-168
Single-Phase and Polyphase.....	1-169
Outlines and Dimensions (CR1062).....	1-171
Manual Starter Heaters for Single-phase and Polyphase.....	1-172

## Pumping Panels

Application Information and Selection Instructions (CR340, CR341).....	1-174
Fusible Disconnect Type with Thermal Overload Relays, Thermal Class 20 (CR341).....	1-175
Fusible Disconnect Type with Thermal Overload Relays, Thermal Class 10 (CR341).....	1-176
Fusible Disconnect Type with Solid State Overload Relays, Class 10-20-30 (CR341).....	1-178
Fusible Disconnect Type Part Number Configuration (CR341).....	1-179
With Thermal Overload Relay, Relay Class 20 (CR340).....	1-182
Mag-Break Type with Thermal Overload Relays, Thermal Class 10 (CR340).....	1-183
Mag-Break Type with Solid State Overload Relays, Class 10-20-30 (CR340).....	1-184
Mag-Break Type Part Number Configuration (CR340).....	1-185
Heaters (CR340, CR341).....	1-188
Outlines and Dimensions (CR340, CR341).....	1-190

## Magnetic Nonreversing Contactors (CR305, CR385)

Application Information and Selection Instructions (CR305, CR385).....	1-193
NEMA Sizes 00-9, One- and Two-Pole (CR305, CR385).....	1-194
NEMA Sizes 00-9, Three-Pole (CR305, CR385).....	1-195
NEMA Sizes 00-9, Four-Pole (CR305, CR385).....	1-196
Factory Installed Modifications for Magnetic Contactors (CR305, CR385).....	1-197
Outlines and Dimensions (CR305, CR385).....	1-208

## Field-Installed Modifications for Magnetic Contactors (CR305, CR385)

Application Information and Selection Instructions.....	1-202
Auxiliary Contact Kits (CR305X, CR385X).....	1-203
Modification Kits.....	1-205
Outlines and Dimensions (CR305, CR385).....	1-208





# NEMA Full Voltage Power Devices 300-Line Starters

## Section 1

### Application Information and Technical Data

Description	Maximum Horsepower NEMA Size										
	00	0	1	2	3	4	5	6	7	8	9
<b>Normal Starting Duty HP Rating<sup>1</sup></b>											
Single Phase											
115V 60Hz	1/3	1	2	3	7 1/2	NA	NA	NA	NA	NA	NA
230V 60Hz	1	2	3	7 1/2	15	NA	NA	NA	NA	NA	NA
Three Phase											
200V 60Hz	1 1/2	3	7 1/2	10	25	40	75	150			
230V 60Hz	1 1/2	3	7 1/2	15	30	50	100	200	300	450	800
380-415V 50Hz	1 1/2	5	10	25	50	75	150	300	500	750	1350
460V 60Hz	2	5	10	25	50	100	200	400	600	900	1600
575V 60Hz	2	5	10	25	50	100	200	400	600	900	1600
<b>Plugging or Jogging HP Rating<sup>1</sup></b>											
Single Phase											
115V 60Hz	NA	1/2	1	2	5	NA	NA	NA	NA	NA	NA
230V 60Hz	NA	1	2	5	10	NA	NA	NA	NA	NA	NA
Three Phase											
200V 60Hz	NA	1 1/2	3	7 1/2	15	25	60	125	NA	NA	NA
230V 60Hz	NA	1 1/2	3	10	20	30	75	150	NA	NA	NA
380-415V 50Hz	NA	1 1/2	5	15	30	50	125	250	NA	NA	NA
460V 60Hz	NA	2	5	15	30	60	150	250	NA	NA	NA
575V 60Hz	NA	2	5	15	30	60	150	250	NA	NA	NA
<b>Continuous Current Max</b>											
Starters and Enclosed Contactors	9	18	27	45	90	135	270	540	810	1215	2250
Open Contactors	10	20	30	50	100	150	300	600	900	1350	2500
<b>Coil Burden (VA)</b>											
Inrush 2-Pole	151	151	151	528	1152	1248	2580	3360	1600	1500	2900
Holding 2-Pole	24	24	24	60	83	87	191	255	210	140	300
Inrush 3-Pole	151	151	151	528	1152	1248	2580	3360	1600	2900	3600
Holding 3-Pole	24	24	24	60	83	87	191	255	210	300	400
Inrush 4- and 5-Pole	151	151	151	576	1248	1356	3600	NA	NA	NA	NA
Holding 4- and 5-Pole	24	24	24	75	87	95	276	NA	NA	NA	NA
Control Power Transformer VA (Min)	50	50	50	100	200	250	500 <sup>2</sup>	500 <sup>2</sup>	1000 <sup>2</sup>	1500 <sup>2</sup>	1501 <sup>2</sup>
<b>Coil Operating Voltage</b>											
% Minimum Pickup	85	85	85	85	85	85	85	85	85	85	85
% Maximum Dropout	63	63	63	68	65	65	65	65	50	50	50
<b>Switching Delay 3-Pole</b>											
Pickup Typical (Milliseconds)	15-30	15-30	15-30	20-40	20-45	20-45	30-50	30-50	60-90	80-125	80-125
Dropout Typical (Milliseconds)	7-15	7-15	7-15	7-15	7-15	7-15	15-25	15-25	100-150	25-100	25-100
Mechanical Life Millions Nominal	20	20	20	10	5	5	5	1	1	1	0.5
<b>Weight (Less Carton)</b>											
Contactors (Pounds)	2 3/4	2 3/4	2 3/4	6 1/2	15	14 3/4	48	48	79	203	302
Starter (Pounds)	3 3/4	3 3/4	3 3/4	7 1/2	17 3/4	17 1/2	53	75	106	263	365
<b>Power Terminals</b>											
Wire Size Range (75 DEG) AWG	14-8	14-8	14-8	14-4	10-1/0	8-3/0	1/0-500kcmil	2 2/0-500kcmil	3 2-600kcmil	4 2-600kcmil	NA
Torque (Pounds-Inches)	20	20	20	50	150	200	300	375	500	500	NA
Max. Noise (DBA)	50	50	50	50	50	50	65	65	65	65	65

<sup>1</sup> When operation of the controller requires jogging (inching) or plug stopping or when normal operation requires continued operation in excess of 5 operations per minute or 10 operations in a 10-minute period, the plugging or jogging horsepower ratings must be followed.

<sup>2</sup> In lieu of a 500 to 1500 VA control transformer, a 50 VA unit in conjunction with a control relay can be used as follows:

- Wire control relay coil in control circuit on secondary side of control transformer.
- Wire two poles of control relay in series with contactor coil at line voltage.

### Mounting Position

Devices must be mounted to a sturdy vertical surface with the line side terminals up. No other orientations are permitted.

### Operating Temperature

Equipment is designed for ambient temperature outside of equipment enclosures to be -25° to 40°C. When contactor is energized, temperatures will be above outside ambient in equipment

enclosures. Temperature rises inside the enclosures should be limited so that internal air temperature does not exceed 65° for sizes 00 to 6 and 60°C for sizes 7 to 9. If condensing moisture is present, space heater kits should be used to prevent condensation when contactor is not energized.

Storage temperature should be -30° to 65°C. If equipment is stored over 1 week, it may be necessary to cover the equipment and provide a source of heat to prevent condensation.



Product Number Selection Instructions: See page 1-8

# NEMA Full Voltage Power Devices

## 300-Line Starters

# Section 1

### Application Information and Technical Data

#### Short-Circuit Ratings

Fusible forms of combination magnetic starters equipped with UL labeled, nonrenewable, NEC-type fuses listed in the table below, are adequate for installation on motor branch circuits where the available short-circuit current at the incoming line terminals of the starter does not exceed the value shown.

Circuit breaker-type combination magnetic starters equipped with the circuit breakers listed in the table at right are adequate for installation on motor branch circuits where the available short-circuit current at the incoming line terminals of the starter does not exceed the value shown.

For either type, it is recognized that maintenance of some components may be required after a branch circuit fault and in some cases a device may require replacement.

#### Fusible Combination Starters

NEMA Size	Fuse Type	Maximum Symmetrical rms Amperes
0-3	H, K	5,000
4, 5	H, K	10,000
0-5	J, RK-1, RK-5	100,000
6	J, L, RK-1, RK-5	100,000

#### Circuit Breaker Combination Starters

Spectra™ RMS Molded Case Circuit Breaker or Spectra™ RMS Mag-Break Circuit Protector

Breaker Model	NEMA Size	Maximum Symmetrical RMS Amperes		
		240V	480V	600V
SELA	0 - 3	65,000	65,000	25,000
SFLA	4	65,000	65,000	25,000

#### Circuit Breaker Combination Starters

Breaker Type	Rating Amperes	NEMA Size	Maximum Symmetrical RMS Amperes		
			240V	480V	600V
TJJ & TJK	225-600	5	10,000	10,000	10,000
THJK	225-400	5	35,000	35,000	25,000
THJK	450-600	5	10,000	10,000	10,000
TKM, TKC	300-800	6	42,000	30,000	22,000
THKM8	300-800	6	65,000	35,000	25,000
TB6, TBC	300-800	6	65,000	65,000	42,000



# NEMA Full Voltage Power Devices 300-Line Starters

## Section 1

### Application Information and Technical Data (Continued)

#### Control Transformers—Where to Use

It is often desirable to use a control transformer in conjunction with a magnetic starter or controller to provide low voltage control.

#### Description—Factory Wired

A transformer, with sufficient capacity for the control circuit, mounted with the starter can be supplied by the factory for the majority of transformer ratings and types of enclosures.

#### Coil Suffix

(THIS TABLE IS TO BE USED FOR STARTER FORMS WITHOUT CONTROL TRANSFORMERS.)

Indicates voltage and frequency of operating coils. For use in ordering full voltage starters and contactors, Sizes 00-6, with other coil ratings than those shown in listing on pages 1-9 to 1-122.

Frequency (Hertz)	24V	115-120V <sup>5</sup>	200-208V <sup>5</sup>	230-240V <sup>5</sup>	265-277V	460-480V <sup>5</sup>	575-600V <sup>5</sup>
60	24	02	23	03	13	04	05
Frequency (Hertz)	110V		220V		380-415V	440V	550V
50	—	02	—	03	64	04	05

**Note:** The 02 coil suffix (115-120V, 60 Hz/110V, 50 Hz) supersedes the 22 coil suffix (120V, 60 Hz).

<sup>5</sup> Suffix shown for this voltage is part of Product Number in magnetic starter-contactor listings.

#### Auxiliary Contact Ratings—NEMA Size 0-9

AC Volts	Amperes		
	Continuous	Make	Break
115	10	60	6.0
230	10	30	3.0
460	10	15	1.5
575	10	12	1.2
DC Volts			
125	10	—	1.1
250	10	—	0.5

#### Contactors DC Ratings

NEMA Size	No. of Poles in Series	Continuous Current Rating	Interrupting Ratings							
			Inductive Amps @125V		Inductive Amps @250V		Noninductive Amps @125V		Noninductive Amps @250V	
			N.O.	N.C.	N.O.	N.C.	N.O.	N.C.	N.O.	N.C.
00	1	9	2.5	2.5	0.6	0.5	5	4	1	0.8
00	2	9	7	7	1.2	1.2	25	25	5	4
00	3	9	14	14	3.5	3.5	35	35	15	15
00	4	9	25	25	7	7	50	50	50	50
0	1	18	2.8	2.5	0.7	0.5	6	4.5	1.1	0.9
0	2	18	7	7	1.5	1.2	35	25	6	4.5
0	3	18	14	14	3.5	3.5	50	35	25	25
0	4	18	25	25	7	7	90	60	60	55
1	1	27	3	2.5	0.7	0.5	6.5	4.5	1.2	0.9
1	2	27	7	7	1.5	1.2	50	25	7	4.5
1	3	27	14	14	3.5	3.5	70	35	35	25
1	4	27	25	25	7	7	120	60	70	55
2	2	45	7		1.5		60		9	
2	3	45	14		3.5		120		40	
2	4	45	25		7		160		80	
3	2	90	7		2.2		600		300	
3	3	90	14		4.5		600		600	
3	4	90	25		9		600		600	
4	2	135	7		2.2		600		300	
4	3	135	14		4.5		600		600	
4	4	135	25		9		600		600	



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR306, CR386 Magnetic Starters

## Section 1

Nonreversing

1600 Horsepower Maximum

NEMA Sizes 00-9

600 Volts Maximum

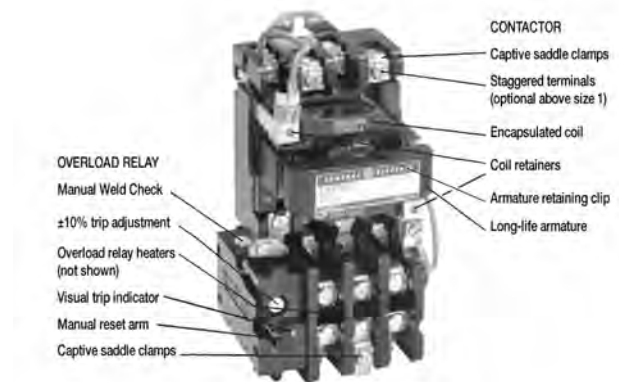
50/60 Hertz

#### Basic 300-Line Features

GE's full voltage (600-Volt maximum) magnetic motor starter has an encapsulated coil and a 3-leg overload relay to protect against overloads in all phases. It is on standard specifications of major manufacturers. The line offers features and benefits most asked for by users.

Forms available include reversing and nonreversing, two-speed, and combination, sizes 00-9.

- Toolless contactor disassembly (Sizes 00-4)**—allows quick access for inspection and maintenance. Just release two retainers and pull a clip to get at magnet, coil, and contacts.
- Saddle clamp terminals (Sizes 00-1)**—accommodate ring, spade, and stripped wire leads and carry permanent stamped-in identification. Staggered arrangement makes wiring easier and helps prevent shorting between phases.
- Current-carrying components**—contact tips are weld-resistant silver cadmium oxide (fine silver on sizes 00 and 0 only). Contacts are installed in a wedge configuration for positive make with minimum bounce.
- Optional PF capacitor terminals**—permit easy connection of power factor correction capacitors between contactor and overload relay for energy conservation.
- Class 20 overload protection.**
- Visual trip indicator with manual reset**—to avoid surprise restarts. Reset occurs on arm upstroke so a tripped condition can't be overridden by holding the arm down.
- Manual weld check**—provides a convenient test against welding of overload relay contacts. Just depress the weld check operator to trip the relay, run a simple continuity test across the relay contacts, then depress the manual reset to return the starter to service.
- Optional Isolated NO contact on the overload relay**—provides means of direct interface with programmable controller or computer to monitor performance and diagnose faults.
- Dual bimetals**—anticipate overloads, responding to rising current and temperature with faster tripping on severe overloads for better motor protection. Trip points are factory-calibrated for accuracy.
- ±10% trip adjustment**—by turning a dial in the overload relay face allows "tuning" the protection to the motor on the spot.
- Largest selection of modifications and accessory kits**—includes auxiliary contacts, coils, fifth-pole addition, vertical and horizontal mechanical interlocks, surge suppressors, control circuit fusing, NEMA Type enclosures, push buttons, selector switches, indicating lights, control transformers, space heaters, and more.



Typical Size 1 Motor Starter



CR306 Size 1 Motor Starter with Solid-State Overload Relay installed

#### Technical Features — Solid-State Overload

- 2:1 Adjustable full load amps with tactile feedback dial
- Selectable 10/20/30 protection class
- Ambient insensitive within the stated operating temperature range of -20° to +70°C
- Built-in thermal memory to prevent hot motor restarts
- Protection against complete phase current loss
- Manual reset (standard) and remote reset (optional) 120 VAC
- Accuracy: ± 2%
- Repeatability: ± 2%
- Self-powered @ 50% of minimum current range
- Size: 1-6 (0.40A-540A, 600V, 50/60 Hz)
- Unbalance trip signal for PLC operation
- Manual trip
- Visual trip indication
- Standard isolated 1 NO and 1 NC aux. contact (A600, Q600)
- Built-in line/load straps
- Fits with existing 300-Line Starters
- Power factor correction terminals (sizes 1-4)
- DIN rail mountable sizes 1 & 2



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR306, CR386 Magnetic Starters

Nonreversing, Non-combination  
 NEMA Sizes 00-9 with Thermal Overload Relay  
 600 Volts Maximum 50/60 Hertz

#### Application

GE's magnetic motor starters listed here may be used for starting full-voltage, nonreversing, single-speed ac motors up to 1600 horsepower, 600 Volts maximum, providing protection to the motor against running or stalled overloads.

Their compact size and ease of wiring make them especially suitable for motor control centers, custom-type control panels, and switchgear equipment. Refer to page 1-7 for features of basic starter.

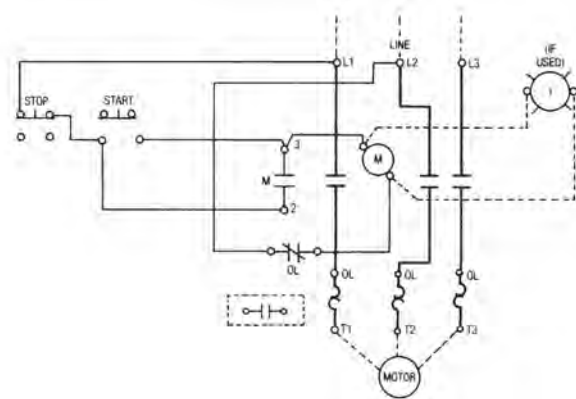
#### Product Number Selection Instructions

- Specify starter by complete Product Number.  
 Example: CR306C103 is a Size 1 starter with 230-240-Volt, 60-Hertz coil and in Type 1 general-purpose enclosure @ **\$246.00, GO-10G**.
- The final letter of the Product Number denotes extra auxiliary contacts (sometimes referred to as auxiliary interlocks). Order the desired extra auxiliary contacts by replacing the final letter with one from first column of auxiliary interlock table (see page 1-134).  
 Example: CR306C103AAB is Size 1 starter with one extra normally open, auxiliary contact @ **\$312.00, GO-10G**.
- Starter forms are available with coils of other ratings than those shown on pages 1-9 to 1-10. Refer to coil suffix table, page 1-8 for information. To order forms with other coil ratings, insert suffix from coil table in place of fifth and sixth numbers of listed starter Product Number shown on pages 1-9 to 1-10. (Contact your nearest GE Representative for other available starter coils not shown in table.) Example: A CR306C102 NEMA Size 1, three-pole starter in Type 1 enclosure with 24-Volt, 60-Hertz coil becomes a CR306C124 Product Number.
- For continuous rated motors with a service factor of 1.15 to 1.25 select the heater with maximum motor Amperes equal to or immediately greater than the actual full-load current taken directly from the nameplate of motor. Order heaters by complete Product Number from appropriate heater tables on pages 1-153 to 1-159. **List Price \$9.00 each, GO-10H**. Packaged in quantities of three; must be ordered in multiples of three.
- Order special modifications or forms not listed by complete description using a listed Product Number as reference.  
 Example: Similar to CR306C104 except with 480/120-Volt control transformer and red indicating light in cover.  
 Total **List Price . . . . . \$483.00, GO-10G**.
- Two-phase, four-wire forms are available. Contact nearest GE Representative for pricing and ordering information.
- Standard Coil Ratings**  
 Standard Voltages (60 Hertz): 24, 115-120, 200-208, 230-240, 265-277, 460-480 and 575-600  
 Standard Voltages (50 Hertz): 110, 220, 380, 440 and 550  
 For price adders on special voltage and/or frequency coils, refer to page 1-126.
- 50-Hertz Starters**  
 Pricing of starters for use on 50 Hertz at standard voltages is the same as shown in table for 60 Hertz. Refer to page 1-4 for three-phase horsepower ratings at 380 Volts, 50 Hertz.

## Section 1



Typical CR306 Size 4 magnetic motor starter



Typical Schematic Diagram for CR306 Starter (NEMA Sizes 00-6)

#### 9. Product Notes

Motor full-load current should not exceed continuous ampere rating of starter.

#### Reference Publications

Instructions	Publication Number
NEMA Size 00, 0, 1	GEH-5190
2	GEH-4774
3	GEH-4806
4	GEH-4807
5	GEH-4839
6	GEH-5198
7-9	GEH-5108

#### CR306, CR386 Magnetic Starters - Contents

Basic Features (300-Line) and Technical Features (CR306, CR386).....	1-7
Non-combination, NEMA Sizes 00-9 with Thermal Overload Relays — Application Information and Selection Instructions (CR306, CR386).....	1-8
Non-combination, NEMA Sizes 00-9 with Thermal Overload Relays (CR306, CR386).....	1-9
Outlines and Dimensions (CR306, CR386).....	1-13



Other Coil Voltages: See page 1-6  
 Factory Installed Modifications: See pages 1-124 to 1-131

Field Installed Modifications: See pages 1-132 to 1-138  
 Extra Auxiliary Contacts: See pages 1-132 to 1-134  
 Heater Selection Tables: See pages 1-153 to 1-159



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR306, CR386 Magnetic Starters

## Section 1

Nonreversing, Non-combination, Open, NEMA Type 1, 3R, 12, 4/4X  
 NEMA Sizes 00-9 with Thermal Overload Relay  
 600 Volts Maximum 50/60 Hertz

#### Three-Phase

List Price includes a holding interlock, pressure terminals for the line and load connections, plus a 3-leg block type overload relay (manual reset). All enclosures include external reset. One NO isolated contact on the overload relay is available as an option at **\$24.00, GO-10G**. To order add suffix LAA to Product Numbers (Size 00-5) listed in table.

Three heaters should be ordered as separate items. See pages 1-153 to 1-159 for selection. List price **\$9.00 each, GO-10H**.

#### CR306, Three-Phase Magnetic Starters

NEMA Size	Continuous Ampere Rating <sup>1</sup>	Voltage	Horsepower	Open Type		NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4/4X	
				Product Number	List Price	Product Number	List Price	Product Number	List Price	Product Number	List Price	Product Number	List Price
00	9	Separate Control—115-120 V		A002	\$162.00	A102	\$174.00	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0
00	9	200-208	1 1/2	A023	\$162.00	A123	\$174.00	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0
00	9	230-240	1 1/2	A003	\$162.00	A103	\$174.00	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0
00	9	460-480	2	A004	\$162.00	A104	\$174.00	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0
00	9	575-600	2	A005	\$162.00	A105	\$174.00	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0	Use NEMA Size 0
0	18	Separate Control—115-120 V		B002	\$204.00	B102	\$216.00	B602	\$288.00	B202	\$288.00	B402	\$426.00
0	18	200-208	3	B023	\$204.00	B123	\$216.00	B623	\$288.00	B223	\$288.00	B423	\$426.00
0	18	230-240	3	B003	\$204.00	B103	\$216.00	B603	\$288.00	B203	\$288.00	B403	\$426.00
0	18	460-480	5	B004	\$204.00	B104	\$216.00	B604	\$288.00	B204	\$288.00	B404	\$426.00
0	18	575-600	5	B005	\$204.00	B105	\$216.00	B605	\$288.00	B205	\$288.00	B405	\$426.00
1	27	Separate Control—115-120 V		C002	\$234.00	C102	\$246.00	C602	\$318.00	C202	\$318.00	C402	\$462.00
1	27	200-208	7 1/2	C023	\$234.00	C123	\$246.00	C623	\$318.00	C223	\$318.00	C423	\$462.00
1	27	230-240	7 1/2	C003	\$234.00	C103 <sup>2</sup>	\$246.00	C603	\$318.00	C203	\$318.00	C403	\$462.00
1	27	460-480	10	C004	\$234.00	C104	\$246.00	C604	\$318.00	C204	\$318.00	C404	\$462.00
1	27	575-600	10	C005	\$234.00	C105	\$246.00	C605	\$318.00	C205	\$318.00	C405	\$462.00
2	45	Separate Control—115-120 V		D002	\$426.00	D102	\$486.00	D602	\$618.00	D202	\$618.00	D402	\$918.00
2	45	200-208	10	D023	\$426.00	D123	\$486.00	D623	\$618.00	D223	\$618.00	D423	\$918.00
2	45	230-240	15	D003	\$426.00	D103	\$486.00	D603	\$618.00	D203	\$618.00	D403	\$918.00
2	45	460-480	25	D004	\$426.00	D104	\$486.00	D604	\$618.00	D204	\$618.00	D404	\$918.00
2	45	575-600	25	D005	\$426.00	D105	\$486.00	D605	\$618.00	D205	\$618.00	D405	\$918.00
3	90	Separate Control—115-120 V		E002	\$690.00	E102	\$810.00	E602	\$966.00	E202	\$966.00	E402	\$1422.00
3	90	200-208	25	E023	\$690.00	E123	\$810.00	E623	\$966.00	E223	\$966.00	E423	\$1422.00
3	90	230-240	30	E003	\$690.00	E103	\$810.00	E603	\$966.00	E203	\$966.00	E403	\$1422.00
3	90	460-480	50	E004	\$690.00	E104	\$810.00	E604	\$966.00	E204	\$966.00	E404	\$1422.00
3	90	575-600	50	E005	\$690.00	E105	\$810.00	E605	\$966.00	E205	\$966.00	E405	\$1422.00
4	135	Separate Control—115-120 V		F002	\$1578.00	F102	\$1830.00	F602	\$2346.00	F202	\$2346.00	F402	\$2874.00
4	135	200-208	40	F023	\$1578.00	F123	\$1830.00	F623	\$2346.00	F223	\$2346.00	F423	\$2874.00
4	135	230-240	50	F003	\$1578.00	F103	\$1830.00	F603	\$2346.00	F203	\$2346.00	F403	\$2874.00
4	135	460-480	100	F004	\$1578.00	F104	\$1830.00	F604	\$2346.00	F204	\$2346.00	F404	\$2874.00
4	135	575-600	100	F005	\$1578.00	F105	\$1830.00	F605	\$2346.00	F205	\$2346.00	F405	\$2874.00
5	270	Separate Control—115-120 V		G002	\$3855.00	G102	\$4317.00	G602	\$5637.00	G202	\$5637.00	G402	\$5637.00
5	270	200-208	75	G023	\$3855.00	G123	\$4317.00	G623	\$5637.00	G223	\$5637.00	G423	\$5637.00
5	270	230-240	100	G003	\$3855.00	G103	\$4317.00	G603	\$5637.00	G203	\$5637.00	G403	\$5637.00
5	270	460-480	200	G004	\$3855.00	G104	\$4317.00	G604	\$5637.00	G204	\$5637.00	G404	\$5637.00
5	270	575-600	200	G005	\$3855.00	G105	\$4317.00	G605	\$5637.00	G205	\$5637.00	G405	\$5637.00
6	540	Separate Control—115-120 V		HH002	\$9165.00	HH102	\$12165.00	HH602	\$13785.00	HH202	\$13785.00	HH402	\$15165.00
6	540	200-208	150	HH023	\$9165.00	HH123	\$12165.00	HH623	\$13785.00	HH223	\$13785.00	HH423	\$15165.00
6	540	230-240	200	HH003	\$9165.00	HH103	\$12165.00	HH603	\$13785.00	HH203	\$13785.00	HH403	\$15165.00
6	540	460-480	400	HH004	\$9165.00	HH104	\$12165.00	HH604	\$13785.00	HH204	\$13785.00	HH404	\$15165.00
6	540	575-600	400	HH005	\$9165.00	HH105	\$12165.00	HH605	\$13785.00	HH205	\$13785.00	HH405	\$15165.00

#### CR386 Three-Phase Magnetic Starters

NEMA Size	Continuous Ampere Rating <sup>1</sup>	Voltage	Horsepower	Control Circuit Voltage	Open Type	
					Product Number	List Price
7	810	Separate Control—115-120 V			J002AA1A	\$13167.00
7	810	220-240	300	230	J003AA1A	\$13167.00
7	810	440-480	600	460	J004AA1A	\$13167.00
7	810	550-600	600	575	J005AA1A	\$13167.00
8	1215	Separate Control—115-120 V			K002AA1A	\$19455.00
8	1215	220-240	450	230	K003AA1A	\$19455.00
8	1215	440-480	900	460	K004AA1A	\$19455.00
8	1215	550-600	900	575	K005AA1A	\$19455.00
9	2250	Separate Control—115-120 V			L002AA1A	\$31983.00
9	2250	220-240	800	230	L003AA1A	\$31983.00
9	2250	440-480	1600	460	L004AA1A	\$31983.00
9	2250	550-600	1600	575	L005AA1A	\$31983.00

<sup>1</sup>Motor full load current should not exceed continuous ampere rating of the starter.

<sup>2</sup>Units are individually boxed and "Poly-Packed" six per carton as standard.



Enclosure Descriptions: See Section 12

# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR306, CR386 Magnetic Starters

## Section 1

Nonreversing, Non-combination, Open, NEMA Type 1, 3R, 12, 4/4X  
 NEMA Sizes 00-9 with Thermal Overload Relay  
 600 Volts Maximum 50/60 Hertz

#### Single-Phase

List price includes a holding interlock. One heater (per starter) for sizes 00-2 and two heaters (per starter) for size 3 should be ordered as separate items. See pages 1-153 to 1-159 for selection. **List price \$9.00 each, GO-10H.**

#### CR306, Single-Phase Magnetic Starters

NEMA Size	Continuous Ampere Rating <sup>1</sup>	Voltage	Horsepower	Open Type		NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4/4X	
				Product Number	List Price	Product Number	List Price	Product Number	List Price	Product Number	List Price	Product Number	List Price
				CR306	GO-10G	CR306	GO-10G	CR306	GO-10G	CR306	GO-10G	CR306	GO-10G
00	9	115-120	1/3	H002	\$162.00	H102	\$174.00	Use NEMA Size 0		Use NEMA Size 0		Use NEMA Size 0	
00	9	230-240	1	H003	\$162.00	H103	\$174.00	Use NEMA Size 0		Use NEMA Size 0		Use NEMA Size 0	
0	18	115-120	1	J002	\$183.00	J102	\$195.00	J602	\$267.00	J202	\$267.00	J402	\$405.00
0	18	230-240	2	J003	\$183.00	J103	\$195.00	J603	\$267.00	J203	\$267.00	J403	\$405.00
1	27	115-120	2	K002	\$213.00	K102	\$225.00	K602	\$297.00	K202	\$297.00	K402	\$441.00
1	27	230-240	3	K003	\$213.00	K103	\$225.00	K603	\$297.00	K203	\$297.00	K403	\$441.00
1P	36	115-120	3	K002BMA	\$279.00	K102BKA	\$291.00	K602BKA	\$363.00	K202BKA	\$363.00	K402BKA	\$507.00
1P	36	230-240	5	K003BMA	\$279.00	K103BKA	\$291.00	K603BKA	\$363.00	K203BKA	\$363.00	K403BKA	\$507.00
2	45	115-120	3	L002	\$387.00	L102	\$447.00	L602	\$579.00	L202	\$579.00	L402	\$879.00
2	45	230-240	7 1/2	L003	\$387.00	L103	\$447.00	L603	\$579.00	L203	\$579.00	L403	\$879.00
3	90	115-120	7 1/2	M002	\$642.00	M102	\$762.00	M602	\$918.00	M202	\$918.00	M402	\$1374.00
3	90	230-240	15	M003	\$642.00	M103	\$762.00	M603	\$918.00	M203	\$918.00	M403	\$1374.00
3	90	460-480	25	M004	\$642.00	M104	\$762.00	M604	\$918.00	M204	\$918.00	M404	\$1374.00
3	90	575-600	25	M005	\$642.00	M105	\$762.00	M605	\$918.00	M205	\$918.00	M405	\$1374.00

<sup>1</sup>Motor full load current should not exceed continuous ampere rating of the starter.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR306 Magnetic Starters

Nonreversing, Non-combination, Open, NEMA Type 1, 3R, 12, 4/4X

NEMA Sizes 1-6 with Solid State Overload Relay  
600 Volts Maximum 50/60 Hertz



CR306 Size 1 Motor Starter with Solid-State Overload Relay installed

#### Product Number Selection Instructions

##### 1. 50 Hertz Starters

Pricing for 50-Hertz forms (at standard voltages) is the same as shown in table for 60 Hertz. Listed prices for 460-480 Volt also apply to 380-415 Volt, 50 Hertz. See page 1-4 for 380-415 Volt horsepower ratings.

##### 2. Product Notes

Motor full-load current should not exceed continuous ampere rating of starter.

**3. Note: Reversing, Two Speed, and Combination Starters are also available with Solid-State Overload Relays. Contact nearest GE Representative for more information.**

4. Units are individually boxed and poly-packed six per carton as standard.

5. External reset not included on standard listed forms (NEMA Type 12).

6. For additional details on the Solid State Overload Relay, see pages 1-160 through 1-163.

#### Technical Features — Solid-State Overload

- 2:1 Adjustable full load amps with tactile feedback dial
- Selectable 10/20/30 protection class
- Ambient insensitive within the stated operating temperature range of -20° to +70°C
- Built-in thermal memory to prevent hot motor restarts
- Protection against complete phase current loss
- Manual reset (standard) and remote reset (optional) 120 VAC
- Accuracy: ± 2%
- Repeatability: ± 2%
- Self-powered @ 50% of minimum current range
- Size: 1-6 (0.40A-540A, 600V, 50/60 Hz)
- Unbalance trip signal for PLC operation
- Manual trip
- Visual trip indication
- Standard isolated 1 NO and 1 NC aux. contact (A600, Q600)
- Built-in line/load straps
- Fits with existing 300-Line Starters
- Power factor correction terminals (sizes 1-4)
- DIN rail mountable sizes 1 & 2

#### Reference Publications

Instructions	Publication Number
NEMA Size	
00, 0, 1	GEH-5190
1-6	DEP-058
2	GEH-4774
3	GEH-4806
4	GEH-4807
5	GEH-4839
6	GEH-5198
7-9	GEH-5108

#### CR306 Magnetic Starters - Contents

Non-combination, NEMA Sizes 1-6 with Solid State Overload Relays — Selection Instructions and Technical Features (CR306).....	1-11
Non-combination, NEMA Sizes 1-6 with Solid State Overload Relays .....	1-12
Outlines and Dimensions (CR306, CR386).....	1-13



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR306 Magnetic Starters

Nonreversing, Non-combination, Open, NEMA Type 1, 3R, 12, 4/4X  
NEMA Sizes 1-6 with Solid State Overload Relay  
600 Volts Maximum 50/60 Hertz

List price includes a holding interlock, pressure terminals for the line and load connections, plus a solid-state overload relay (manual reset). Standard isolated 1NO and 1NC auxiliary contact (A600, Q600).

Select current range from Full Load Current Selection Table. Insert letter (C, D, E, F, etc.) from table in Product Number to replace \*.

Refer to Coil Table, page 1-6 for other available starter coils and suffixes (sizes 1-6).

#### CR306, Three-Phase Magnetic Starters

NEMA Size	Continuous Ampere Rating <sup>1</sup>	Voltage	Horsepower	Open Type		NEMA Type 1		NEMA Type 3R		NEMA Type 12 <sup>2</sup>		NEMA Type 4/4X	
				Product Number	List Price	Product Number	List Price	Product Number	List Price	Product Number	List Price	Product Number	List Price
1	27	Separate Control — 115-120V		CX*002	\$261.00	CX*102	\$273.00	CX*602	\$345.00	CX*202 <sup>1</sup>	\$345.00	CX*402	\$489.00
1	27	200-208	7 1/2	CX*023	\$261.00	CX*123	\$273.00	CX*623	\$345.00	CX*223 <sup>1</sup>	\$345.00	CX*423	\$489.00
1	27	230-240	7 1/2	CX*003	\$261.00	CX*103 <sup>2</sup>	\$273.00	CX*603	\$345.00	CX*203 <sup>1</sup>	\$345.00	CX*403	\$489.00
1	27	460-480	10	CX*004	\$261.00	CX*104	\$273.00	CX*604	\$345.00	CX*204 <sup>1</sup>	\$345.00	CX*404	\$489.00
1	27	575-600	10	CX*005	\$261.00	CX*105	\$273.00	CX*605	\$345.00	CX*205 <sup>1</sup>	\$345.00	CX*405	\$489.00
2	45	Separate Control — 115-120V		DX*002	\$453.00	DX*102	\$513.00	DX*602	\$645.00	DX*202 <sup>1</sup>	\$645.00	DX*402	\$945.00
2	45	200-208	10	DX*023	\$453.00	DX*123	\$513.00	DX*623	\$645.00	DX*223 <sup>1</sup>	\$645.00	DX*423	\$945.00
2	45	230-240	15	DX*003	\$453.00	DX*103	\$513.00	DX*603	\$645.00	DX*203 <sup>1</sup>	\$645.00	DX*403	\$945.00
2	45	460-480	25	DX*004	\$453.00	DX*104	\$513.00	DX*604	\$645.00	DX*204 <sup>1</sup>	\$645.00	DX*404	\$945.00
2	45	575-600	25	DX*005	\$453.00	DX*105	\$513.00	DX*605	\$645.00	DX*205 <sup>1</sup>	\$645.00	DX*405	\$945.00
3	90	Separate Control — 115-120V		EX*002	\$717.00	EX*102	\$837.00	EX*602	\$993.00	EX*202 <sup>1</sup>	\$993.00	EX*402	\$1449.00
3	90	200-208	25	EX*023	\$717.00	EX*123	\$837.00	EX*623	\$993.00	EX*223 <sup>1</sup>	\$993.00	EX*423	\$1449.00
3	90	230-240	30	EX*003	\$717.00	EX*103	\$837.00	EX*603	\$993.00	EX*203 <sup>1</sup>	\$993.00	EX*403	\$1449.00
3	90	460-480	50	EX*004	\$717.00	EX*104	\$837.00	EX*604	\$993.00	EX*204 <sup>1</sup>	\$993.00	EX*404	\$1449.00
3	90	575-600	50	EX*005	\$717.00	EX*105	\$837.00	EX*605	\$993.00	EX*205 <sup>1</sup>	\$993.00	EX*405	\$1449.00
4	135	Separate Control — 115-120V		FX*002	\$1605.00	FX*102	\$1857.00	FX*602	\$2373.00	FX*202 <sup>1</sup>	\$2373.00	FX*402	\$2901.00
4	135	200-208	40	FX*023	\$1605.00	FX*123	\$1857.00	FX*623	\$2373.00	FX*223 <sup>1</sup>	\$2373.00	FX*423	\$2901.00
4	135	230-240	50	FX*003	\$1605.00	FX*103	\$1857.00	FX*603	\$2373.00	FX*203 <sup>1</sup>	\$2373.00	FX*403	\$2901.00
4	135	460-480	100	FX*004	\$1605.00	FX*104	\$1857.00	FX*604	\$2373.00	FX*204 <sup>1</sup>	\$2373.00	FX*404	\$2901.00
4	135	575-600	100	FX*005	\$1605.00	FX*105	\$1857.00	FX*605	\$2373.00	FX*205 <sup>1</sup>	\$2373.00	FX*405	\$2901.00
5	270	Separate Control — 115-120V		GX*002	\$3882.00	GX*102	\$4344.00	GX*602	\$5664.00	GX*202 <sup>1</sup>	\$5664.00	GX*402	\$5664.00
5	270	200-208	75	GX*023	\$3882.00	GX*123	\$4344.00	GX*623	\$5664.00	GX*223 <sup>1</sup>	\$5664.00	GX*423	\$5664.00
5	270	230-240	100	GX*003	\$3882.00	GX*103	\$4344.00	GX*603	\$5664.00	GX*203 <sup>1</sup>	\$5664.00	GX*403	\$5664.00
5	270	460-480	200	GX*004	\$3882.00	GX*104	\$4344.00	GX*604	\$5664.00	GX*204 <sup>1</sup>	\$5664.00	GX*404	\$5664.00
5	270	575-600	200	GX*005	\$3882.00	GX*105	\$4344.00	GX*605	\$5664.00	GX*205 <sup>1</sup>	\$5664.00	GX*405	\$5664.00
6	540	Separate Control — 115-120V		HX*002	\$9192.00	HX*102	\$12192.00	HX*602	\$13812.00	HX*202 <sup>1</sup>	\$13812.00	HX*402	\$15192.00
6	540	200-208	150	HX*023	\$9192.00	HX*123	\$12192.00	HX*623	\$13812.00	HX*223 <sup>1</sup>	\$13812.00	HX*423	\$15192.00
6	540	230-240	200	HX*003	\$9192.00	HX*103	\$12192.00	HX*603	\$13812.00	HX*203 <sup>1</sup>	\$13812.00	HX*403	\$15192.00
6	540	460-480	400	HX*004	\$9192.00	HX*104	\$12192.00	HX*604	\$13812.00	HX*204 <sup>1</sup>	\$13812.00	HX*404	\$15192.00
6	540	575-600	400	HX*005	\$9192.00	HX*105	\$12192.00	HX*605	\$13812.00	HX*205 <sup>1</sup>	\$13812.00	HX*405	\$15192.00

<sup>1</sup>Motor full load current should not exceed continuous ampere rating of the starter.

<sup>2</sup>External reset not included on standard listed forms.

#### Full Load Current Selection Table

For continuous rated motors, with a service factor of 1.15 to 1.25, select the heater with maximum motor Amperes equal to or immediately greater than the motor full-load current (provides a maximum of 125 percent protection). For continuous rated motors with no service factor, multiply the full-load current of the motor by 0.90 and use this value to select the heater.

Overload Range for Solid State Starters	NEMA Size	Fuse Max.	Breaker Max.	Insert Digit in Product Number
0.4-0.85	00-1	3	15	C
0.8-1.7	00-1	6	15	D
1.6-3.4	00-1	12	15	E
3.2-6.8	00-1	25	25	F
6.5-13.5	00-1	50	50	G
13-27	00-1	100	100	H
6.5-13.5	2	50	50	G
13-27	2	100	100	H
25-50	2	200	200	J
17-35	3 & 4	125	125	K
35-70	3 & 4	250	250	L
65-135	3 & 4	500	400	M
35-70	5			N
65-135	5	500	400	P
130-270	5	600	800	Q
130-270	6	1200	800	S
260-540	6	1200	800	T



Other Coil Voltages: See page 1-6  
Factory Installed Modifications: See pages 1-124 to 1-131  
Field Installed Modifications: See pages 1-132 to 1-138

# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR306, CR386 Magnetic Starters

# Section 1

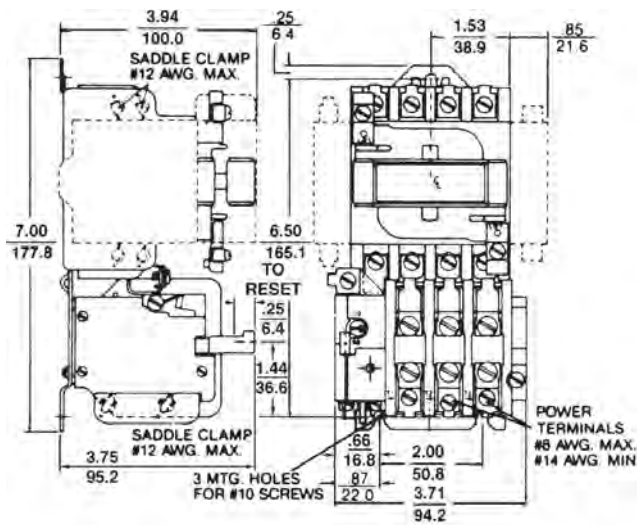
Nonreversing, Non-combination

200 Horsepower Maximum

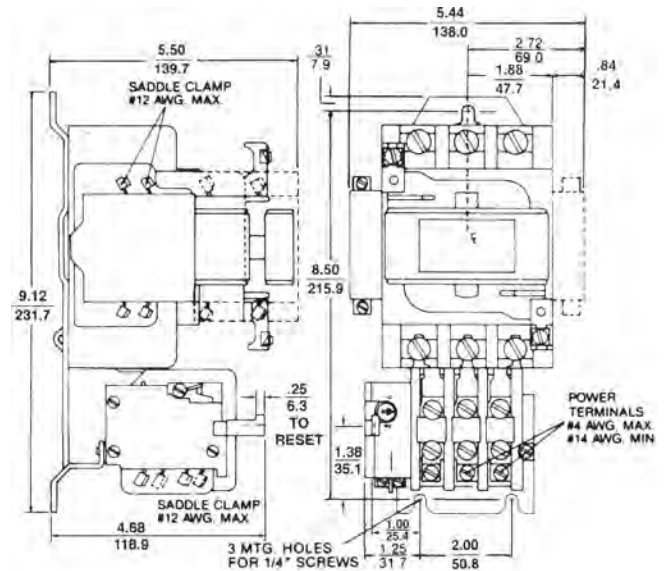
NEMA Sizes 00-5

600 Volts Maximum

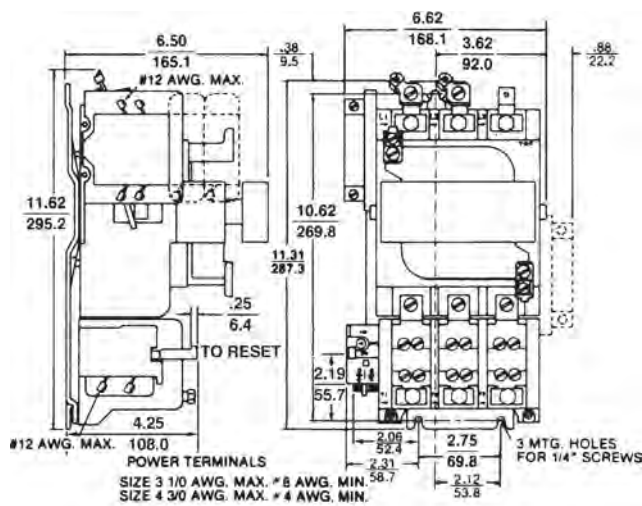
Outlines, Dimensions (in./mm) and Weights (For Estimating Only)



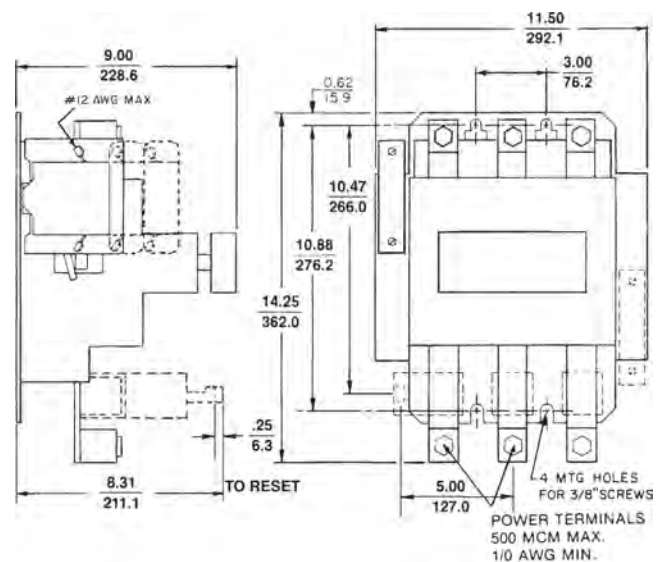
Open Type, NEMA Sizes 00-1 (3 3/4 lbs.)



Open Type, NEMA Size 2 (8 lbs.)



Open Type, NEMA Sizes 3 (19 lbs.) and 4 (20 lbs.)



Open Type, NEMA Size 5 (55 lbs.)



Enclosure Descriptions: See Section 12  
Product Number Selection Instructions: See page 1-8

# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR306, CR386 Magnetic Starters

## Section 1

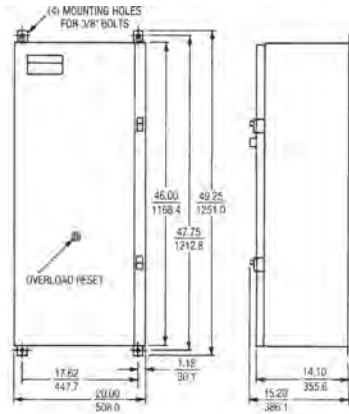
Nonreversing, Non-combination

200 Horsepower Maximum

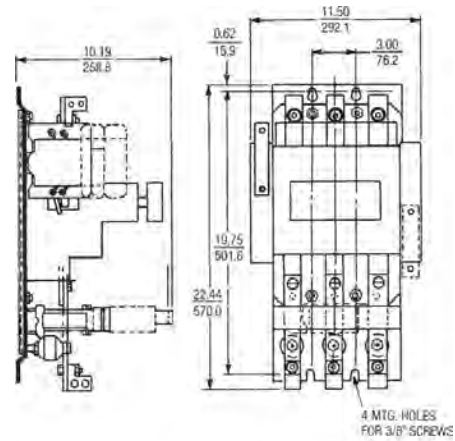
NEMA Sizes 00-5

600 Volts Maximum

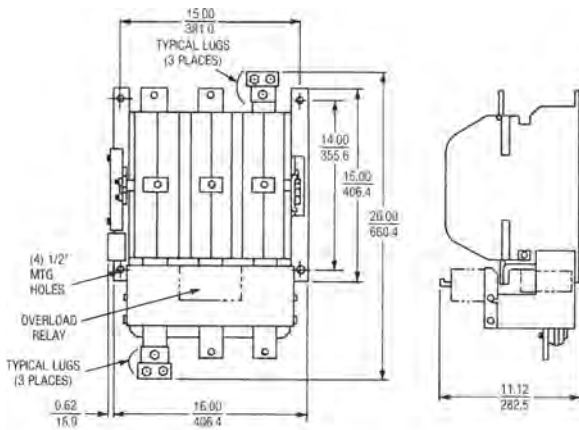
Outlines, Dimensions ( $\frac{\text{in.}}$  and  $\text{mm}$ ) and Weights (For Estimating Only)



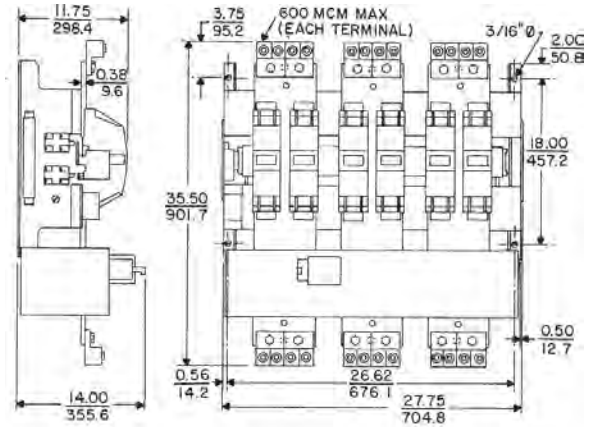
CR306 NEMA Type 1 and 12, Size 6



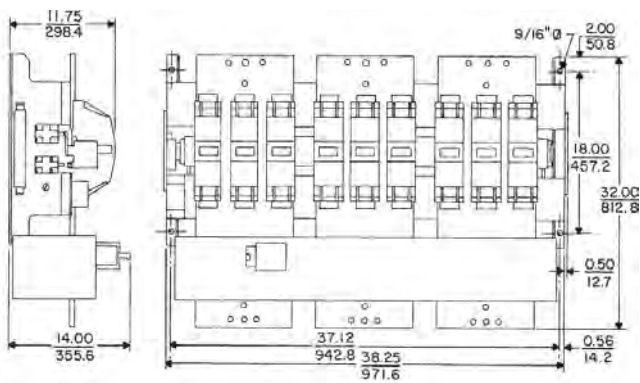
CR306 Open Type, NEMA Size 6



CR386 Open Type, NEMA Size 7, 115 lbs.



CR386 Open Type, NEMA Size 8



CR386 Open Type, NEMA Size 9



Product Number Selection Instructions: See page 1-8

# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic CR306, CR386 Magnetic Starters

## Section 1

Nonreversing, Non-combination

200 Horsepower Maximum

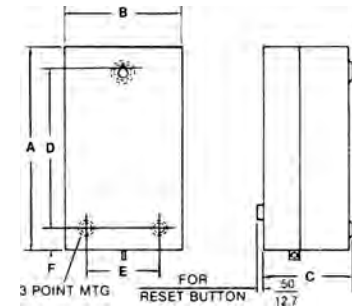
NEMA Sizes 00-5

600 Volts Maximum

Outlines, Dimensions in. (mm) and Weights (For Estimating Only)

### CR306 NEMA Type 1 NEMA Sizes 00-4

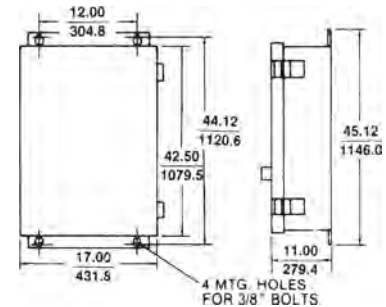
NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Mounting Screw Size	Shipping Weight (lbs)
00, 0, 1	10.00 (254.0)	6.00 (152.4)	4.63 (117.6)	8.00 (203.2)	4.00 (101.6)	1.00 (25.4)	#10	5 1/2
2	13.25 (336.6)	7.38 (187.4)	6.13 (155.6)	11.00 (279.4)	5.00 (127.0)	1.13 (28.7)	1/4"	13
3	20.25 (514.4)	8.75 (222.2)	7.31 (185.7)	17.00 (431.8)	5.75 (146.0)	1.88 (47.6)	1/4"	35
4	25.00 (635.0)	8.75 (222.2)	7.31 (185.7)	22.00 (558.8)	5.75 (146.0)	1.50 (38.1)	1/4"	38



NEMA Type 1, Sizes 00-4

### CR306 NEMA Type 1 NEMA Size 5

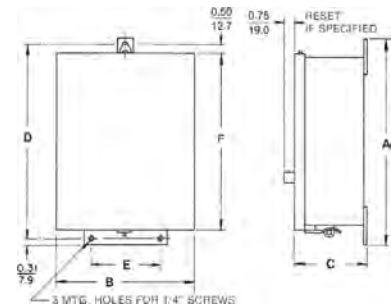
See Diagram For Dimensions



NEMA Type 1, Size 5 (134 lbs.)

### CR306 NEMA Type 12 NEMA Sizes 0-2

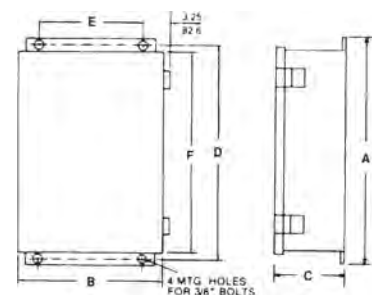
NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Shipping Weight (lbs)
0, 1	11.63 (295.4)	6.25 (158.8)	4.75 (120.6)	11.00 (279.4)	3.00 (76.2)	10.25 (260.4)	9 1/2
2	14.63 (371.6)	7.63 (193.8)	6.25 (158.8)	14.00 (355.6)	4.38 (111.2)	13.25 (366.6)	15



NEMA Type 12, Sizes 0-2

### CR306 NEMA Type 12 NEMA Sizes 3-5

NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Shipping Weight (lbs)
3	24.00 (609.6)	10.50 (266.7)	7.25 (184.2)	23.00 (584.2)	5.75 (146.1)	21.25 (539.8)	43
4	30.00 (762.0)	10.50 (266.7)	7.25 (184.2)	29.00 (736.6)	5.75 (146.1)	27.25 (692.2)	48
5	45.50 (1155.7)	17.00 (431.8)	10.25 (260.4)	44.50 (1130.3)	12.00 (304.8)	42.75 (1085.9)	154



NEMA Type 12, Sizes 3-5



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR306, CR386 Magnetic Starters

Nonreversing, Non-combination

200 Horsepower Maximum

NEMA Sizes 00-5

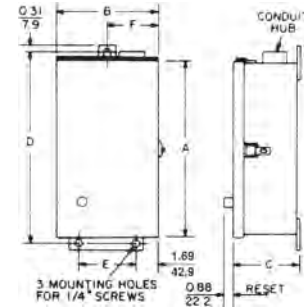
600 Volts Maximum

Outlines, Dimensions in. (mm) and Weights (For Estimating Only)

## Section 1

### CR306 NEMA Type 3R NEMA Sizes 00-2

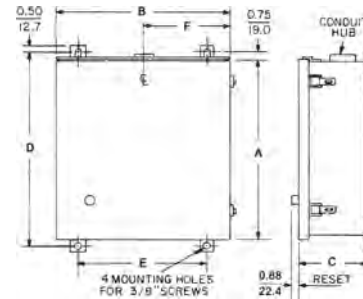
NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Shipping Weight (lbs)
0, 1	14.50 (368.3)	6.38 (162.1)	4.75 (120.6)	15.00 (381.0)	3.00 (76.2)	3.19 (81.0)	9 1/2
2	16.50 (419.1)	7.75 (196.8)	6.50 (165.1)	17.00 (431.8)	4.38 (111.2)	3.88 (98.6)	15



NEMA Type 3R, Sizes 00-2

### CR306 NEMA Type 3R NEMA Sizes 3-5

NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Shipping Weight (lbs)
3	22.00 (558.8)	17.19 (436.6)	7.25 (184.2)	23.50 (596.9)	11.00 (279.4)	8.6 (217.9)	43
4	26.00 (660.4)	17.19 (436.6)	7.25 (184.2)	27.50 (698.5)	11.00 (279.4)	8.6 (217.9)	48
5	42.00 (1066.8)	22.00 (558.8)	10.25 (260.4)	43.50 (1104.9)	16.00 (406.0)	11.0 (279.4)	157



NEMA Type 3R, Sizes 3-5

### CR306 NEMA Type 4/4X NEMA Sizes 0-5

NEMA Size	Height	Width	Depth	Shipping Weight (lbs)
0, 1	15.62 (396.7)	6.38 (162.0)	4.75 (120.6)	16
2	17.62 (447.5)	7.75 (196.8)	6.50 (165.1)	20
3	24.50 (622.3)	17.00 (431.8)	7.25 (184.2)	125
4	28.50 (723.9)	17.00 (431.8)	7.25 (184.2)	132
5	44.50 (1130.3)	22.00 (558.8)	10.25 (260.4)	135



Product Number Selection Instructions: See page 1-8



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

### CR309 Magnetic Reversing Starters

600 Horsepower Maximum, Open, NEMA Type 1, 3R, 12, 4/4X  
NEMA Sizes 00-7  
600 Volts Maximum  
50/60 Hertz

#### Application

These reversing starters are used for full-voltage starting and reversing of squirrel-cage induction motors up to 600 horsepower, 600 Volts maximum.

These starters are used for single-phase or polyphase motors on applications where plugging and/or reversing operations are required.

Refer to page 1-7 for features of basic starter.

#### Jogging Duty

The horsepower ratings shown in the product tables for CR309 reversing starters are not to be used when operation requires continuous plug-stop or jogging (inching) duty at a rate in excess of five times per minute or 10 times in 10 minutes. Refer to page 1-4 for information.

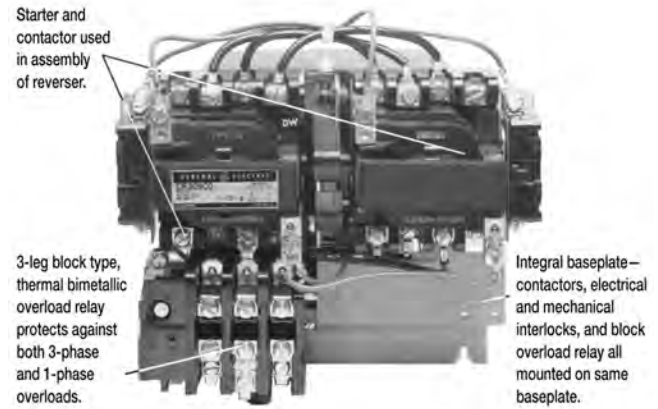
#### Product Number Selection Instructions

- Specify by complete Product Number and form.  
Example: CR309D103 is a Size 2 reversing starter, three-pole in NEMA Type 1 enclosure with 230-240-Volt, 60-Hertz coil @ **\$1086.00, GO-10G**.
- Order forms not listed or with special modifications by complete description using a listed Product Number as reference wherever possible.  
Example: Similar to CR309D103 except with three-position FORWARD-REVERSE-STOP push button in cover.  
Total **List Price . . . . . \$1326.00, GO-10G**.
- Reversing starters are available with coils of other ratings than those shown in listing on pages 1-18 and 1-19. Refer to coil suffix table on page 1-4 for information. To order forms with other coil ratings, insert suffix from coil table in place of fifth and sixth numbers of listed starter Product Number shown on page 1-18 or 1-19.  
Example: A CR309C102 NEMA Size 1 reverser in Type 1 enclosure with 24-Volt, 60-Hertz coil becomes a CR309C124.
- 50-Hertz Forms**  
Pricing for 50-Hertz forms is the same as shown in tables for 60-Hertz reversing and combination reversing starters. Order by description using a listed Product Number as reference. Refer to page 1-4 for horsepower ratings of starters at 380-Volt, 50 Hertz.

#### 5. Starters Less Overload Relays

CR309 open NEMA Types 1 and 3R reversing starters (with horizontal mechanical interlock) are available without overload relays. The following table shows omission prices to be deducted from those list prices as shown in tables on pages 1-18 and 1-19. Order desired form by adding the suffix, in parenthesis, to Product Number of Open, Types 1, 3R, 4/4X, and 12 forms shown in pricing table on pages 1-18 and 1-19, that include overload relays.  
Example: To omit overload protection from a size 0 starter, Product Number CR309B103, order CR309B103BAA @ **\$456.00, GO-10G**

List Price Deduction for Omission of Overload Relays and Suffix to Add to Product Number				
Size 00, 0, 1	Size 2	Size 3	Size 4	Size 5
\$30 (BAA)	\$54 (ALA)	\$90 (ALA)	\$144 (ALA)	\$504 (ALA)



Typical CR309 Reversing Starter

#### 6. Product Notes

Motor full-load current should not exceed continuous ampere rating of starter. External reset not included on standard listed forms (NEMA Type 12).

Order heaters by complete Product Number from appropriate heater tables on pages 1-153 to 1-159.

#### Reference Publications

Descriptive bulletin	GEA-10928
Instructions	
NEMA Size	Publication Number
00, 0, 1	GEH-5190
2	GEH-4775
3	GEH-4806
4	GEH-4807
5	GEH-4839
6	GEH-5198

#### CR309 Magnetic Reversing Starters – Contents

Application Information and Selection Instructions .....	1-17
Non-combination, NEMA Sizes 00-7	
with Thermal Overload Relays, Three-Phase .....	1-18
Non-combination, NEMA Sizes 00-1	
with Thermal Overload Relays, Single-Phase.....	1-19
Outlines and Dimensions .....	1-20



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR309 Magnetic Reversing Starters

Non-combination, Open, NEMA Type 1, 3R, 12, 4/4X

NEMA Sizes 00-7 With Thermal Overload Relay

600 Volts Maximum 50/60 Hertz

#### Three-Phase

List Price includes a holding interlock, mechanical and cross-electrical interlock on each contactor, pressure terminals for the line and load connections, plus a 3-leg block type overload relay (manual reset). One NO isolated contact on the overload relay is available as an option at **\$24.00, GO-10G**. To order add suffix LAA to Product Numbers listed in table for Enclosed types, and Open forms with horizontal mechanical interlock only. Three heaters should be ordered as separate items. See pages 1-153 to 1-159 for selection.

List price **\$9.00** each, **GO-10H**.

#### CR309, Three-Phase Magnetic Reversing Starters

NEMA Size	Continuous Ampere Rating <sup>1</sup>	Voltage (60 Hz)	Horsepower	Open Type w/ Vertical Mechanical Interlock		Open Type w/ Horizontal Mechanical Interlock		NEMA Type 1		NEMA Type 3R		NEMA Type 12 <sup>3</sup>		NEMA Type 4/4X	
				Product Number	List Price	Product Number	List Price	Product Number	List Price	Product Number	List Price	Product Number	List Price	Product Number	List Price
				CR309	GO-10G	CR309	GO-10G	CR309	GO-10G	CR309	GO-10G	CR309	GO-10G	CR309	GO-10G
00	9	Separate Control—115-120 V		-	-	A002	\$390.00	A102	\$414.00	-	-	-	-	-	-
00	9	200-208	1 1/2	-	-	A023	\$390.00	A123	\$414.00	-	-	-	-	-	-
00	9	230-240	1 1/2	-	-	A003	\$390.00	A103	\$414.00	-	-	-	-	-	-
00	9	460-480	2	-	-	A004	\$390.00	A104	\$414.00	-	-	-	-	-	-
00	9	575-600	2	-	-	A005	\$390.00	A105	\$414.00	-	-	-	-	-	-
0	18	Separate Control—115-120 V		B002CAA	\$462.00	B002	\$462.00	B102	\$486.00	B602	\$594.00	B202	\$594.00	B402	\$762.00
0	18	200-208	3	B023CAA	\$462.00	B023	\$462.00	B123	\$486.00	B623	\$594.00	B223	\$594.00	B423	\$762.00
0	18	230-240	3	B003CAA	\$462.00	B003	\$462.00	B103	\$486.00	B603	\$594.00	B203	\$594.00	B403	\$762.00
0	18	460-480	5	B004CAA	\$462.00	B004	\$462.00	B104	\$486.00	B604	\$594.00	B204	\$594.00	B404	\$762.00
0	18	575-600	5	B005CAA	\$462.00	B005	\$462.00	B105	\$486.00	B605	\$594.00	B205	\$594.00	B405	\$762.00
1	27	Separate Control—115-120 V		C002CAA	\$522.00	C002	\$522.00	C102	\$558.00	C602	\$666.00	C202	\$666.00	C402	\$942.00
1	27	200-208	7 1/2	C023CAA	\$522.00	C023	\$522.00	C123	\$558.00	C623	\$666.00	C223	\$666.00	C423	\$942.00
1	27	230-240	7 1/2	C003CAA	\$522.00	C003	\$522.00	C103	\$558.00	C603	\$666.00	C203	\$666.00	C403	\$942.00
1	27	460-480	10	C004CAA	\$522.00	C004	\$522.00	C104	\$558.00	C604	\$666.00	C204	\$666.00	C404	\$942.00
1	27	575-600	10	C005CAA	\$522.00	C005	\$522.00	C105	\$558.00	C605	\$666.00	C205	\$666.00	C405	\$942.00
2	45	Separate Control—115-120 V		D002AMA	\$990.00	D002	\$990.00	D102	\$1086.00	D602	\$1266.00	D202	\$1266.00	D402	\$1710.00
2	45	200-208	10	D023AMA	\$990.00	D023	\$990.00	D123	\$1086.00	D623	\$1266.00	D223	\$1266.00	D423	\$1710.00
2	45	230-240	15	D003AMA	\$990.00	D003	\$990.00	D103	\$1086.00	D603	\$1266.00	D203	\$1266.00	D403	\$1710.00
2	45	460-480	25	D004AMA	\$990.00	D004	\$990.00	D104	\$1086.00	D604	\$1266.00	D204	\$1266.00	D404	\$1710.00
2	45	575-600	25	D005AMA	\$990.00	D005	\$990.00	D105	\$1086.00	D605	\$1266.00	D205	\$1266.00	D405	\$1710.00
3	90	Separate Control—115-120 V		E002AMA	\$1644.00	E002	\$1644.00	E102	\$1812.00	E602	\$2208.00	E202	\$2208.00	E402	\$2736.00
3	90	200-208	25	E023AMA	\$1644.00	E023	\$1644.00	E123	\$1812.00	E623	\$2208.00	E223	\$2208.00	E423	\$2736.00
3	90	230-240	30	E003AMA	\$1644.00	E003	\$1644.00	E103	\$1812.00	E603	\$2208.00	E203	\$2208.00	E403	\$2736.00
3	90	460-480	50	E004AMA	\$1644.00	E004	\$1644.00	E104	\$1812.00	E604	\$2208.00	E204	\$2208.00	E404	\$2736.00
3	90	575-600	50	E005AMA	\$1644.00	E005	\$1644.00	E105	\$1812.00	E605	\$2208.00	E205	\$2208.00	E405	\$2736.00
4	135	Separate Control—115-120 V		F002AMA	\$4014.00	F002	\$4014.00	F102	\$4326.00	F602	\$4938.00	F202	\$4938.00	F402	\$5958.00
4	135	200-208	40	F023AMA	\$4014.00	F023	\$4014.00	F123	\$4326.00	F623	\$4938.00	F223	\$4938.00	F423	\$5958.00
4	135	230-240	50	F003AMA	\$4014.00	F003	\$4014.00	F103	\$4326.00	F603	\$4938.00	F203	\$4938.00	F403	\$5958.00
4	135	460-480	100	F004AMA	\$4014.00	F004	\$4014.00	F104	\$4326.00	F604	\$4938.00	F204	\$4938.00	F404	\$5958.00
4	135	575-600	100	F005AMA	\$4014.00	F005	\$4014.00	F105	\$4326.00	F605	\$4938.00	F205	\$4938.00	F405	\$5958.00
5	270	Separate Control—115-120 V		G002AMA	\$7713.00	G002	\$7713.00	G102	\$9519.00	G602	\$10839.00	G202	\$10839.00	G402	\$11631.00
5	270	200-208	75	G023AMA	\$7713.00	G023	\$7713.00	G123	\$9519.00	G623	\$10839.00	G223	\$10839.00	G423	\$11631.00
5	270	230-240	100	G003AMA	\$7713.00	G003	\$7713.00	G103	\$9519.00	G603	\$10839.00	G203	\$10839.00	G403	\$11631.00
5	270	460-480	200	G004AMA	\$7713.00	G004	\$7713.00	G104	\$9519.00	G604	\$10839.00	G204	\$10839.00	G404	\$11631.00
5	270	575-600	200	G005AMA	\$7713.00	G005	\$7713.00	G105	\$9519.00	G605	\$10839.00	G205	\$10839.00	G405	\$11631.00
6	540	440-600	400	<sup>2</sup>	\$18201.00	-	-	<sup>2</sup>	\$21201.00	<sup>2</sup>	\$22821.00	<sup>2</sup>	\$22821.00	<sup>2</sup>	\$24201.00
7	810	440-600	600	<sup>2</sup>	\$25803.00	-	-	-	-	-	-	-	-	-	-

<sup>1</sup>Motor full load current should not exceed continuous ampere rating of the starter.

<sup>2</sup>Order by description giving complete data on motor being controlled, control circuit voltage, enclosure type and modifications desired.

<sup>3</sup>External reset not included on standard listed forms.



Other Coil Voltages: See page 1-6  
 Factory Installed Modifications: See pages 1-124 to 1-131

Field Installed Modifications: See pages 1-132 to 1-138  
 Extra Auxiliary Contacts: See pages 1-132 to 1-134  
 Heater Selection Tables: See pages 1-153 to 1-159

# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR309 Magnetic Reversing Starters

## Section 1

Non-combination, Open, NEMA Type 1, 3R, 12, 4/4X  
 NEMA Sizes 00-7 With Thermal Overload Relay  
 600 Volts Maximum 50/60 Hertz

#### Single-Phase

For four-wire split phase or capacitor start induction motor (60 Hertz) overload protection.  
 One heater should be ordered as a separate item. See pages 1-153 to 1-159 for selection.  
**List price \$9.00 each, GO-10H.**

#### CR309, Single-Phase Magnetic Reversing Starters

NEMA Size	Continuous Ampere Rating <sup>1</sup>	Voltage	Horsepower	Open Type		NEMA Type 1		NEMA Type 12 <sup>2</sup>		NEMA Type 4/4X <sup>2</sup>	
				Product Number CR309	List Price GO-10G	Product Number CR309	List Price GO-10G	Product Number CR309	List Price GO-10G	Product Number CR309	List Price GO-10G
00	9	115-120	1/3	A002AFA	\$375.00	A102AFA	\$399.00	-	-	-	-
00	9	230-240	1	A003AFA	\$375.00	A103AFA	\$399.00	-	-	-	-
0	18	115-120	1	B002BBA	\$447.00	B102DAA	\$471.00	B202DAA	\$579.00	B402CCA	\$747.00
0	18	230-240	2	B003BBA	\$447.00	B103DAA	\$471.00	B203DAA	\$579.00	B403CCA	\$747.00
1	27	115-120	2	C002FSA	\$507.00	C102DAA	\$543.00	C202ALA	\$651.00	C402BXA	\$927.00
1	27	230-240	3	C003FSA	\$507.00	C103DAA	\$543.00	C203ALA	\$651.00	C403BXA	\$927.00

<sup>1</sup>Motor full load current should not exceed continuous ampere rating of the starter.

<sup>2</sup>External reset not included on standard listed forms.



Product Number Selection Instructions: See page 1-17

# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic CR309 Magnetic Reversing Starters

## Section 1

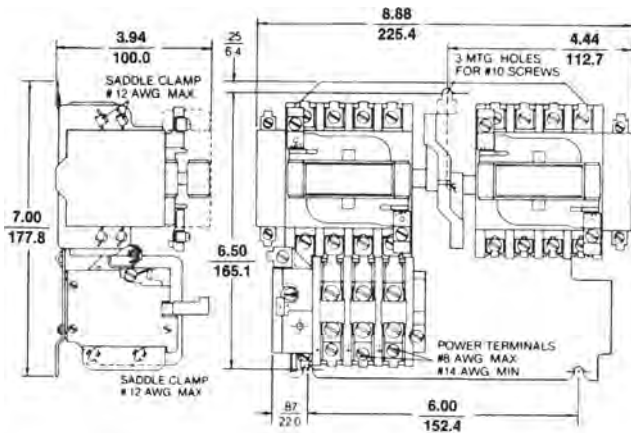
Non-combination

200 Horsepower Maximum

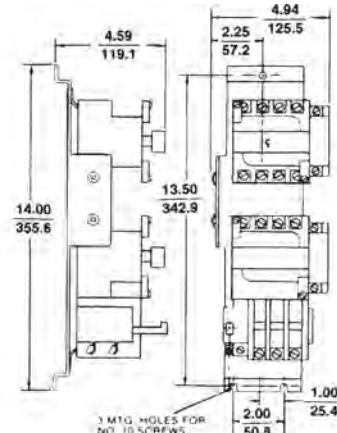
NEMA Sizes 00-5

600 Volts Maximum

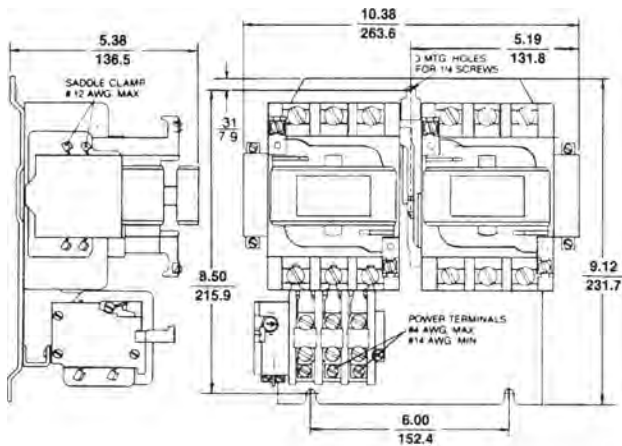
Outlines, Dimensions (in./mm), and Weights (For Estimating Only)



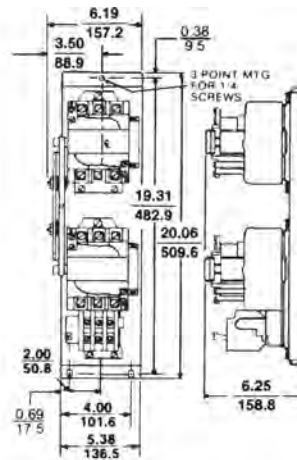
Open Type, NEMA Size 00, 0 and 1 Reversing (Horizontal); 7 3/4 lbs.



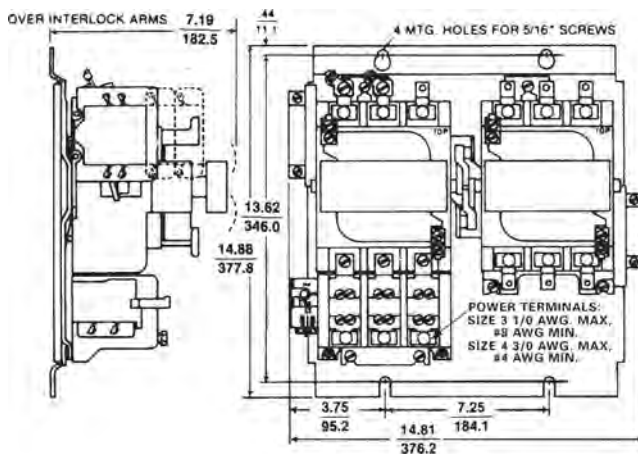
Open Type, NEMA Size 0 and 1 Reversing (Vertical); 7 1/4 lbs.



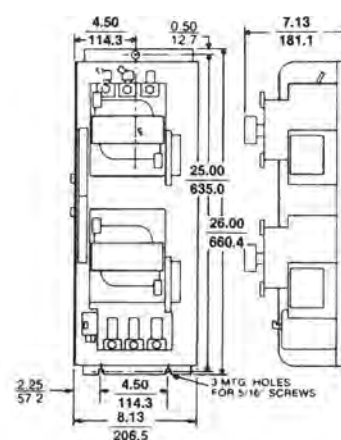
Open Type, NEMA Size 2 Reversing (Horizontal), 16 1/4 lbs.



Open Type, NEMA Size 2 Reversing (Vertical); 16 1/4 lbs.



Open Type, NEMA Size 3 and 4 Reversing (Horizontal); 49 lbs.



Open Type, NEMA Size 3 and 4 Reversing (Vertical); 49 lbs.



Product Number Selection Instructions: See page 1-17

# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic CR309 Magnetic Reversing Starters

## Section 1

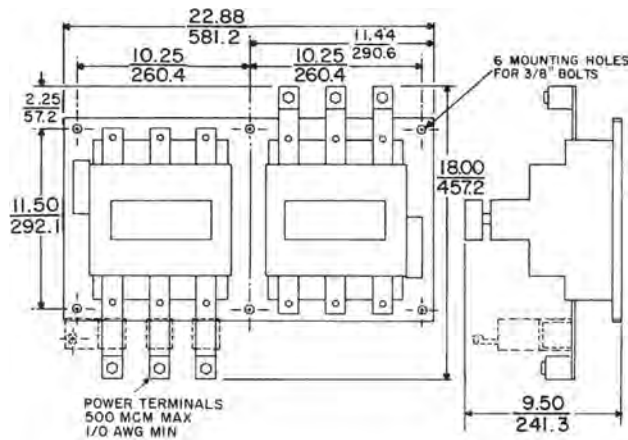
Non-combination

200 Horsepower Maximum

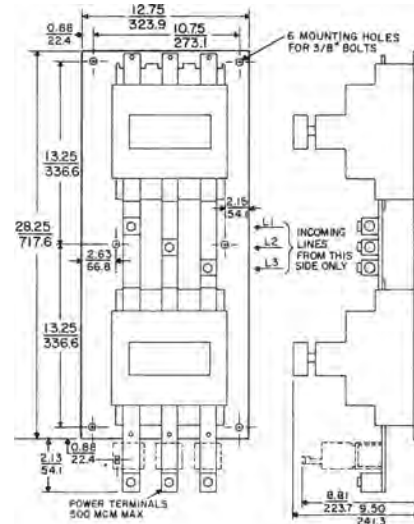
NEMA Sizes 00-5

600 Volts Maximum

Outlines, Dimensions ( $\frac{\text{in.}}$ ), and Weights (For Estimating Only)



Open Type, NEMA Size 5 Reversing (Horizontal); 115 lbs.



Open Type, NEMA Size 5 Reversing (Vertical), 115 lbs.



Enclosure Descriptions: See Section 12

# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic CR309 Magnetic Reversing Starters

## Section 1

Non-combination

200 Horsepower Maximum

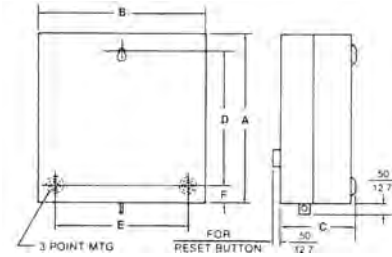
NEMA Sizes 00-5

600 Volts Maximum

Outlines, Dimensions in. (mm), and Weights (For Estimating Only)

### CR309 NEMA Type 1 NEMA Sizes 00-2 Reversing

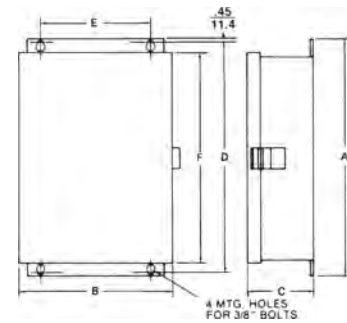
NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Mounting Screw Size	Shipping Weight (lbs)
00, 0, 1	10.00 (254.0)	10.00 (254.0)	4.62 (117.4)	8.00 (203.2)	8.00 (203.2)	1.00 (25.4)	# 10	12 1/2
2	13.25 (336.6)	12.00 (304.8)	6.12 (155.4)	11.00 (279.4)	9.00 (228.6)	1.12 (28.6)	1/4"	27 1/2



NEMA Type 1, Sizes 00-2 Reversing

### CR309 NEMA Type 1 NEMA Sizes 3-5 Reversing

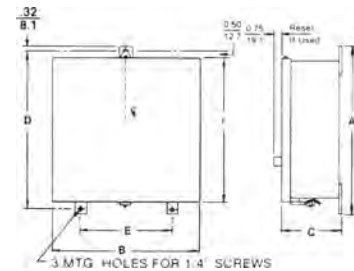
NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Shipping Weight (lbs)
3	24.00 (609.6)	18.00 (457.2)	8.62 (219.1)	23.00 (584.2)	13.00 (330.2)	21.62 (549.1)	80
4	30.00 (762.00)	18.00 (457.2)	8.62 (219.1)	29.00 (736.6)	13.00 (330.2)	27.62 (701.6)	100
5	51.13 (1298.7)	32.00 (812.8)	11.50 (292.1)	51.12 (1298.4)	27.00 (685.8)	50.12 (1273.0)	286



NEMA Type 1, Sizes 3-5 Reversing

### CR309 NEMA Type 12 NEMA Sizes 0-2 Reversing

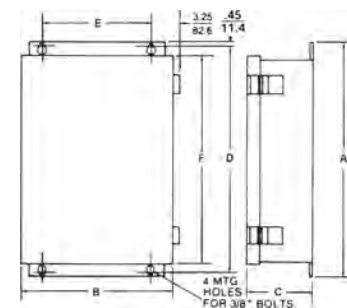
NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Shipping Weight (lbs)
0, 1	11.87 (301.5)	10.25 (260.4)	4.75 (120.6)	11.00 (279.4)	7.00 (177.8)	10.25 (260.4)	13
2	14.64 (371.8)	12.25 (311.2)	6.25 (158.8)	14.00 (355.6)	9.00 (228.6)	13.25 (336.6)	29



NEMA Type 12, Sizes 0-2 Reversing

### CR309 NEMA Type 12 NEMA Sizes 3-5 Reversing

NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Shipping Weight (lbs)
3	24.00 (609.6)	18.00 (457.2)	7.88 (200.0)	23.00 (584.2)	13.00 (330.2)	21.38 (543.0)	85
4	30.00 (762.0)	18.00 (457.2)	7.88 (200.0)	29.00 (736.6)	13.00 (330.2)	26.38 (670.0)	100
5	51.50 (1308.1)	32.00 (812.8)	10.25 (260.4)	50.50 (1282.7)	27.00 (685.8)	48.75 (1238.3)	286



NEMA Type 12, Sizes 3-5 Reversing



Product Number Selection Instructions: See page 1-17

# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR309 Magnetic Reversing Starters

## Section 1

Non-combination

200 Horsepower Maximum

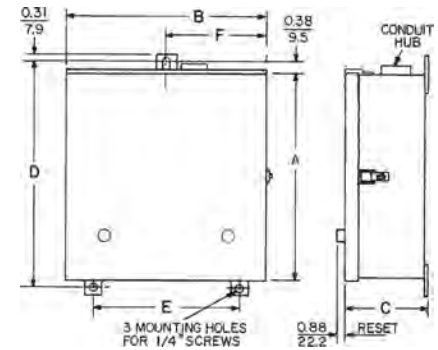
NEMA Sizes 00-5

600 Volts Maximum

Outlines, Dimensions in. (mm), and Weights (For Estimating Only)

#### CR309 NEMA Type 3R NEMA Sizes 0-2 Reversing

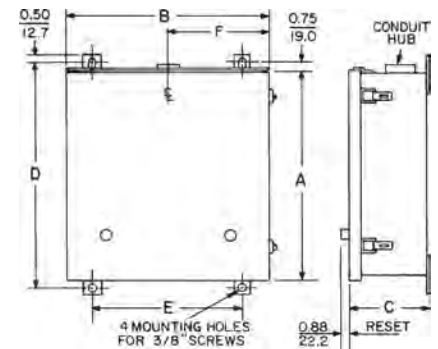
NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Shipping Weight (lbs)
0, 1	14.50 (368.3)	10.38 (263.5)	4.75 (120.6)	15.00 (381.0)	11.00 (279.4)	5.19 (131.7)	30
2	16.50 (419.1)	12.50 (317.5)	6.50 (165.1)	17.00 (431.8)	12.00 (304.8)	6.25 (158.8)	50



NEMA Type 3R, Sizes 0-2 Reversing

#### CR309 NEMA Type 3R NEMA Sizes 3-5 Reversing

NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Shipping Weight (lbs)
3	26.00 (660.4)	21.00 (533.4)	8.00 (203.2)	27.50 (698.5)	15.00 (381.0)	10.50 (266.7)	90
4	30.00 (762.0)	21.00 (533.4)	8.00 (203.2)	31.50 (800.1)	15.00 (381.0)	10.50 (266.7)	105
5	48.00 (1219.2)	32.00 (812.8)	10.25 (260.4)	49.50 (1257.3)	26.00 (660.4)	16.00 (406.4)	286



NEMA Type 3R, Sizes 3-5 Reversing

#### CR309 NEMA Type 4/4X NEMA Sizes 0-5 Reversing

NEMA Size	Height	Width	Depth	Shipping Weight (lbs)
0, 1	15.63 (397.0)	10.38 (263.7)	5.50 (139.7)	30
2	17.63 (447.8)	12.50 (317.5)	7.50 (190.5)	50
3	29.00 (736.6)	21.00 (533.4)	8.88 (225.6)	90
4	33.00 (838.2)	21.00 (533.4)	8.88 (225.6)	105
5	47.55 (1207.8)	36.00 (914.4)	11.12 (282.4)	260



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR309 Magnetic Two-Speed Starters

200 Horsepower Maximum  
 NEMA Sizes 0-5, Open, NEMA Type 1, 3R, 12, 4/4X  
 600 Volts Maximum  
 50/60 Hertz

#### Application

Used for full-voltage operation of two-speed squirrel-cage induction motors at either speed. Consists of two mechanical and cross electrical interlocked contactors with two three-leg block type overload relays, one on each contactor. These bimetallic relays provide overload protection for each speed. 3-3 pole starters are for Two-Speed, Two Winding motors; 5-3 pole starters are for Two-Speed, One-Winding Consequent Pole motors.

Proper motor-speed selection is obtained by adding pilot devices to correspond to each of the motor speeds. Refer to page 1-7 for features of basic starter.

#### Product Number Selection Instructions

- Specify starter by complete Product Number.  
 Example: CR309C104AKA @ **\$744.00, GO-10G.**
- Order forms not listed or with special modifications by complete description using a listed Product Number as reference wherever possible. Example: Similar to CR309E103AKA except with FAST-SLOW-STOP push button in cover.  
 Total **List Price . . . . . \$2328.00, GO-10G.**
- Overload Relay Heaters For NEMA Size 3 Starters**  
 For two-speed, variable torque motors with full-load ampere rating, on low speed, below the minimum heater ampere rating listed in Size 3 table, page 1-155, contact nearest GE Representative for suitable overload provision.
- 50 Hertz Starters**  
 Pricing for 50 Hertz forms (at standard voltages) is the same as shown in table for 60 Hertz. Listed prices for 460-480 Volt also apply to 380-415 Volt, 50 Hertz. See page 1-4 for 380-415 Volt horsepower ratings.

#### 5. Product Notes

The two-winding Product Numbers listed are starters suitable for wye or closed delta connected motor windings. For open delta connected motor windings, contact your nearest GE Representative.

Open form, one-winding starters are wired for constant or variable torque motor application. Reconnection of control wiring may be required for constant horsepower application. Motor full-load current should not exceed continuous ampere rating of starter. Refer to Coil Table, page 1-6, for other available coils including 50 Hertz.

External reset not included on standard listed forms (NEMA Type 12). Order heaters by complete Product Number from appropriate heater tables on pages 1-153 to 1-159.



Typical NEMA Size 1 Two-Speed Controller in Type 1 Enclosure

#### Reference Publications

Instructions	
NEMA Size	Publication Number
0, 1	GEH-5190
2	GEH-4775
3	GEH-4806
4	GEH-4807
5	GEH-4839
6	GEH-5198

#### CR309 Magnetic Two-Speed Starters – Contents

Application Information and Selection Instructions .....	1-24
Non-combination, NEMA Sizes 0-5 with Thermal Overload Relays, Two-Winding .....	1-25
Non-combination, NEMA Sizes 0-5 with Thermal Overload Relays, One-Winding .....	1-26
Outlines and Dimensions (CR309) .....	1-27



Other Coil Voltages: See page 1-6  
 Factory Installed Modifications: See pages 1-124 to 1-131

Field Installed Modifications: See pages 1-132 to 1-138  
 Extra Auxiliary Contacts: See pages 1-132 to 1-134  
 Heater Selection Tables: See pages 1-153 to 1-159



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

# Section 1

### CR309 Magnetic Starters

Two-Speed, Two-Winding, 3-3 pole

Non-combination, Open, NEMA Type 1, 3R, 12, 4/4X

NEMA Sizes 0-5 With Thermal Overload Relay

600 Volts Maximum 50/60 Hertz

#### Three-Phase

List Price includes a holding interlock, mechanical and cross-electrical interlock, pressure terminals for the line and load connections, plus a 3-leg block type overload relay (manual reset) for each speed. All enclosures include external reset. One NO isolated contact on each overload relay is available as an option at **\$48.00, GO-10G** (for both). To order, change suffix AKA to LKA for Product Numbers listed in table. Refer to page 1-76 for two-speed combination forms. Six heaters should be ordered as separate items. See pages 1-153 to 1-159 for selection. **List price \$9.00 each, GO-10H.**

The Product Numbers listed are starters suitable for wye or closed delta connected motor windings. For open delta connected motor windings, contact your nearest GE Representative.

#### CR309, Three-Phase Two-Winding Magnetic Starters

NEMA Size	Continuous Ampere Rating <sup>1</sup>	Voltage (60 Hz)	Horsepower	Open Type		NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4/4X	
				Product Number	List Price	Product Number	List Price	Product Number	List Price	Product Number	List Price	Product Number	List Price
				CR309	GO-10G	CR309	GO-10G	CR309	GO-10G	CR309	GO-10G	CR309	GO-10G
0	18	Separate Control—115-120 V		B002AKA	\$636.00	B102AKA	\$660.00	B602AKA	\$846.00	B202AKA	\$846.00	B402AKA	\$1236.00
0	18	200-208	3	B023AKA	\$636.00	B123AKA	\$660.00	B623AKA	\$846.00	B223AKA	\$846.00	B423AKA	\$1236.00
0	18	230-240	3	B003AKA	\$636.00	B103AKA	\$660.00	B603AKA	\$846.00	B203AKA	\$846.00	B403AKA	\$1236.00
0	18	460-480	5	B004AKA	\$636.00	B104AKA	\$660.00	B604AKA	\$846.00	B204AKA	\$846.00	B404AKA	\$1236.00
0	18	575-600	5	B005AKA	\$636.00	B105AKA	\$660.00	B605AKA	\$846.00	B205AKA	\$846.00	B405AKA	\$1236.00
1	27	Separate Control—115-120 V		C002AKA	\$708.00	C102AKA	\$744.00	C602AKA	\$930.00	C202AKA	\$930.00	C402AKA	\$1308.00
1	27	200-208	7 1/2	C023AKA	\$708.00	C123AKA	\$744.00	C623AKA	\$930.00	C223AKA	\$930.00	C423AKA	\$1308.00
1	27	230-240	7 1/2	C003AKA	\$708.00	C103AKA	\$744.00	C603AKA	\$930.00	C203AKA	\$930.00	C403AKA	\$1308.00
1	27	460-480	10	C004AKA	\$708.00	C104AKA	\$744.00	C604AKA	\$930.00	C204AKA	\$930.00	C404AKA	\$1308.00
1	27	575-600	10	C005AKA	\$708.00	C105AKA	\$744.00	C605AKA	\$930.00	C205AKA	\$930.00	C405AKA	\$1308.00
2	45	Separate Control—115-120 V		D002AKA	\$1236.00	D102AKA	\$1332.00	D602AKA	\$1596.00	D202AKA	\$1596.00	D402AKA	\$2040.00
2	45	200-208	10	D023AKA	\$1236.00	D123AKA	\$1332.00	D623AKA	\$1596.00	D223AKA	\$1596.00	D423AKA	\$2040.00
2	45	230-240	15	D003AKA	\$1236.00	D103AKA	\$1332.00	D603AKA	\$1596.00	D203AKA	\$1596.00	D403AKA	\$2040.00
2	45	460-480	25	D004AKA	\$1236.00	D104AKA	\$1332.00	D604AKA	\$1596.00	D204AKA	\$1596.00	D404AKA	\$2040.00
2	45	575-600	25	D005AKA	\$1236.00	D105AKA	\$1332.00	D605AKA	\$1596.00	D205AKA	\$1596.00	D405AKA	\$2040.00
3	90	Separate Control—115-120 V		E002AKA	\$1920.00	E102AKA	\$2088.00	E602AKA	\$2688.00	E202AKA	\$2688.00	E402AKA	\$3120.00
3	90	200-208	25	E023AKA	\$1920.00	E123AKA	\$2088.00	E623AKA	\$2688.00	E223AKA	\$2688.00	E423AKA	\$3120.00
3	90	230-240	30	E003AKA	\$1920.00	E103AKA	\$2088.00	E603AKA	\$2688.00	E203AKA	\$2688.00	E403AKA	\$3120.00
3	90	460-480	50	E004AKA	\$1920.00	E104AKA	\$2088.00	E604AKA	\$2688.00	E204AKA	\$2688.00	E404AKA	\$3120.00
3	90	575-600	50	E005AKA	\$1920.00	E105AKA	\$2088.00	E605AKA	\$2688.00	E205AKA	\$2688.00	E405AKA	\$3120.00
4	135	Separate Control—115-120 V		F002AKA	\$4812.00	F102AKA	\$5124.00	F602AKA	\$6312.00	F202AKA	\$6312.00	F402AKA	\$7236.00
4	135	200-208	40	F023AKA	\$4812.00	F123AKA	\$5124.00	F623AKA	\$6312.00	F223AKA	\$6312.00	F423AKA	\$7236.00
4	135	230-240	50	F003AKA	\$4812.00	F103AKA	\$5124.00	F603AKA	\$6312.00	F203AKA	\$6312.00	F403AKA	\$7236.00
4	135	460-480	100	F004AKA	\$4812.00	F104AKA	\$5124.00	F604AKA	\$6312.00	F204AKA	\$6312.00	F404AKA	\$7236.00
4	135	575-600	100	F005AKA	\$4812.00	F105AKA	\$5124.00	F605AKA	\$6312.00	F205AKA	\$6312.00	F405AKA	\$7236.00
5	270	Separate Control—115-120 V		G002AKA	\$11370.00	G102AKA	\$12096.00	G602AKA	\$17034.00	G202AKA	\$17034.00	G402AKA	\$17034.00
5	270	200-208	75	G023AKA	\$11370.00	G123AKA	\$12096.00	G623AKA	\$17034.00	G223AKA	\$17034.00	G423AKA	\$17034.00
5	270	230-240	100	G003AKA	\$11370.00	G103AKA	\$12096.00	G603AKA	\$17034.00	G203AKA	\$17034.00	G403AKA	\$17034.00
5	270	460-480	200	G004AKA	\$11370.00	G104AKA	\$12096.00	G604AKA	\$17034.00	G204AKA	\$17034.00	G404AKA	\$17034.00
5	270	575-600	200	G005AKA	\$11370.00	G105AKA	\$12096.00	G605AKA	\$17034.00	G205AKA	\$17034.00	G405AKA	\$17034.00

<sup>1</sup>Motor full load current should not exceed continuous ampere rating of the starter.



Enclosure Descriptions: See Section 12

# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR309 Magnetic Starters

Two-Speed, One-Winding (Consequent Pole), 5-3 pole  
Non-combination, Open, NEMA Type 1, 3R, 12, 4/4X  
NEMA Sizes 0-5 With Thermal Overload Relay  
600 Volts Maximum 50/60 Hertz

#### Three-Phase

List Price includes a holding interlock, mechanical and cross-electrical interlock, pressure terminals for the line and load connections, plus a 3-leg block type overload relay (manual reset) for each speed. All enclosures include external reset. One NO isolated contact on each overload relay is available as an option at **\$48.00, GO-10G** (for both). To order, change suffix AEA to LEA for Product Numbers listed in table. Six heaters should be ordered as separate items. See pages 1-153 to 1-159 for selection. **List price \$9.00 each, GO-10H.**

Starters are wired for constant or variable torque motor application. Reconnection of control wiring may be required for constant horsepower application. Motor full-load current should not exceed continuous ampere rating of starter. Refer to Coil Table, page 1-6, for other available coils including 50 Hertz.

#### CR309, Three-Phase One-Winding Magnetic Starters

NEMA Size	Continuous Ampere Rating <sup>1</sup>	Voltage (60 Hz)	Horsepower	Open Type		NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4/4X	
				Product Number CR309	List Price GO-10G	Product Number CR309	List Price GO-10G	Product Number CR309	List Price GO-10G	Product Number CR309	List Price GO-10G	Product Number CR309	List Price GO-10G
0	18	Separate Control—115-120 V		R002AEA	\$900.00	R102AEA	\$924.00	R602AEA	\$1110.00	R202AEA	\$1110.00	R402AEA	\$1500.00
0	18	200-208	3	R023AEA	\$900.00	R123AEA	\$924.00	R623AEA	\$1110.00	R223AEA	\$1110.00	R423AEA	\$1500.00
0	18	230-240	3	R003AEA	\$900.00	R103AEA	\$924.00	R603AEA	\$1110.00	R203AEA	\$1110.00	R403AEA	\$1500.00
0	18	460-480	5	R004AEA	\$900.00	R104AEA	\$924.00	R604AEA	\$1110.00	R204AEA	\$1110.00	R404AEA	\$1500.00
0	18	575-600	5	R005AEA	\$900.00	R105AEA	\$924.00	R605AEA	\$1110.00	R205AEA	\$1110.00	R405AEA	\$1500.00
1	27	Separate Control—115-120 V		S002AEA	\$960.00	S102AEA	\$996.00	S602AEA	\$1182.00	S202AEA	\$1182.00	S402AEA	\$1560.00
1	27	200-208		S023AEA	\$960.00	S123AEA	\$996.00	S623AEA	\$1182.00	S223AEA	\$1182.00	S423AEA	\$1560.00
1	27	230-240	7 1/2	S003AEA	\$960.00	S103AEA	\$996.00	S603AEA	\$1182.00	S203AEA	\$1182.00	S403AEA	\$1560.00
1	27	460-480	10	S004AEA	\$960.00	S104AEA	\$996.00	S604AEA	\$1182.00	S204AEA	\$1182.00	S404AEA	\$1560.00
1	27	575-600	10	S005AEA	\$960.00	S105AEA	\$996.00	S605AEA	\$1182.00	S205AEA	\$1182.00	S405AEA	\$1560.00
2	45	Separate Control—115-120 V		T002AEA	\$1704.00	T102AEA	\$1812.00	T602AEA	\$2076.00	T202AEA	\$2076.00	T402AEA	\$2508.00
2	45	200-208	10	T023AEA	\$1704.00	T123AEA	\$1812.00	T623AEA	\$2076.00	T223AEA	\$2076.00	T423AEA	\$2508.00
2	45	230-240	15	T003AEA	\$1704.00	T103AEA	\$1812.00	T603AEA	\$2076.00	T203AEA	\$2076.00	T403AEA	\$2508.00
2	45	460-480	25	T004AEA	\$1704.00	T104AEA	\$1812.00	T604AEA	\$2076.00	T204AEA	\$2076.00	T404AEA	\$2508.00
2	45	575-600	25	T005AEA	\$1704.00	T105AEA	\$1812.00	T605AEA	\$2076.00	T205AEA	\$2076.00	T405AEA	\$2508.00
3	90	Separate Control—115-120 V		U002AEA	\$2568.00	U102AEA	\$2736.00	U602AEA	\$3336.00	U202AEA	\$3336.00	U402AEA	\$3768.00
3	90	200-208	25	U023AEA	\$2568.00	U123AEA	\$2736.00	U623AEA	\$3336.00	U223AEA	\$3336.00	U423AEA	\$3768.00
3	90	230-240	30	U003AEA	\$2568.00	U103AEA	\$2736.00	U603AEA	\$3336.00	U203AEA	\$3336.00	U403AEA	\$3768.00
3	90	460-480	50	U004AEA	\$2568.00	U104AEA	\$2736.00	U604AEA	\$3336.00	U204AEA	\$3336.00	U404AEA	\$3768.00
3	90	575-600	50	U005AEA	\$2568.00	U105AEA	\$2736.00	U605AEA	\$3336.00	U205AEA	\$3336.00	U405AEA	\$3768.00
4	135	Separate Control—115-120 V		W002AEA	\$6648.00	W102AEA	\$7308.00	W602AEA	\$8496.00	W202AEA	\$8496.00	W402AEA	\$9420.00
4	135	200-208	40	W023AEA	\$6648.00	W123AEA	\$7308.00	W623AEA	\$8496.00	W223AEA	\$8496.00	W423AEA	\$9420.00
4	135	230-240	50	W003AEA	\$6648.00	W103AEA	\$7308.00	W603AEA	\$8496.00	W203AEA	\$8496.00	W403AEA	\$9420.00
4	135	460-480	100	W004AEA	\$6648.00	W104AEA	\$7308.00	W604AEA	\$8496.00	W204AEA	\$8496.00	W404AEA	\$9420.00
4	135	575-600	100	W005AEA	\$6648.00	W105AEA	\$7308.00	W605AEA	\$8496.00	W205AEA	\$8496.00	W405AEA	\$9420.00
5	270	Separate Control—115-120 V		Z002AEA	\$13140.00	Z102AEA	\$14442.00	Z602AEA	\$19380.00	Z202AEA	\$19380.00	Z402AEA	\$19380.00
5	270	200-208	75	Z023AEA	\$13140.00	Z123AEA	\$14442.00	Z623AEA	\$19380.00	Z223AEA	\$19380.00	Z423AEA	\$19380.00
5	270	230-240	100	Z003AEA	\$13140.00	Z103AEA	\$14442.00	Z603AEA	\$19380.00	Z203AEA	\$19380.00	Z403AEA	\$19380.00
5	270	460-480	200	Z004AEA	\$13140.00	Z104AEA	\$14442.00	Z604AEA	\$19380.00	Z204AEA	\$19380.00	Z404AEA	\$19380.00
5	270	575-600	200	Z005AEA	\$13140.00	Z105AEA	\$14442.00	Z605AEA	\$19380.00	Z205AEA	\$19380.00	Z405AEA	\$19380.00

<sup>1</sup>Motor full load current should not exceed continuous ampere rating of the starter.



Other Coil Voltages: See page 1-6  
Factory Installed Modifications: See pages 1-124 to 1-131

Field Installed Modifications: See pages 1-132 to 1-138  
Extra Auxiliary Contacts: See pages 1-132 to 1-134  
Heater Selection Tables: See pages 1-153 to 1-159

# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

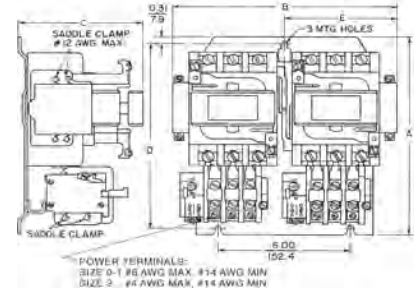
### CR309 Magnetic Starters

## Section 1

Two-Speed  
 Non-combination  
 200 Horsepower Maximum  
 NEMA Sizes 0-5  
 600 Volts Maximum  
 Outlines, Dimensions in. (mm), and Weights (For Estimating Only)

#### CR309 Open NEMA Sizes 0-2 Two-Speed

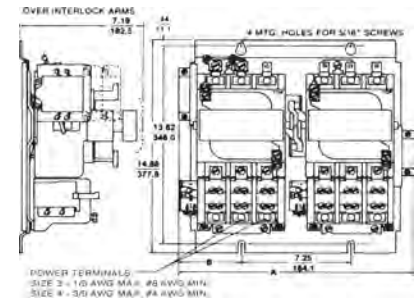
NEMA Size	Operation Type	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Mounting Screw Size	Shipping Weight (lbs.)
0, 1	Two-Speed, Two-Winding	7.00 (177.8)	8.88 (225.6)	3.94 (100.0)	6.50 (165.1)	4.44 (112.8)	#10	8
0, 1	Two-Speed, One-Winding	7.00 (177.8)	9.88 (251.0)	3.94 (100.0)	6.50 (165.1)	4.44 (112.8)	#10	8 3/4
2	Two-Speed, Two-Winding	9.12 (231.6)	10.36 (263.2)	5.38 (136.6)	8.50 (215.8)	5.19 (131.7)	1/4"	18 1/4
2	Two-Speed, One-Winding	9.12 (231.6)	13.38 (339.6)	5.38 (136.6)	8.50 (215.8)	5.19 (131.7)	1/4"	19



Open Type, NEMA Sizes 0-2 Two-Speed

#### CR309 Open NEMA Sizes 3 and 4 Two-Speed

NEMA Size	Operation Type	Dimension A	Dimension B	Shipping Weight (lbs.)
3, 4	Two-Speed, Two-Winding	14.81 (376.2)	3.75 (95.2)	50
3, 4	Two-Speed, One-Winding	18.81 (477.8)	5.81 (147.6)	52

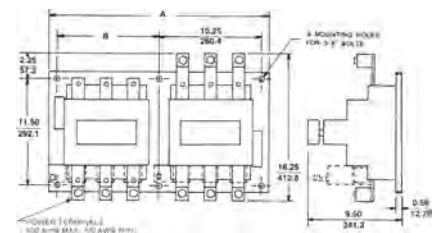


Open Type, NEMA Sizes 3 and 4 Two-Speed

#### CR309 Open NEMA Size 5 Two-Speed

NEMA Size	Operation Type	Dimension A	Dimension B	Shipping Weight <sup>1</sup> (lbs.)
5	Two-Speed, Two-Winding	22.88 (581.2)	10.25 (260.4)	
5	Two-Speed, One-Winding	28.75 (730.3)	16.00 (406.4)	

<sup>1</sup>Contact nearest GE Representative for weight.



Open Type, NEMA Size 5 Two-Speed



Enclosure Descriptions: See Section 12  
 Product Number Selection Instructions:  
 See page 1-24

# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR309 Magnetic Starters

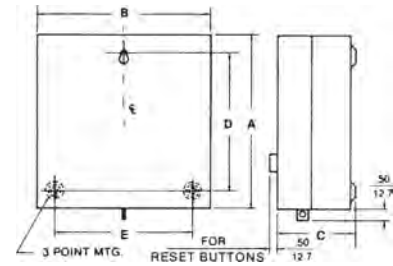
Two-Speed  
Non-combination  
200 Horsepower Maximum  
NEMA Sizes 0-5

600 Volts Maximum  
Outlines, Dimensions in. (mm), and Weights (For Estimating Only)

## Section 1

### CR309 NEMA Type 1 NEMA Sizes 0-2 Two-Speed

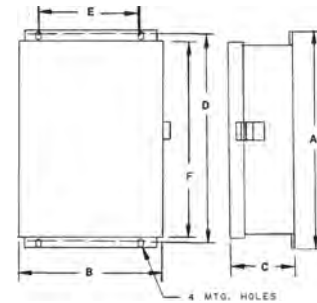
NEMA Size	Operation Type	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Mounting Screw Size	Shipping Weight (lbs.)
0, 1	Two-Speed, Two-Winding	10.00 (254.0)	10.00 (254.0)	4.62 (117.3)	8.00 (203.2)	8.00 (203.2)	#10	13
0, 1	Two-Speed, One-Winding	10.00 (254.0)	13.50 (342.9)	4.62 (117.3)	8.00 (203.2)	11.50 (292.1)	#10	14
2	Two-Speed, Two-Winding	13.25 (336.6)	12.00 (304.8)	6.12 (155.4)	11.00 (279.4)	9.00 (228.6)	1/4"	28
2	Two-Speed, One-Winding	13.25 (336.6)	16.00 (406.4)	6.12 (155.4)	11.00 (279.4)	13.00 (330.2)	1/4"	30



NEMA Type 1, Sizes 0 - 2 Two-Speed

### CR309 NEMA Type 1 NEMA Sizes 3-5 Two-Speed

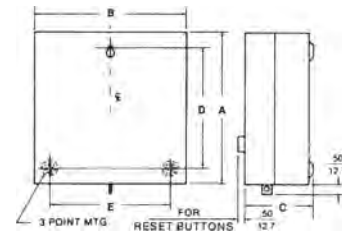
NEMA Size	Operation Type	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Shipping Weight (lbs.)
3	Two-Speed, Two-Winding	24.00 (609.6)	18.00 (457.2)	8.62 (219.0)	23.00 (584.2)	13.00 (330.2)	21.62 (549.1)	90
3	Two-Speed, One-Winding	28.00 (711.2)	22.00 (558.8)	8.62 (219.0)	27.00 (685.8)	17.00 (431.8)	25.62 (650.8)	105
4	Two-Speed, Two-Winding	30.00 (762.0)	18.00 (457.2)	8.62 (219.0)	29.00 (736.6)	13.00 (330.2)	27.62 (701.6)	125
4	Two-Speed, One-Winding	34.00 (863.6)	22.00 (558.8)	8.62 (219.0)	33.00 (838.2)	17.00 (431.8)	31.62 (803.2)	130
5	Two-Speed, Two-Winding	51.13 (1298.7)	32.00 (812.8)	11.50 (292.1)	50.13 (1273.3)	27.00 (685.8)	50.12 (1273.0)	-
5	Two-Speed, One-Winding	51.13 (1298.7)	32.00 (812.8)	11.50 (292.1)	50.13 (1273.3)	27.00 (685.8)	50.12 (1273.0)	-



NEMA Type 1, Sizes 3 - 5 Two-Speed

### CR309 NEMA Type 12 NEMA Sizes 0-2 Two-Speed

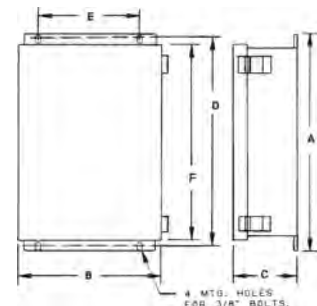
NEMA Size	Operation Type	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Shipping Weight (lbs.)
0, 1	Two-Speed, Two-Winding	11.62 (295.1)	10.25 (260.4)	4.75 (120.6)	11.00 (279.4)	7.00 (177.8)	10.25 (260.4)	14
0, 1	Two-Speed, One-Winding	15.62 (396.7)	14.25 (362.0)	4.75 (120.6)	15.00 (381.0)	11.00 (279.4)	14.25 (362.0)	14
2	Two-Speed, Two-Winding	14.62 (371.3)	12.25 (311.2)	6.25 (158.8)	14.00 (355.6)	9.00 (228.6)	13.25 (336.6)	30
2	Two-Speed, One-Winding	17.62 (447.5)	16.25 (412.8)	6.25 (158.8)	17.00 (431.8)	12.00 (304.8)	16.25 (412.8)	30



NEMA Type 12, Sizes 0 - 2 Two-Speed

### CR309 NEMA Type 12 NEMA Sizes 3-5 Two-Speed

NEMA Size	Operation Type	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Shipping Weight (lbs.)
3	Two-Speed, Two-Winding	24.00 (609.6)	18.00 (457.2)	7.88 (200.0)	23.00 (584.2)	13.00 (330.2)	21.38 (543.0)	90
3	Two-Speed, One-Winding	28.00 (711.2)	22.00 (558.8)	7.88 (200.0)	27.00 (685.8)	17.00 (431.8)	25.38 (644.7)	105
4	Two-Speed, Two-Winding	30.00 (762.0)	18.00 (457.2)	7.88 (200.0)	29.00 (736.6)	17.00 (431.8)	31.38 (797.1)	125
4	Two-Speed, One-Winding	34.00 (863.6)	22.00 (558.8)	7.88 (200.0)	33.00 (838.2)	17.00 (431.8)	31.38 (797.1)	130
5	Two-Speed, Two-Winding	51.50 (1308.1)	32.00 (812.8)	10.25 (260.4)	50.50 (1282.7)	27.00 (685.8)	48.75 (1238.3)	-
5	Two-Speed, One-Winding	51.50 (1308.1)	32.00 (812.8)	10.25 (260.4)	50.50 (1282.7)	27.00 (685.8)	48.75 (1238.3)	-



NEMA Type 12, Size 3 - 5 Two-Speed



Product Number Selection Instructions: See page 1-24

# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR309 Magnetic Starters

## Section 1

Two-Speed

Non-combination

200 Horsepower Maximum

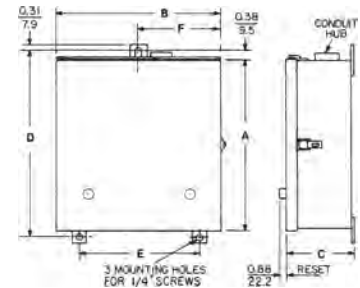
NEMA Sizes 0-5

600 Volts Maximum

Outlines, Dimensions in. (mm), and Weights (For Estimating Only)

#### CR309 NEMA Type 3R NEMA Sizes 0-2 Two-Speed

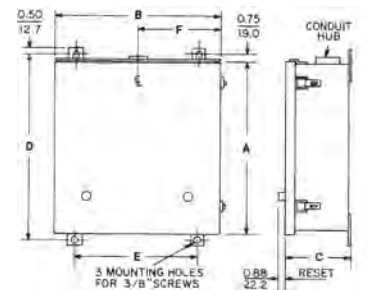
NEMA Size	Operation Type	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Shipping Weight (lbs.)
0, 1	Two-Speed, Two-Winding	14.50 (368.3)	10.88 (263.5)	4.75 (120.6)	15.00 (381.0)	7.00 (177.8)	5.19 (131.7)	31
0, 1	Two-Speed, One-Winding	14.50 (368.3)	14.38 (365.1)	4.75 (120.6)	15.00 (381.0)	11.00 (279.4)	7.19 (182.5)	33
2	Two-Speed, Two-Winding	16.50 (419.1)	12.50 (317.5)	6.50 (165.1)	17.00 (431.8)	8.00 (203.2)	6.25 (158.7)	51
2	Two-Speed, One-Winding	16.50 (419.1)	16.50 (419.1)	6.50 (165.1)	17.00 (431.8)	12.00 (304.8)	8.25 (209.5)	56



NEMA Type 3R, Sizes 0 - 2 Two-Speed

#### CR309 NEMA Type 3R NEMA Sizes 3-5 Two-Speed

NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Shipping Weight (lbs.)
3	26.00 (660.4)	21.00 (533.4)	8.00 (203.2)	27.50 (698.5)	15.00 (381.0)	10.50 (266.7)	90
4	30.00 (762.0)	21.00 (533.4)	8.00 (203.2)	31.50 (800.1)	15.00 (381.0)	10.50 (266.7)	105
5	48.00 (1219.2)	32.00 (812.8)	10.25 (260.4)	49.50 (1257.3)	26.00 (660.4)	16.00 (406.4)	295



NEMA Type 3R, Sizes 3 - 5 Two-Speed

#### CR309 NEMA Type 4/4X NEMA Sizes 0-5 Two-Speed

NEMA Size	Product Number	Height	Width	Depth	Shipping Weight (lbs.)	
					3-3 Pole	5-3 Pole
0, 1	CR309 (B4 & C4)	15.62 (396.7)	10.38 (263.7)	5.50 (139.7)	31	—
0, 1	CR309 (R4 & S4)	15.62 (396.1)	14.38 (365.2)	5.50 (139.7)	—	33
2	CR309 D4	17.62 (447.5)	12.50 (317.3)	6.25 (158.6)	51	—
2	CR309 T4	17.62 (447.5)	16.50 (419.1)	6.5 (165.1)	—	56
3	CR309 E4, CR309 U4	29.00 (736.6)	21.00 (533.4)	8.0 (203.2)	85	100
4	CR309 F4, CR309 W4	33.00 (838.2)	21.00 (533.4)	8.0 (203.2)	120	130
5	CR309 G4, CR309 Z4	47.55 (1207.8)	36.00 (914.4)	11.12 (282.4)	230	250



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR307, CR407, CR308, CR408 Magnetic Starters

Nonreversing, Combination, NEMA Type 1, 3R, 12, 4/4X  
 400 Horsepower Maximum  
 NEMA Sizes 0-6  
 600 Volts Maximum  
 50/60 Hertz

#### Application

These combination starters are used for full voltage starting of single-speed squirrel-cage induction motors up to 400 horsepower maximum, 600 Volts maximum. Each starter provides short-circuit protection by means of a fusible disconnect, a thermal magnetic trip circuit breaker, or circuit interrupter function with a nonfusible disconnect switch.

#### Features

- Branch circuit protection**—is provided by means of a Type QMR disconnect switch or molded case circuit breaker.
  - Mechanism**—always controls interrupting switch.
  - Easy inspection, maintenance**—performed from starter front.
  - Optional factory-installed control transformer.**
- Refer to page 1-7 for features of basic starter.

#### Product Number Selection Instructions

1. Specify starter by complete Product Number. Example: CR308CT03HB1AAAAA is a Size 1 starter, combination disconnect form with 230-240 Volt, 60-Hertz coil and 60-Ampere class H fuse clips in Type 1 general-purpose enclosure @ **\$606.00, GO-10G1.**
2. Order special features or forms not listed by complete description using a listed Product Number as reference. Example: Similar to CR308CT03HB1AAAAA except with red indicating light in cover. Total **List Price, \$696.00, GO-10G1.**
3. **50-Hertz Starters**  
 Pricing of starters for use on 50 Hertz (at standard voltages) is the same as shown in tables for 60 Hertz. Order by description, using a listed form as reference. Refer to page 1-4 for three-phase horsepower rating at 380-415 Volts, 50 Hertz.
4. **Control Transformer**  
 All catalog listed CR307 and CR308 combination starters have provision for field mounting a standard control circuit transformer. Refer to page 1-137 for transformer kit Product Numbers and pricing. Also, see page 1-126 for information on factory-installed standard and extra-capacity transformers. Specify transformer rating on order.
5. **Product Notes**  
 Motor full-load current should not exceed continuous ampere rating of starter.  
 Order heaters by complete Product Number from appropriate heater tables on pages 1-153 to 1-159.



Typical Combination Starter in General Purpose Type 1 Enclosure

#### Reference Publications

Instructions	
NEMA Size	Publication Number
0, 1	GEH-5190
2	GEH-4774
3	GEH-4806
4	GEH-4807
5	GEH-4838
6	GEH-5198

#### CR307, CR407, CR308, CR408 Magnetic Starters - Contents

Application Information and Selection Instructions .....	1-30
Nonfusible Disconnect Type (CR308, CR408).....	1-31
Fusible Disconnect Type (CR308, CR408) .....	1-32
Nonfusible and Fusible Part Number Configuration	
Size 0-2, NEMA Type 1 (CR308).....	1-34
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR408) .....	1-37
Thermal Magnetic Circuit Breaker Type (CR307, CR407) .....	1-42
Thermal Magnetic Part Number Configuration	
Size 0-2, NEMA Type 1 (CR307).....	1-43
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR407) .....	1-46
Outlines and Dimensions .....	1-59



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR308, CR408 Magnetic Starters

## Section 1

Nonreversing, Combination, NEMA Type 1, 3R, 12, 4/4X  
 NEMA Sizes 0-6, Nonfusible Disconnect Type  
 600 Volts Maximum 50/60 Hertz

List Price includes a holding interlock, pressure terminals for the line and load connections, plus a 3-leg block type overload relay (manual reset). All enclosures include external reset. Three heaters should be ordered as separate items. See pages 1-153 to 1-159 for selection. **List Price \$9.00, GO-10H.**

#### CR308/408 Nonfusible Disconnect

Voltage (60Hz)	NEMA Size	Maximum Horsepower	Continuous Amp Rating	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4/4X	
				Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1
200-208	0	3	18	308BT081A1AAAA	\$546.00	408B6081A1AAAA	\$690.00	408B2081A1AAAA	\$690.00	408B4081A1AAAA	\$1122.00
200-208	1	7 1/2	27	308CT081A1AAAA	\$576.00	408C6081A1AAAA	\$720.00	408C2081A1AAAA	\$720.00	408C4081A1AAAA	\$1152.00
200-208	2	10	45	308DT081A1AAAA	\$912.00	408D6081A1AAAA	\$1116.00	408D2081A1AAAA	\$1116.00	408D4081A1AAAA	\$1800.00
200-208	3	25	90	408E1081A1AAAA	\$1518.00	408E6081A1AAAA	\$1782.00	408E2081A1AAAA	\$1782.00	408E4081A1AAAA	\$3066.00
200-208	4	40	135	408F1081A1AAAA	\$2928.00	408F6081A1AAAA	\$3660.00	408F2081A1AAAA	\$3660.00	408F4081A1AAAA	\$4908.00
200-208	5	75	270	308G123AAA	\$6573.00	308G623AAAA	\$8349.00	308G223AEA	\$8349.00	308G423AAAA	\$11625.00
200-208	6	150	540	308HH123AAAA	\$17343.00	308HH623AAAA	\$19413.00	308HH223AEA	\$19413.00	308HH423AAAA <sup>1</sup>	\$22143.00
230-240	0	3	18	308BT031A1AAAA	\$546.00	408B6031A1AAAA	\$690.00	408B2031A1AAAA	\$690.00	408B4031A1AAAA	\$1122.00
230-240	1	7 1/2	27	308CT031A1AAAA	\$576.00	408C6031A1AAAA	\$720.00	408C2031A1AAAA	\$720.00	408C4031A1AAAA	\$1152.00
230-240	2	15	45	308DT031A1AAAA	\$912.00	408D6031A1AAAA	\$1116.00	408D2031A1AAAA	\$1116.00	408D4031A1AAAA	\$1800.00
230-240	3	30	90	408E1031A1AAAA	\$1518.00	408E6031A1AAAA	\$1782.00	408E2031A1AAAA	\$1782.00	408E4031A1AAAA	\$3066.00
230-240	4	50	135	408F1031A1AAAA	\$2928.00	408F6031A1AAAA	\$3660.00	408F2031A1AAAA	\$3660.00	408F4031A1AAAA	\$4908.00
230-240	5	100	270	308G103AAA	\$6573.00	308G603AAAA	\$8349.00	308G203AEA	\$8349.00	308G403AAAA	\$11625.00
230-240	6	200	540	308HH103AAAA	\$17343.00	308HH603AAAA	\$19413.00	308HH203AEA	\$19413.00	308HH403AAAA <sup>1</sup>	\$22143.00
460-480	0	5	18	308BT041A1AAAA	\$546.00	408B6041A1AAAA	\$690.00	408B2041A1AAAA	\$690.00	408B4041A1AAAA	\$1122.00
460-480	1	10	27	308CT041A1AAAA	\$576.00	408C6041A1AAAA	\$720.00	408C2041A1AAAA	\$720.00	408C4041A1AAAA	\$1152.00
460-480	2	25	45	308DT041A1AAAA	\$912.00	408D6041A1AAAA	\$1116.00	408D2041A1AAAA	\$1116.00	408D4041A1AAAA	\$1800.00
460-480	3	50	90	408E1041A1AAAA	\$1518.00	408E6041A1AAAA	\$1782.00	408E2041A1AAAA	\$1782.00	408E4041A1AAAA	\$3066.00
460-480	4	100	135	408F1041A1AAAA	\$2928.00	408F6041A1AAAA	\$3660.00	408F2041A1AAAA	\$3660.00	408F4041A1AAAA	\$4908.00
460-480	5	200	270	308G104AAA	\$6573.00	308G604AAAA	\$8349.00	308G204AEA	\$8349.00	308G404AAAA	\$11625.00
460-480	6	400	540	308HH104AAAA	\$17343.00	308HH604AAAA	\$19413.00	308HH204AEA	\$19413.00	308HH404AAAA <sup>1</sup>	\$22143.00
575-600	0	5	18	308BT051A1AAAA	\$546.00	408B6051A1AAAA	\$690.00	408B2051A1AAAA	\$690.00	408B4051A1AAAA	\$1122.00
575-600	1	10	27	308CT051A1AAAA	\$576.00	408C6051A1AAAA	\$720.00	408C2051A1AAAA	\$720.00	408C4051A1AAAA	\$1152.00
575-600	2	25	45	308DT051A1AAAA	\$912.00	408D6051A1AAAA	\$1116.00	408D2051A1AAAA	\$1116.00	408D4051A1AAAA	\$1800.00
575-600	3	50	90	408E1051A1AAAA	\$1518.00	408E6051A1AAAA	\$1782.00	408E2051A1AAAA	\$1782.00	408E4051A1AAAA	\$3066.00
575-600	4	100	135	408F1051A1AAAA	\$2928.00	408F6051A1AAAA	\$3660.00	408F2051A1AAAA	\$3660.00	408F4051A1AAAA	\$4908.00
575-600	5	200	270	308G105AAA	\$6573.00	308G605AAAA	\$8349.00	308G205AEA	\$8349.00	308G405AAAA	\$11625.00
575-600	6	400	540	308HH105AAAA	\$17343.00	308HH605AAAA	\$19413.00	308HH205AEA	\$19413.00	308HH405AAAA <sup>1</sup>	\$22143.00

<sup>1</sup>Painted steel Type 4 enclosure is standard for NEMA Size 6 forms.

- NEMA Size 0-6 starters with 115-120 Volt, 60-Hertz coil for separate control are available at listed prices. To order, replace Digits 8 and 9 of listed Product Numbers with 02.  
 Example: CR408C2051A1AAAA with 115-120 Volt, 60-Hertz coil for separate control becomes CR408C2021A1AAAA.
- Motor full load current should not exceed continuous ampere rating of starter.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR308, CR408 Magnetic Starters

## Section 1

Nonreversing, Combination, NEMA Type 1, 3R, 12, 4/4X  
 NEMA Sizes 0-6, Fusible Disconnect Type  
 600 Volts Maximum 50/60 Hertz

List Price includes a holding interlock, pressure terminals for the line and load connections, plus a 3-leg block type overload relay (manual reset). Fuses not included. All enclosures include external reset. Three heaters should be ordered as separate items. See pages 1-153 to 1-159 for selection. **List Price \$9.00, GO-10H.**

#### CR308/408 Fusible Disconnect (Class H Fuse Clips)

Voltage (60Hz)	NEMA Size	Maximum Horsepower	Continuous Fuse Clip		NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4/4X	
			Amp Rating	Amp Rating	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1
200-208	0	3	18	30	308BT08HA1AAAAA	\$564.00	408B608HA1AAAAA	\$708.00	408B208HA1AAAAA	\$708.00	408B408HA1AAAAA	\$1140.00
200-208	1	7 1/2	27	60	308CT08HB1AAAAA	\$606.00	408C608HB1AAAAA	\$750.00	408C208HB1AAAAA	\$750.00	408C408HB1AAAAA	\$1182.00
200-208	2	10	45	100	308DT08HC1AAAAA	\$1008.00	408D608HC1AAAAA	\$1212.00	408D208HC1AAAAA	\$1212.00	408D408HC1AAAAA	\$1896.00
200-208	3	25	90	200 <sup>1</sup>	408E108HD1AAAAA	\$1710.00	408E608HD1AAAAA	\$1974.00	408E208HD1AAAAA	\$1974.00	408E408HD1AAAAA	\$3258.00
200-208	4	40	135	400 <sup>1</sup>	408F108HE1AAAAA	\$3144.00	408F608HE1AAAAA	\$3876.00	408F208HE1AAAAA	\$3876.00	408F408HE1AAAAA	\$5124.00
200-208	5	75	270	400 <sup>1</sup>	308G123BAA	\$6789.00	308G623BAAA	\$8334.00	308G223BEA	\$8334.00	308G423BAAA	\$11841.00
230-240	0	3	18	30	308BT03HA1AAAAA	\$564.00	408B603HA1AAAAA	\$708.00	408B203HA1AAAAA	\$708.00	408B403HA1AAAAA	\$1140.00
230-240	1	7 1/2	27	60	308CT03HB1AAAAA	\$606.00	408C603HB1AAAAA	\$750.00	408C203HB1AAAAA	\$750.00	408C403HB1AAAAA	\$1182.00
230-240	2	15	45	100	308DT03HC1AAAAA	\$1008.00	408D603HC1AAAAA	\$1212.00	408D203HC1AAAAA	\$1212.00	408D403HC1AAAAA	\$1896.00
230-240	3	30	90	200 <sup>1</sup>	408E103HD1AAAAA	\$1710.00	408E603HD1AAAAA	\$1974.00	408E203HD1AAAAA	\$1974.00	408E403HD1AAAAA	\$3258.00
230-240	4	50	135	400 <sup>1</sup>	408F103HE1AAAAA	\$3144.00	408F603HE1AAAAA	\$3876.00	408F203HE1AAAAA	\$3876.00	408F403HE1AAAAA	\$5124.00
230-240	5	100	270	400 <sup>1</sup>	308G103BAA	\$6789.00	308G603BAAA	\$8334.00	308G203BEA	\$8334.00	308G403BAAA	\$11841.00
460-480	0	5	18	30	308BT04H31AAAAA	\$576.00	408B604H31AAAAA	\$720.00	408B204H31AAAAA	\$720.00	408B404H31AAAAA	\$1152.00
460-480	1	7 1/2	27	30	308CT04H31AAAAA	\$606.00	408C604H31AAAAA	\$750.00	408C204H31AAAAA	\$750.00	408C404H31AAAAA	\$1182.00
460-480	1	10	27	60	308CT04H61AAAAA	\$618.00	408C604H61AAAAA	\$762.00	408C204H61AAAAA	\$762.00	408C404H61AAAAA	\$1194.00
460-480	2	15	45	60	308DT04H61AAAAA	\$954.00	408D604H61AAAAA	\$1158.00	408D204H61AAAAA	\$1158.00	408D404H61AAAAA	\$1842.00
460-480	2	25	45	100	308DT04H11AAAAA <sup>1</sup>	\$1020.00	408D604H11AAAAA	\$1224.00	408D204H11AAAAA	\$1224.00	408D404H11AAAAA	\$1908.00
460-480	3	30	90	100	408E104H11AAAAA	\$1608.00	408E604H11AAAAA	\$1872.00	408E204H11AAAAA	\$1872.00	408E404H11AAAAA	\$3156.00
460-480	3	50	90	200 <sup>1</sup>	408E104H21AAAAA	\$1734.00	408E604H21AAAAA	\$1998.00	408E204H21AAAAA	\$1998.00	408E404H21AAAAA	\$3282.00
460-480	4	60	135	200 <sup>1</sup>	408F104H21AAAAA	\$3054.00	408F604H21AAAAA	\$3786.00	408F204H21AAAAA	\$3786.00	408F404H21AAAAA	\$5034.00
460-480	4	100	135	400 <sup>1</sup>	408F104H41AAAAA	\$3144.00	408F604H41AAAAA	\$3876.00	408F204H41AAAAA	\$3876.00	408F404H41AAAAA	\$5124.00
575-600	0	5	18	30	308BT05H31AAAAA	\$576.00	408B605H31AAAAA	\$720.00	408B205H31AAAAA	\$720.00	408B405H31AAAAA	\$1152.00
575-600	1	10	27	30	308CT05H31AAAAA	\$606.00	408C605H31AAAAA	\$750.00	408C205H31AAAAA	\$750.00	408C405H31AAAAA	\$1182.00
575-600	2	20	45	60	308DT05H61AAAAA	\$954.00	408D605H61AAAAA	\$1158.00	408D205H61AAAAA	\$1158.00	408D405H61AAAAA	\$1842.00
575-600	2	25	45	100	308DT05H11AAAAA <sup>1</sup>	\$1020.00	408D605H11AAAAA	\$1224.00	408D205H11AAAAA	\$1224.00	408D405H11AAAAA	\$1908.00
575-600	3	30	90	100	408E105H11AAAAA	\$1608.00	408E605H11AAAAA	\$1872.00	408E205H11AAAAA	\$1872.00	408E405H11AAAAA	\$3156.00
575-600	3	50	90	200 <sup>1</sup>	408E105H21AAAAA	\$1734.00	408E605H21AAAAA	\$1998.00	408E205H21AAAAA	\$1998.00	408E405H21AAAAA	\$3282.00
575-600	4	60	135	200 <sup>1</sup>	408F105H21AAAAA	\$3054.00	408F605H21AAAAA	\$3786.00	408F205H21AAAAA	\$3786.00	408F405H21AAAAA	\$5034.00
575-600	4	100	135	400 <sup>1</sup>	408F105H41AAAAA	\$3144.00	408F605H41AAAAA	\$3876.00	408F205H41AAAAA	\$3876.00	408F405H41AAAAA	\$5124.00

<sup>1</sup>Oversized enclosure provided as standard.

- NEMA Size 0-6 starters with 115-120Volt, 60-Hertz coil for separate control are available at listed prices. To order, replace Digits 8 and 9 of listed Product Numbers with 02.  
 Example: CR408E108HD1AAAAA with 115-120 Volt, 60-Hertz coil for separate control becomes CR408E102HD1AAAAA.
- For ordinary starting duty only
- Motor full load current should not exceed continuous ampere rating of starter.





# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR308, CR408 Magnetic Starters

# Section 1

Nonreversing, Combination, NEMA Type 1, 3R, 12, 4/4X  
 NEMA Sizes 0-6, Fusible Disconnect Type  
 600 Volts Maximum 50/60 Hertz

List Price includes a holding interlock, pressure terminals for the line and load connections, plus a 3-leg block type overload relay (manual reset). Fuses not included. All enclosures include external reset. Three heaters should be ordered as separate items. See pages 1-153 to 1-159 for selection. **List Price \$9.00, GO-10H.**

#### CR308/408 Fusible Disconnect (Class R Fuse Clips)

Voltage (60Hz)	NEMA Size	Maximum Horsepower	Continuous Fuse Clip		NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4/4X	
			Amp Rating	Amp Rating	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1
200-208	0	3	18	30	308BT08RA1AAAA	\$573.00	408B608RA1AAAA	\$717.00	408B208RA1AAAA	\$717.00	408B408RA1AAAA	\$1149.00
200-208	1	5	27	30	308CT08RA1AAAA	\$603.00	408C608RA1AAAA	\$747.00	408C208RA1AAAA	\$747.00	408C408RA1AAAA	\$1179.00
200-208	1	7 1/2	27	60	308CT08RB1AAAA	\$615.00	408C608RB1AAAA	\$759.00	408C208RB1AAAA	\$759.00	408C408RB1AAAA	\$1191.00
200-208	2	10	45	60	308DT08RB1AAAA	\$945.00	408D608RB1AAAA	\$1149.00	408D208RB1AAAA	\$1149.00	408D408RB1AAAA	\$1833.00
200-208	3	20	90	100	408E108RC1AAAA	\$1596.00	408E608RC1AAAA	\$1860.00	408E208RC1AAAA	\$1860.00	408E408RC1AAAA	\$3144.00
200-208	3	25	90	200 <sup>1</sup>	408E108RD1AAAA	\$1728.00	408E608RD1AAAA	\$1992.00	408E208RD1AAAA	\$1992.00	408E408RD1AAAA	\$3276.00
200-208	4	40	135	200 <sup>1</sup>	408F108RD1AAAA	\$3048.00	408F608RD1AAAA	\$3780.00	408F208RD1AAAA	\$3780.00	408F408RD1AAAA	\$5028.00
200-208	5	-	-	-	-	-	-	-	-	-	-	-
200-208	6	150	540	600	308HH123PAAA	\$17979.00	308HH623PAAA	\$20049.00	308HH223PAEA	\$20049.00	308HH423PAAA <sup>2</sup>	\$22779.00
230-240	0	3	18	30	308BT03RA1AAAA	\$573.00	408B603RA1AAAA	\$717.00	408B203RA1AAAA	\$717.00	408B403RA1AAAA	\$1149.00
230-240	1	5	27	30	308CT03RA1AAAA	\$603.00	408C603RA1AAAA	\$747.00	408C203RA1AAAA	\$747.00	408C403RA1AAAA	\$1179.00
230-240	1	7 1/2	27	60	308CT03RB1AAAA	\$615.00	408C603RB1AAAA	\$759.00	408C203RB1AAAA	\$759.00	408C403RB1AAAA	\$1191.00
230-240	2	15	45	60	308DT03RB1AAAA	\$945.00	408D603RB1AAAA	\$1149.00	408D203RB1AAAA	\$1149.00	408D403RB1AAAA	\$1833.00
230-240	3	25	90	100	408E103RC1AAAA	\$1596.00	408E603RC1AAAA	\$1860.00	408E203RC1AAAA	\$1860.00	408E403RC1AAAA	\$3144.00
230-240	3	30	90	200 <sup>1</sup>	408E103RD1AAAA	\$1728.00	408E603RD1AAAA	\$1992.00	408E203RD1AAAA	\$1992.00	408E403RD1AAAA	\$3276.00
230-240	4	50	135	200 <sup>1</sup>	408F103RD1AAAA	\$3048.00	408F603RD1AAAA	\$3780.00	408F203RD1AAAA	\$3780.00	408F403RD1AAAA	\$5028.00
230-240	5	-	-	-	-	-	-	-	-	-	-	-
230-240	6	200	540	600	308HH103PAAA	\$17979.00	308HH603PAAA	\$20049.00	308HH203PAEA	\$20049.00	308HH403PAAA <sup>2</sup>	\$22779.00
460-480	0	5	18	30	308BT04R31AAAA	\$585.00	408B604R31AAAA	\$729.00	408B204R31AAAA	\$729.00	408B404R31AAAA	\$1161.00
460-480	1	10	27	30	308CT04R31AAAA	\$615.00	408C604R31AAAA	\$759.00	408C204R31AAAA	\$759.00	408C404R31AAAA	\$1191.00
460-480	2	25	45	60	308DT04R61AAAA	\$963.00	408D604R61AAAA	\$1167.00	408D204R61AAAA	\$1167.00	408D404R61AAAA	\$1851.00
460-480	3	50	90	100	408E104R11AAAA	\$1626.00	408E604R11AAAA	\$1890.00	408E204R11AAAA	\$1890.00	408E404R11AAAA	\$3174.00
460-480	4	100	135	200 <sup>1</sup>	408F104R21AAAA	\$3072.00	408F604R21AAAA	\$3804.00	408F204R21AAAA	\$3804.00	408F404R21AAAA	\$5052.00
460-480	5	200	270	400	308G104FAA	\$6789.00	308G604FAAA	\$8565.00	308G204FEA	\$8565.00	308G404FAAA	\$11841.00
460-480	6	400	540	600	308HH104PAAA	\$17979.00	308HH604PAAA	\$20079.00	308HH204PAEA	\$20079.00	308HH404PAAA <sup>2</sup>	\$22779.00
575-600	0	5	18	30	308BT05R31AAAA	\$585.00	408B605R31AAAA	\$729.00	408B205R31AAAA	\$729.00	408B405R31AAAA	\$1161.00
575-600	1	10	27	30	308CT05R31AAAA	\$615.00	408C605R31AAAA	\$759.00	408C205R31AAAA	\$759.00	408C405R31AAAA	\$1191.00
575-600	2	15	45	30	308DT05R31AAAA	\$951.00	408D605R31AAAA	\$1155.00	408D205R31AAAA	\$1155.00	408D405R31AAAA	\$1839.00
575-600	2	25	45	60	308DT05R61AAAA	\$963.00	408D605R61AAAA	\$1167.00	408D205R61AAAA	\$1167.00	408D405R61AAAA	\$1851.00
575-600	3	30	90	60	408E105R61AAAA	\$1560.00	408E605R61AAAA	\$1824.00	408E205R61AAAA	\$1824.00	408E405R61AAAA	\$3108.00
575-600	3	50	90	100	408E105R11AAAA	\$1626.00	408E605R11AAAA	\$1890.00	408E205R11AAAA	\$1890.00	408E405R11AAAA	\$3174.00
575-600	4	60	135	100 <sup>1</sup>	408F105R11AAAA	\$3036.00	408F605R11AAAA	\$3768.00	408F205R11AAAA	\$3768.00	408F405R11AAAA	\$5016.00
575-600	4	100	135	200 <sup>1</sup>	408F105R21AAAA	\$3072.00	408F605R21AAAA	\$3804.00	408F205R21AAAA	\$3804.00	408F405R21AAAA	\$5052.00
575-600	5	200	270	400	308G105FAA	\$6789.00	308G605FAAA	\$8565.00	308G205FEA	\$8565.00	308G405FAAA	\$11841.00
575-600	6	400	540	600	308HH105PAAA	\$17979.00	308HH605PAAA	\$20052.00	308HH205PAEA	\$20052.00	308HH405PAAA <sup>2</sup>	\$22779.00

<sup>1</sup>Oversized enclosure provided as standard.

<sup>2</sup>Painted steel Type 4 enclosure is standard for NEMA Size 6 forms.

• NEMA Size 0-6 starters with 115-120Volt, 60-Hertz coil for separate control are available at listed prices. To order, replace Digits 8 and 9 of listed Product Numbers with 02.  
 Example: CR408D604R61AAAA with 115-120 Volt, 60-Hertz coil for separate control becomes CR408D602R61AAAA.

- For ordinary starting duty only
- Motor full load current should not exceed continuous ampere rating of starter.
- HP rating is based on dual element fuses.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR308 Magnetic Starters

## Section 1

Nonreversing, Combination, Nonfusible and Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 0-2, Type 1 Standard Enclosure

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																
---	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Steps: Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code. Add list price from each step to arrive at total list for price for starter.

#### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1	
	Standard Enclosure	List Price
	CR	GO-10G1
0	308BT	\$546.00
1	308CT	\$576.00
2	308DT	\$912.00

Note: All enclosures include external overload reset buttons.

#### Step 2 (Digits 8, 9) Select Control Voltage

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT	List Price GO-10G1	Standard Size CPT	NEMA Size			Standard Size CPT + 100VA	NEMA Size		
						0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1
120V w/ Surge Protector (SP)	01	\$54.00	F1	\$132.00	-				-			
120V	02	\$0.00	F2	\$132.00	-				-			
240V	03	\$0.00	F3	\$132.00	-				-			
480V	04	\$0.00	F4	\$132.00	-				-			
600V	05	\$0.00	F5	\$132.00	-				-			
208V	08	\$0.00	F8	\$132.00	-				-			
24V	09	\$0.00	-	-	-				-			
240V/120V w/CPT	-	-	-	-	93	\$294.00	\$294.00	\$352.00	13	\$420.00	\$420.00	\$504.00
480V/120V w/CPT	-	-	-	-	94	\$294.00	\$294.00	\$352.00	14	\$420.00	\$420.00	\$504.00
600V/120V w/CPT	-	-	-	-	95	\$294.00	\$294.00	\$352.00	15	\$420.00	\$420.00	\$504.00
208V/120V w/CPT	-	-	-	-	98	\$294.00	\$294.00	\$352.00	18	\$420.00	\$420.00	\$504.00
240V/120V w/CPT & SP	-	-	-	-	33	\$348.00	\$348.00	\$406.00	53	\$474.00	\$474.00	\$558.00
480V/120V w/CPT & SP	-	-	-	-	34	\$348.00	\$348.00	\$406.00	54	\$474.00	\$474.00	\$558.00
600V/120V w/CPT & SP	-	-	-	-	35	\$348.00	\$348.00	\$406.00	55	\$474.00	\$474.00	\$558.00
208V/120V w/CPT & SP	-	-	-	-	38	\$348.00	\$348.00	\$406.00	58	\$474.00	\$474.00	\$558.00
240V/24V w/CPT	-	-	-	-	S3	\$294.00	\$294.00	\$352.00	A3	\$420.00	\$420.00	\$504.00
480V/24V w/CPT	-	-	-	-	S4	\$294.00	\$294.00	\$352.00	A4	\$420.00	\$420.00	\$504.00
600V/24V w/CPT	-	-	-	-	S5	\$294.00	\$294.00	\$352.00	A5	\$420.00	\$420.00	\$504.00
208V/24V w/CPT	-	-	-	-	S8	\$294.00	\$294.00	\$352.00	A8	\$420.00	\$420.00	\$504.00

Note: CPT includes 2 primary fuses and 1 secondary fuse.

#### Step 3 (Digits 10, 11) Select Protective Device

##### Disconnect without Fuse Clips

NEMA Size	Code	List Price GO-10G1
All	1A	\$0.00

##### Disconnect with Class H Fuse Clips - For use with Non-Time Delay/Single Element Class H Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	HA	\$18.00	3	30	HA	\$18.00	5	30	H3	\$30.00	5	30	H3	\$30.00
1	7 1/2	60	HB	\$30.00	7 1/2	60	HB	\$30.00	7 1/2	30	H3	\$30.00	10	30	H3	\$30.00
									10	60	H6	\$42.00		60	H6	\$42.00
2	10	100	HC	\$96.00	15	100	HC	\$96.00	15	60	H6	\$42.00	20	60	H6	\$42.00
									25	100	H1 <sup>1</sup>	\$108.00	25	100	H1 <sup>1</sup>	\$108.00

<sup>1</sup>Oversized enclosure included as standard.



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic CR308 Magnetic Starters

## Section 1

Nonreversing, Combination, Nonfusible and Fusible Disconnect Type  
Part Number Configuration  
Valid for NEMA sizes 0-2, Type 1 Standard Enclosure

### Step 3 (Digits 10, 11) Select Protective Device (continued)

Disconnect with Class R Fuse Clips - For use with Time Delay/Dual Element Class RK1/RK5 Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	RA	\$27.00	3	30	RA	\$27.00	5	30	R3	\$39.00	5	30	R3	\$39.00
1	5	30	RA	\$27.00	5	30	RA	\$27.00	10	30	R3	\$39.00	10	30	R3	\$39.00
	7 1/2	60	RB	\$39.00	7 1/2	60	RB	\$39.00								
2	10	60	RB	\$33.00	15	60	RB	\$33.00					15	30	R3	\$39.00
									25	60	R6	\$51.00	25	60	R6	\$51.00

Disconnect with Class J Fuse Clips - For use with Time Delay/Dual Element Class J Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	J3	\$48.00	3	30	J3	\$48.00	5	30	J3	\$48.00	5	30	J3	\$48.00
1	5	30	J3	\$48.00	5	30	J3	\$48.00	10	30	J3	\$48.00	10	30	J3	\$48.00
	7 1/2	60	J6	\$48.00	7 1/2	60	J6	\$48.00								
2	10	60	J6	\$72.00	15	60	J6	\$72.00					15	30	J3	\$60.00
									25	60	J6	\$72.00	25	60	J6	\$72.00

### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (1NC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (1NO-1NC)	2	\$24.00
Thermal Bi-Metallic Ambient Compensated (1NC)	3	\$27.00
Thermal Bi-Metallic Ambient Compensated (1NO-1NC)	4	\$51.00
Solid State Overload (1NO-1NC)	(#)	\$27.00

(#) Select Code for Solid State Overload amp rating from Standard or Optional Ranges table below.

### Solid State Overload Relay - Standard Range

NEMA Size	OL Range	200-208V		230-240V		460-480V		575-600V	
		Max Hp	Code	Max Hp	Code	Max Hp	Code	Max Hp	Code
0	0.8 - 1.7					3/4	D	1	D
	1.6 - 3.4	1/2	E	3/4	E	2	E	2	E
	3.2 - 6.8	1	F	2	F	3	F	5	F
	6.5 - 13.5	3	G	3	G	5	G		
1	6.5 - 13.5					7 1/2	G	10	G
	13 - 27	7 1/2	H	7 1/2	H	10	H		
2	13 - 27					20	H	25	H
	25 - 50	10	J	15	J	25	J		

### Optional Ranges

OL Amp Range	NEMA SIZE	
	0 & 1	2
0.4 - 0.85	C	-
0.8 - 1.7	D	-
1.6 - 3.4	E	-
3.2 - 6.8	F	-
6.5 - 13.5	G	G
13 - 27	H	H
25 - 50	-	J
17 - 35	-	-
35 - 70	-	-
65 - 135	-	-

### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$66.00
1NC	C	\$66.00
1NO-1NC	D	\$132.00
2NO	E	\$132.00
2NC	F	\$132.00
2NO-1NC	G	\$198.00
1NO-2NC	H	\$198.00
3NO	J	\$198.00
3NC	K	\$198.00
4NO	L <sup>2</sup>	\$264.00
4NC	M <sup>2</sup>	\$264.00
2NO-2NC	N <sup>2</sup>	\$264.00
3NO-1NC	p <sup>2</sup>	\$264.00
1NO-3NC	R <sup>2</sup>	\$264.00

<sup>2</sup>Exceeds maximum number of contacts for some pilot light selections. See Step 8 (Digit 16) Table, page 1-36.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR308 Magnetic Starters

Nonreversing, Combination, Nonfusible and Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 0-2, Type 1 Standard Enclosure

#### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1
None <sup>3</sup>	A	\$0.00

<sup>3</sup>Phase Failure Relay is not available for CR308 series standard enclosures.  
If this is required for your application, use CR408 series oversized enclosure.  
See page 1-37.

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
Start/Stop Push Button	J	\$132.00
Hand-Off-Auto (HOA) Selector Switch	L	\$132.00
Off-On Selector Switch	M	\$132.00
HOA SS & Start Push Button	S	\$264.00
Keyed HOA SS, Key Removal Center Pos.	N	\$168.00

#### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty) Type	Color - Functionality	Code	List Price GO-10G1
None		A	\$0.00
	Red - Across Coil	J	\$162.00
	Green - Across Coil	K	\$162.00
	Red - Thru NO Aux Contact	M <sup>4</sup>	\$228.00
	Green - Thru NC Aux Contact	N <sup>4</sup>	\$228.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	U <sup>5</sup>	\$456.00
	Red - Across Coil & Green - Thru NC Aux Contact	T <sup>4</sup>	\$390.00
Standard Lights	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	X <sup>4</sup>	\$552.00
	Red - Across Coil	1	\$162.00
	Green - Across Coil	2	\$162.00
	Red - Thru NO Aux Contact	3 <sup>4</sup>	\$228.00
	Green - Thru NC Aux Contact	4 <sup>4</sup>	\$228.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	5 <sup>5</sup>	\$456.00
	Red - Across Coil & Green - Thru NC Aux Contact	6 <sup>4</sup>	\$390.00
LED Lights	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	7 <sup>4</sup>	\$552.00
	Red - Across Coil	R	\$180.00
	Green - Across Coil	S	\$180.00
	Red - Thru NO Aux Contact	C <sup>4</sup>	\$246.00
	Green - Thru NC Aux Contact	D <sup>4</sup>	\$246.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	E <sup>5</sup>	\$492.00
	Red - Across Coil & Green - Thru NC Aux Contact	V <sup>4</sup>	\$426.00
Push-To-Test Lights	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	Y <sup>4</sup>	\$606.00

<sup>4</sup>Maximum of 3 Aux contacts may be added to Sizes 0 & 1.

<sup>5</sup>Maximum of 2 Aux contacts may be added to Sizes 0 & 1. Maximum of 3 Aux contacts may be added to Sizes 2-4.

Note: Auxiliary contacts wired as part of pilot light selection are in addition to the auxiliary contacts selected from Step 5 (Digit 13) Table, page 1-35, which are for customer/field connections.

#### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1
None	A	\$0.00

#### GENERAL NOTE:

On NEMA Size 3 & 4 starters, if selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) then control circuit fusing, a control power transformer, or 120V separate sourced control is required when the protective device is rated greater than 100 Amps.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR408 Magnetic Starters

## Section 1

Nonreversing, Combination, Nonfusible and Fusible Disconnect Type  
 Part Number Configuration  
 Valid for NEMA sizes 0-4

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																
---	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Steps: Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code.  
 Add list price from each step to arrive at total list for price for starter.

#### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1				NEMA Type 3R				NEMA Type 12				NEMA Type 4/4X			
	Standard Enclosure CR	List Price GO-10G1	Oversized Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Oversized Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Oversized Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Oversized Enclosure CR	List Price GO-10G1
0	Use CR308		408B5	\$682.00	408B6	\$690.00	408BR	\$826.00	408B2	\$690.00	408B7	\$826.00	408B4	\$1122.00	408BS	\$1368.00
1	Use CR308		408C5	\$712.00	408C6	\$720.00	408CR	\$856.00	408C2	\$720.00	408C7	\$856.00	408C4	\$1152.00	408CS	\$1398.00
2	Use CR308		408D5	\$1048.00	408D6	\$1116.00	408DR	\$1252.00	408D2	\$1116.00	408D7	\$1252.00	408D4	\$1800.00	408DS	\$2046.00
3	408E1	\$1518.00	408E5 <sup>1</sup>	\$1740.00	408E6	\$1782.00	408ER <sup>1</sup>	\$2004.00	408E2	\$1782.00	408E7 <sup>1</sup>	\$2004.00	408E4	\$3066.00	408ES <sup>1</sup>	\$3624.00
4 <sup>2</sup>	408F1	\$2928.00			408F6	\$3660.00			408F2	\$3660.00			408F4	\$4908.00		

Note: All enclosures include external overload reset buttons. NEMA 4 enclosures are stainless steel.

<sup>1</sup>Oversized enclosure provided as standard with 200Amp Fusible Disconnect.

<sup>2</sup>Oversized enclosure provided as standard with any NEMA Size 4 Fusible/Nonfusible.

#### Step 2 (Digits 8, 9) Select Control Voltage (No CPT and Standard Size CPT)

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT		Standard Size CPT	NEMA Size				
			List Price GO-10G1	List Price GO-10G1		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1
120V w/ Surge Protector (SP)	01	\$54.00	F1	\$132.00	-					
120V	02	\$0.00	F2	\$132.00	-					
240V	03	\$0.00	F3	\$132.00	-					
480V	04	\$0.00	F4	\$132.00	-					
600V	05	\$0.00	F5	\$132.00	-					
208V	08	\$0.00	F8	\$132.00	-					
24V <sup>3</sup>	09	\$0.00	-		-					
240V/120V w/CPT	-		-		93	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
480V/120V w/CPT	-		-		94	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
600V/120V w/CPT	-		-		95	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
208V/120V w/CPT	-		-		98	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
240V/120V w/CPT & SP	-		-		33	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
480V/120V w/CPT & SP	-		-		34	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
600V/120V w/CPT & SP	-		-		35	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
208V/120V w/CPT & SP	-		-		38	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
240V/24V w/CPT <sup>3</sup>	-		-		S3	\$294.00	\$294.00	\$352.00	-	-
480V/24V w/CPT <sup>3</sup>	-		-		S4	\$294.00	\$294.00	\$352.00	-	-
600V/24V w/CPT <sup>3</sup>	-		-		S5	\$294.00	\$294.00	\$352.00	-	-
208V/24V w/CPT <sup>3</sup>	-		-		S8	\$294.00	\$294.00	\$352.00	-	-

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>3</sup>24V coils not available for NEMA size 3 & 4.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR408 Magnetic Starters

## Section 1

Nonreversing, Combination, Nonfusible and Fusible Disconnect Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

#### Step 2 (Digits 8, 9) Select Control Voltage (Extra Capacity CPT + 100VA and 200VA)

Control Circuit Voltage & CPT	Standard Size CPT + 100VA	NEMA Size					Standard Size CPT + 200VA	NEMA Size					
		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1		0 List Price <sup>4</sup> GO-10G1	1 List Price <sup>4</sup> GO-10G1	2 List Price <sup>4</sup> GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1	
120V w/ Surge Protector (SP)	-						-						
120V	-						-						
240V	-						-						
480V	-						-						
600V	-						-						
208V	-						-						
24V <sup>3</sup>	-						-						
240V/120V w/CPT	13	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	23	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
480V/120V w/CPT	14	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	24	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
600V/120V w/CPT	15	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	25	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
208V/120V w/CPT	18	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	28	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
240V/120V w/CPT & SP	53	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	63	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
480V/120V w/CPT & SP	54	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	64	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
600V/120V w/CPT & SP	55	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	65	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
208V/120V w/CPT & SP	58	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	68	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
240V/24V w/CPT <sup>3</sup>	A3	\$420.00	\$420.00	\$504.00	-	-	B3	\$523.00	\$523.00	\$618.00	-	-	
480V/24V w/CPT <sup>3</sup>	A4	\$420.00	\$420.00	\$504.00	-	-	B4	\$523.00	\$523.00	\$618.00	-	-	
600V/24V w/CPT <sup>3</sup>	A5	\$420.00	\$420.00	\$504.00	-	-	B5	\$523.00	\$523.00	\$618.00	-	-	
208V/24V w/CPT <sup>3</sup>	A8	\$420.00	\$420.00	\$504.00	-	-	B8	\$523.00	\$523.00	\$618.00	-	-	

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>3</sup>24V coils not available for NEMA size 3 & 4.

<sup>4</sup>Requires Oversized Enclosure for NEMA sizes 0-2. Select proper NEMA size and enclosure type from Step 1 (Digits 1-7) Table, page 1-37, and adjust price accordingly.

#### Step 3 (Digits 10, 11) Select Protective Device

##### Disconnect without Fuse Clips

NEMA Size	Code	List Price GO-10G1
All	1A <sup>2</sup>	\$0.00

##### Disconnect with Class H Fuse Clips - For use with Non-Time Delay/Single Element Class H Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	HA	\$18.00	3	30	HA	\$18.00	5	30	H3	\$30.00	5	30	H3	\$30.00
1	7 1/2	60	HB	\$30.00	7 1/2	60	HB	\$30.00	7 1/2	30	H3	\$30.00	10	30	H3	\$30.00
									10	60	H6	\$42.00		60	H6	\$42.00
2	10	100	HC	\$96.00	15	100	HC	\$96.00	15	60	H6	\$42.00	20	60	H6	\$42.00
									25	100	H1	\$108.00	25	100	H1	\$108.00
3 <sup>1</sup>	25	200	HD	\$192.00	30	200	HD	\$192.00	30	100	H1	\$90.00	30	100	H1	\$90.00
									50	200	H2	\$216.00	50	200	H2	\$216.00
4 <sup>2</sup>	40	400	HE	\$216.00	50	400	HE	\$216.00	60	200	H2	\$126.00	60	200	H2	\$126.00
									100	400	H4	\$216.00	100	400	H4	\$216.00

<sup>1</sup>Oversized enclosure provided as standard with 200Amp Fusible Disconnect

<sup>2</sup>Oversized enclosure provided as standard with any NEMA Size 4 Fusible/Nonfusible

##### Disconnect with Class R Fuse Clips - For use with Time Delay/Dual Element Class RK1/RK5 Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	RA	\$27.00	3	30	RA	\$27.00	5	30	R3	\$39.00	5	30	R3	\$39.00
1	5	30	RA	\$27.00	5	30	RA	\$27.00	10	30	R3	\$39.00	10	30	R3	\$39.00
	7 1/2	60	RB	\$39.00	7 1/2	60	RB	\$39.00								
2	10	60	RB	\$33.00	15	60	RB	\$33.00		30	R3	\$39.00	15	30	R3	\$39.00
									25	60	R6	\$51.00	25	60	R6	\$51.00
3 <sup>1</sup>	20	100	RC	\$78.00	25	100	RC	\$78.00		60	R6	\$42.00	30	60	R6	\$42.00
	25	200	RD	\$210.00	30	200	RD	\$210.00	50	100	R1	\$108.00	50	100	R1	\$108.00
4 <sup>2</sup>	40	200	RD	\$120.00	50	200	RD	\$120.00		100	R1	\$108.00	60	100	R1	\$108.00
									100	200	R2	\$144.00	100	200	R2	\$144.00

<sup>1</sup>Oversized enclosure provided as standard with 200Amp Fusible Disconnect

<sup>2</sup>Oversized enclosure provided as standard with any NEMA Size 4 Fusible/Nonfusible



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR408 Magnetic Starters

## Section 1

Nonreversing, Combination, Nonfusible and Fusible Disconnect Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

#### Step 3 (Digits 10, 11) Select Protective Device (continued)

Disconnect with Class J Fuse Clips - For use with Time Delay/Dual Element Class J Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	J3	\$48.00	3	30	J3	\$48.00	5	30	J3	\$48.00	5	30	J3	\$48.00
1	5	30	J3	\$48.00	5	30	J3	\$48.00	10	30	J3	\$48.00	10	30	J3	\$48.00
	7 1/2	60	J6	\$48.00	7 1/2	60	J6	\$48.00								
2	10	60	J6	\$72.00	15	60	J6	\$72.00	25	60	J6	\$72.00	25	60	J6	\$72.00
3 <sup>1</sup>	20	100	J1	\$162.00	25	100	J1	\$162.00	50	100	J1	\$162.00	50	100	J1	\$162.00
	25	200	J2	\$246.00	30	200	J2	\$246.00								
4 <sup>2</sup>	40	200	J2	\$246.00	50	200	J2	\$246.00	100	200	J2	\$246.00	100	200	J2	\$246.00

<sup>1</sup>Oversized enclosure provided as standard with 200Amp Fusible Disconnect

<sup>2</sup>Oversized enclosure provided as standard with any NEMA Size 4 Fusible/Nonfusible

#### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (1NC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (1NO-1NC)	2	\$24.00
Thermal Bi-Metallic Ambient Compensated (1NC)	3	\$27.00
Thermal Bi-Metallic Ambient Compensated (1NO-1NC)	4	\$51.00
Solid State Overload (1NO-1NC)	(#)	\$27.00

(#) Select Code for Solid State Overload amp rating from Standard or Optional Ranges table below.

#### Solid State Overload Relay - Standard Range

NEMA Size	OL Range	200-208V		230-240V		460-480V		575-600V	
		Max Hp	Code	Max Hp	Code	Max Hp	Code	Max Hp	Code
0	0.8 - 1.7					3/4	D	1	D
	1.6 - 3.4	1/2	E	3/4	E	2	E	2	E
	3.2 - 6.8	1	F	2	F	3	F	5	F
	6.5 - 13.5	3	G	3	G	5	G		
1	6.5 - 13.5					7 1/2	G	10	G
	13 - 27	7 1/2	H	7 1/2	H	10	H		
2	13 - 27					20	H	25	H
	25 - 50	10	J	15	J	25	J		
3	17 - 35							30	K
	35 - 70	20	L	25	L	50	L	50	L
	65 - 135	25	M	30	M				
4	65 - 135	40	M	50	M	100	M	100	M

#### Optional Ranges

OL Amp Range	NEMA SIZE		
	0 & 1	2	3 & 4
0.4 - 0.85	C	-	-
0.8 - 1.7	D	-	-
1.6 - 3.4	E	-	-
3.2 - 6.8	F	-	-
6.5 - 13.5	G	G	-
13 - 27	H	H	-
25 - 50	-	J	-
17 - 35	-	-	K
35 - 70	-	-	L
65 - 135	-	-	M

#### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$66.00
1NC	C	\$66.00
1NO-1NC	D	\$132.00
2NO	E	\$132.00
2NC	F	\$132.00
2NO-1NC	G	\$198.00
1NO-2NC	H	\$198.00
3NO	J	\$198.00
3NC	K	\$198.00
4NO	L <sup>5</sup>	\$264.00
4NC	M <sup>5</sup>	\$264.00
2NO-2NC	N <sup>5</sup>	\$264.00
3NO-1NC	P <sup>5</sup>	\$264.00
1NO-3NC	R <sup>5</sup>	\$264.00

<sup>5</sup>Exceeds maximum number of contacts for some pilot light selections. See Step 8 (Digit 16) Table, page 1-40.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR408 Magnetic Starters

## Section 1

Nonreversing, Combination, Nonfusible and Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 190-480V (PFR w/UV)	C <sup>2,7</sup>	\$920.00	\$920.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 575V (PFR w/UV)	D <sup>2,7</sup>	\$920.00	\$920.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay - 208V (PFR)	E <sup>4,7</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 240V (PFR)	F <sup>4,7</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 480V (PFR)	G <sup>4,7</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 575V (PFR)	H <sup>4,7</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Elapsed Time Meter (120V/60Hz) Wired Across Coil (ETM)	I <sup>2,6</sup>	\$212.00	\$342.00	\$348.00	\$588.00	\$348.00	\$588.00
ETM + PFR w/UV (190-480V)	L <sup>2,6,7</sup>	\$1132.00	\$1262.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR w/UV (575V)	N <sup>2,6,7</sup>	\$1132.00	\$1262.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR (208V)	P <sup>2,4,6,7</sup>	\$637.00	-	\$773.00	-	\$773.00	-
ETM + PFR (240V)	Q <sup>2,4,6,7</sup>	\$637.00	-	\$773.00	-	\$773.00	-
ETM + PFR (480V)	R <sup>2,4,6,7</sup>	\$637.00	-	\$773.00	-	\$773.00	-
ETM + PFR (575V)	S <sup>2,4,6,7</sup>	\$637.00	-	\$773.00	-	\$773.00	-

<sup>2</sup>Requires Oversized Enclosure for NEMA sizes 0-2. Select proper NEMA size and enclosure type from Step 1 (Digits 1-7) Table, page 1-37, and adjust price accordingly.

<sup>4</sup>Available for Type 1 Enclosure only.

<sup>6</sup>Requires 120V Control Circuit Voltage or CPT w/ 120V Secondary.

<sup>7</sup>Requires Oversized Enclosure for phase failure relay.

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
Start/Stop Push Button	J	\$132.00
Hand-Off-Auto (HOA) Selector Switch	L	\$132.00
Off-On Selector Switch	M	\$132.00
HOA SS & Start Push Button	S	\$264.00
Keyed HOA SS, Key Removal Center Pos.	N	\$168.00

#### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty CR104P Style)		Code	List Price GO-10G1
None		A	\$0.00
Standard Lights	Red - Across Coil	J	\$162.00
	Green - Across Coil	K	\$162.00
	Red - Thru NO Aux Contact	M <sup>9</sup>	\$228.00
	Green - Thru NC Aux Contact	N <sup>9</sup>	\$228.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	U <sup>10</sup>	\$456.00
	Red - Across Coil & Green - Thru NC Aux Contact	T <sup>9</sup>	\$390.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	X <sup>9</sup>	\$552.00
LED Lights	Red - Across Coil	1	\$162.00
	Green - Across Coil	2	\$162.00
	Red - Thru NO Aux Contact	3 <sup>9</sup>	\$228.00
	Green - Thru NC Aux Contact	4 <sup>9</sup>	\$228.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	5 <sup>10</sup>	\$456.00
	Red - Across Coil & Green - Thru NC Aux Contact	6 <sup>9</sup>	\$390.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	7 <sup>9</sup>	\$552.00
Push-To-Test Lights	Red - Across Coil	R	\$180.00
	Green - Across Coil	S	\$180.00
	Red - Thru NO Aux Contact	C <sup>9</sup>	\$246.00
	Green - Thru NC Aux Contact	D <sup>9</sup>	\$246.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	E <sup>10</sup>	\$492.00
	Red - Across Coil & Green - Thru NC Aux Contact	V <sup>9</sup>	\$426.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	V <sup>9</sup>	\$606.00

<sup>9</sup>Maximum of 3 Aux contacts may be added to Sizes 0 & 1.

<sup>10</sup>Maximum of 2 Aux contacts may be added to Sizes 0 & 1. Maximum of 3 Aux contacts may be added to Sizes 2-4.

Note: Auxiliary contacts wired as part of pilot light selection are in addition to the auxiliary contacts selected from Step 5 (Digit 13) Table, page 1-39, which are for customer/field connections.





# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR408 Magnetic Starters

## Section 1

Nonreversing, Combination, Nonfusible and Fusible Disconnect Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

#### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1 Relay, 2NO-2NC, 24/120V Coil - unwired	B <sup>4,11</sup>	\$170.00	\$222.00	\$306.00	\$468.00	\$480.00	\$636.00
2 Relays, 24/120V Coil - unwired	C <sup>4,11</sup>	\$340.00	\$444.00	\$612.00	\$936.00	\$960.00	\$1272.00
DIN Rail - for Customer Use	D <sup>4</sup>	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00
12 Point Terminal Strip - unwired (12 PT Strip)	E <sup>4</sup>	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00
Space Heater w/ NC Contact	H <sup>4,12</sup>	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00
1 Relay + 12 PT Strip	J <sup>4,11</sup>	\$279.00	\$331.00	\$415.00	\$577.00	\$589.00	\$745.00
2 Relays + 12 PT Strip	K <sup>4,11</sup>	\$449.00	\$553.00	\$721.00	\$1045.00	\$1069.00	\$1381.00
DIN Rail + 12 PT Strip + Space Heater	L <sup>4,12</sup>	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00
2 Relays + 12 PT Strip + Space Heater	M <sup>4,11,12</sup>	\$569.00	\$673.00	\$841.00	\$1165.00	\$1189.00	\$1501.00
Time Delay ON Relay, 24/120V Coil - unwired (TD)	N <sup>4,11</sup>	\$368.00	\$414.00	\$504.00	\$660.00	\$504.00	\$660.00
Time Delay OFF Relay, 24/120V Coil - unwired (TD)	P <sup>4,11</sup>	\$368.00	\$414.00	\$504.00	\$660.00	\$504.00	\$660.00
12 PT Strip + TD ON	R <sup>4,11</sup>	\$477.00	\$523.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + TD OFF	S <sup>4,11</sup>	\$477.00	\$523.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + Space Heater + TD ON	T <sup>4,11,12</sup>	\$597.00	\$643.00	\$733.00	\$889.00	\$733.00	\$889.00
12 PT Strip + Space Heater + TD OFF	U <sup>4,11,12</sup>	\$597.00	\$643.00	\$733.00	\$889.00	\$733.00	\$889.00

<sup>4</sup>Requires Oversized Enclosure for NEMA sizes 0-2. Select proper NEMA size and enclosure type from Step 1 (Digits 1-7) Table, page 1-37, and adjust price accordingly.

<sup>11</sup>Relay/Timer coil voltage is equivalent to CPT secondary voltage. Requires minimum 100 extra VA CPT option.

<sup>12</sup>Maximum number of auxiliary contacts shall be reduced by 1.

#### GENERAL NOTE:

On NEMA Size 3 & 4 starters, if selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) then control circuit fusing, a control power transformer, or 120V separate sourced control is required when the protective device is rated greater than 100 Amps.





# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic CR307 Magnetic Starters

## Section 1

Nonreversing, Combination, Thermal Magnetic Circuit Breaker Type  
Part Number Configuration  
Valid for NEMA Sizes 0-2, Type 1 Standard Enclosure

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																
Steps: Step 1				Step 2				Step 3		Step 4		Step 5	Step 6	Step 7	Step 8	Step 9	

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code. Add list price from each step to arrive at total list for price for starter.

### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1	
	Standard Enclosure	List Price
	CR	GO-10G1
0	307BT	\$588.00
1	307CT	\$618.00
2	307DT	\$948.00

Note: All enclosures include external overload reset buttons.

### Step 2 (Digits 8, 9) Select Control Voltage

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT	List Price GO-10G1	Standard Size CPT	NEMA Size			Standard Size CPT + 100VA	NEMA Size		
						0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1
120V w/ Surge Protector (SP)	01	\$54.00	F1	\$132.00	-				-			
120V	02	\$0.00	F2	\$132.00	-				-			
240V	03	\$0.00	F3	\$132.00	-				-			
480V	04	\$0.00	F4	\$132.00	-				-			
600V	05	\$0.00	F5	\$132.00	-				-			
208V	08	\$0.00	F8	\$132.00	-				-			
24V	09	\$0.00	-	-	-				-			
240V/120V w/CPT	-	-	-	-	93	\$294.00	\$294.00	\$352.00	13	\$420.00	\$420.00	\$504.00
480V/120V w/CPT	-	-	-	-	94	\$294.00	\$294.00	\$352.00	14	\$420.00	\$420.00	\$504.00
600V/120V w/CPT	-	-	-	-	95	\$294.00	\$294.00	\$352.00	15	\$420.00	\$420.00	\$504.00
208V/120V w/CPT	-	-	-	-	98	\$294.00	\$294.00	\$352.00	18	\$420.00	\$420.00	\$504.00
240V/120V w/CPT & SP	-	-	-	-	33	\$348.00	\$348.00	\$406.00	53	\$474.00	\$474.00	\$558.00
480V/120V w/CPT & SP	-	-	-	-	34	\$348.00	\$348.00	\$406.00	54	\$474.00	\$474.00	\$558.00
600V/120V w/CPT & SP	-	-	-	-	35	\$348.00	\$348.00	\$406.00	55	\$474.00	\$474.00	\$558.00
208V/120V w/CPT & SP	-	-	-	-	38	\$348.00	\$348.00	\$406.00	58	\$474.00	\$474.00	\$558.00
240V/24V w/CPT	-	-	-	-	S3	\$294.00	\$294.00	\$352.00	A3	\$420.00	\$420.00	\$504.00
480V/24V w/CPT	-	-	-	-	S4	\$294.00	\$294.00	\$352.00	A4	\$420.00	\$420.00	\$504.00
600V/24V w/CPT	-	-	-	-	S5	\$294.00	\$294.00	\$352.00	A5	\$420.00	\$420.00	\$504.00
208V/24V w/CPT	-	-	-	-	S8	\$294.00	\$294.00	\$352.00	A8	\$420.00	\$420.00	\$504.00

Note: CPT includes 2 primary fuses and 1 secondary fuse.

### Step 3 (Digits 10, 11) Select Protective Device

#### Thermal-Mag Circuit Breaker - Spectra™ Series

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1
0	2	15	TC	\$174.00	3	15	TC	\$174.00	5	15	TC	\$174.00	5	15	TC	\$174.00
	3	20	TD	\$174.00		20	TD	\$174.00		20	TD	\$174.00		20	TD	\$174.00
		15	TC	\$174.00		15	TC	\$174.00		15	TC	\$174.00	7 1/2	15	TC	\$174.00
		20	TD	\$174.00		20	TD	\$174.00	7 1/2	20	TD	\$174.00	10	20	TD	\$174.00
1		25	TE	\$174.00	5	25	TE	\$174.00	10	25	TE	\$174.00		25	TE	\$174.00
		5	TF	\$174.00		30	TF	\$174.00		30	TF	\$174.00		30	TF	\$174.00
	7 1/2	40	TG	\$174.00	7 1/2	40	TG	\$174.00		40	TG	\$174.00		40	TG	\$174.00
		30	TF	\$174.00		30	TF	\$174.00		30	TF	\$174.00	15	30	TF	\$174.00
2		40	TG	\$174.00		40	TG	\$174.00	15	40	TG	\$174.00	20	40	TG	\$174.00
	10	50	TH	\$174.00	10	50	TH	\$174.00	20	50	TH	\$174.00	25	50	TH	\$174.00
		60	TJ	\$270.00		60	TJ	\$270.00	25	60	TJ	\$270.00		60	TJ	\$270.00
		70	TK	\$270.00	15	70	TK	\$270.00		70	TK	\$270.00		70	TK	\$270.00



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR307 Magnetic Starters

## Section 1

Nonreversing, Combination, Thermal Magnetic Circuit Breaker Type

Part Number Configuration

Valid for NEMA Sizes 0-2, Type 1 Standard Enclosure

#### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (1NC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (1NO-1NC)	2	\$24.00
Thermal Bi-Metallic Ambient Compensated (1NC)	3	\$27.00
Thermal Bi-Metallic Ambient Compensated (1NO-1NC)	4	\$51.00
Solid State Overload (1NO-1NC)	(#)	\$27.00

(#) Select Code for Solid State Overload amp rating from Standard or Optional Ranges below.

#### Solid State Overload Relay - Standard Range

NEMA Size	OL Range	200-208V		230-240V		460-480V		575-600V	
		Max Hp	Code	Max Hp	Code	Max Hp	Code	Max Hp	Code
0	0.8 - 1.7					3/4	D	1	D
	1.6 - 3.4	1/2	E	3/4	E	2	E	2	E
	3.2 - 6.8	1	F	2	F	3	F	5	F
1	6.5 - 13.5	3	G	3	G	5	G		
	13 - 27	7 1/2	H	7 1/2	H	10	H	10	G
2	13 - 27					20	H	25	H
	25 - 50	10	J	15	J	25	J		

#### Optional Ranges

OL Amp Range	NEMA SIZE	
	0 & 1	2
0.4 - 0.85	C	-
0.8 - 1.7	D	-
1.6 - 3.4	E	-
3.2 - 6.8	F	-
6.5 - 13.5	G	G
13 - 27	H	H
25 - 50	-	J
17 - 35	-	-
35 - 70	-	-
65 - 135	-	-

#### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$66.00
1NC	C	\$66.00
1NO-1NC	D	\$132.00
2NO	E	\$132.00
2NC	F	\$132.00
2NO-1NC	G	\$198.00
1NO-2NC	H	\$198.00
3NO	J	\$198.00
3NC	K	\$198.00
4NO	L <sup>1</sup>	\$264.00
4NC	M <sup>1</sup>	\$264.00
2NO-2NC	N <sup>1</sup>	\$264.00
3NO-1NC	P <sup>1</sup>	\$264.00
1NO-3NC	R <sup>1</sup>	\$264.00

<sup>1</sup>Exceeds maximum number of contacts for some pilot light selections. See Step 8 (Digit 16) Table, page 1-45.

#### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1
None <sup>2</sup>	A	\$0.00

<sup>2</sup>Phase Failure Relay is not available for CR307 series standard enclosures. If this is required for your application, use CR407 series oversized enclosure. See page 1-46.

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
Start/Stop Push Button	J	\$132.00
Hand-Off-Auto (HOA) Selector Switch	L	\$132.00
Off-On Selector Switch	M	\$132.00
HOA SS & Start Push Button	S	\$264.00
Keyed HOA SS, Key Removal Center Pos.	N	\$168.00



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic CR307 Magnetic Starters

Nonreversing, Combination, Thermal Magnetic Circuit Breaker Type  
Part Number Configuration  
Valid for NEMA Sizes 0-2, Type 1 Standard Enclosure

### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty) Type	Color - Functionality	Code	List Price GO-10G1
None		A	\$0.00
	Red - Across Coil	J	\$162.00
	Green - Across Coil	K	\$162.00
	Red - Thru NO Aux Contact	M <sup>3</sup>	\$228.00
	Green - Thru NC Aux Contact	N <sup>3</sup>	\$228.00
Standard Lights	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	U <sup>4</sup>	\$456.00
	Red - Across Coil & Green - Thru NC Aux Contact	T <sup>3</sup>	\$390.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	X <sup>3</sup>	\$552.00
	Red - Across Coil	1	\$162.00
	Green - Across Coil	2	\$162.00
LED Lights	Red - Thru NO Aux Contact	3 <sup>3</sup>	\$228.00
	Green - Thru NC Aux Contact	4 <sup>3</sup>	\$228.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	5 <sup>4</sup>	\$456.00
	Red - Across Coil & Green - Thru NC Aux Contact	6 <sup>3</sup>	\$390.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	7 <sup>3</sup>	\$552.00
Push-To-Test Lights	Red - Across Coil	R	\$180.00
	Green - Across Coil	S	\$180.00
	Red - Thru NO Aux Contact	C <sup>3</sup>	\$246.00
	Green - Thru NC Aux Contact	D <sup>3</sup>	\$246.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	E <sup>4</sup>	\$492.00
	Red - Across Coil & Green - Thru NC Aux Contact	V <sup>3</sup>	\$426.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	Y <sup>3</sup>	\$606.00

<sup>3</sup>Maximum of 3 Aux contacts may be added to Sizes 0 & 1.

<sup>4</sup>Maximum of 2 Aux contacts may be added to Sizes 0 & 1. Maximum of 3 Aux contacts may be added to Sizes 2-4.

Note: Auxiliary contacts wired as part of pilot light selection are in addition to the auxiliary contacts selected from Step 5 (Digit 13) Table, page 1-44, which are for customer/field connections.

### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1
None	A	\$0.00

#### GENERAL NOTE:

On NEMA Size 3 & 4 starters if selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) then control circuit fusing, a control power transformer, or 120V separate sourced control is required when the protective device is rated greater than 100 Amps.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR407 Magnetic Starters

## Section 1

Nonreversing, Combination, Thermal Magnetic Circuit Breaker Type

Part Number Configuration

Valid for NEMA Sizes 0-4

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																
---	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Steps: Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code.  
Add list price from each step to arrive at total list for price for starter.

#### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1				NEMA Type 3R				NEMA Type 12				NEMA Type 4/4X			
	Standard Enclosure CR	List Price GO-10G1	Oversized Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Oversized Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Oversized Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Oversized Enclosure CR	List Price GO-10G1
0	Use CR307		407B5	\$724.00	407B6	\$732.00	407BR	\$868.00	407B2	\$732.00	407B7	\$868.00	407B4	\$1164.00	407BS	\$1410.00
1	Use CR307		407C5	\$754.00	407C6	\$762.00	407CR	\$898.00	407C2	\$762.00	407C7	\$898.00	407C4	\$1194.00	407CS	\$1440.00
2	Use CR307		407D5	\$1084.00	407D6	\$1152.00	407DR	\$1288.00	407D2	\$1152.00	407D7	\$1288.00	407D4	\$1836.00	407DS	\$2082.00
3	407E1	\$1632.00	407E5	\$1854.00	407E6	\$1896.00	407ER	\$2118.00	407E2	\$1896.00	407E7	\$2118.00	407E4	\$3180.00	407ES	\$3738.00
4	407F1	\$3582.00	407F5	\$3972.00	407F6	\$4314.00	407FR	\$4704.00	407F2	\$4314.00	407F7	\$4704.00	407F4	\$5562.00	407FS	\$6249.00

Note: All enclosures include external overload reset buttons. NEMA 4 enclosures are stainless steel.

#### Step 2 (Digits 8, 9) Select Control Voltage (No CPT and Standard Size CPT)

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT	List Price GO-10G1	Standard Size CPT	NEMA Size				
						0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1
120V w/ Surge Protector (SP)	01	\$54.00	F1	\$132.00	-					
120V	02	\$0.00	F2	\$132.00	-					
240V	03	\$0.00	F3	\$132.00	-					
480V	04	\$0.00	F4	\$132.00	-					
600V	05	\$0.00	F5	\$132.00	-					
208V	08	\$0.00	F8	\$132.00	-					
24V <sup>1</sup>	09	\$0.00	-	-	-					
240V/120V w/CPT	-	-	-	-	93	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
480V/120V w/CPT	-	-	-	-	94	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
600V/120V w/CPT	-	-	-	-	95	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
208V/120V w/CPT	-	-	-	-	98	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
240V/120V w/CPT & SP	-	-	-	-	33	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
480V/120V w/CPT & SP	-	-	-	-	34	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
600V/120V w/CPT & SP	-	-	-	-	35	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
208V/120V w/CPT & SP	-	-	-	-	38	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
240V/24V w/CPT <sup>1</sup>	-	-	-	-	S3	\$294.00	\$294.00	\$352.00	-	-
480V/24V w/CPT <sup>1</sup>	-	-	-	-	S4	\$294.00	\$294.00	\$352.00	-	-
600V/24V w/CPT <sup>1</sup>	-	-	-	-	S5	\$294.00	\$294.00	\$352.00	-	-
208V/24V w/CPT <sup>1</sup>	-	-	-	-	S8	\$294.00	\$294.00	\$352.00	-	-

#### Step 2 (Digits 8, 9) Select Control Voltage (Extra Capacity CPT + 100VA and 200VA)

Control Circuit Voltage & CPT	Standard Size CPT + 100VA	NEMA Size					Standard Size CPT + 200VA	NEMA Size						
		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1		0 List Price <sup>2</sup> GO-10G1	1 List Price <sup>2</sup> GO-10G1	2 List Price <sup>2</sup> GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1		
120V w/ Surge Protector (SP)	-						-							
120V	-						-							
240V	-						-							
480V	-						-							
600V	-						-							
208V	-						-							
24V <sup>1</sup>	-						-							
240V/120V w/CPT	13	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	23	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00		
480V/120V w/CPT	14	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	24	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00		
600V/120V w/CPT	15	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	25	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00		
208V/120V w/CPT	18	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	28	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00		
240V/120V w/CPT & SP	53	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	63	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00		
480V/120V w/CPT & SP	54	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	64	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00		
600V/120V w/CPT & SP	55	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	65	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00		
208V/120V w/CPT & SP	58	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	68	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00		
240V/24V w/CPT <sup>1</sup>	A3	\$420.00	\$420.00	\$504.00	-	-	B3	\$523.00	\$523.00	\$618.00	-	-		
480V/24V w/CPT <sup>1</sup>	A4	\$420.00	\$420.00	\$504.00	-	-	B4	\$523.00	\$523.00	\$618.00	-	-		
600V/24V w/CPT <sup>1</sup>	A5	\$420.00	\$420.00	\$504.00	-	-	B5	\$523.00	\$523.00	\$618.00	-	-		
208V/24V w/CPT <sup>1</sup>	A8	\$420.00	\$420.00	\$504.00	-	-	B8	\$523.00	\$523.00	\$618.00	-	-		

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.

<sup>2</sup>Requires Oversized Enclosure for NEMA sizes 0-2. Select proper NEMA size and enclosure type from Step 1 (Digits 1-7) Table, and adjust price accordingly.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR407 Magnetic Starters

# Section 1

Nonreversing, Combination, Thermal Magnetic Circuit Breaker Type  
Part Number Configuration  
Valid for NEMA Sizes 0-4

#### Step 3 (Digits 10, 11) Select Protective Device

#### Thermal-Mag Circuit Breaker - Spectra™ Series

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1
0	2	15	TC	\$174.00	3	15	TC	\$174.00	5	15	TC	\$174.00	5	15	TC	\$174.00
	3	20	TD	\$174.00		20	TD	\$174.00		20	TD	\$174.00		20	TD	\$174.00
1	15	TC		\$174.00	15	TC		\$174.00	15	TC		\$174.00	7 1/2	15	TC	\$174.00
	20	TD		\$174.00	20	TD		\$174.00	7 1/2	20	TD	\$174.00	10	20	TD	\$174.00
	25	TE		\$174.00	5	25	TE	\$174.00	10	25	TE	\$174.00		25	TE	\$174.00
	5	30	TF	\$174.00	30	TF		\$174.00	30	TF		\$174.00	30	TF		\$174.00
	7 1/2	40	TG	\$174.00	7 1/2	40	TG	\$174.00	40	TG		\$174.00	40	TG		\$174.00
2	30	TF		\$174.00	30	TF		\$174.00	30	TF		\$174.00	15	30	TF	\$174.00
	40	TG		\$174.00	40	TG		\$174.00	15	40	TG	\$174.00	20	40	TG	\$174.00
	10	50	TH	\$174.00	10	50	TH	\$174.00	20	50	TH	\$174.00	25	50	TH	\$174.00
	60	TJ		\$270.00	60	TJ		\$270.00	25	60	TJ	\$270.00	60	TJ		\$270.00
	70	TK		\$270.00	15	70	TK	\$270.00	70	TK		\$270.00	70	TK		\$270.00
3	50	TH		\$174.00	50	TH		\$174.00	50	TH		\$174.00	30	50	TH	\$174.00
	60	TJ		\$0.00	60	TJ		\$0.00	30	60	TJ	\$0.00	60	TJ		\$0.00
	70	TK		\$270.00	70	TK		\$270.00	70	TK		\$270.00	40	70	TK	\$270.00
	15	80	TL	\$0.00	80	TL		\$0.00	40	80	TL	\$0.00	50	80	TL	\$0.00
	90	TM		\$0.00	20	90	TM	\$0.00	90	TM		\$0.00	90	TM		\$0.00
4	20	100	TN	\$0.00	100	TN		\$0.00	50	100	TN	\$0.00	100	TN		\$0.00
	110	TP		\$0.00	25	110	TP	\$0.00	110	TP		\$0.00	110	TP		\$0.00
	25	125	TQ	\$630.00	30	125	TQ	\$630.00	125	TQ		\$630.00	125	TQ		\$630.00
	100	TN		\$603.00	100	TN		\$603.00	100	TN		\$603.00	60	100	TN	\$603.00
	125	TQ		\$0.00	125	TQ		\$0.00	60	125	TQ	\$0.00	75	125	TQ	\$0.00
4	30	150	TR	\$0.00	150	TR		\$0.00	75	150	TR	\$0.00	100	150	TR	\$0.00
	175	TS		\$603.00	40	175	TS	\$603.00	175	TS		\$603.00	175	TS		\$603.00
	40	200	TT	\$0.00	50	200	TT	\$0.00	100	200	TT	\$0.00	200	TT		\$0.00

#### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (1NC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (1NO-1NC)	2	\$24.00
Thermal Bi-Metallic Ambient Compensated (1NC)	3	\$27.00
Thermal Bi-Metallic Ambient Compensated (1NO-1NC)	4	\$51.00
Solid State Overload (1NO-1NC)	(#)	\$27.00

(#) Select Code for Solid State Overload amp rating from Standard or Optional Ranges below.

#### Solid State Overload Relay - Standard Range

NEMA Size	OL Range	200-208V		230-240V		460-480V		575-600V	
		Max Hp	Code	Max Hp	Code	Max Hp	Code	Max Hp	Code
0	0.8 - 1.7					3/4	D	1	D
	1.6 - 3.4	1/2	E	3/4	E	2	E	2	E
	3.2 - 6.8	1	F	2	F	3	F	5	F
	6.5 - 13.5	3	G	3	G	5	G		
1	6.5 - 13.5					7 1/2	G	10	G
	13 - 27	7 1/2	H	7 1/2	H	10	H		
2	13 - 27					20	H	25	H
	25 - 50	10	J	15	J	25	J		
3	17 - 35							30	K
	35 - 70	20	L	25	L	50	L	50	L
4	65 - 135	25	M	30	M				
	65 - 135	40	M	50	M	100	M	100	M

#### Optional Ranges

OL Amp Range	NEMA SIZE		
	0 & 1	2	3 & 4
0.4 - 0.85	C	-	-
0.8 - 1.7	D	-	-
1.6 - 3.4	E	-	-
3.2 - 6.8	F	-	-
6.5 - 13.5	G	G	-
13 - 27	H	H	-
25 - 50	-	J	-
17 - 35	-	-	K
35 - 70	-	-	L
65 - 135	-	-	M



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR407 Magnetic Starters

## Section 1

Nonreversing, Combination, Thermal Magnetic Circuit Breaker Type  
Part Number Configuration  
Valid for NEMA Sizes 0-4

#### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$66.00
1NC	C	\$66.00
1NO-1NC	D	\$132.00
2NO	E	\$132.00
2NC	F	\$132.00
2NO-1NC	G	\$198.00
1NO-2NC	H	\$198.00
3NO	J	\$198.00
3NC	K	\$198.00
4NO	L <sup>3</sup>	\$264.00
4NC	M <sup>3</sup>	\$264.00
2NO-2NC	N <sup>3</sup>	\$264.00
3NO-1NC	P <sup>3</sup>	\$264.00
1NO-3NC	R <sup>3</sup>	\$264.00

<sup>3</sup>Exceeds maximum number of contacts for some pilot light selections. See Step 8 (Digit 16) Table, page 1-49.

#### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 190-480V (PFR w/UV)	C <sup>2</sup>	\$920.00	\$920.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 575V (PFR w/UV)	D <sup>2</sup>	\$920.00	\$920.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay - 208V (PFR)	E <sup>4,6</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 240V (PFR)	F <sup>4,6</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 480V (PFR)	G <sup>4,6</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 575V (PFR)	H <sup>4,6</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Elapsed Time Meter (120V/60Hz) Wired Across Coil (ETM)	I <sup>2,5</sup>	\$212.00	\$342.00	\$348.00	\$588.00	\$348.00	\$588.00
ETM + PFR w/UV (190-480V)	L <sup>2,5,6</sup>	\$1132.00	\$1262.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR w/UV (575V)	N <sup>2,5,6</sup>	\$1132.00	\$1262.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR (208V)	P <sup>2,4,5,6</sup>	\$637.00	-	\$773.00	-	\$773.00	-
ETM + PFR (240V)	Q <sup>2,4,5,6</sup>	\$637.00	-	\$773.00	-	\$773.00	-
ETM + PFR (480V)	R <sup>2,4,5,6</sup>	\$637.00	-	\$773.00	-	\$773.00	-
ETM + PFR (575V)	S <sup>2,4,5,6</sup>	\$637.00	-	\$773.00	-	\$773.00	-

<sup>2</sup>Requires Oversized Enclosure for NEMA sizes 0-2. Select proper NEMA size and enclosure type from Step 1 (Digits 1-7) Table, page 1-46, and adjust price accordingly.

<sup>4</sup>Available for Type 1 Enclosure only.

<sup>5</sup>Requires 120V Control Circuit Voltage or CPT w/ 120V Secondary.

<sup>6</sup>Requires Oversized Enclosure for phase failure relay.

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
Start/Stop Push Button	J	\$132.00
Hand-Off-Auto (HOA) Selector Switch	L	\$132.00
Off-On Selector Switch	M	\$132.00
HOA SS & Start Push Button	S	\$264.00
Keyed HOA SS, Key Removal Center Pos.	N	\$168.00





# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic CR407 Magnetic Starters

## Section 1

Nonreversing, Combination, Thermal Magnetic Circuit Breaker Type  
Part Number Configuration  
Valid for NEMA Sizes 0-4

### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty)			List Price GO-10G1
Type	Color - Functionality	Code	
None		A	\$0.00
	Red - Across Coil	J	\$162.00
	Green - Across Coil	K	\$162.00
	Red - Thru NO Aux Contact	M <sup>7</sup>	\$228.00
Standard Lights	Green - Thru NC Aux Contact	N <sup>7</sup>	\$228.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	U <sup>8</sup>	\$456.00
	Red - Across Coil & Green - Thru NC Aux Contact	T <sup>7</sup>	\$390.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	X <sup>7</sup>	\$552.00
	Red - Across Coil	1	\$162.00
	Green - Across Coil	2	\$162.00
	Red - Thru NO Aux Contact	3 <sup>7</sup>	\$228.00
LED Lights	Green - Thru NC Aux Contact	4 <sup>7</sup>	\$228.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	5 <sup>8</sup>	\$456.00
	Red - Across Coil & Green - Thru NC Aux Contact	6 <sup>7</sup>	\$390.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	7 <sup>7</sup>	\$552.00
	Red - Across Coil	R	\$180.00
	Green - Across Coil	S	\$180.00
	Red - Thru NO Aux Contact	C <sup>7</sup>	\$246.00
Push-To-Test Lights	Green - Thru NC Aux Contact	D <sup>7</sup>	\$246.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	E <sup>8</sup>	\$492.00
	Red - Across Coil & Green - Thru NC Aux Contact	V <sup>7</sup>	\$426.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	Y <sup>7</sup>	\$606.00

<sup>7</sup>Maximum of 3 Aux contacts may be added to Sizes 0 & 1.

<sup>8</sup>Maximum of 2 Aux contacts may be added to Sizes 0 & 1. Maximum of 3 Aux contacts may be added to Sizes 2-4.

Note: Auxiliary contacts wired as part of pilot light selection are in addition to the auxiliary contacts selected from Step 5 (Digit 13) Table, page 1-48, which are for customer/field connections.

### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1 Relay, 2NO-2NC, 24/120V Coil - unwired	B <sup>2,9</sup>	\$170.00	\$222.00	\$306.00	\$468.00	\$480.00	\$636.00
2 Relays, 24/120V Coil - unwired	C <sup>2,9</sup>	\$340.00	\$444.00	\$612.00	\$936.00	\$960.00	\$1272.00
DIN Rail - for Customer Use	D <sup>2</sup>	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00
12 Point Terminal Strip - unwired (12 PT Strip)	E <sup>2</sup>	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00
Space Heater w/ NC Contact	H <sup>2,10</sup>	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00
1 Relay + 12 PT Strip	J <sup>2,9</sup>	\$279.00	\$331.00	\$415.00	\$577.00	\$589.00	\$745.00
2 Relays + 12 PT Strip	K <sup>2,9</sup>	\$449.00	\$553.00	\$721.00	\$1045.00	\$1069.00	\$1381.00
DIN Rail + 12 PT Strip + Space Heater	L <sup>2,10</sup>	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00
2 Relays + 12 PT Strip + Space Heater	M <sup>2,9,10</sup>	\$569.00	\$673.00	\$841.00	\$1165.00	\$1189.00	\$1501.00
Time Delay ON Relay, 24/120V Coil - unwired (TD)	N <sup>2,9</sup>	\$368.00	\$414.00	\$504.00	\$660.00	\$504.00	\$660.00
Time Delay OFF Relay, 24/120V Coil - unwired (TD)	P <sup>2,9</sup>	\$368.00	\$414.00	\$504.00	\$660.00	\$504.00	\$660.00
12 PT Strip + TD ON	R <sup>2,9</sup>	\$477.00	\$523.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + TD OFF	S <sup>2,9</sup>	\$477.00	\$523.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + Space Heater + TD ON	T <sup>2,9,10</sup>	\$597.00	\$643.00	\$733.00	\$889.00	\$733.00	\$889.00
12 PT Strip + Space Heater + TD OFF	U <sup>2,9,10</sup>	\$597.00	\$643.00	\$733.00	\$889.00	\$733.00	\$889.00

<sup>2</sup>Requires Oversized Enclosure for NEMA sizes 0-2. Select proper NEMA size and enclosure type from Step 1 (Digits 1-7) Table, page 1-46, and adjust price accordingly.

<sup>9</sup>Relay/Timer coil voltage is equivalent to CPT secondary voltage. Requires minimum 100 extra VA CPT option.

<sup>10</sup>Maximum number of auxiliary contacts shall be reduced by 1.

#### GENERAL NOTE:

On NEMA Size 3 & 4 starters, if selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) then control circuit fusing, a control power transformer, or 120V separate sourced control is required when the protective device is rated greater than 100 Amps.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR387, CR487 Mag-Break Magnetic Starters

Nonreversing, Combination, NEMA Type 1, 3R, 12, 4/4X  
 200 Horsepower Maximum  
 NEMA Sizes 0-5  
 600 Volts Maximum 50/60 Hertz

## Section 1

#### Application

The CR387/487 nonreversing starters are designed for more accurate fault protection for motor circuits by utilizing Spectra™ Mag-Break motor circuit protectors for sizes 0-4 and Type TJC for size 5.

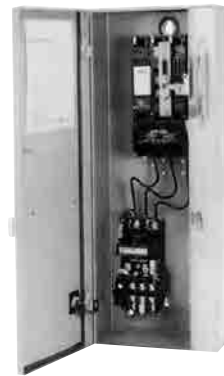
#### Spectra™ Features

- Spectra™ Mag-Break motor circuit protector**—provides protection against faults. Has adjustable trip.
- Meets NEC standards**—continuous current ratings and adjustable instantaneous trip ranges meet NEC standards on motor full-load and locked rotor currents.
- Can eliminate nuisance tripping and provide fault protection**—by setting the Mag-Break instantaneous trip point just above transient motor inrush current.
- Less than one cycle clearing time**—to open and clear a fault.

#### Product Number Selection Instructions

1. Order by complete Product Number.  
 Example: A size 2 combination starter is required to control a 15-hp, 230-Volt, 60-Hertz nonreversing motor with FLA of 42.0. The starter will include a Mag-Break motor circuit protector, 230-240 Volt, 60-Hertz coil, and a three-leg block overload. Order 1—CR387DT03MJ1AAAAA at **\$1122.00, GO-10G1**, and 3—CR123C460B heaters. **List Price \$9.00 each, GO-10H.**
2. Order special features or forms not listed by complete description using a listed Product Number as reference. Example: Similar to CR387DT03MJ1AAAAA except with OFF-ON selector switch in cover.  
 Total **List Price . . . . . \$1170.00, GO-10G1.**
3. **50 Hertz Starters**  
 Pricing for 50 Hertz forms (at standard voltages) is the same as shown in table for 60 Hertz. Listed prices for 460-480 Volt also apply to 380-415 Volt, 50 Hertz. See page 1-4 for 380-415 Volt horsepower ratings.
4. **Product Notes**  
 Motor full-load current should not exceed continuous ampere rating of starter.

Order heaters by complete Product Number from appropriate heater tables on pages 1-153 to 1-159.



Typical CR387 Starter with Mag-Break Protector with Current Limiter

#### Reference Publications

Instructions	
NEMA Size	Publication Number
0,1	GEH-5190
2	GEH-4774
3	GEH-4806
4	GEH-4807
5	GEH-4839

#### CR387, CR487, Mag-Break Magnetic Starters- Contents

Application Information and Selection Instructions .....	1-50
Mag-Break Circuit Breaker Type (CR387, CR487) .....	1-51
Mag-Break Part Number Configuration	
Size 0-2, NEMA Type 1 (CR387).....	1-52
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR487).....	1-55
Outlines and Dimensions .....	1-59





# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR387 Mag-Break Magnetic Starters

## Section 1

Nonreversing, Combination, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-2, Type 1 Standard Enclosure

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																
---	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Steps: Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code. Add list price from each step to arrive at total list for price for starter.

#### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1	
	Standard Enclosure	List Price
	CR	GO-10G1
0	387BT	\$762.00
1	387CT	\$792.00
2	387DT	\$1122.00

Note: All enclosures include external overload reset buttons.

#### Step 2 (Digits 8, 9) Select Control Voltage

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT	List Price GO-10G1	Standard Size CPT	NEMA Size			Standard Size CPT + 100VA	NEMA Size		
						0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1
120V w/ Surge Protector (SP)	01	\$54.00	F1	\$132.00	-				-			
120V	02	\$0.00	F2	\$132.00	-				-			
240V	03	\$0.00	F3	\$132.00	-				-			
480V	04	\$0.00	F4	\$132.00	-				-			
600V	05	\$0.00	F5	\$132.00	-				-			
208V	08	\$0.00	F8	\$132.00	-				-			
24V	09	\$0.00	-	-	-				-			
240V/120V w/CPT	-	-	-	-	93	\$294.00	\$294.00	\$352.00	13	\$420.00	\$420.00	\$504.00
480V/120V w/CPT	-	-	-	-	94	\$294.00	\$294.00	\$352.00	14	\$420.00	\$420.00	\$504.00
600V/120V w/CPT	-	-	-	-	95	\$294.00	\$294.00	\$352.00	15	\$420.00	\$420.00	\$504.00
208V/120V w/CPT	-	-	-	-	98	\$294.00	\$294.00	\$352.00	18	\$420.00	\$420.00	\$504.00
240V/120V w/CPT & SP	-	-	-	-	33	\$348.00	\$348.00	\$406.00	53	\$474.00	\$474.00	\$558.00
480V/120V w/CPT & SP	-	-	-	-	34	\$348.00	\$348.00	\$406.00	54	\$474.00	\$474.00	\$558.00
600V/120V w/CPT & SP	-	-	-	-	35	\$348.00	\$348.00	\$406.00	55	\$474.00	\$474.00	\$558.00
208V/120V w/CPT & SP	-	-	-	-	38	\$348.00	\$348.00	\$406.00	58	\$474.00	\$474.00	\$558.00
240V/24V w/CPT	-	-	-	-	S3	\$294.00	\$294.00	\$352.00	A3	\$420.00	\$420.00	\$504.00
480V/24V w/CPT	-	-	-	-	S4	\$294.00	\$294.00	\$352.00	A4	\$420.00	\$420.00	\$504.00
600V/24V w/CPT	-	-	-	-	S5	\$294.00	\$294.00	\$352.00	A5	\$420.00	\$420.00	\$504.00
208V/24V w/CPT	-	-	-	-	S8	\$294.00	\$294.00	\$352.00	A8	\$420.00	\$420.00	\$504.00

Note: CPT includes 2 primary fuses and 1 secondary fuse.

#### Step 3 (Digits 10, 11) Select Protective Device

#### Mag-Break Circuit Breaker - Spectra™ Series

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1
0	3	MA	\$0.00	1/2	3	MA	\$0.00	1	3	MA	\$0.00	1	3	MA	\$0.00	
	1	7	MB	\$0.00	1	7	MB	\$0.00	3	7	MB	\$0.00	3	7	MB	\$0.00
	3	15	MC	\$0.00	3	15	MC	\$0.00	5	15	MC	\$0.00	5	15	MC	\$0.00
1	15	MC	\$0.00	15	MC	\$0.00	7 1/2	15	MC	\$0.00	10	15	MC	\$0.00		
	20	MD	\$0.00	20	MD	\$0.00	10	20	MD	\$0.00	20	20	MD	\$0.00		
	5	25	ME	\$0.00	5	25	ME	\$0.00	25	25	ME	\$0.00	25	25	ME	\$0.00
	30	MF	\$0.00	7 1/2	30	MF	\$0.00	30	30	MF	\$0.00	30	30	MF	\$0.00	
2	7 1/2	40	MG	\$0.00	40	MG	\$0.00	40	40	MG	\$0.00	40	40	MG	\$0.00	
	25	ME	\$0.00	25	ME	\$0.00	25	25	ME	\$0.00	15	25	ME	\$0.00		
	30	MF	\$0.00	30	MF	\$0.00	15	30	MF	\$0.00	20	30	MF	\$0.00		
	40	MG	\$0.00	10	40	MG	\$0.00	20	40	MG	\$0.00	25	40	MG	\$0.00	
	10	50	MH	\$0.00	50	MH	\$0.00	25	50	MH	\$0.00	50	50	MH	\$0.00	
	60	MJ	\$0.00	15	60	MJ	\$0.00	60	60	MJ	\$0.00	60	60	MJ	\$0.00	



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR387 Mag-Break Magnetic Starters

Nonreversing, Combination, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-2, Type 1 Standard Enclosure

#### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (1NC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (1NO-1NC)	2	\$24.00
Thermal Bi-Metallic Ambient Compensated (1NC)	3	\$27.00
Thermal Bi-Metallic Ambient Compensated (1NO-1NC)	4	\$51.00
Solid State Overload (1NO-1NC)	(#)	\$27.00

(#) Select Code for Solid State Overload amp rating from Standard or Optional Ranges below.

#### Solid State Overload Relay - Standard Range

NEMA Size	OL Range	200-208V		230-240V		460-480V		575-600V	
		Max Hp	Code	Max Hp	Code	Max Hp	Code	Max Hp	Code
0	0.8 - 1.7					3/4	D	1	D
	1.6 - 3.4	1/2	E	3/4	E	2	E	2	E
	3.2 - 6.8	1	F	2	F	3	F	5	F
	6.5 - 13.5	3	G	3	G	5	G		
1	6.5 - 13.5					7 1/2	G	10	G
	13 - 27	7 1/2	H	7 1/2	H	10	H		
2	13 - 27					20	H	25	H
	25 - 50	10	J	15	J	25	J		

#### Optional Ranges

OL Amp Range	NEMA SIZE	
	0 & 1	2
0.4 - 0.85	C	-
0.8 - 1.7	D	-
1.6 - 3.4	E	-
3.2 - 6.8	F	-
6.5 - 13.5	G	G
13 - 27	H	H
25 - 50	-	J
17 - 35	-	-
35 - 70	-	-
65 - 135	-	-

#### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$66.00
1NC	C	\$66.00
1NO-1NC	D	\$132.00
2NO	E	\$132.00
2NC	F	\$132.00
2NO-1NC	G	\$198.00
1NO-2NC	H	\$198.00
3NO	J	\$198.00
3NC	K	\$198.00
4NO	L <sup>1</sup>	\$264.00
4NC	M <sup>1</sup>	\$264.00
2NO-2NC	N <sup>1</sup>	\$264.00
3NO-1NC	P <sup>1</sup>	\$264.00
1NO-3NC	R <sup>1</sup>	\$264.00

<sup>1</sup>Exceeds maximum number of contacts for some pilot light selections. See Step 8 (Digit 16) Table, page 1-54.

#### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1
None <sup>2</sup>	A	\$0.00

<sup>2</sup>Phase Failure Relay is not available for CR387 series standard enclosures. If this is required for your application, use CR487 series oversized enclosure. See page 1-55.

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
Start/Stop Push Button	J	\$132.00
Hand-Off-Auto (HOA) Selector Switch	L	\$132.00
Off-On Selector Switch	M	\$132.00
HOA SS & Start Push Button	S	\$264.00
Keyed HOA SS, Key Removal Center Pos.	N	\$168.00



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR387 Mag-Break Magnetic Starters

Nonreversing, Combination, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-2, Type 1 Standard Enclosure

#### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty) Type	Color - Functionality	Code	List Price GO-10G1
None	None	A	\$0.00
	Red - Across Coil	J	\$162.00
	Green - Across Coil	K	\$162.00
	Red - Thru NO Aux Contact	M <sup>3</sup>	\$228.00
	Green - Thru NC Aux Contact	N <sup>3</sup>	\$228.00
Standard Lights	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	U <sup>4</sup>	\$456.00
	Red - Across Coil & Green - Thru NC Aux Contact	T <sup>3</sup>	\$390.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	X <sup>3</sup>	\$552.00
	Red - Across Coil	1	\$162.00
	Green - Across Coil	2	\$162.00
LED Lights	Red - Thru NO Aux Contact	3 <sup>3</sup>	\$228.00
	Green - Thru NC Aux Contact	4 <sup>3</sup>	\$228.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	5 <sup>4</sup>	\$456.00
	Red - Across Coil & Green - Thru NC Aux Contact	6 <sup>3</sup>	\$390.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	7 <sup>3</sup>	\$552.00
Push-To-Test Lights	Red - Across Coil	R	\$180.00
	Green - Across Coil	S	\$180.00
	Red - Thru NO Aux Contact	C <sup>3</sup>	\$246.00
	Green - Thru NC Aux Contact	D <sup>3</sup>	\$246.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	E <sup>4</sup>	\$492.00
	Red - Across Coil & Green - Thru NC Aux Contact	V <sup>3</sup>	\$426.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	V <sup>3</sup>	\$606.00

<sup>3</sup>Maximum of 3 Aux contacts may be added to Sizes 0 & 1.

<sup>4</sup>Maximum of 2 Aux contacts may be added to Sizes 0 & 1. Maximum of 3 Aux contacts may be added to Sizes 2-4.

Note: Auxiliary contacts wired as part of pilot light selection are in addition to the auxiliary contacts selected from Step 5 (Digit 13) Table, page 1-53, which are for customer/field connections.

#### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1
None	A	\$0.00

#### GENERAL NOTE:

If selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) control circuit fusing, a control power transformer, or 24V/120V separate sourced control is required, regardless of protective device rating.



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR487 Mag-Break Magnetic Starters

Nonreversing, Combination, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																		
Steps:			Step 1					Step 2			Step 3			Step 4	Step 5	Step 6	Step 7	Step 8	Step 9

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code.  
Add list price from each step to arrive at total list for price for starter.

#### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1				NEMA Type 3R				NEMA Type 12				NEMA Type 4/4X			
	Standard Enclosure CR	List Price GO-10G1	Oversized Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Oversized Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Oversized Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Oversized Enclosure CR	List Price GO-10G1
	0	Use CR387		487B5	<b>\$898.00</b>	487B6	<b>\$906.00</b>	487BR	<b>\$1042.00</b>	487B2	<b>\$906.00</b>	487B7	<b>\$1042.00</b>	487B4	<b>\$1338.00</b>	487BS
1	Use CR387		487C5	<b>\$928.00</b>	487C6	<b>\$936.00</b>	487CR	<b>\$1072.00</b>	487C2	<b>\$936.00</b>	487C7	<b>\$1072.00</b>	487C4	<b>\$1368.00</b>	487CS	<b>\$1614.00</b>
2	Use CR387		487D5	<b>\$1258.00</b>	487D6	<b>\$1326.00</b>	487DR	<b>\$1462.00</b>	487D2	<b>\$1326.00</b>	487D7	<b>\$1462.00</b>	487D4	<b>\$2010.00</b>	487DS	<b>\$2256.00</b>
3	487E1	<b>\$1632.00</b>	487E5	<b>\$1854.00</b>	487E6	<b>\$1896.00</b>	487ER	<b>\$2118.00</b>	487E2	<b>\$1896.00</b>	487E7	<b>\$2118.00</b>	487E4	<b>\$3180.00</b>	487ES	<b>\$3738.00</b>
4	487F1	<b>\$3582.00</b>	487F5	<b>\$3972.00</b>	487F6	<b>\$4314.00</b>	487FR	<b>\$4704.00</b>	487F2	<b>\$4314.00</b>	487F7	<b>\$4704.00</b>	487F4	<b>\$5562.00</b>	487FS	<b>\$6249.00</b>

Note: All enclosures include external overload reset buttons. NEMA 4 enclosures are stainless steel.

#### Step 2 (Digits 8, 9) Select Control Voltage (No CPT and Standard Size CPT)

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT	List Price GO-10G1	Standard Size CPT	NEMA Size				
						0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1
120V w/ Surge Protector (SP)	01	<b>\$54.00</b>	F1	<b>\$132.00</b>	-					
120V	02	<b>\$0.00</b>	F2	<b>\$132.00</b>	-					
240V	03	<b>\$0.00</b>	F3	<b>\$132.00</b>	-					
480V	04	<b>\$0.00</b>	F4	<b>\$132.00</b>	-					
600V	05	<b>\$0.00</b>	F5	<b>\$132.00</b>	-					
208V	08	<b>\$0.00</b>	F8	<b>\$132.00</b>	-					
24V <sup>1</sup>	09	<b>\$0.00</b>	-	-	-					
240V/120V w/CPT	-	-	-	-	93	<b>\$294.00</b>	<b>\$294.00</b>	<b>\$352.00</b>	<b>\$468.00</b>	<b>\$540.00</b>
480V/120V w/CPT	-	-	-	-	94	<b>\$294.00</b>	<b>\$294.00</b>	<b>\$352.00</b>	<b>\$468.00</b>	<b>\$540.00</b>
600V/120V w/CPT	-	-	-	-	95	<b>\$294.00</b>	<b>\$294.00</b>	<b>\$352.00</b>	<b>\$468.00</b>	<b>\$540.00</b>
208V/120V w/CPT	-	-	-	-	98	<b>\$294.00</b>	<b>\$294.00</b>	<b>\$352.00</b>	<b>\$468.00</b>	<b>\$540.00</b>
240V/120V w/CPT & SP	-	-	-	-	33	<b>\$348.00</b>	<b>\$348.00</b>	<b>\$406.00</b>	<b>\$522.00</b>	<b>\$594.00</b>
480V/120V w/CPT & SP	-	-	-	-	34	<b>\$348.00</b>	<b>\$348.00</b>	<b>\$406.00</b>	<b>\$522.00</b>	<b>\$594.00</b>
600V/120V w/CPT & SP	-	-	-	-	35	<b>\$348.00</b>	<b>\$348.00</b>	<b>\$406.00</b>	<b>\$522.00</b>	<b>\$594.00</b>
208V/120V w/CPT & SP	-	-	-	-	38	<b>\$348.00</b>	<b>\$348.00</b>	<b>\$406.00</b>	<b>\$522.00</b>	<b>\$594.00</b>
240V/24V w/CPT <sup>1</sup>	-	-	-	-	S3	<b>\$294.00</b>	<b>\$294.00</b>	<b>\$352.00</b>	-	-
480V/24V w/CPT <sup>1</sup>	-	-	-	-	S4	<b>\$294.00</b>	<b>\$294.00</b>	<b>\$352.00</b>	-	-
600V/24V w/CPT <sup>1</sup>	-	-	-	-	S5	<b>\$294.00</b>	<b>\$294.00</b>	<b>\$352.00</b>	-	-
208V/24V w/CPT <sup>1</sup>	-	-	-	-	S8	<b>\$294.00</b>	<b>\$294.00</b>	<b>\$352.00</b>	-	-

<sup>1</sup>24V coils not available for NEMA size 3 and 4.



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic CR487 Mag-Break Magnetic Starters

## Section 1

Nonreversing, Combination, Mag-Break Circuit Breaker Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

### Step 2 (Digits 8, 9) Select Control Voltage (Extra Capacity CPT + 100VA and 200VA)

	Standard Size CPT + 100VA	NEMA Size					Standard Size CPT + 200VA	NEMA Size					
		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1		0 List Price <sup>2</sup> GO-10G1	1 List Price <sup>2</sup> GO-10G1	2 List Price <sup>2</sup> GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1	
120V w/ Surge Protector (SP)	-						-						
120V	-						-						
240V	-						-						
480V	-						-						
600V	-						-						
208V	-						-						
24V <sup>1</sup>	-						-						
240V/120V w/CPT	13	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	23	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
480V/120V w/CPT	14	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	24	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
600V/120V w/CPT	15	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	25	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
208V/120V w/CPT	18	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	28	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
240V/120V w/CPT & SP	53	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	63	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
480V/120V w/CPT & SP	54	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	64	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
600V/120V w/CPT & SP	55	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	65	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
208V/120V w/CPT & SP	58	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	68	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
240V/24V w/CPT <sup>1</sup>	A3	\$420.00	\$420.00	\$504.00	-	-	B3	\$523.00	\$523.00	\$618.00	-	-	
480V/24V w/CPT <sup>1</sup>	A4	\$420.00	\$420.00	\$504.00	-	-	B4	\$523.00	\$523.00	\$618.00	-	-	
600V/24V w/CPT <sup>1</sup>	A5	\$420.00	\$420.00	\$504.00	-	-	B5	\$523.00	\$523.00	\$618.00	-	-	
208V/24V w/CPT <sup>1</sup>	A8	\$420.00	\$420.00	\$504.00	-	-	B8	\$523.00	\$523.00	\$618.00	-	-	

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.

<sup>2</sup>Requires Oversized Enclosure for NEMA sizes 0-2. Select proper NEMA size and enclosure type from Step 1 (Digits 1-7) Table, page 1-55, and adjust price accordingly.

### Step 3 (Digits 10, 11) Select Protective Device

#### Mag-Break Circuit Breaker - Spectra™ Series

NEMA Size	200-208V				230-240V				460-480V				575-600V						
	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1			
0		3	MA	\$0.00	1/2	3	MA	\$0.00	1	3	MA	\$0.00	1	3	MA	\$0.00			
		1	7	MB	\$0.00	1	7	MB	\$0.00	3	7	MB	\$0.00	3	7	MB	\$0.00		
		3	15	MC	\$0.00	3	15	MC	\$0.00	5	15	MC	\$0.00	5	15	MC	\$0.00		
1		15	MC	\$0.00		15	MC	\$0.00	7 1/2	15	MC	\$0.00	10	15	MC	\$0.00			
		20	MD	\$0.00		20	MD	\$0.00	10	20	MD	\$0.00		20	MD	\$0.00			
		5	25	ME	\$0.00	5	25	ME	\$0.00		25	ME	\$0.00		25	ME	\$0.00		
		30	MF	\$0.00	7 1/2	30	MF	\$0.00		30	MF	\$0.00		30	MF	\$0.00			
		7 1/2	40	MG	\$0.00		40	MG	\$0.00		40	MG	\$0.00		40	MG	\$0.00		
2		25	ME	\$0.00		25	ME	\$0.00		25	ME	\$0.00		15	25	ME	\$0.00		
		30	MF	\$0.00		30	MF	\$0.00		15	30	MF	\$0.00		20	30	MF	\$0.00	
		40	MG	\$0.00	10	40	MG	\$0.00		20	40	MG	\$0.00		25	40	MG	\$0.00	
		10	50	MH	\$0.00		50	MH	\$0.00		25	50	MH	\$0.00		50	MH	\$0.00	
		60	MJ	\$0.00	15	60	MJ	\$0.00		60	MJ	\$0.00		60	MJ	\$0.00			
3		40	MG	\$0.00		40	MG	\$0.00		40	MG	\$0.00		30	40	MG	\$0.00		
		50	MH	\$0.00		50	MH	\$0.00		30	50	MH	\$0.00		50	MH	\$0.00		
		60	MJ	\$0.00		60	MJ	\$0.00		60	MJ	\$0.00		40	60	MJ	\$0.00		
		15	70	MK	\$0.00	20	70	MK	\$0.00		40	70	MK	\$0.00		50	70	MK	\$0.00
		20	80	ML	\$0.00		80	ML	\$0.00		80	ML	\$0.00		80	ML	\$0.00		
4		90	MM	\$0.00	25	90	MM	\$0.00		50	90	MM	\$0.00		90	MM	\$0.00		
		25	100	MN	\$0.00	30	100	MN	\$0.00		100	MN	\$0.00		100	MN	\$0.00		
		80	ML	\$0.00		80	ML	\$0.00		80	ML	\$0.00		60	80	ML	\$0.00		
		100	MN	\$0.00		100	MN	\$0.00		60	100	MN	\$0.00		75	100	MN	\$0.00	
		30	125	MQ	\$0.00	40	125	MQ	\$0.00		75	125	MQ	\$0.00		125	MQ	\$0.00	
	40	150	MR	\$0.00	40	150	MR	\$0.00		150	MR	\$0.00		100	150	MR	\$0.00		
	175	MS	\$0.00	50	175	MS	\$0.00		100	175	MS	\$0.00		175	MS	\$0.00			

### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (INC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (INO-INC)	2	\$24.00
Thermal Bi-Metallic Ambient Compensated (INC)	3	\$27.00
Thermal Bi-Metallic Ambient Compensated (INO-INC)	4	\$51.00
Solid State Overload (INO-INC)	(#)	\$27.00

(#) Select Code for Solid State Overload amp rating from Standard or Optional Ranges table on page 1-57.





# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

**CR487 Mag-Break Magnetic Starters**  
Nonreversing, Combination, Mag-Break Circuit Breaker Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

### Step 4 (Digit 12) Select Overload Relay (continued)

#### Solid State Overload Relay - Standard Range

NEMA Size	OL Range	200-208V		230-240V		460-480V		575-600V	
		Max Hp	Code	Max Hp	Code	Max Hp	Code	Max Hp	Code
0	0.8 - 1.7					3/4	D	1	D
	1.6 - 3.4	1/2	E	3/4	E	2	E	2	E
	3.2 - 6.8	1	F	2	F	3	F	5	F
1	6.5 - 13.5	3	G	3	G	5	G		
	6.5 - 13.5					7 1/2	G	10	G
2	13 - 27	7 1/2	H	7 1/2	H	10	H		
	13 - 27					20	H	25	H
3	25 - 50	10	J	15	J	25	J		
	17 - 35							30	K
4	35 - 70	20	L	25	L	50	L	50	L
	65 - 135	25	M	30	M				
	65 - 135	40	M	50	M	100	M	100	M

#### Optional Ranges

OL Amp Range	NEMA SIZE		
	0 & 1	2	3 & 4
0.4 - 0.85	C	-	-
0.8 - 1.7	D	-	-
1.6 - 3.4	E	-	-
3.2 - 6.8	F	-	-
6.5 - 13.5	G	G	-
13 - 27	H	H	-
25 - 50	-	J	-
17 - 35	-	-	K
35 - 70	-	-	L
65 - 135	-	-	M

### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$66.00
1NC	C	\$66.00
1NO-1NC	D	\$132.00
2NO	E	\$132.00
2NC	F	\$132.00
2NO-1NC	G	\$198.00
1NO-2NC	H	\$198.00
3NO	J	\$198.00
3NC	K	\$198.00
4NO	L <sup>3</sup>	\$264.00
4NC	M <sup>3</sup>	\$264.00
2NO-2NC	N <sup>3</sup>	\$264.00
3NO-1NC	P <sup>3</sup>	\$264.00
1NO-3NC	R <sup>3</sup>	\$264.00

<sup>3</sup>Exceeds maximum number of contacts for some pilot light selections. See Step 8 (Digit 16) Table, page 1-58.

### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 190-480V (PFR w/UV)	C <sup>2</sup>	\$920.00	\$920.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 575V (PFR w/UV)	D <sup>2</sup>	\$920.00	\$920.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay - 208V (PFR)	E <sup>4,6</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 240V (PFR)	F <sup>4,6</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 480V (PFR)	G <sup>4,6</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 575V (PFR)	H <sup>4,6</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Elapsed Time Meter (120V/60Hz) Wired Across Coil (ETM)	I <sup>2,5</sup>	\$212.00	\$342.00	\$348.00	\$588.00	\$348.00	\$588.00
ETM + PFR w/UV (190-480V)	L <sup>2,5,6</sup>	\$1132.00	\$1262.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR w/UV (575V)	N <sup>2,5,6</sup>	\$1132.00	\$1262.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR (208V)	P <sup>2,4,5,6</sup>	\$637.00	-	\$773.00	-	\$773.00	-
ETM + PFR (240V)	Q <sup>2,4,5,6</sup>	\$637.00	-	\$773.00	-	\$773.00	-
ETM + PFR (480V)	R <sup>2,4,5,6</sup>	\$637.00	-	\$773.00	-	\$773.00	-
ETM + PFR (575V)	S <sup>2,4,5,6</sup>	\$637.00	-	\$773.00	-	\$773.00	-

<sup>2</sup>Requires Oversized Enclosure for NEMA sizes 0-2. Select proper NEMA size and enclosure type from Step 1 (Digits 1-7) Table, page 1-55, and adjust price accordingly.

<sup>4</sup>Available for Type 1 Enclosure only.

<sup>5</sup>Requires 120V Control Circuit Voltage or CPT w/ 120V Secondary.

<sup>6</sup>Requires Oversized Enclosure for phase failure relay.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR487 Mag-Break Magnetic Starters

## Section 1

Nonreversing, Combination, Mag-Break Circuit Breaker Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
Start/Stop Push Button	J	\$132.00
Hand-Off-Auto (HOA) Selector Switch	L	\$132.00
Off-On Selector Switch	M	\$132.00
HOA SS & Start Push Button	S	\$264.00
Keyed HOA SS, Key Removal Center Pos.	N	\$168.00

#### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty)		Code	List Price GO-10G1
Type	Color - Functionality		
None	None	A	\$0.00
	Red - Across Coil	J	\$162.00
	Green - Across Coil	K	\$162.00
	Red - Thru NO Aux Contact	M <sup>7</sup>	\$228.00
	Green - Thru NC Aux Contact	N <sup>7</sup>	\$228.00
Standard Lights	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	U <sup>8</sup>	\$456.00
	Red - Across Coil & Green - Thru NC Aux Contact	T <sup>7</sup>	\$390.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	X <sup>7</sup>	\$552.00
	Red - Across Coil	1	\$162.00
	Green - Across Coil	2	\$162.00
LED Lights	Red - Thru NO Aux Contact	3 <sup>7</sup>	\$228.00
	Green - Thru NC Aux Contact	4 <sup>7</sup>	\$228.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	5 <sup>8</sup>	\$456.00
	Red - Across Coil & Green - Thru NC Aux Contact	6 <sup>7</sup>	\$390.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	7 <sup>7</sup>	\$552.00
Push-To-Test Lights	Red - Across Coil	R	\$180.00
	Green - Across Coil	S	\$180.00
	Red - Thru NO Aux Contact	C <sup>7</sup>	\$246.00
	Green - Thru NC Aux Contact	D <sup>7</sup>	\$246.00
	Red - Thru NO Aux Contact & Green - Thru NC Aux Contact	E <sup>8</sup>	\$492.00
	Red - Across Coil & Green - Thru NC Aux Contact	V <sup>7</sup>	\$426.00
	Red - Across Coil & Green - Thru NC Aux Contact & Unwired Amber	Y <sup>7</sup>	\$606.00

<sup>7</sup>Maximum of 3 Aux contacts may be added to Sizes 0 & 1.

<sup>8</sup>Maximum of 2 Aux contacts may be added to Sizes 0 & 1. Maximum of 3 Aux contacts may be added to Sizes 2-4.

Note: Auxiliary contacts wired as part of pilot light selection are in addition to the auxiliary contacts selected from Step 5 (Digit 13) Table, page 1-57, which are for customer/field connections.

#### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1 Relay, 2NO-2NC, 24/120V Coil - unwired	B <sup>2,9</sup>	\$170.00	\$222.00	\$306.00	\$468.00	\$480.00	\$636.00
2 Relays, 24/120V Coil - unwired	C <sup>2,9</sup>	\$340.00	\$444.00	\$612.00	\$936.00	\$960.00	\$1272.00
DIN Rail - for Customer Use	D <sup>2</sup>	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00
12 Point Terminal Strip - unwired (12 PT Strip)	E <sup>2</sup>	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00
Space Heater w/ NC Contact	H <sup>2,10</sup>	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00
1 Relay + 12 PT Strip	J <sup>2,9</sup>	\$279.00	\$331.00	\$415.00	\$577.00	\$589.00	\$745.00
2 Relays + 12 PT Strip	K <sup>2,9</sup>	\$449.00	\$553.00	\$721.00	\$1045.00	\$1069.00	\$1381.00
DIN Rail + 12 PT Strip + Space Heater	L <sup>2,10</sup>	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00
2 Relays + 12 PT Strip + Space Heater	M <sup>2,9,10</sup>	\$569.00	\$673.00	\$841.00	\$1165.00	\$1189.00	\$1501.00
Time Delay ON Relay, 24/120V Coil - unwired (TD)	N <sup>2,9</sup>	\$368.00	\$414.00	\$504.00	\$660.00	\$504.00	\$660.00
Time Delay OFF Relay, 24/120V Coil - unwired (TD)	P <sup>2,9</sup>	\$368.00	\$414.00	\$504.00	\$660.00	\$504.00	\$660.00
12 PT Strip + TD ON	R <sup>2,9</sup>	\$477.00	\$523.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + TD OFF	S <sup>2,9</sup>	\$477.00	\$523.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + Space Heater + TD ON	T <sup>2,9,10</sup>	\$597.00	\$643.00	\$733.00	\$889.00	\$733.00	\$889.00
12 PT Strip + Space Heater + TD OFF	U <sup>2,9,10</sup>	\$597.00	\$643.00	\$733.00	\$889.00	\$733.00	\$889.00

<sup>2</sup>Requires Oversized Enclosure for NEMA sizes 0-2. Select proper NEMA size and enclosure type from Step 1 (Digits 1-7) Table, page 1-55, and adjust price accordingly.

<sup>9</sup>Relay/Timer coil voltage is equivalent to CPT secondary voltage. Requires minimum 100 extra VA CPT option.

<sup>10</sup>Maximum number of auxiliary contacts shall be reduced by 1.

#### GENERAL NOTE:

If selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) control circuit fusing, a control power transformer, or 24V/120V separate sourced control is required, regardless of protective device rating.



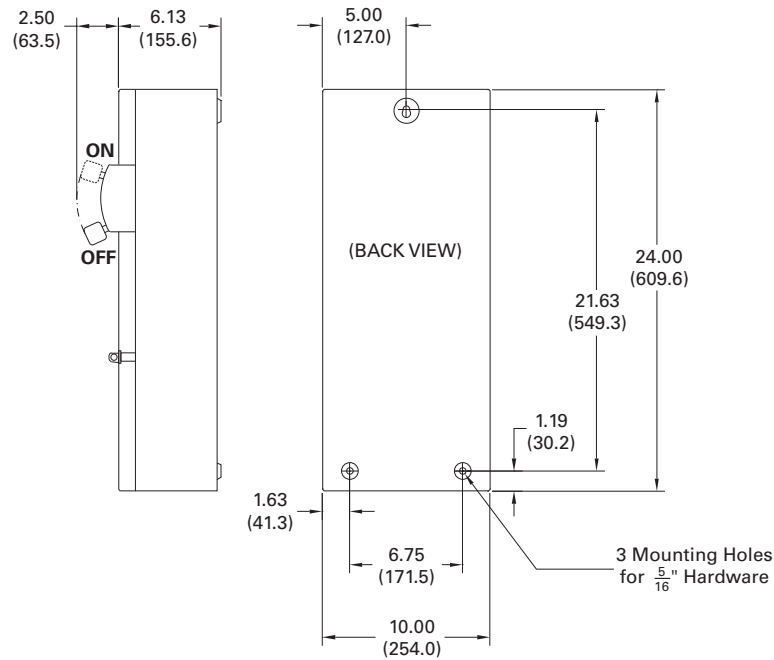
# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

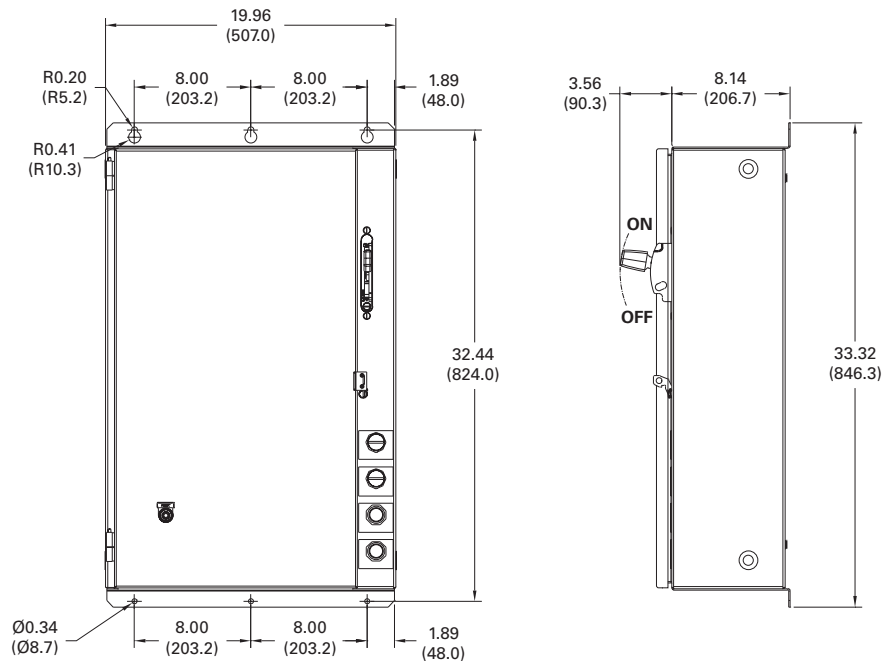
### CR307, CR308, CR387 Magnetic Starters

## Section 1

Nonreversing, Combination, NEMA Type 1, 3R, 12, 4/4X  
 400 Horsepower Maximum  
 NEMA Sizes 0-2  
 600 Volts Maximum 50/60 Hertz  
 Outlines, Dimensions in. (mm)



CR307, CR387, CR308 (excludes 100A, 600V fuse clips); Type 1, Standard Size Enclosure



CR308 (includes 100A, 600V fuse clips); Type 1, Standard Size Enclosure



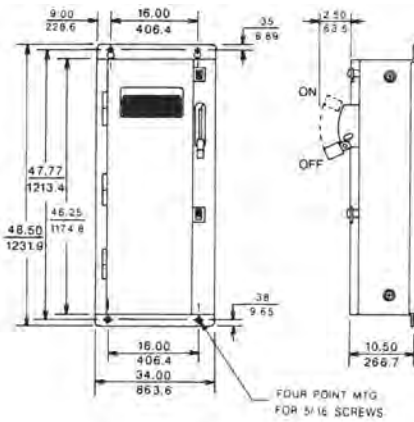
# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

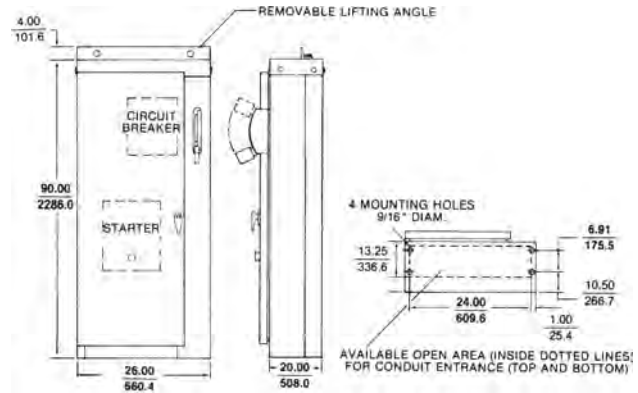
### CR307, CR308, CR387 Magnetic Starters

## Section 1

Nonreversing, Combination, NEMA Type 1, 3R, 12, 4/4X  
 400 Horsepower Maximum  
 NEMA Sizes 5-6  
 600 Volts Maximum 50/60 Hertz  
 Outlines, Dimensions in. (mm)



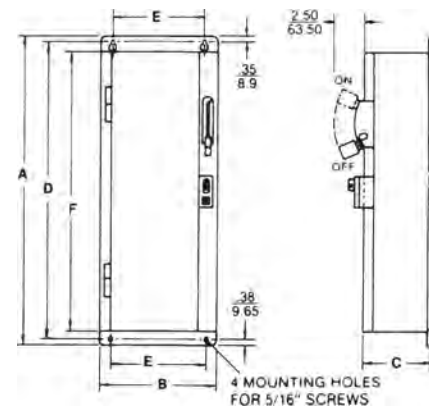
NEMA Type 1, CR307, CR308, CR387: Size 5



NEMA Type 1, CR307, CR308: Size 6 Floor-Mounted

### CR307, CR308, CR387 NEMA Type 12 NEMA Size 5

Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F
48.50 (1231.9)	34.00 (863.6)	10.50 (266.7)	47.77 (1213.4)	16.00 (406.4)	46.25 (1174.8)



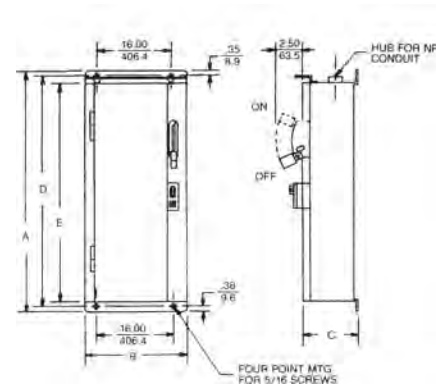
NEMA Type 12, CR307, CR308, CR387: Size 5

### CR307, CR308, CR387 NEMA Type 3R NEMA Size 5

Dimension A	Dimension B	Dimension C	Dimension D	Dimension E
48.50 (1231.9)	34.00 (863.6)	10.50 (266.7)	47.77 (1213.4)	46.25 (1174.8)

### CR307, CR308, CR387 NEMA Type 4/4X NEMA Size 5

Height	Width	Depth
48.5 (1231.9)	33.5 (850.9)	11 (279.4)



NEMA Type 3R, CR307, CR308, CR387: Size 5

Note: Contact nearest GE Representative for shipping weight.



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR407, CR408, CR487 Magnetic Starters

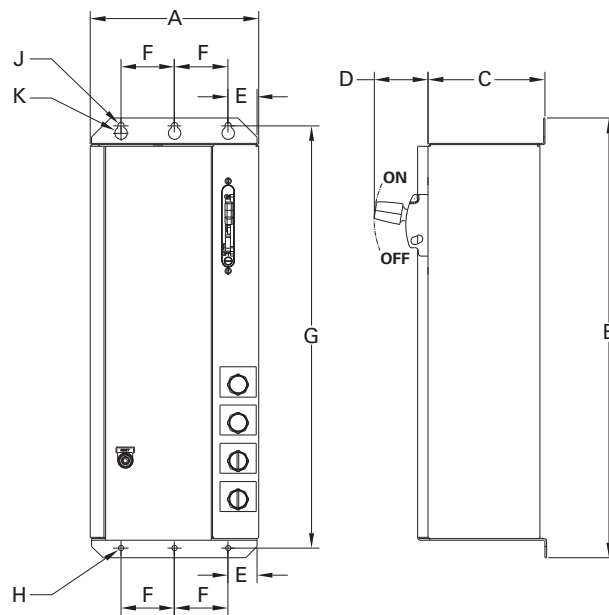
Nonreversing, Combination, NEMA Type 1, 3R, 12, 4/4X

400 Horsepower Maximum

NEMA Sizes 0-4

600 Volts Maximum 50/60 Hertz

Outlines, Dimensions in. (mm)



#### CR407, CR408 (Nonfusible Disconnect), CR487 NEMA Type 1 Enclosure

Standard Size (Enclosure Code = 1)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	See CR307, C308, CR387 Dimensional Information									
3-4	19.78 (502.4)	33.32 (846.3)	8.14 (206.7)	3.56 (90.4)	1.89 (48.0)	8.00 (203.2)	32.44 (824.0)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)

Oversized (Enclosure Code = 5)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	19.78 (502.4)	33.32 (846.3)	8.14 (206.7)	3.56 (90.4)	1.89 (48.0)	8.00 (203.2)	32.44 (824.0)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3-4	23.00 (584.2)	53.82 (1367)	8.14 (206.7)	3.73 (94.6)	3.39 (86.1)	8.00 (203.2)	52.94 (1344.7)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)

#### CR407, CR408 (Nonfusible Disconnect), CR487 NEMA Type 3R/12 Enclosure

Standard Size (Enclosure Code = 6 or 2)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	11.00 (279.4)	28.75 (730.3)	7.70 (195.5)	3.49 (88.6)	1.91 (48.5)	3.50 (88.9)	27.63 (701.7)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3-4	20.00 (508.0)	33.25 (844.6)	8.20 (208.2)	3.48 (88.5)	1.91 (48.5)	8.00 (203.2)	32.13 (816.0)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)

Oversized (Enclosure Code = R or 7)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	20.00 (508.0)	33.25 (844.6)	8.20 (208.2)	3.48 (88.5)	1.91 (48.5)	8.00 (203.2)	32.13 (816.0)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3-4	23.00 (584.2)	53.82 (1367.0)	8.20 (208.2)	3.50 (88.8)	3.41 (86.6)	8.00 (203.2)	52.70 (1338.5)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)

#### CR407, CR408 (Nonfusible Disconnect), CR487 NEMA Type 4/4X Enclosure

Standard Size (Enclosure Code = 4)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	11.00 (279.4)	29.38 (746.3)	7.64 (194.0)	3.53 (89.7)	1.91 (48.5)	3.50 (88.9)	28.26 (717.7)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3-4	20.00 (508.0)	33.32 (846.3)	8.14 (206.7)	3.72 (94.6)	1.91 (48.5)	8.00 (203.2)	32.20 (817.8)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)

Oversized (Enclosure Code = S)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	20.00 (508.0)	33.32 (846.3)	8.14 (206.7)	3.72 (94.6)	1.91 (48.5)	8.00 (203.2)	32.20 (817.8)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3-4	23.00 (584.2)	53.76 (1365.5)	8.14 (206.7)	3.55 (90.2)	3.41 (86.6)	8.00 (203.2)	52.64 (1336.9)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR408 Magnetic Starters

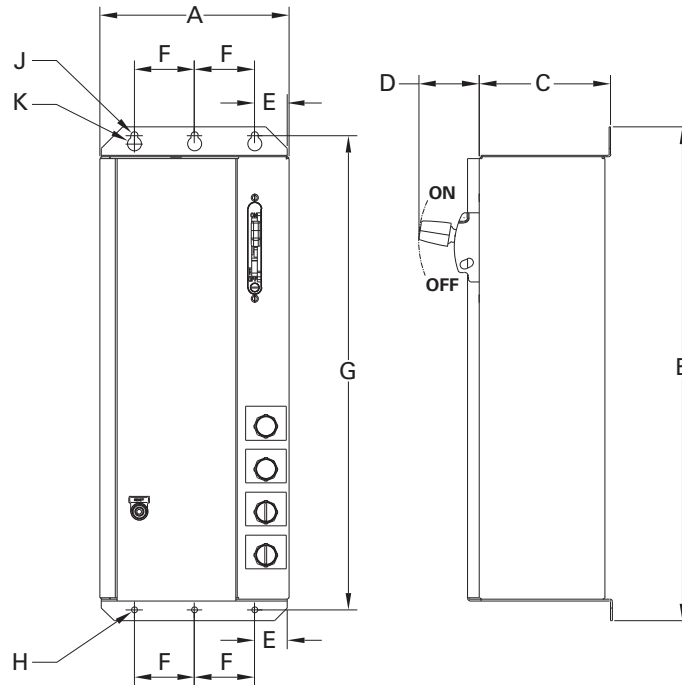
Nonreversing, Combination, NEMA Type 1, 3R, 12, 4/4X

400 Horsepower Maximum

NEMA Sizes 0-4

600 Volts Maximum 50/60 Hertz

Outlines, Dimensions in. (mm)



#### CR408 (Fusible Disconnect) NEMA Type 1 Enclosure

Standard Size (Enclosure Code = 1)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	See CR308 Dimensional Information									
3 (excludes 200A fuse clips)	19.78 (502.4)	33.32 (846.3)	8.14 (206.7)	3.56 (90.4)	1.89 (48.0)	8.00 (203.2)	32.44 (824.0)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3 (includes 200A fuse clips)-4	23.00 (584.2)	53.82 (1367)	8.14 (206.7)	3.73 (94.6)	3.39 (86.1)	8.00 (203.2)	52.94 (1344.7)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)

Oversized (Enclosure Code = 5)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	19.78 (502.4)	33.32 (846.3)	8.14 (206.7)	3.56 (90.4)	1.89 (48.0)	8.00 (203.2)	32.44 (824.0)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3 (excludes 200A fuse clips)	23.00 (584.2)	53.82 (1367)	8.14 (206.7)	3.73 (94.6)	3.39 (86.1)	8.00 (203.2)	52.94 (1344.7)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)

#### CR408 (Fusible Disconnect) NEMA Type 3R/12 Enclosure

Standard Size (Enclosure Code = 6 or 2)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	11.00 (279.4)	28.75 (730.3)	7.70 (195.5)	3.49 (88.6)	1.91 (48.5)	3.50 (88.9)	27.63 (701.7)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3 (excludes 200A fuse clips)	20.00 (508.0)	33.25 (844.6)	8.20 (208.2)	3.48 (88.5)	1.91 (48.5)	8.00 (203.2)	32.13 (816.0)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3 (includes 200A fuse clips)-4	23.00 (584.2)	53.82 (1367.0)	8.20 (208.2)	3.50 (88.8)	3.41 (86.6)	8.00 (203.2)	52.70 (1338.5)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)

Oversized (Enclosure Code = R or 7)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	20.00 (508.0)	33.25 (844.6)	8.20 (208.2)	3.48 (88.5)	1.91 (48.5)	8.00 (203.2)	32.13 (816.0)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3 (excludes 200A fuse clips)	23.00 (584.2)	53.82 (1367.0)	8.20 (208.2)	3.50 (88.8)	3.41 (86.6)	8.00 (203.2)	52.70 (1338.5)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR408 Magnetic Starters

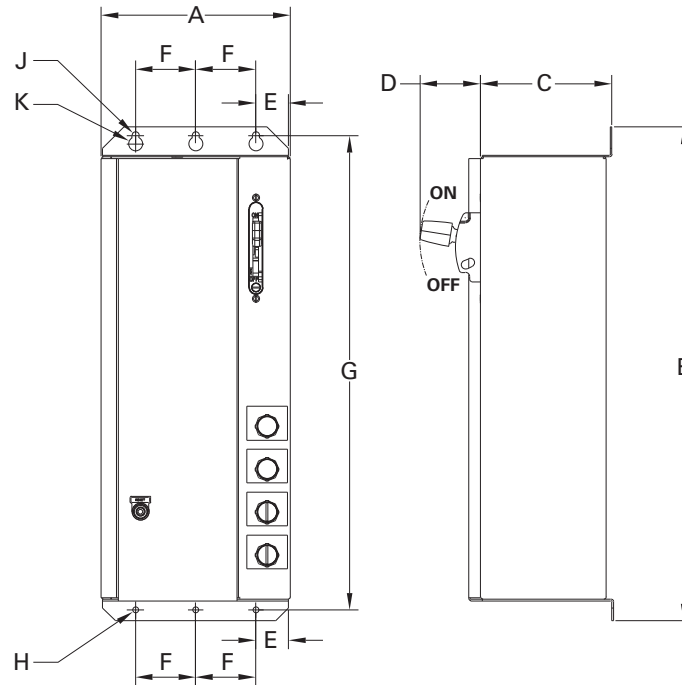
Nonreversing, Combination, NEMA Type 1, 3R, 12, 4/4X

400 Horsepower Maximum

NEMA Sizes 0-4

600 Volts Maximum 50/60 Hertz

Outlines, Dimensions in. (mm)



### CR408 (Fusible Disconnect) NEMA Type 4/4X Enclosure

Standard Size (Enclosure Code = 4)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	11.00 (279.4)	29.38 (746.3)	7.64 (194.0)	3.53 (89.7)	1.91 (48.5)	3.50 (88.9)	28.26 (717.7)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3 (excludes 200A fuse clips)	20.00 (508.0)	33.32 (846.3)	8.14 (206.7)	3.72 (94.6)	1.91 (48.5)	8.00 (203.2)	32.20 (817.8)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3 (includes 200A fuse clips)-4	23.00 (584.2)	53.76 (1365.5)	8.14 (206.7)	3.55 (90.2)	3.41 (86.6)	8.00 (203.2)	52.64 (1336.9)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)

Oversized (Enclosure Code = S)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	20.00 (508.0)	33.32 (846.3)	8.14 (206.7)	3.72 (94.6)	1.91 (48.5)	8.00 (203.2)	32.20 (817.8)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3 (excludes 200A fuse clips)	23.00 (584.2)	53.76 (1365.5)	8.14 (206.7)	3.55 (90.2)	3.41 (86.6)	8.00 (203.2)	52.64 (1336.9)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR310, CR410, CR311, CR411 Magnetic Starters

Reversing, Combination, NEMA Type 1, 3R, 12, 4/4X  
 200 Horsepower Maximum  
 NEMA Sizes 0-5  
 600 Volts Maximum 50/60 Hertz

## Section 1

### Application

Used for full-voltage starting and reversing of squirrel cage induction motors up to 200 horsepower maximum, 600 Volts maximum. Provides short-circuit protection, either by means of fuses or a circuit breaker. Consists of a reversing controller and a fusible or nonfusible disconnect switch or circuit breaker to provide branch circuit protection.

Three-leg block overload relay provides overload protection on starters. Undervoltage protection or release can be provided by using appropriate accessory controls. Refer to page 1-7 for features of basic starter.



CR310 NEMA Size 2 Combination Reverser in NEMA Type 1 Enclosure with Circuit Breaker

### Product Number Selection Instructions

- Specify starter by complete Product Number.  
 Example: CR411E6041A1AAAAA @ **\$2994.00, GO-10G1**.
- Order heaters by complete Product Number from appropriate heater tables on pages 1-153 to 1-159, based on motor full-load current. Fuses can be purchased from local fuse suppliers.
- Order forms not listed or special features by complete description using a listed Product Number as reference wherever possible.  
 Example: Similar to CR411E6041A1AAAAA except with a 575/115-Volt control transformer @ **\$3462.00, GO-10G1**, total list price.
- 50 Hertz Starters**  
 Pricing for 50 Hertz forms (at standard voltages) is the same as shown in table for 60 Hertz. Listed prices for 460-480 Volt also apply to 380-415 Volt, 50 Hertz. See page 1-4 for 380-415 Volt horsepower ratings.
- Product Notes**  
 Motor full-load current should not exceed continuous ampere rating of starter.

### Reference Publications

Instructions	Publication Number
NEMA Size	
0, 1	GEH-5190
2	GEH-4775
3	GEH-4806
4	GEH-4807
5	GEH-4839

### CR310, CR410, CR311, CR411 Magnetic Starters - Contents

Application Information and Selection Instructions .....	1-64
Nonfusible Disconnect Type (CR311, CR411).....	1-65
Fusible Disconnect Type (CR311, CR411) .....	1-66
Nonfusible and Fusible Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR411).....	1-68
Thermal Magnetic Circuit Breaker Type (CR310, CR410) .....	1-73
Thermal Magnetic Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR410).....	1-74
Outlines and Dimensions .....	1-84





# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR311, CR411 Magnetic Starters

Reversing, Combination, NEMA Type 1, 3R, 12, 4/4X

NEMA Sizes 0-5, Nonfusible Disconnect Type

600 Volts Maximum 60 Hertz

#### Three-Phase

List Price includes a holding interlock, mechanical and cross-electrical interlock on each contactor, pressure terminals for the line and load connections, plus a 3-leg block type overload relay (manual reset). All enclosures include external reset. Three heaters should be ordered as separate items. See pages 1-153 to 1-159 for selection. **List Price \$9.00 each, GO-10H.**

#### CR311/411 Reversing Nonfusible Disconnect Type

Voltage (60Hz)	NEMA Size	Maximum Horsepower	Continuous Amp Rating	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4/4X	
				Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1
200-208	0	3	18	411B1081A1AAAAA	\$894.00	411B6081A1AAAAA	\$1098.00	411B2081A1AAAAA	\$1098.00	411B4081A1AAAAA	\$1626.00
200-208	1	7 1/2	27	411C1081A1AAAAA	\$954.00	411C6081A1AAAAA	\$1158.00	411C2081A1AAAAA	\$1158.00	411C4081A1AAAAA	\$1686.00
200-208	2	10	45	411D1081A1AAAAA	\$1596.00	411D6081A1AAAAA	\$1860.00	411D2081A1AAAAA	\$1860.00	411D4081A1AAAAA	\$2712.00
200-208	3	25	90	411E1081A1AAAAA	\$2646.00	411E6081A1AAAAA	\$2994.00	411E2081A1AAAAA	\$2994.00	411E4081A1AAAAA	\$4602.00
200-208	4	40	135	411F1081A1AAAAA	\$5544.00	411F6081A1AAAAA	\$6498.00	411F2081A1AAAAA	\$6498.00	411F4081A1AAAAA	\$8016.00
200-208	5	75	270	311G123AAA	\$10321.00	311G623AAA	\$13089.00	311G223AAA	\$13089.00	-	-
230-240	0	3	18	411B1031A1AAAAA	\$894.00	411B6031A1AAAAA	\$1098.00	411B2031A1AAAAA	\$1098.00	411B4031A1AAAAA	\$1626.00
230-240	1	7 1/2	27	411C1031A1AAAAA	\$954.00	411C6031A1AAAAA	\$1158.00	411C2031A1AAAAA	\$1158.00	411C4031A1AAAAA	\$1686.00
230-240	2	15	45	411D1031A1AAAAA	\$1596.00	411D6031A1AAAAA	\$1860.00	411D2031A1AAAAA	\$1860.00	411D4031A1AAAAA	\$2712.00
230-240	3	30	90	411E1031A1AAAAA	\$2646.00	411E6031A1AAAAA	\$2994.00	411E2031A1AAAAA	\$2994.00	411E4031A1AAAAA	\$4602.00
230-240	4	50	135	411F1031A1AAAAA	\$5544.00	411F6031A1AAAAA	\$6498.00	411F2031A1AAAAA	\$6498.00	411F4031A1AAAAA	\$8016.00
230-240	5	100	270	311G103AAA	\$10321.00	311G603AAA	\$13089.00	311G203AAA	\$13089.00	-	-
460-480	0	5	18	411B1041A1AAAAA	\$894.00	411B6041A1AAAAA	\$1098.00	411B2041A1AAAAA	\$1098.00	411B4041A1AAAAA	\$1626.00
460-480	1	10	27	411C1041A1AAAAA	\$954.00	411C6041A1AAAAA	\$1158.00	411C2041A1AAAAA	\$1158.00	411C4041A1AAAAA	\$1686.00
460-480	2	25	45	411D1041A1AAAAA	\$1596.00	411D6041A1AAAAA	\$1860.00	411D2041A1AAAAA	\$1860.00	411D4041A1AAAAA	\$2712.00
460-480	3	50	90	411E1041A1AAAAA	\$2646.00	411E6041A1AAAAA	\$2994.00	411E2041A1AAAAA	\$2994.00	411E4041A1AAAAA	\$4602.00
460-480	4	100	135	411F1041A1AAAAA	\$5544.00	411F6041A1AAAAA	\$6498.00	411F2041A1AAAAA	\$6498.00	411F4041A1AAAAA	\$8016.00
460-480	5	200	270	311G104AAA	\$10321.00	311G604AAA	\$13089.00	311G204AAA	\$13089.00	-	-
575-600	0	5	18	411B1051A1AAAAA	\$894.00	411B6051A1AAAAA	\$1098.00	411B2051A1AAAAA	\$1098.00	411B4051A1AAAAA	\$1626.00
575-600	1	10	27	411C1051A1AAAAA	\$954.00	411C6051A1AAAAA	\$1158.00	411C2051A1AAAAA	\$1158.00	411C4051A1AAAAA	\$1686.00
575-600	2	25	45	411D1051A1AAAAA	\$1596.00	411D6051A1AAAAA	\$1860.00	411D2051A1AAAAA	\$1860.00	411D4051A1AAAAA	\$2712.00
575-600	3	50	90	411E1051A1AAAAA	\$2646.00	411E6051A1AAAAA	\$2994.00	411E2051A1AAAAA	\$2994.00	411E4051A1AAAAA	\$4602.00
575-600	4	100	135	411F1051A1AAAAA	\$5544.00	411F6051A1AAAAA	\$6498.00	411F2051A1AAAAA	\$6498.00	411F4051A1AAAAA	\$8016.00
575-600	5	200	270	311G105AAA	\$10321.00	311G605AAA	\$13089.00	311G205AAA	\$13089.00	-	-

- NEMA Size 5 starters with 115-120Volt, 60 Hertz coil for separate control are available at listed prices. To order, replace Digits 8 and 9 of listed Product Numbers with 02.  
Example: CR411D1041A1AAAAA with 115-120 Volt, 60 Hertz coil for separate control becomes CR411D1021A1AAAAA Product Number.
- Motor full load current should not exceed continuous ampere rating of starter.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

# Section 1

### CR311, CR411 Magnetic Starters

Reversing, Combination, NEMA Type 1, 3R, 12, 4/4X

NEMA Sizes 0-5, Fusible Disconnect Type

600 Volts Maximum 60 Hertz

List Price includes a holding interlock, mechanical and cross-electrical interlock on each contactor, pressure terminals for the line and load connections, plus a 3-leg block type overload relay (manual reset). All enclosures include external reset. Three heaters should be ordered as separate items. See pages 1-153 to 1-159 for selection. **List Price \$9.00 each, GO-10H.**

#### CR311/411 Reversing Fusible Disconnect – Class H Fuse Clips

Voltage (60Hz)	NEMA Size	Maximum Horsepower	Continuous Amp Rating	Fuse Clip Amp Rating	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4/4X	
					Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1
200-208	0	3	18	30	411B108HA1AAAA	\$912.00	411B608HA1AAAA	\$1116.00	411B208HA1AAAA	\$1116.00	411B408HA1AAAA	\$1644.00
200-208	1	7 1/2	27	60	411C108HB1AAAA	\$984.00	411C608HB1AAAA	\$1188.00	411C208HB1AAAA	\$1188.00	411C408HB1AAAA	\$1716.00
200-208	2	10	45	100	411D108HC1AAAA	\$1692.00	411D608HC1AAAA	\$1956.00	411D208HC1AAAA	\$1956.00	411D408HC1AAAA	\$2808.00
200-208	3	25	90	200	411E108HD1AAAA	\$2838.00	411E608HD1AAAA	\$3186.00	411E208HD1AAAA	\$3186.00	411E408HD1AAAA	\$4794.00
200-208	4	40	135	400	411F108HE1AAAA	\$5760.00	411F608HE1AAAA	\$6714.00	411F208HE1AAAA	\$6714.00	411F408HE1AAAA	\$8232.00
200-208	5	75	270	400	311G123BAA	\$10785.00	311G623BAA	\$13053.00	311G223BAA	\$13053.00	-	-
230-240	0	3	18	30	411B103HA1AAAA	\$912.00	411B603HA1AAAA	\$1116.00	411B203HA1AAAA	\$1116.00	411B403HA1AAAA	\$1644.00
230-240	1	7 1/2	27	60	411C103HB1AAAA	\$984.00	411C603HB1AAAA	\$1188.00	411C203HB1AAAA	\$1188.00	411C403HB1AAAA	\$1716.00
230-240	2	15	45	100	411D103HC1AAAA	\$1692.00	411D603HC1AAAA	\$1956.00	411D203HC1AAAA	\$1956.00	411D403HC1AAAA	\$2808.00
230-240	3	30	90	200	411E103HD1AAAA	\$2838.00	411E603HD1AAAA	\$3186.00	411E203HD1AAAA	\$3186.00	411E403HD1AAAA	\$4794.00
230-240	4	50	135	400	411F103HE1AAAA	\$5760.00	411F603HE1AAAA	\$6714.00	411F203HE1AAAA	\$6714.00	411F403HE1AAAA	\$8232.00
230-240	5	100	270	400	311G103BAA	\$10785.00	311G603BAA	\$13053.00	311G203BAA	\$13053.00	-	-
460-480	0	5	18	30	411B104H31AAAA	\$924.00	411B604H31AAAA	\$1128.00	411B204H31AAAA	\$1128.00	411B404H31AAAA	\$1656.00
460-480	1	7 1/2	27	30	411C104H31AAAA	\$984.00	411C604H31AAAA	\$1188.00	411C204H31AAAA	\$1188.00	411C404H31AAAA	\$1716.00
460-480	1	10	27	60	411C104H61AAAA	\$996.00	411C604H61AAAA	\$1200.00	411C204H61AAAA	\$1200.00	411C404H61AAAA	\$1728.00
460-480	2	15	45	60	411D104H61AAAA	\$1638.00	411D604H61AAAA	\$1902.00	411D204H61AAAA	\$1902.00	411D404H61AAAA	\$2754.00
460-480	2	25	45	100	411D104H11AAAA	\$1704.00	411D604H11AAAA	\$1968.00	411D204H11AAAA	\$1968.00	411D404H11AAAA	\$2820.00
460-480	3	30	90	100	411E104H11AAAA	\$2736.00	411E604H11AAAA	\$3084.00	411E204H11AAAA	\$3084.00	411E404H11AAAA	\$4692.00
460-480	3	50	90	200	411E104H21AAAA	\$2862.00	411E604H21AAAA	\$3210.00	411E204H21AAAA	\$3210.00	411E404H21AAAA	\$4818.00
460-480	4	60	135	200	411F104H21AAAA	\$5670.00	411F604H21AAAA	\$6624.00	411F204H21AAAA	\$6624.00	411F404H21AAAA	\$8142.00
460-480	4	100	135	400	411F104H41AAAA	\$5760.00	411F604H41AAAA	\$6714.00	411F204H41AAAA	\$6714.00	411F404H41AAAA	\$8232.00
575-600	0	5	18	30	411B105H31AAAA	\$924.00	411B605H31AAAA	\$1128.00	411B205H31AAAA	\$1128.00	411B405H31AAAA	\$1656.00
575-600	1	10	27	30	411C105H31AAAA	\$984.00	411C605H31AAAA	\$1188.00	411C205H31AAAA	\$1188.00	411C405H31AAAA	\$1716.00
575-600	2	20	45	60	411D105H61AAAA	\$1638.00	411D605H61AAAA	\$1902.00	411D205H61AAAA	\$1902.00	411D405H61AAAA	\$2754.00
575-600	2	25	45	100	411D105H11AAAA	\$1704.00	411D605H11AAAA	\$1968.00	411D205H11AAAA	\$1968.00	411D405H11AAAA	\$2820.00
575-600	3	30	90	100	411E105H11AAAA	\$2736.00	411E605H11AAAA	\$3084.00	411E205H11AAAA	\$3084.00	411E405H11AAAA	\$4692.00
575-600	3	50	90	200	411E105H21AAAA	\$2862.00	411E605H21AAAA	\$3210.00	411E205H21AAAA	\$3210.00	411E405H21AAAA	\$4818.00
575-600	4	60	135	200	411F105H21AAAA	\$5670.00	411F605H21AAAA	\$6624.00	411F205H21AAAA	\$6624.00	411F405H21AAAA	\$8142.00
575-600	4	100	135	400	411F105H41AAAA	\$5760.00	411F605H41AAAA	\$6714.00	411F205H41AAAA	\$6714.00	411F405H41AAAA	\$8232.00

- NEMA Size 0-5 starters with 115-120 Volt, 60-Hertz coils for separate control are available at listed prices. To order, replace Digits 8 & 9 of listed Product Numbers with 02. Example: CR411C108HC1AAAA with 115-120 Volt, 60-Hertz coil for separate control becomes CR411C102HC1AAAA Product Number.
- Motor full load current should not exceed continuous ampere rating of starter.
- For ordinary starting duty only.
- Fuses not included.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR311, CR411 Magnetic Starters

# Section 1

Reversing, Combination, NEMA Type 1, 3R, 12, 4/4X  
 NEMA Sizes 0-5, Fusible Disconnect Type  
 600 Volts Maximum 60 Hertz

List Price includes a holding interlock, mechanical and cross-electrical interlock on each contactor, pressure terminals for the line and load connections, plus a 3-leg block type overload relay (manual reset). All enclosures include external reset. Three heaters should be ordered as separate items. See pages 1-153 to 1-159 for selection. **List Price \$9.00 each, GO-10H.**

#### CR311/411 Reversing Fusible Disconnect – Class R Fuse Clips

Voltage (60Hz)	NEMA Size	Maximum Horsepower	Continuous Amp Rating	Fuse Clip Amp Rating	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4/4X	
					Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1
200-208	0	3	18	30	411B108RA1AAAA	\$921.00	411B608RA1AAAA	\$1125.00	411B208RA1AAAA	\$1125.00	411B408RA1AAAA	\$1653.00
200-208	1	5	27	30	411C108RA1AAAA	\$981.00	411C608RA1AAAA	\$1185.00	411C208RA1AAAA	\$1185.00	411C408RA1AAAA	\$1713.00
200-208	1	7 1/2	27	60	411C108RB1AAAA	\$993.00	411C608RB1AAAA	\$1197.00	411C208RB1AAAA	\$1197.00	411C408RB1AAAA	\$1725.00
200-208	2	10	45	60	411D108RB1AAAA	\$1629.00	411D608RB1AAAA	\$1893.00	411D208RB1AAAA	\$1893.00	411D408RB1AAAA	\$2745.00
200-208	3	20	90	100	411E108RC1AAAA	\$2724.00	411E608RC1AAAA	\$3072.00	411E208RC1AAAA	\$3072.00	411E408RC1AAAA	\$4680.00
200-208	3	25	90	200	411E108RD1AAAA	\$2856.00	411E608RD1AAAA	\$3204.00	411E208RD1AAAA	\$3204.00	411E408RD1AAAA	\$4812.00
200-208	4	40	135	200	411F108RD1AAAA	\$5664.00	411F608RD1AAAA	\$6618.00	411F208RD1AAAA	\$6618.00	411F408RD1AAAA	\$8136.00
230-240	0	3	18	30	411B103RA1AAAA	\$921.00	411B603RA1AAAA	\$1125.00	411B203RA1AAAA	\$1125.00	411B403RA1AAAA	\$1653.00
230-240	1	5	27	30	411C103RA1AAAA	\$981.00	411C603RA1AAAA	\$1185.00	411C203RA1AAAA	\$1185.00	411C403RA1AAAA	\$1713.00
230-240	1	7 1/2	27	60	411C103RB1AAAA	\$993.00	411C603RB1AAAA	\$1197.00	411C203RB1AAAA	\$1197.00	411C403RB1AAAA	\$1725.00
230-240	2	15	45	60	411D103RB1AAAA	\$1629.00	411D603RB1AAAA	\$1893.00	411D203RB1AAAA	\$1893.00	411D403RB1AAAA	\$2745.00
230-240	3	25	90	100	411E103RC1AAAA	\$2724.00	411E603RC1AAAA	\$3072.00	411E203RC1AAAA	\$3072.00	411E403RC1AAAA	\$4680.00
230-240	3	30	90	200	411E103RD1AAAA	\$2856.00	411E603RD1AAAA	\$3204.00	411E203RD1AAAA	\$3204.00	411E403RD1AAAA	\$4812.00
230-240	4	50	135	200	411F103RD1AAAA	\$5664.00	411F603RD1AAAA	\$6618.00	411F203RD1AAAA	\$6618.00	411F403RD1AAAA	\$8136.00
460-480	0	5	18	30	411B104R31AAAA	\$933.00	411B604R31AAAA	\$1137.00	411B204R31AAAA	\$1137.00	411B404R31AAAA	\$1665.00
460-480	1	10	27	30	411C104R31AAAA	\$993.00	411C604R31AAAA	\$1197.00	411C204R31AAAA	\$1197.00	411C404R31AAAA	\$1725.00
460-480	2	25	45	60	411D104R61AAAA	\$1647.00	411D604R61AAAA	\$1911.00	411D204R61AAAA	\$1911.00	411D404R61AAAA	\$2763.00
460-480	3	50	90	100	411E104R11AAAA	\$2754.00	411E604R11AAAA	\$3102.00	411E204R11AAAA	\$3102.00	411E404R11AAAA	\$4710.00
460-480	4	100	135	200	411F104R21AAAA	\$5688.00	411F604R21AAAA	\$6642.00	411F204R21AAAA	\$6642.00	411F404R21AAAA	\$8160.00
460-480	5	200	270	400	311G104FAA	\$11037.00	311G604FAA	\$13305.00	311G204FAA	\$13305.00	-	-
575-600	0	5	18	30	411B105R31AAAA	\$933.00	411B605R31AAAA	\$1137.00	411B205R31AAAA	\$1137.00	411B405R31AAAA	\$1665.00
575-600	1	10	27	30	411C105R31AAAA	\$993.00	411C605R31AAAA	\$1197.00	411C205R31AAAA	\$1197.00	411C405R31AAAA	\$1725.00
575-600	2	15	45	30	411D105R31AAAA	\$1635.00	411D605R31AAAA	\$1899.00	411D205R31AAAA	\$1899.00	411D405R31AAAA	\$2751.00
575-600	2	25	45	60	411D105R61AAAA	\$1647.00	411D605R61AAAA	\$1911.00	411D205R61AAAA	\$1911.00	411D405R61AAAA	\$2763.00
575-600	3	30	90	60	411E105R61AAAA	\$2688.00	411E605R61AAAA	\$3036.00	411E205R61AAAA	\$3036.00	411E405R61AAAA	\$4644.00
575-600	3	50	90	100	411E105R11AAAA	\$2754.00	411E605R11AAAA	\$3102.00	411E205R11AAAA	\$3102.00	411E405R11AAAA	\$4710.00
575-600	4	60	135	100	411F105R11AAAA	\$5652.00	411F605R11AAAA	\$6606.00	411F205R11AAAA	\$6606.00	411F405R11AAAA	\$8124.00
575-600	4	100	135	200	411F105R21AAAA	\$5688.00	411F605R21AAAA	\$6642.00	411F205R21AAAA	\$6642.00	411F405R21AAAA	\$8160.00
575-600	5	200	270	400	311G105FAA	\$11037.00	311G605FAA	\$13305.00	311G205FAA	\$13305.00	-	-



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR411 Magnetic Starters

Reversing, Combination, Nonfusible and Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 0-4

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																
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Steps: Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code.  
Add list price from each step to arrive at total list for price for starter.

#### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4	
	Standard Enclosure	List Price	Standard Enclosure	List Price	Standard Enclosure	List Price	Standard Enclosure	List Price
	CR	GO-10G1	CR	GO-10G1	CR	GO-10G1	CR	GO-10G1
0	411B1	\$894.00	411B6	\$1098.00	411B2	\$1098.00	411B4	\$1626.00
1	411C1	\$954.00	411C6	\$1158.00	411C2	\$1158.00	411C4	\$1686.00
2	411D1	\$1596.00	411D6	\$1860.00	411D2	\$1860.00	411D4	\$2712.00
3	411E1	\$2646.00	411E6	\$2994.00	411E2	\$2994.00	411E4	\$4602.00
4	411F1	\$5544.00	411F6	\$6498.00	411F2	\$6498.00	411F4	\$8016.00

Note: All enclosures include external overload reset buttons. NEMA 4 enclosures are stainless steel.

#### Step 2 (Digits 8, 9) Select Control Voltage (No CPT and Standard Size CPT)

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT	List Price GO-10G1	Standard Size CPT	NEMA Size				
						0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1
120V w/ Surge Protector (SP)	01	\$54.00	F1	\$132.00	-					
120V	02	\$0.00	F2	\$132.00	-					
240V	03	\$0.00	F3	\$132.00	-					
480V	04	\$0.00	F4	\$132.00	-					
600V	05	\$0.00	F5	\$132.00	-					
208V	08	\$0.00	F8	\$132.00	-					
24V <sup>1</sup>	09	\$0.00	-	-	-					
240V/120V w/CPT	-	-	-	-	93	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
480V/120V w/CPT	-	-	-	-	94	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
600V/120V w/CPT	-	-	-	-	95	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
208V/120V w/CPT	-	-	-	-	98	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
240V/120V w/CPT & SP	-	-	-	-	33	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
480V/120V w/CPT & SP	-	-	-	-	34	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
600V/120V w/CPT & SP	-	-	-	-	35	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
208V/120V w/CPT & SP	-	-	-	-	38	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
240V/24V w/CPT <sup>1</sup>	-	-	-	-	53	\$294.00	\$294.00	\$352.00	-	-
480V/24V w/CPT <sup>1</sup>	-	-	-	-	54	\$294.00	\$294.00	\$352.00	-	-
600V/24V w/CPT <sup>1</sup>	-	-	-	-	55	\$294.00	\$294.00	\$352.00	-	-
208V/24V w/CPT <sup>1</sup>	-	-	-	-	58	\$294.00	\$294.00	\$352.00	-	-

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR411 Magnetic Starters

# Section 1

Reversing, Combination, Nonfusible and Fusible Disconnect Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

#### Step 2 (Digits 8, 9) Select Control Voltage (Extra Capacity CPT + 100VA and 200VA)

Control Circuit Voltage & CPT	Standard Size CPT + 100VA	NEMA Size					Standard Size CPT + 200VA	NEMA Size					
		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1	
120V w/ Surge Protector (SP)	-						-						
120V	-						-						
240V	-						-						
480V	-						-						
600V	-						-						
208V	-						-						
24V <sup>1</sup>	-						-						
240V/120V w/CPT	13	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	23	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
480V/120V w/CPT	14	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	24	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
600V/120V w/CPT	15	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	25	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
208V/120V w/CPT	18	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	28	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
240V/120V w/CPT & SP	53	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	63	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
480V/120V w/CPT & SP	54	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	64	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
600V/120V w/CPT & SP	55	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	65	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
208V/120V w/CPT & SP	58	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	68	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
240V/24V w/CPT <sup>1</sup>	A3	\$420.00	\$420.00	\$504.00	-	-	B3	\$523.00	\$523.00	\$618.00	-	-	
480V/24V w/CPT <sup>1</sup>	A4	\$420.00	\$420.00	\$504.00	-	-	B4	\$523.00	\$523.00	\$618.00	-	-	
600V/24V w/CPT <sup>1</sup>	A5	\$420.00	\$420.00	\$504.00	-	-	B5	\$523.00	\$523.00	\$618.00	-	-	
208V/24V w/CPT <sup>1</sup>	A8	\$420.00	\$420.00	\$504.00	-	-	B8	\$523.00	\$523.00	\$618.00	-	-	

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.

#### Step 3 (Digits 10, 11) Select Protective Device

##### Disconnect without Fuse Clips

NEMA Size	Code	List Price GO-10G1
All	1A	\$0.00

##### Disconnect with Class H Fuse Clips - For use with Non-Time Delay/Single Element Class H Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	HA	\$18.00	3	30	HA	\$18.00	5	30	H3	\$30.00	5	30	H3	\$30.00
1	7 1/2	60	HB	\$30.00	7 1/2	60	HB	\$30.00	7 1/2	30	H3	\$30.00	10	30	H3	\$30.00
									10	60	H6	\$42.00	60	H6	\$42.00	
2	10	100	HC	\$96.00	15	100	HC	\$96.00	15	60	H6	\$42.00	20	60	H6	\$42.00
									25	100	H1	\$108.00	25	100	H1	\$108.00
3	25	200	HD	\$192.00	30	200	HD	\$192.00	30	100	H1	\$90.00	30	100	H1	\$90.00
									50	200	H2	\$216.00	50	200	H2	\$216.00
4	40	400	HE	\$216.00	50	400	HE	\$216.00	60	200	H2	\$126.00	60	200	H2	\$126.00
									100	400	H4	\$216.00	100	400	H4	\$216.00

##### Disconnect with Class R Fuse Clips - For use with Time Delay/Dual Element Class RK1/RK5 Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	RA	\$27.00	3	30	RA	\$27.00	5	30	R3	\$39.00	5	30	R3	\$39.00
1	5	30	RA	\$27.00	5	30	RA	\$27.00	10	30	R3	\$39.00	10	30	R3	\$39.00
									7 1/2	60	RB	\$39.00	7 1/2	60	RB	\$39.00
2	10	60	RB	\$33.00	15	60	RB	\$33.00	30	R3	\$39.00	15	30	R3	\$39.00	
									25	60	R6	\$51.00	25	60	R6	\$51.00
3	20	100	RC	\$78.00	25	100	RC	\$78.00	60	R6	\$42.00	30	60	R6	\$42.00	
									50	100	R1	\$108.00	50	100	R1	\$108.00
4	25	200	RD	\$210.00	30	200	RD	\$210.00	100	R1	\$108.00	60	100	R1	\$108.00	
									100	200	R2	\$144.00	100	200	R2	\$144.00



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic CR411 Magnetic Starters

## Section 1

Reversing, Combination, Nonfusible and Fusible Disconnect Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

### Step 3 (Digits 10, 11) Select Protective Device (continued)

#### Disconnect with Class J Fuse Clips - For use with Time Delay/Dual Element Class J Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	J3	\$48.00	3	30	J3	\$48.00	5	30	J3	\$48.00	5	30	J3	\$48.00
1	5	30	J3	\$48.00	5	30	J3	\$48.00	10	30	J3	\$48.00	10	30	J3	\$48.00
	7 1/2	60	J6	\$48.00	7 1/2	60	J6	\$48.00								
2									30	J3	\$60.00		15	30	J3	\$60.00
	10	60	J6	\$72.00	15	60	J6	\$72.00	25	60	J6	\$72.00	25	60	J6	\$72.00
									60	J6	\$96.00		30	60	J6	\$96.00
3	20	100	J1	\$162.00	25	100	J1	\$162.00	50	100	J1	\$162.00	50	100	J1	\$162.00
	25	200	J2	\$246.00	30	200	J2	\$246.00								
4									100	J1	\$210.00		60	100	J1	\$210.00
	40	200	J2	\$246.00	50	200	J2	\$246.00	100	200	J2	\$246.00	100	200	J2	\$246.00

### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (1NC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (1NO-1NC)	2	\$24.00
Thermal Bi-Metallic Ambient Compensated (1NC)	3	\$27.00
Thermal Bi-Metallic Ambient Compensated (1NO-1NC)	4	\$51.00
Solid State Overload (1NO-1NC)	(#)	\$27.00

(#) Select Code for Solid State Overload amp rating from Standard or Optional Ranges table below.

#### Solid State Overload Relay - Standard Range

NEMA Size	OL Range	200-208V		230-240V		460-480V		575-600V	
		Max Hp	Code	Max Hp	Code	Max Hp	Code	Max Hp	Code
0	0.8 - 1.7					3/4	D	1	D
	1.6 - 3.4	1/2	E	3/4	E	2	E	2	E
	3.2 - 6.8	1	F	2	F	3	F	5	F
1	6.5 - 13.5	3	G	3	G	5	G		
	6.5 - 13.5					7 1/2	G	10	G
	13 - 27	7 1/2	H	7 1/2	H	10	H		
2	13 - 27					20	H	25	H
	25 - 50	10	J	15	J	25	J		
	17 - 35							30	K
3	35 - 70	20	L	25	L	50	L	50	L
	65 - 135	25	M	30	M				
4	65 - 135	40	M	50	M	100	M	100	M

#### Optional Ranges

OL Amp Range	NEMA SIZE		
	0 & 1	2	3 & 4
0.4 - 0.85	C	-	-
0.8 - 1.7	D	-	-
1.6 - 3.4	E	-	-
3.2 - 6.8	F	-	-
6.5 - 13.5	G	G	-
13 - 27	H	H	-
25 - 50	-	J	-
17 - 35	-	-	K
35 - 70	-	-	L
65 - 135	-	-	M

### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts (per Contactor)	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$132.00
1NC	C	\$132.00
1NO-1NC	D	\$264.00
2NO	E	\$264.00
2NC	F	\$264.00



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR411 Magnetic Starters

## Section 1

Reversing, Combination, Nonfusible and Fusible Disconnect Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

#### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 190-480V (PFR w/UV)	C	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 575V (PFR w/UV)	D	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay - 208V (PFR)	E <sup>2</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 240V (PFR)	F <sup>2</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 480V (PFR)	G <sup>2</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 575V (PFR)	H <sup>2</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Elapsed Time Meter (120V/60Hz) Wired Across Coil (ETM)	I <sup>3</sup>	\$348.00	\$588.00	\$348.00	\$588.00	\$348.00	\$588.00
ETM + PFR w/UV (190-480V)	L <sup>3</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR w/UV (575V)	N <sup>3</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR (208V)	p <sup>2,3</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (240V)	Q <sup>2,3</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (480V)	R <sup>2,3</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (575V)	S <sup>2,3</sup>	\$773.00	-	\$773.00	-	\$773.00	-

<sup>2</sup>Available for Type 1 Enclosure only.

<sup>3</sup>Requires 120V Control Circuit Voltage or CPT w/ 120V Secondary.

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
FWD/REV/Stop Push Button	J	\$240.00
Up/Down/Stop Push Button	K	\$240.00
Open/CLS/Stop Push Button	L	\$240.00
HOA & FWD-REV Selector Switch	P	\$264.00
FWD-OFF-REV Selector Switch	T	\$132.00

#### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty CR104P Style)		Code	List Price GO-10G1
Type	Color - Functionality		
None		A	\$0.00
Standard Lights	Red & Amber Across Coils	K	\$324.00
	Red & Green Across Coils	L	\$324.00
	Red & Amber Across Coils & Unwired Green	X	\$486.00
LED Lights	Red & Amber Across Coils	2	\$324.00
	Red & Green Across Coils	3	\$324.00
	Red & Amber Across Coils & Unwired Green	5	\$486.00
Push-To-Test Lights	Red & Amber Across Coils	S	\$360.00
	Red & Green Across Coils	T	\$360.00
	Red & Amber Across Coils & Unwired Green	Y	\$540.00



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR411 Magnetic Starters

## Section 1

Reversing, Combination, Nonfusible and Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1 Relay, 2NO-2NC, 24/120V Coil - unwired	B <sup>4</sup>	\$306.00	\$468.00	\$306.00	\$468.00	\$480.00	\$636.00
2 Relays, 24/120V Coil - unwired	C <sup>4</sup>	\$612.00	\$936.00	\$612.00	\$936.00	\$960.00	\$1272.00
DIN Rail - for Customer Use	D	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00
12 Point Terminal Strip - unwired (12 PT Strip)	E	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00
Space Heater w/ NC Contact	H <sup>5</sup>	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00
1 Relay + 12 PT Strip	J <sup>4</sup>	\$415.00	\$577.00	\$415.00	\$577.00	\$589.00	\$745.00
2 Relays + 12 PT Strip	K <sup>4</sup>	\$721.00	\$1045.00	\$721.00	\$1045.00	\$1069.00	\$1381.00
DIN Rail + 12 PT Strip + Space Heater	L <sup>5</sup>	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00
2 Relays + 12 PT Strip + Space Heater	M <sup>4,5</sup>	\$841.00	\$1165.00	\$841.00	\$1165.00	\$1189.00	\$1501.00
Time Delay ON Relay, 24/120V Coil - unwired (TD)	N <sup>4</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
Time Delay OFF Relay, 24/120V Coil - unwired (TD)	P <sup>4</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
12 PT Strip + TD ON	R <sup>4</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + TD OFF	S <sup>4</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + Space Heater + TD ON	T <sup>4,5</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00
12 PT Strip + Space Heater + TD OFF	U <sup>4,5</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00

<sup>4</sup>Relay/Timer coil voltage is equivalent to CPT secondary voltage. Requires minimum 100 extra VA CPT option.

<sup>5</sup>Maximum number of auxiliary contacts shall be reduced by 1.

#### GENERAL NOTE:

On NEMA Size 3 & 4 starters, if selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) then control circuit fusing, a control power transformer, or 120V separate sourced control is required when the protective device is rated greater than 100 Amps.







# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR410 Magnetic Starters

## Section 1

Reversing, Combination, Thermal Magnetic Circuit Breaker Type  
 Part Number Configuration  
 Valid for NEMA sizes 0-4

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																
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Steps: Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code.  
 Add list price from each step to arrive at total list for price for starter.

#### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4	
	Standard Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1
0	410B1	\$936.00	410B6	\$1140.00	410B2	\$1140.00	410B4	\$1668.00
1	410C1	\$1008.00	410C6	\$1212.00	410C2	\$1212.00	410C4	\$1740.00
2	410D1	\$1692.00	410D6	\$1956.00	410D2	\$1956.00	410D4	\$2808.00
3	410E1	\$2736.00	410E6	\$3084.00	410E2	\$3084.00	410E4	\$4692.00
4	410F1	\$6198.00	410F6	\$7152.00	410F2	\$7152.00	410F4	\$8670.00

Note: All enclosures include external overload reset buttons. NEMA 4 enclosures are stainless steel.

#### Step 2 (Digits 8, 9) Select Control Voltage (No CPT and Standard Size CPT)

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT	List Price GO-10G1	Standard Size CPT	NEMA Size				
						0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1
120V w/ Surge Protector (SP)	01	\$54.00	F1	\$132.00	-					
120V	02	\$0.00	F2	\$132.00	-					
240V	03	\$0.00	F3	\$132.00	-					
480V	04	\$0.00	F4	\$132.00	-					
600V	05	\$0.00	F5	\$132.00	-					
208V	08	\$0.00	F8	\$132.00	-					
24V <sup>1</sup>	09	\$0.00	-	-	-					
240V/120V w/CPT	-	-	-	-	93	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
480V/120V w/CPT	-	-	-	-	94	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
600V/120V w/CPT	-	-	-	-	95	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
208V/120V w/CPT	-	-	-	-	98	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
240V/120V w/CPT & SP	-	-	-	-	33	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
480V/120V w/CPT & SP	-	-	-	-	34	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
600V/120V w/CPT & SP	-	-	-	-	35	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
208V/120V w/CPT & SP	-	-	-	-	38	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
240V/24V w/CPT <sup>1</sup>	-	-	-	-	S3	\$294.00	\$294.00	\$352.00	-	-
480V/24V w/CPT <sup>1</sup>	-	-	-	-	S4	\$294.00	\$294.00	\$352.00	-	-
600V/24V w/CPT <sup>1</sup>	-	-	-	-	S5	\$294.00	\$294.00	\$352.00	-	-
208V/24V w/CPT <sup>1</sup>	-	-	-	-	S8	\$294.00	\$294.00	\$352.00	-	-

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic CR410 Magnetic Starters

## Section 1

Reversing, Combination, Thermal Magnetic Circuit Breaker Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

### Step 2 (Digits 8, 9) Select Control Voltage (Extra Capacity CPT + 100VA and 200VA)

Control Circuit Voltage & CPT	Standard Size CPT + 100VA	NEMA Size					Standard Size CPT + 200VA	NEMA Size					
		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1	
120V w/ Surge Protector (SP)	-						-						
120V	-						-						
240V	-						-						
480V	-						-						
600V	-						-						
208V	-						-						
24V <sup>1</sup>	-						-						
240V/120V w/CPT	13	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	23	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
480V/120V w/CPT	14	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	24	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
600V/120V w/CPT	15	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	25	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
208V/120V w/CPT	18	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	28	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
240V/120V w/CPT & SP	53	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	63	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
480V/120V w/CPT & SP	54	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	64	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
600V/120V w/CPT & SP	55	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	65	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
208V/120V w/CPT & SP	58	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	68	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
240V/24V w/CPT <sup>1</sup>	A3	\$420.00	\$420.00	\$504.00	-	-	B3	\$523.00	\$523.00	\$618.00	-	-	
480V/24V w/CPT <sup>1</sup>	A4	\$420.00	\$420.00	\$504.00	-	-	B4	\$523.00	\$523.00	\$618.00	-	-	
600V/24V w/CPT <sup>1</sup>	A5	\$420.00	\$420.00	\$504.00	-	-	B5	\$523.00	\$523.00	\$618.00	-	-	
208V/24V w/CPT <sup>1</sup>	A8	\$420.00	\$420.00	\$504.00	-	-	B8	\$523.00	\$523.00	\$618.00	-	-	

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.

### Step 3 (Digits 10, 11) Select Protective Device

#### Thermal-Mag Circuit Breaker - Spectra™ Series

NEMA Size	200-208V				230-240V				460-480V				575-600V					
	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1		
0	2	15	TC	\$138.00	3	15	TC	\$138.00	5	15	TC	\$138.00	5	15	TC	\$138.00		
	3	20	TD	\$138.00		20	TD	\$138.00		20	TD	\$138.00		20	TD	\$138.00		
1	15	TC	\$138.00		15	TC	\$138.00		15	TC	\$138.00		7 1/2	15	TC	\$138.00		
	20	TD	\$138.00		20	TD	\$138.00		7 1/2	20	TD	\$138.00	10	20	TD	\$138.00		
	25	TE	\$138.00		5	25	TE	\$138.00		10	25	TE	\$138.00	25	TE	\$138.00		
	5	30	TF	\$138.00		30	TF	\$138.00		30	TF	\$138.00		30	TF	\$138.00		
	7 1/2	40	TG	\$174.00		7 1/2	40	TG	\$174.00		40	TG	\$174.00		40	TG	\$174.00	
2	30	TF	\$174.00		30	TF	\$174.00		30	TF	\$174.00		15	30	TF	\$174.00		
	40	TG	\$138.00		40	TG	\$138.00		15	40	TG	\$138.00		20	40	TG	\$138.00	
	10	50	TH	\$138.00		10	50	TH	\$138.00		20	50	TH	\$138.00	25	50	TH	\$138.00
	60	TJ	\$210.00		60	TJ	\$210.00		25	60	TJ	\$210.00		60	TJ	\$210.00		
	70	TK	\$210.00		15	70	TK	\$210.00		70	TK	\$210.00		70	TK	\$210.00		
3	50	TH	\$174.00		50	TH	\$174.00		50	TH	\$174.00		30	50	TH	\$174.00		
	60	TJ	\$0.00		60	TJ	\$0.00		30	60	TJ	\$0.00		60	TJ	\$0.00		
	70	TK	\$0.00		70	TK	\$0.00		70	TK	\$0.00		40	70	TK	\$0.00		
	15	80	TL	\$0.00		80	TL	\$0.00		40	80	TL	\$0.00		50	80	TL	\$0.00
	90	TM	\$0.00		20	90	TM	\$0.00		90	TM	\$0.00		90	TM	\$0.00		
4	20	100	TN	\$0.00		100	TN	\$0.00		50	100	TN	\$0.00		100	TN	\$0.00	
	110	TP	\$0.00		25	110	TP	\$0.00		110	TP	\$0.00		110	TP	\$0.00		
	25	125	TQ	\$630.00		30	125	TQ	\$630.00		125	TQ	\$630.00		125	TQ	\$630.00	
	100	TN	\$603.00		100	TN	\$603.00		100	TN	\$603.00		60	100	TN	\$603.00		
	125	TQ	\$0.00		125	TQ	\$0.00		60	125	TQ	\$0.00		75	125	TQ	\$0.00	
4	30	150	TR	\$0.00		150	TR	\$0.00		75	150	TR	\$0.00		100	150	TR	\$0.00
	175	TS	\$603.00		40	175	TS	\$603.00		175	TS	\$603.00		175	TS	\$603.00		
	40	200	TT	\$0.00		50	200	TT	\$0.00		100	200	TT	\$0.00		200	TT	\$0.00

### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (1NC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (1NO-1NC)	2	\$24.00
Thermal Bi-Metallic Ambient Compensated (1NC)	3	\$27.00
Thermal Bi-Metallic Ambient Compensated (1NO-1NC)	4	\$51.00
Solid State Overload (1NO-1NC)	(#)	\$27.00

(#) Select Code for Solid State Overload amp rating from Standard or Optional Ranges table on page 1-76.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR410 Magnetic Starters

## Section 1

Reversing, Combination, Thermal Magnetic Circuit Breaker Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

#### Step 4 (Digit 12) Select Overload Relay (continued)

#### Solid State Overload Relay - Standard Range

NEMA Size	OL Range	200-208V		230-240V		460-480V		575-600V	
		Max Hp	Code	Max Hp	Code	Max Hp	Code	Max Hp	Code
0	0.8 - 1.7					3/4	D	1	D
	1.6 - 3.4	1/2	E	3/4	E	2	E	2	E
	3.2 - 6.8	1	F	2	F	3	F	5	F
	6.5 - 13.5	3	G	3	G	5	G		
1	6.5 - 13.5					7 1/2	G	10	G
	13 - 27	7 1/2	H	7 1/2	H	10	H		
2	13 - 27					20	H	25	H
	25 - 50	10	J	15	J	25	J		
3	17 - 35							30	K
	35 - 70	20	L	25	L	50	L	50	L
	65 - 135	25	M	30	M				
4	65 - 135	40	M	50	M	100	M	100	M

#### Optional Ranges

OL Amp Range	NEMA SIZE		
	0 & 1	2	3 & 4
0.4 - 0.85	C	-	-
0.8 - 1.7	D	-	-
1.6 - 3.4	E	-	-
3.2 - 6.8	F	-	-
6.5 - 13.5	G	G	-
13 - 27	H	H	-
25 - 50	-	J	-
17 - 35	-	-	K
35 - 70	-	-	L
65 - 135	-	-	M

#### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts (per Contactor)	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$132.00
1NC	C	\$132.00
1NO-1NC	D	\$264.00
2NO	E	\$264.00
2NC	F	\$264.00

#### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 190-480V (PFR w/UV)	C	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 575V (PFR w/UV)	D	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay - 208V (PFR)	E <sup>2</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 240V (PFR)	F <sup>2</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 480V (PFR)	G <sup>2</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 575V (PFR)	H <sup>2</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Elapsed Time Meter (120V/60Hz) Wired Across Coil (ETM)	I <sup>3</sup>	\$348.00	\$588.00	\$348.00	\$588.00	\$348.00	\$588.00
ETM + PFR w/UV (190-480V)	L <sup>3</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR w/UV (575V)	N <sup>3</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR (208V)	p <sup>2,3</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (240V)	Q <sup>2,3</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (480V)	R <sup>2,3</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (575V)	S <sup>2,3</sup>	\$773.00	-	\$773.00	-	\$773.00	-

<sup>2</sup>Available for Type 1 Enclosure only.

<sup>3</sup>Requires 120V Control Circuit Voltage or CPT w/ 120V Secondary.

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
FWD/REV/Stop Push Button	J	\$240.00
Up/Down/Stop Push Button	K	\$240.00
Open/CLS/Stop Push Button	L	\$240.00
HOA & FWD-REV Selector Switch	P	\$264.00
FWD-OFF-REV Selector Switch	T	\$132.00



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR410 Magnetic Starters

## Section 1

Reversing, Combination, Thermal Magnetic Circuit Breaker Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

#### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty CR104P Style)		Code	List Price GO-10G1
Type	Color - Functionality		
None		A	\$0.00
Standard Lights	Red & Amber Across Coils	K	\$324.00
	Red & Green Across Coils	L	\$324.00
	Red & Amber Across Coils & Unwired Green	X	\$486.00
LED Lights	Red & Amber Across Coils	2	\$324.00
	Red & Green Across Coils	3	\$324.00
	Red & Amber Across Coils & Unwired Green	5	\$486.00
Push-To-Test Lights	Red & Amber Across Coils	S	\$360.00
	Red & Green Across Coils	T	\$360.00
	Red & Amber Across Coils & Unwired Green	Y	\$540.00

#### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1 Relay, 2NO-2NC, 24/120V Coil - unwired	B <sup>4</sup>	\$306.00	\$468.00	\$306.00	\$468.00	\$480.00	\$636.00
2 Relays, 24/120V Coil - unwired	C <sup>4</sup>	\$612.00	\$936.00	\$612.00	\$936.00	\$960.00	\$1272.00
DIN Rail - for Customer Use	D	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00
12 Point Terminal Strip - unwired (12 PT Strip)	E	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00
Space Heater w/ NC Contact	H <sup>5</sup>	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00
1 Relay + 12 PT Strip	J <sup>4</sup>	\$415.00	\$577.00	\$415.00	\$577.00	\$589.00	\$745.00
2 Relays + 12 PT Strip	K <sup>4</sup>	\$721.00	\$1045.00	\$721.00	\$1045.00	\$1069.00	\$1381.00
DIN Rail + 12 PT Strip + Space Heater	L <sup>5</sup>	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00
2 Relays + 12 PT Strip + Space Heater	M <sup>4,5</sup>	\$841.00	\$1165.00	\$841.00	\$1165.00	\$1189.00	\$1501.00
Time Delay ON Relay, 24/120V Coil - unwired (TD)	N <sup>4</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
Time Delay OFF Relay, 24/120V Coil - unwired (TD)	P <sup>4</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
12 PT Strip + TD ON	R <sup>4</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + TD OFF	S <sup>4</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + Space Heater + TD ON	T <sup>4,5</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00
12 PT Strip + Space Heater + TD OFF	U <sup>4,5</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00

<sup>4</sup>Relay/Timer coil voltage is equivalent to CPT secondary voltage. Requires minimum 100 extra VA CPT option.

<sup>5</sup>Maximum number of auxiliary contacts shall be reduced by 1.

#### GENERAL NOTE:

On NEMA Size 3 & 4 starters, if selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) then control circuit fusing, a control power transformer, or 120V separate sourced control is required when the protective device is rated greater than 100 Amps.

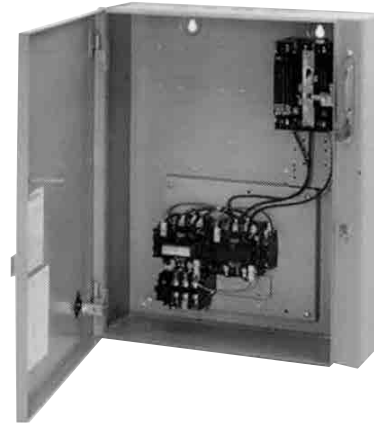


# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR390, CR490 Mag-Break Magnetic Starters

Reversing, Combination, NEMA Type 1, 3R, 12, 4/4X  
 200 Horsepower Maximum  
 NEMA Sizes 0-5  
 600 Volts Maximum 50/60Hz



NEMA Size 2 Combination Reverser in  
 NEMA Type 1 Enclosure

#### Application

Used for full-voltage starting and reversing of squirrel cage induction motors up to 200 horsepower maximum, 600 Volts maximum. Consists of Spectra™ Mag-Break motor circuit protector for branch circuit protection (Sizes 0-4), reversing controller, and three-leg block overload relay. Refer to page 1-7 for features of basic starter.

#### Features

- Spectra™ Mag-Break motor circuit protector (Sizes 0-4) – provides protection against faults and has adjustable trip.
- Meets NEC standards – continuous current ratings and adjustable instantaneous trip ranges meet NEC standards on motor full-load and locked rotor currents.
- Can eliminate nuisance tripping and provide fault protection – by setting the Mag-Break instantaneous trip point just above transient motor inrush current
- Less than one cycle clearing time – to open and clear a fault

#### Product Number Selection Instructions

1. Specify starter by complete Product Number.  
 Example: CR490D104MF1AAAAA @ **\$1830.00, GO-10G1.**
2. Order heaters by complete Product Number from appropriate heater tables on pages 1-153 to 1-159, based on motor full-load current.
3. Order forms not listed or special features by complete description using a listed Product Number as reference wherever possible.  
 Example: Similar to CR490D104MF1AAAAA except with 460/120 Volt control transformer @ **\$2182.00, GO-10G1, total list price**
4. **50 Hertz Starters**  
 Pricing for 50 Hertz forms (at standard voltages) is the same as shown in table for 60 Hertz. List prices for 460-480Volts, 60 Hertz also apply to 380-415 Volts, 50 Hertz. See page 1-4 for 380-415Volt horsepower ratings.
5. **Product Notes**  
 Motor full-load current should not exceed continuous ampere rating of starter.

#### Reference Publications

Instructions	Publication Number
NEMA Size	
0, 1	GEH-5190
2	GEH-4775
3	GEH-4806
4	GEH-4807
5	GEH-4839

#### CR390, CR490, Mag-Break Magnetic Starters – Contents

Application Information and Selection Instructions .....	1-78
Mag-Break Circuit Breaker Type (CR390, CR490) .....	1-79
Mag-Break Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR490).....	1-80
Outlines and Dimensions.....	1-84





# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR490 Mag-Break Magnetic Starters

Reversing, Combination, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																
---	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Steps: Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code.  
Add list price from each step to arrive at total list for price for starter.

#### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4	
	Standard Enclosure	List Price	Standard Enclosure	List Price	Standard Enclosure	List Price	Standard Enclosure	List Price
	CR	GO-10G1	CR	GO-10G1	CR	GO-10G1	CR	GO-10G1
0	490B1	\$1074.00	490B6	\$1278.00	490B2	\$1278.00	490B4	\$1806.00
1	490C1	\$1146.00	490C6	\$1350.00	490C2	\$1350.00	490C4	\$1878.00
2	490D1	\$1830.00	490D6	\$2094.00	490D2	\$2094.00	490D4	\$2946.00
3	490E1	\$2736.00	490E6	\$3084.00	490E2	\$3084.00	490E4	\$4692.00
4	490F1	\$6198.00	490F6	\$7152.00	490F2	\$7152.00	490F4	\$8670.00

Note: All enclosures include external overload reset buttons. NEMA 4 enclosures are stainless steel.

#### Step 2 (Digits 8, 9) Select Control Voltage (No CPT and Standard Size CPT)

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT	List Price GO-10G1	Standard Size CPT	NEMA Size				
						0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1
120V w/ Surge Protector (SP)	01	\$54.00	F1	\$132.00	-					
120V	02	\$0.00	F2	\$132.00	-					
240V	03	\$0.00	F3	\$132.00	-					
480V	04	\$0.00	F4	\$132.00	-					
600V	05	\$0.00	F5	\$132.00	-					
208V	08	\$0.00	F8	\$132.00	-					
24V <sup>1</sup>	09	\$0.00	-	-	-					
240V/120V w/CPT	-	-	-	-	93	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
480V/120V w/CPT	-	-	-	-	94	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
600V/120V w/CPT	-	-	-	-	95	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
208V/120V w/CPT	-	-	-	-	98	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
240V/120V w/CPT & SP	-	-	-	-	33	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
480V/120V w/CPT & SP	-	-	-	-	34	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
600V/120V w/CPT & SP	-	-	-	-	35	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
208V/120V w/CPT & SP	-	-	-	-	38	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
240V/24V w/CPT <sup>1</sup>	-	-	-	-	S3	\$294.00	\$294.00	\$352.00	-	-
480V/24V w/CPT <sup>1</sup>	-	-	-	-	S4	\$294.00	\$294.00	\$352.00	-	-
600V/24V w/CPT <sup>1</sup>	-	-	-	-	S5	\$294.00	\$294.00	\$352.00	-	-
208V/24V w/CPT <sup>1</sup>	-	-	-	-	S8	\$294.00	\$294.00	\$352.00	-	-

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.





# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR490 Mag-Break Magnetic Starters

Reversing, Combination, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 2 (Digits 8, 9) Select Control Voltage (Extra Capacity CPT + 100VA and 200VA)

	Standard Size	NEMA Size					Standard Size	NEMA Size				
		0	1	2	3	4		0	1	2	3	4
Control Circuit Voltage & CPT	CPT + 100VA	List Price GO-10G1	List Price GO-10G1	List Price GO-10G1	List Price GO-10G1	List Price GO-10G1	CPT + 200VA	List Price GO-10G1	List Price GO-10G1	List Price GO-10G1	List Price GO-10G1	List Price GO-10G1
120V w/ Surge Protector (SP)	-						-					
120V	-						-					
240V	-						-					
480V	-						-					
600V	-						-					
208V	-						-					
24V <sup>1</sup>	-						-					
240V/120V w/CPT	13	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	23	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
480V/120V w/CPT	14	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	24	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
600V/120V w/CPT	15	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	25	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
208V/120V w/CPT	18	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	28	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
240V/120V w/CPT & SP	53	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	63	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
480V/120V w/CPT & SP	54	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	64	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
600V/120V w/CPT & SP	55	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	65	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
208V/120V w/CPT & SP	58	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	68	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
240V/24V w/CPT <sup>1</sup>	A3	\$420.00	\$420.00	\$504.00	-	-	B3	\$523.00	\$523.00	\$618.00	-	-
480V/24V w/CPT <sup>1</sup>	A4	\$420.00	\$420.00	\$504.00	-	-	B4	\$523.00	\$523.00	\$618.00	-	-
600V/24V w/CPT <sup>1</sup>	A5	\$420.00	\$420.00	\$504.00	-	-	B5	\$523.00	\$523.00	\$618.00	-	-
208V/24V w/CPT <sup>1</sup>	A8	\$420.00	\$420.00	\$504.00	-	-	B8	\$523.00	\$523.00	\$618.00	-	-

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.

#### Step 3 (Digits 10, 11) Select Protective Device

#### Mag-Break Circuit Breaker - Spectra™ Series

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1
0	3	MA	\$0.00	1/2	3	MA	\$0.00	1	3	MA	\$0.00	1	3	MA	\$0.00	
	1	7	MB	\$0.00	1	7	MB	\$0.00	3	7	MB	\$0.00	3	7	MB	\$0.00
	3	15	MC	\$0.00	3	15	MC	\$0.00	5	15	MC	\$0.00	5	15	MC	\$0.00
1	15	MC	\$0.00	15	MC	\$0.00	7 1/2	15	MC	\$0.00	10	15	MC	\$0.00		
	20	MD	\$0.00	20	MD	\$0.00	10	20	MD	\$0.00	20	20	MD	\$0.00		
	5	25	ME	\$0.00	5	25	ME	\$0.00	25	25	ME	\$0.00	25	25	ME	\$0.00
	30	MF	\$0.00	7 1/2	30	MF	\$0.00	30	30	MF	\$0.00	30	30	MF	\$0.00	
2	7 1/2	40	MG	\$0.00	40	MG	\$0.00	40	40	MG	\$0.00	40	40	MG	\$0.00	
	25	ME	\$0.00	25	ME	\$0.00	25	25	ME	\$0.00	15	25	ME	\$0.00		
	30	MF	\$0.00	30	MF	\$0.00	15	30	MF	\$0.00	20	30	MF	\$0.00		
	40	MG	\$0.00	10	40	MG	\$0.00	20	40	MG	\$0.00	25	40	MG	\$0.00	
	10	50	MH	\$0.00	50	MH	\$0.00	25	50	MH	\$0.00	50	50	MH	\$0.00	
3	60	MJ	\$0.00	15	60	MJ	\$0.00	60	60	MJ	\$0.00	60	60	MJ	\$0.00	
	40	MG	\$0.00	40	MG	\$0.00	40	40	MG	\$0.00	30	40	MG	\$0.00		
	50	MH	\$0.00	50	MH	\$0.00	30	50	MH	\$0.00	50	50	MH	\$0.00		
	60	MJ	\$0.00	60	MJ	\$0.00	60	60	MJ	\$0.00	40	60	MJ	\$0.00		
	15	70	MK	\$0.00	20	70	MK	\$0.00	40	70	MK	\$0.00	50	70	MK	\$0.00
	20	80	ML	\$0.00	80	ML	\$0.00	80	80	ML	\$0.00	80	80	ML	\$0.00	
4	90	MM	\$0.00	25	90	MM	\$0.00	50	90	MM	\$0.00	90	90	MM	\$0.00	
	25	100	MN	\$0.00	30	100	MN	\$0.00	100	100	MN	\$0.00	100	100	MN	\$0.00
	80	ML	\$0.00	80	ML	\$0.00	80	80	ML	\$0.00	60	80	ML	\$0.00		
	100	MN	\$0.00	100	MN	\$0.00	60	100	MN	\$0.00	75	100	MN	\$0.00		
4	30	125	MQ	\$0.00	125	MQ	\$0.00	75	125	MQ	\$0.00	125	125	MQ	\$0.00	
	40	150	MR	\$0.00	40	150	MR	\$0.00	150	150	MR	\$0.00	100	150	MR	\$0.00
	175	MS	\$0.00	50	175	MS	\$0.00	100	175	MS	\$0.00	175	175	MS	\$0.00	



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR490 Mag-Break Magnetic Starters

Reversing, Combination, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (1NC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (1NO-1NC)	2	\$24.00
Thermal Bi-Metallic Ambient Compensated (1NC)	3	\$27.00
Thermal Bi-Metallic Ambient Compensated (1NO-1NC)	4	\$51.00
Solid State Overload (1NO-1NC)	(#)	\$27.00

(#) Select Code for Solid State Overload amp rating from Standard or Optional Ranges table below.

#### Solid State Overload Relay - Standard Range

NEMA Size	OL Range	200-208V		230-240V		460-480V		575-600V	
		Max Hp	Code	Max Hp	Code	Max Hp	Code	Max Hp	Code
0	0.8 - 1.7					3/4	D	1	D
	1.6 - 3.4	1/2	E	3/4	E	2	E	2	E
	3.2 - 6.8	1	F	2	F	3	F	5	F
	6.5 - 13.5	3	G	3	G	5	G		
1	6.5 - 13.5					7 1/2	G	10	G
	13 - 27	7 1/2	H	7 1/2	H	10	H		
2	13 - 27					20	H	25	H
	25 - 50	10	J	15	J	25	J		
3	17 - 35							30	K
	35 - 70	20	L	25	L	50	L	50	L
	65 - 135	25	M	30	M				
	65 - 135	40	M	50	M	100	M	100	M

#### Optional Ranges

OL Amp Range	NEMA SIZE		
	0 & 1	2	3 & 4
0.4 - 0.85	C	-	-
0.8 - 1.7	D	-	-
1.6 - 3.4	E	-	-
3.2 - 6.8	F	-	-
6.5 - 13.5	G	G	-
13 - 27	H	H	-
25 - 50	-	J	-
17 - 35	-	-	K
35 - 70	-	-	L
65 - 135	-	-	M

#### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$132.00
1NC	C	\$132.00
1NO-1NC	D	\$264.00
2NO	E	\$264.00
2NC	F	\$264.00

#### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 190-480V (PFR w/UV)	C	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 575V (PFR w/UV)	D	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay - 208V (PFR)	E <sup>2</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 240V (PFR)	F <sup>2</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 480V (PFR)	G <sup>2</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 575V (PFR)	H <sup>2</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Elapsed Time Meter (120V/60Hz) Wired Across Coil (ETM)	I <sup>3</sup>	\$348.00	\$588.00	\$348.00	\$588.00	\$348.00	\$588.00
ETM + PFR w/UV (190-480V)	L <sup>3</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR w/UV (575V)	N <sup>3</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR (208V)	p <sup>2,3</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (240V)	Q <sup>2,3</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (480V)	R <sup>2,3</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (575V)	S <sup>2,3</sup>	\$773.00	-	\$773.00	-	\$773.00	-

<sup>2</sup>Available for Type 1 Enclosure only.

<sup>3</sup>Requires 120V Control Circuit Voltage or CPT w/ 120V Secondary.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR490 Mag-Break Magnetic Starters

Reversing, Combination, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
FWD/REV/Stop Push Button	J	\$240.00
Up/Down/Stop Push Button	K	\$240.00
Open/CLS/Stop Push Button	L	\$240.00
HOA & FWD-REV Selector Switch	P	\$264.00
FWD-OFF-REV Selector Switch	T	\$132.00

#### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty CR104P Style)			List Price GO-10G1
Type	Color - Functionality	Code	
None		A	\$0.00
Standard Lights	Red & Amber Across Coils	K	\$324.00
	Red & Green Across Coils	L	\$324.00
	Red & Amber Across Coils & Unwired Green	X	\$486.00
LED Lights	Red & Amber Across Coils	Z	\$324.00
	Red & Green Across Coils	3	\$324.00
	Red & Amber Across Coils & Unwired Green	5	\$486.00
Push-To-Test Lights	Red & Amber Across Coils	S	\$360.00
	Red & Green Across Coils	T	\$360.00
	Red & Amber Across Coils & Unwired Green	Y	\$540.00

#### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1 Relay, 2NO-2NC, 24/120V Coil - unwired	B <sup>4</sup>	\$306.00	\$468.00	\$306.00	\$468.00	\$480.00	\$636.00
2 Relays, 24/120V Coil - unwired	C <sup>4</sup>	\$612.00	\$936.00	\$612.00	\$936.00	\$960.00	\$1272.00
DIN Rail - for Customer Use	D	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00
12 Point Terminal Strip - unwired (12 PT Strip)	E	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00
Space Heater w/ NC Contact	H <sup>5</sup>	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00
1 Relay + 12 PT Strip	J <sup>4</sup>	\$415.00	\$577.00	\$415.00	\$577.00	\$589.00	\$745.00
2 Relays + 12 PT Strip	K <sup>4</sup>	\$721.00	\$1045.00	\$721.00	\$1045.00	\$1069.00	\$1381.00
DIN Rail + 12 PT Strip + Space Heater	L <sup>5</sup>	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00
2 Relays + 12 PT Strip + Space Heater	M <sup>4,5</sup>	\$841.00	\$1165.00	\$841.00	\$1165.00	\$1189.00	\$1501.00
Time Delay ON Relay, 24/120V Coil - unwired (TD)	N <sup>4</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
Time Delay OFF Relay, 24/120V Coil - unwired (TD)	P <sup>4</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
12 PT Strip + TD ON	R <sup>4</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + TD OFF	S <sup>4</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + Space Heater + TD ON	T <sup>4,5</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00
12 PT Strip + Space Heater + TD OFF	U <sup>4,5</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00

<sup>4</sup>Relay/Timer coil voltage is equivalent to CPT secondary voltage. Requires minimum 100 extra VA CPT option.

<sup>5</sup>Maximum number of auxiliary contacts shall be reduced by 1.

#### GENERAL NOTE:

If selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) control circuit fusing, a control power transformer, or 24V/120V separate sourced control is required, regardless of protective device rating.



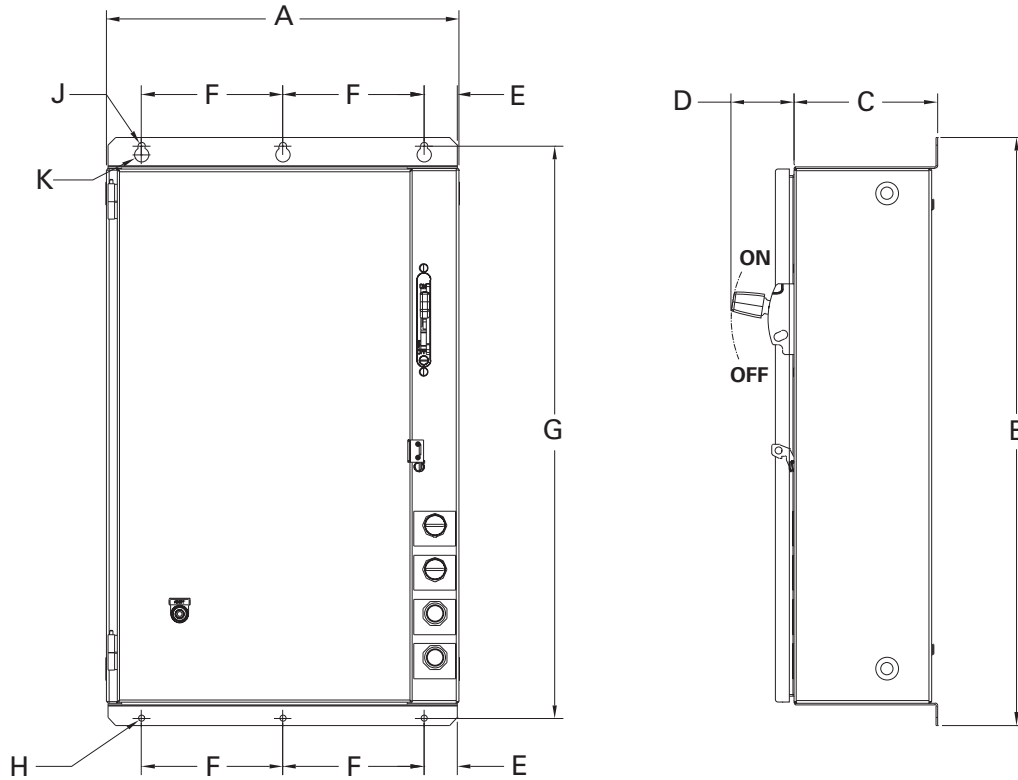
# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR410, CR411, CR490 Magnetic Starters

## Section 1

Reversing, Combination, NEMA Type 1, 3R, 12, 4/4X  
 200 Horsepower Maximum  
 NEMA Sizes 0-4  
 600 Volts Maximum 50/60 Hertz  
 Outlines, Dimensions in. (mm)



### NEMA Type 1 Enclosure

(Enclosure Code = 1)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	19.78 (502.4)	33.32 (846.3)	8.14 (206.7)	3.56 (90.4)	1.89 (48.0)	8.00 (203.2)	32.44 (824.0)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3-4	23.00 (584.2)	53.82 (1367)	8.14 (206.7)	3.73 (94.6)	3.39 (86.1)	8.00 (203.2)	52.94 (1344.7)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)

### NEMA Type 3R/12 Enclosure

(Enclosure Code = 6 or 2)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	20.00 (508.0)	33.25 (844.6)	8.20 (208.2)	3.48 (88.5)	1.91 (48.5)	8.00 (203.2)	32.13 (816.0)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3-4	23.00 (584.2)	53.82 (1367.0)	8.20 (208.2)	3.50 (88.8)	3.41 (86.6)	8.00 (203.2)	52.70 (1338.5)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)

### NEMA Type 4/4X Enclosure

(Enclosure Code = 4)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	20.00 (508.0)	33.32 (846.3)	8.14 (206.7)	3.72 (94.6)	1.91 (48.5)	8.00 (203.2)	32.20 (817.8)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3-4	23.00 (584.2)	53.76 (1365.5)	8.14 (206.7)	3.55 (90.2)	3.41 (86.6)	8.00 (203.2)	52.64 (1336.9)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)



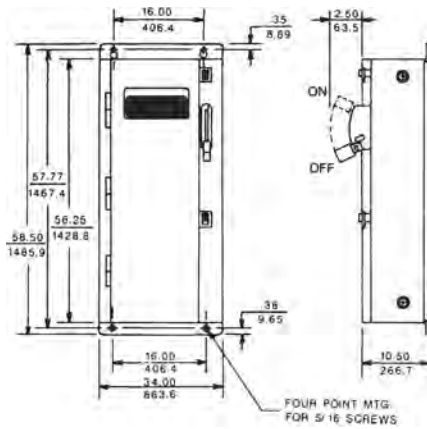
# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR310, CR311, CR390 Magnetic Starters

## Section 1

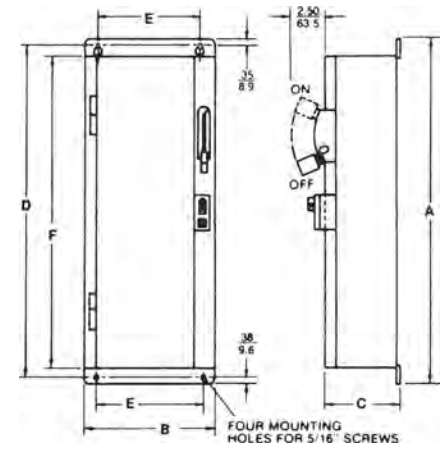
Reversing, Combination, NEMA Type 1, 3R, 12, 4/4X  
 200 Horsepower Maximum  
 NEMA Size 5  
 600 Volts Maximum 50/60 Hertz  
 Outlines, Dimensions in. (mm)



NEMA Type 1, CR310, CR311, CR390, Size 5

### CR310, CR311 and CR390 NEMA Type 12 NEMA Size 5

NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F
5	58.50 (1485.9)	34.00 (863.6)	10.50 (266.7)	57.77 (1467.4)	16.00 (406.4)	56.25 (1428.8)



NEMA Type 12, CR310, CR311, CR390; Size 5



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR412, CR413, CR492 Magnetic Two-speed Controllers

2 Speed – 1 Winding, Combination, NEMA Type 1, 3R, 12, 4/4X

100 Horsepower Maximum

NEMA Sizes 0-4

600 Volts Maximum 50/60Hz

#### Application

Used for variable torque, constant torque, or constant horsepower full-voltage 2 speed – 1 winding motors up to 100 horsepower maximum, 600 Volts maximum. Consists of fusible or non-fusible disconnect or circuit breaker to provide disconnecting means and/or branch circuit protection, one 5-pole and one 3-pole contactors, and quantity 2 three-leg block overload relay.

#### Product Number Selection Instructions

1. Specify starter by complete Product Number.  
Example: CR413C1041A1AAAAA @ **\$1560.00, GO-10G1.**
2. Order heaters by complete Product Number from appropriate heater tables on pages 1-153 to 1-159, based on motor full-load current.
3. For information on forms not listed or special features contact nearest GE Representative.
4. **Product Notes**  
Motor full-load current should not exceed continuous ampere rating of starter.

#### CR412, CR413, CR492 Magnetic Two-speed Controllers – Contents

Application Information and Selection Instructions .....	1-86
Nonfusible Disconnect Type (CR413).....	1-87
Fusible Disconnect Type (CR413).....	1-88
Nonfusible and Fusible Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR413).....	1-89
Thermal Magnetic Circuit Breaker Type (CR412) .....	1-94
Thermal Magnetic Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR412).....	1-95
Mag-Break Circuit Breaker Type (CR492).....	1-99
Mag-Break Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR492) .....	1-100
Outlines and Dimensions .....	1-122



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

# Section 1

### CR413 Magnetic Starters

2 Speed – 1 Winding, Combination, NEMA Type 1, 3R, 12, 4/4X

NEMA Sizes 0-4, Nonfusible Disconnect Type

600 Volts Maximum 60 Hertz

List Price includes a holding interlock, pressure terminals for the line and load connections, one 5-pole and one 3-pole contactor with mechanical and cross electrical interlock on each contactor, plus two 3-leg block type overload relays (manual reset). All enclosures include external reset. Six heaters should be ordered as separate items. See pages 1-153 to 1-159 for selection. **List price \$9.00 each, GO-10H.**

#### CR413 2 Speed – 1 Winding Nonfusible Disconnect Type

Voltage (60Hz)	NEMA Size	Maximum Horsepower	Continuous Amp Rating	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4/4X	
				Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1
200-208	0	3	18	413B1081A1AAAAA	\$1488.00	413B6081A1AAAAA	\$1686.00	413B2081A1AAAAA	\$1686.00	413B4081A1AAAAA	\$2424.00
200-208	1	7 1/2	27	413C1081A1AAAAA	\$1560.00	413C6081A1AAAAA	\$1758.00	413C2081A1AAAAA	\$1758.00	413C4081A1AAAAA	\$2484.00
200-208	2	10	45	413D1081A1AAAAA	\$2532.00	413D6081A1AAAAA	\$2844.00	413D2081A1AAAAA	\$2844.00	413D4081A1AAAAA	\$3684.00
200-208	3	25	90	413E1081A1AAAAA	\$3648.00	413E6081A1AAAAA	\$4332.00	413E2081A1AAAAA	\$4332.00	413E4081A1AAAAA	\$5616.00
200-208	4	40	135	413F1081A1AAAAA	\$8568.00	413F6081A1AAAAA	\$10524.00	413F2081A1AAAAA	\$10524.00	413F4081A1AAAAA	\$11664.00
230-240	0	3	18	413B1031A1AAAAA	\$1488.00	413B6031A1AAAAA	\$1686.00	413B2031A1AAAAA	\$1686.00	413B4031A1AAAAA	\$2424.00
230-240	1	7 1/2	27	413C1031A1AAAAA	\$1560.00	413C6031A1AAAAA	\$1758.00	413C2031A1AAAAA	\$1758.00	413C4031A1AAAAA	\$2484.00
230-240	2	15	45	413D1031A1AAAAA	\$2532.00	413D6031A1AAAAA	\$2844.00	413D2031A1AAAAA	\$2844.00	413D4031A1AAAAA	\$3684.00
230-240	3	30	90	413E1031A1AAAAA	\$3648.00	413E6031A1AAAAA	\$4332.00	413E2031A1AAAAA	\$4332.00	413E4031A1AAAAA	\$5616.00
230-240	4	50	135	413F1031A1AAAAA	\$8568.00	413F6031A1AAAAA	\$10524.00	413F2031A1AAAAA	\$10524.00	413F4031A1AAAAA	\$11664.00
460-480	0	5	18	413B1041A1AAAAA	\$1488.00	413B6041A1AAAAA	\$1686.00	413B2041A1AAAAA	\$1686.00	413B4041A1AAAAA	\$2424.00
460-480	1	10	27	413C1041A1AAAAA	\$1560.00	413C6041A1AAAAA	\$1758.00	413C2041A1AAAAA	\$1758.00	413C4041A1AAAAA	\$2484.00
460-480	2	25	45	413D1041A1AAAAA	\$2532.00	413D6041A1AAAAA	\$2844.00	413D2041A1AAAAA	\$2844.00	413D4041A1AAAAA	\$3684.00
460-480	3	50	90	413E1041A1AAAAA	\$3648.00	413E6041A1AAAAA	\$4332.00	413E2041A1AAAAA	\$4332.00	413E4041A1AAAAA	\$5616.00
460-480	4	100	135	413F1041A1AAAAA	\$8568.00	413F6041A1AAAAA	\$10524.00	413F2041A1AAAAA	\$10524.00	413F4041A1AAAAA	\$11664.00
575-600	0	5	18	413B1051A1AAAAA	\$1488.00	413B6051A1AAAAA	\$1686.00	413B2051A1AAAAA	\$1686.00	413B4051A1AAAAA	\$2424.00
575-600	1	10	27	413C1051A1AAAAA	\$1560.00	413C6051A1AAAAA	\$1758.00	413C2051A1AAAAA	\$1758.00	413C4051A1AAAAA	\$2484.00
575-600	2	25	45	413D1051A1AAAAA	\$2532.00	413D6051A1AAAAA	\$2844.00	413D2051A1AAAAA	\$2844.00	413D4051A1AAAAA	\$3684.00
575-600	3	50	90	413E1051A1AAAAA	\$3648.00	413E6051A1AAAAA	\$4332.00	413E2051A1AAAAA	\$4332.00	413E4051A1AAAAA	\$5616.00
575-600	4	100	135	413F1051A1AAAAA	\$8568.00	413F6051A1AAAAA	\$10524.00	413F2051A1AAAAA	\$10524.00	413F4051A1AAAAA	\$11664.00

- NEMA Size 0-4 starters with 115-120 Volt, 60-Hertz coils for separate control are available at listed prices. To order, replace Digits 8 & 9 of listed Product Numbers with 02.  
Example: CR413B1051A1AAAAA with 115-120 Volt, 60-Hertz coil for separate control becomes CR413B1021A1AAAAA Product Number.
- Motor full load current should not exceed continuous ampere rating of starter.







# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR413 Magnetic Starters

2 Speed – 1 Winding, Nonfusible and Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 0-4

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																	
Steps:				Step 1	Step 2				Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9			

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code.  
Add list price from each step to arrive at total list for price for starter.

#### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4	
	Standard Enclosure	List Price	Standard Enclosure	List Price	Standard Enclosure	List Price	Standard Enclosure	List Price
	CR	GO-10G1	CR	GO-10G1	CR	GO-10G1	CR	GO-10G1
0	413B1	\$1488.00	413B6	\$1686.00	413B2	\$1686.00	413B4	\$2424.00
1	413C1	\$1560.00	413C6	\$1758.00	413C2	\$1758.00	413C4	\$2484.00
2	413D1	\$2532.00	413D6	\$2844.00	413D2	\$2844.00	413D4	\$3684.00
3	413E1	\$3648.00	413E6	\$4332.00	413E2	\$4332.00	413E4	\$5616.00
4	413F1	\$8568.00	413F6	\$10524.00	413F2	\$10524.00	413F4	\$11664.00

Note: All enclosures include external overload reset buttons. NEMA 4 enclosures are stainless steel.

#### Step 2 (Digits 8, 9) Select Control Voltage (No CPT and Standard Size CPT)

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT	List Price GO-10G1	Standard Size CPT	NEMA Size				
						0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1
120V w/ Surge Protector (SP)	01	\$54.00	F1	\$132.00	-					
120V	02	\$0.00	F2	\$132.00	-					
240V	03	\$0.00	F3	\$132.00	-					
480V	04	\$0.00	F4	\$132.00	-					
600V	05	\$0.00	F5	\$132.00	-					
208V	08	\$0.00	F8	\$132.00	-					
24V <sup>1</sup>	09	\$0.00	-	-	-					
240V/120V w/CPT	-	-	-	-	93	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
480V/120V w/CPT	-	-	-	-	94	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
600V/120V w/CPT	-	-	-	-	95	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
208V/120V w/CPT	-	-	-	-	98	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
240V/120V w/CPT & SP	-	-	-	-	33	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
480V/120V w/CPT & SP	-	-	-	-	34	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
600V/120V w/CPT & SP	-	-	-	-	35	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
208V/120V w/CPT & SP	-	-	-	-	38	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
240V/24V w/CPT <sup>1</sup>	-	-	-	-	S3	\$294.00	\$294.00	\$352.00	-	-
480V/24V w/CPT <sup>1</sup>	-	-	-	-	S4	\$294.00	\$294.00	\$352.00	-	-
600V/24V w/CPT <sup>1</sup>	-	-	-	-	S5	\$294.00	\$294.00	\$352.00	-	-
208V/24V w/CPT <sup>1</sup>	-	-	-	-	S8	\$294.00	\$294.00	\$352.00	-	-

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR413 Magnetic Starters

## Section 1

2 Speed - 1 Winding, Nonfusible and Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 2 (Digits 8, 9) Select Control Voltage (Extra Capacity CPT + 100VA and 200VA)

Control Circuit Voltage & CPT	Standard Size CPT + 100VA	NEMA Size					Standard Size CPT + 200VA	NEMA Size				
		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1
120V w/ Surge Protector (SP)	-						-					
120V	-						-					
240V	-						-					
480V	-						-					
600V	-						-					
208V	-						-					
24V <sup>1</sup>	-						-					
240V/120V w/CPT	13	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	23	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
480V/120V w/CPT	14	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	24	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
600V/120V w/CPT	15	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	25	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
208V/120V w/CPT	18	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	28	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
240V/120V w/CPT & SP	53	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	63	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
480V/120V w/CPT & SP	54	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	64	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
600V/120V w/CPT & SP	55	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	65	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
208V/120V w/CPT & SP	58	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	68	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
240V/24V w/CPT <sup>1</sup>	A3	\$420.00	\$420.00	\$504.00	-	-	B3	\$523.00	\$523.00	\$618.00	-	-
480V/24V w/CPT <sup>1</sup>	A4	\$420.00	\$420.00	\$504.00	-	-	B4	\$523.00	\$523.00	\$618.00	-	-
600V/24V w/CPT <sup>1</sup>	A5	\$420.00	\$420.00	\$504.00	-	-	B5	\$523.00	\$523.00	\$618.00	-	-
208V/24V w/CPT <sup>1</sup>	A8	\$420.00	\$420.00	\$504.00	-	-	B8	\$523.00	\$523.00	\$618.00	-	-

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.

#### Step 3 (Digits 10, 11) Select Protective Device

##### Disconnect without Fuse Clips

NEMA Size	Code	List Price GO-10G1
All	1A	\$0.00

##### Disconnect with Class H Fuse Clips - For use with Non-Time Delay/Single Element Class H Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	HA	\$96.00	3	30	HA	\$96.00	5	30	H3	\$96.00	5	30	H3	\$96.00
1	7 1/2	60	HB	\$96.00	7 1/2	60	HB	\$96.00	7 1/2	30	H3	\$96.00	10	30	H3	\$96.00
									10	60	H6	\$96.00		60	H6	\$96.00
2	10	100	HC	\$174.00	15	100	HC	\$174.00	15	60	H6	\$48.00	20	60	H6	\$48.00
									25	100	H1	\$174.00	25	100	H1	\$174.00
3	25	200	HD	\$312.00	30	200	HD	\$312.00	30	100	H1	\$72.00	30	100	H1	\$72.00
									50	200	H2	\$312.00	50	200	H2	\$312.00
4	40	400	HE	\$540.00	50	400	HE	\$540.00	60	200	H2	\$216.00	60	200	H2	\$216.00
									100	400	H4	\$216.00	100	400	H4	\$216.00

##### Disconnect with Class R Fuse Clips - For use with Time Delay/Dual Element Class RK1/RK5 Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	RA	\$105.00	3	30	RA	\$105.00	5	30	R3	\$105.00	5	30	R3	\$105.00
1	5	30	RA	\$105.00	5	30	RA	\$105.00	10	30	R3	\$105.00	10	30	R3	\$105.00
	7 1/2	60	RB	\$105.00	7 1/2	60	RB	\$105.00								
2									30	30	R3	\$57.00	15	30	R3	\$57.00
	10	60	RB	\$57.00	15	60	RB	\$57.00	25	60	R6	\$57.00	25	60	R6	\$57.00
									60	60	R6	\$66.00	30	60	R6	\$66.00
3	20	100	RC	\$90.00	25	100	RC	\$90.00	50	100	R1	\$90.00	50	100	R1	\$90.00
	25	200	RD	\$330.00	30	200	RD	\$330.00								
4									100	100	R1	\$90.00	60	100	R1	\$90.00
	40	200	RD	\$234.00	50	200	RD	\$234.00	100	200	R2	\$234.00	100	200	R2	\$234.00



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR413 Magnetic Starters

2 Speed - 1 Winding, Nonfusible and Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 3 (Digits 10, 11) Select Protective Device (continued)

Disconnect with Class J Fuse Clips - For use with Time Delay/Dual Element Class J Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	J3	\$114.00	3	30	J3	\$114.00	5	30	J3	\$114.00	5	30	J3	\$114.00
1	5	30	J3	\$114.00	5	30	J3	\$114.00	10	30	J3	\$114.00	10	30	J3	\$114.00
	7 1/2	60	J6	\$114.00	7 1/2	60	J6	\$114.00								
2									30	J3	\$78.00		15	30	J3	\$78.00
	10	60	J6	\$78.00	15	60	J6	\$78.00	25	60	J6	\$78.00	25	60	J6	\$78.00
									60	J6	\$120.00		30	60	J6	\$120.00
3	20	100	J1	\$144.00	25	100	J1	\$144.00	50	100	J1	\$144.00	50	100	J1	\$144.00
	25	200	J2	\$384.00	30	200	J2	\$384.00								
4									100	J1	\$192.00		60	100	J1	\$192.00
	40	200	J2	\$336.00	50	200	J2	\$336.00	100	200	J2	\$336.00	100	200	J2	\$336.00

#### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (1NC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (1NO-1NC)	2	\$48.00
Thermal Bi-Metallic Ambient Compensated (1NC)	3	\$54.00
Thermal Bi-Metallic Ambient Compensated (1NO-1NC)	4	\$102.00
Solid State Overload (1NO-1NC)	(#)	\$54.00

(#) Select Code for Solid State Overload amp rating from table below.

#### 2-Speed Solid State Overload Ranges

Code	NEMA SIZE					
	0 & 1		2		3 & 4	
	Hi Amp	Lo Amp	Hi Amp	Lo Amp	Hi Amp	Lo Amp
C	0.4 - 0.85	0.4 - 0.85	6.5 - 13.5	6.5 - 13.5	17 - 35	17 - 35
D	0.8 - 1.7	0.4 - 0.85	13 - 27	6.5 - 13.5	35 - 70	17 - 35
E	0.8 - 1.7	0.8 - 1.7	13 - 27	13 - 27	35 - 70	35 - 70
F	1.6 - 3.4	0.4 - 0.85	25 - 50	6.5 - 13.5	65 - 135	17 - 35
G	1.6 - 3.4	0.8 - 1.7	25 - 50	13 - 27	65 - 135	35 - 70
H	1.6 - 3.4	1.6 - 3.4	25 - 50	25 - 50	65 - 135	65 - 135
U	3.2 - 6.8	0.8 - 1.7	-	-	-	-
K	3.2 - 6.8	1.6 - 3.4	-	-	-	-
L	3.2 - 6.8	3.2 - 6.8	-	-	-	-
M	6.5 - 13.5	1.6 - 3.4	-	-	-	-
V	6.5 - 13.5	3.2 - 6.8	-	-	-	-
W	6.5 - 13.5	6.5 - 13.5	-	-	-	-
R	13 - 27	3.2 - 6.8	-	-	-	-
S	13 - 27	6.5 - 13.5	-	-	-	-
T	13 - 27	13 - 27	-	-	-	-

#### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts (per Contactor)	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$132.00
1NC	C	\$132.00
1NO-1NC	D <sup>2</sup>	\$264.00
2NO	E <sup>2</sup>	\$264.00
2NC	F <sup>2</sup>	\$264.00

<sup>2</sup>Not available on 2 speed - 1 winding sizes 0-1.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR413 Magnetic Starters

## Section 1

2 Speed - 1 Winding, Nonfusible and Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 190-480V (PFR w/UV)	C	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 575V (PFR w/UV)	D	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay - 208V (PFR)	E <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 240V (PFR)	F <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 480V (PFR)	G <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 575V (PFR)	H <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Elapsed Time Meter (120V/60Hz) Wired Across Coil (ETM)	I <sup>4</sup>	\$348.00	\$588.00	\$348.00	\$588.00	\$348.00	\$588.00
ETM + PFR w/UV (190-480V)	L <sup>4</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR w/UV (575V)	N <sup>4</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR (208V)	P <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (240V)	Q <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (480V)	R <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (575V)	S <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-

<sup>3</sup>Available for Type 1 Enclosure only.

<sup>4</sup>Requires 120V Control Circuit Voltage or CPT w/ 120V Secondary.

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
Fast/Slow/Stop Push Button	J	\$240.00
High/Low/Off Push Button	K	\$240.00
High/Low Push Button & HOA Selector Switch	L	\$264.00
Fast/Slow Push Button & HOA Selector Switch	M	\$264.00
HOA & Slow/Fast Selector Switches	P	\$264.00
HOA & Low/High Selector Switches	R	\$264.00
Slow-Off-Fast Selector Switch	T	\$132.00
Low-Off-High Selector Switch	U	\$132.00
Fast-Slow-Off-Auto Selector Switch	V	\$150.00
High-Low-Off-Auto Selector Switch	W	\$150.00

#### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty CR104P Style)		Code	List Price GO-10G1
Type	Color - Functionality		
None		A	\$0.00
Standard Lights	Red & Amber Across Coils	K	\$324.00
	Red & Green Across Coils	L	\$324.00
	Red & Amber Across Coils & Unwired Green	X	\$486.00
LED Lights	Red & Amber Across Coils	2	\$324.00
	Red & Green Across Coils	3	\$324.00
	Red & Amber Across Coils & Unwired Green	5	\$486.00
Push-To-Test Lights	Red & Amber Across Coils	S	\$360.00
	Red & Green Across Coils	T	\$360.00
	Red & Amber Across Coils & Unwired Green	Y	\$540.00



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR413 Magnetic Starters

2 Speed – 1 Winding, Nonfusible and Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1 Relay, 2NO-2NC, 24/120V Coil - unwired	B <sup>5</sup>	\$306.00	\$468.00	\$306.00	\$468.00	\$480.00	\$636.00
2 Relays, 24/120V Coil - unwired	C <sup>5</sup>	\$612.00	\$936.00	\$612.00	\$936.00	\$960.00	\$1272.00
DIN Rail - for Customer Use	D	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00
12 Point Terminal Strip - unwired (12 PT Strip)	E	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00
Space Heater w/ NC Contact	H <sup>6</sup>	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00
1 Relay + 12 PT Strip	J <sup>5</sup>	\$415.00	\$577.00	\$415.00	\$577.00	\$589.00	\$745.00
2 Relays + 12 PT Strip	K <sup>5</sup>	\$721.00	\$1045.00	\$721.00	\$1045.00	\$1069.00	\$1381.00
DIN Rail + 12 PT Strip + Space Heater	L <sup>6</sup>	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00
2 Relays + 12 PT Strip + Space Heater	M <sup>5,6</sup>	\$841.00	\$1165.00	\$841.00	\$1165.00	\$1189.00	\$1501.00
Time Delay ON Relay, 24/120V Coil - unwired (TD)	N <sup>5</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
Time Delay OFF Relay, 24/120V Coil - unwired (TD)	P <sup>5</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
12 PT Strip + TD ON	R <sup>5</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + TD OFF	S <sup>5</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + Space Heater + TD ON	T <sup>5,6</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00
12 PT Strip + Space Heater + TD OFF	U <sup>5,6</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00

<sup>5</sup>Relay/Timer coil voltage is equivalent to CPT secondary voltage. Requires minimum 100 extra VA CPT option.

<sup>6</sup>Maximum number of auxiliary contacts shall be reduced by 1.

#### GENERAL NOTE:

On NEMA Size 3 & 4 starters, if selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) then control circuit fusing, a control power transformer, or 120V separate sourced control is required when the protective device is rated greater than 100 Amps.





# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR412 Magnetic Starters

2 Speed – 1 Winding, Thermal Magnetic Circuit Breaker

Part Number Configuration

Valid for NEMA sizes 0-4

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																
Steps:			Step 1	Step 2				Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9			

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code.  
Add list price from each step to arrive at total list for price for starter.

#### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4	
	Standard Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1
0	412B1	\$1770.00	412B6	\$1968.00	412B2	\$1968.00	412B4	\$2706.00
1	412C1	\$1842.00	412C6	\$2040.00	412C2	\$2040.00	412C4	\$2766.00
2	412D1	\$2814.00	412D6	\$3156.00	412D2	\$3156.00	412D4	\$3996.00
3	412E1	\$3858.00	412E6	\$4542.00	412E2	\$4542.00	412E4	\$5826.00
4	412F1	\$9360.00	412F6	\$11268.00	412F2	\$11268.00	412F4	\$12408.00

Note: All enclosures include external overload reset buttons. NEMA 4 enclosures are stainless steel.

#### Step 2 (Digits 8, 9) Select Control Voltage (No CPT and Standard Size CPT)

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT	List Price GO-10G1	Standard Size CPT	NEMA Size				
						0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1
120V w/ Surge Protector (SP)	01	\$54.00	F1	\$132.00	-					
120V	02	\$0.00	F2	\$132.00	-					
240V	03	\$0.00	F3	\$132.00	-					
480V	04	\$0.00	F4	\$132.00	-					
600V	05	\$0.00	F5	\$132.00	-					
208V	08	\$0.00	F8	\$132.00	-					
24V <sup>1</sup>	09	\$0.00	-	-	-					
240V/120V w/CPT	-	-	-	-	93	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
480V/120V w/CPT	-	-	-	-	94	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
600V/120V w/CPT	-	-	-	-	95	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
208V/120V w/CPT	-	-	-	-	98	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
240V/120V w/CPT & SP	-	-	-	-	33	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
480V/120V w/CPT & SP	-	-	-	-	34	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
600V/120V w/CPT & SP	-	-	-	-	35	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
208V/120V w/CPT & SP	-	-	-	-	38	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
240V/24V w/CPT <sup>1</sup>	-	-	-	-	S3	\$294.00	\$294.00	\$352.00	-	-
480V/24V w/CPT <sup>1</sup>	-	-	-	-	S4	\$294.00	\$294.00	\$352.00	-	-
600V/24V w/CPT <sup>1</sup>	-	-	-	-	S5	\$294.00	\$294.00	\$352.00	-	-
208V/24V w/CPT <sup>1</sup>	-	-	-	-	S8	\$294.00	\$294.00	\$352.00	-	-

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR412 Magnetic Starters

## Section 1

2 Speed - 1 Winding, Thermal Magnetic Circuit Breaker

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 2 (Digits 8, 9) Select Control Voltage (Extra Capacity CPT + 100VA and 200VA)

Control Circuit Voltage & CPT	Standard Size CPT + 100VA	NEMA Size					Standard Size CPT + 200VA	NEMA Size				
		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1
120V w/ Surge Protector (SP)	-						-					
120V	-						-					
240V	-						-					
480V	-						-					
600V	-						-					
208V	-						-					
24V <sup>1</sup>	-						-					
240V/120V w/CPT	13	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	23	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
480V/120V w/CPT	14	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	24	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
600V/120V w/CPT	15	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	25	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
208V/120V w/CPT	18	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	28	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
240V/120V w/CPT & SP	53	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	63	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
480V/120V w/CPT & SP	54	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	64	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
600V/120V w/CPT & SP	55	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	65	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
208V/120V w/CPT & SP	58	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	68	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
240V/24V w/CPT <sup>1</sup>	A3	\$420.00	\$420.00	\$504.00	-	-	B3	\$523.00	\$523.00	\$618.00	-	-
480V/24V w/CPT <sup>1</sup>	A4	\$420.00	\$420.00	\$504.00	-	-	B4	\$523.00	\$523.00	\$618.00	-	-
600V/24V w/CPT <sup>1</sup>	A5	\$420.00	\$420.00	\$504.00	-	-	B5	\$523.00	\$523.00	\$618.00	-	-
208V/24V w/CPT <sup>1</sup>	A8	\$420.00	\$420.00	\$504.00	-	-	B8	\$523.00	\$523.00	\$618.00	-	-

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.

#### Step 3 (Digits 10, 11) Select Protective Device

#### Thermal-Mag Circuit Breaker - Spectra™ Series

NEMA Size	200-208V				230-240V				460-480V				575-600V				
	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	
0	2	15	TC	\$138.00	3	15	TC	\$138.00	5	15	TC	\$138.00	5	15	TC	\$138.00	
	3	20	TD	\$138.00		20	TD	\$138.00		20	TD	\$138.00		20	TD	\$138.00	
1	15	TC	\$138.00		15	TC	\$138.00		15	TC	\$138.00		7 1/2	15	TC	\$138.00	
	20	TD	\$138.00		20	TD	\$138.00		7 1/2	20	TD	\$138.00	10	20	TD	\$138.00	
	25	TE	\$138.00		5	25	TE	\$138.00	10	25	TE	\$138.00		25	TE	\$138.00	
	5	30	TF	\$138.00		30	TF	\$138.00		30	TF	\$138.00		30	TF	\$138.00	
	7 1/2	40	TG	\$174.00	7 1/2	40	TG	\$174.00		40	TG	\$174.00		40	TG	\$174.00	
2	30	TF	\$174.00		30	TF	\$174.00		30	TF	\$174.00		15	30	TF	\$174.00	
	40	TG	\$138.00		40	TG	\$138.00		15	40	TG	\$138.00	20	40	TG	\$138.00	
	10	50	TH	\$138.00	10	50	TH	\$138.00	20	50	TH	\$138.00	25	50	TH	\$138.00	
	60	TJ	\$210.00		60	TJ	\$210.00		25	60	TJ	\$210.00		60	TJ	\$210.00	
	70	TK	\$210.00		15	70	TK	\$210.00		70	TK	\$210.00		70	TK	\$210.00	
3	50	TH	\$174.00		50	TH	\$174.00		50	TH	\$174.00		30	50	TH	\$174.00	
	60	TJ	\$0.00		60	TJ	\$0.00		30	60	TJ	\$0.00		60	TJ	\$0.00	
	70	TK	\$0.00		70	TK	\$0.00		70	TK	\$0.00		40	70	TK	\$0.00	
	15	80	TL	\$0.00		80	TL	\$0.00		40	80	TL	\$0.00	50	80	TL	\$0.00
	90	TM	\$0.00		20	90	TM	\$0.00		80	90	TM	\$0.00		90	TM	\$0.00
4	20	100	TN	\$0.00		100	TN	\$0.00		50	100	TN	\$0.00		100	TN	\$0.00
	110	TP	\$0.00		25	110	TP	\$0.00		110	TP	\$0.00		110	TP	\$0.00	
	25	125	TQ	\$630.00	30	125	TQ	\$630.00		125	TQ	\$630.00		125	TQ	\$630.00	
	100	TN	\$603.00		100	TN	\$603.00		100	TN	\$603.00		60	100	TN	\$603.00	
	125	TQ	\$0.00		125	TQ	\$0.00		60	125	TQ	\$0.00		75	125	TQ	\$0.00
4	30	150	TR	\$0.00		150	TR	\$0.00		75	150	TR	\$0.00	100	150	TR	\$0.00
	175	TS	\$603.00		40	175	TS	\$603.00		175	TS	\$603.00		175	TS	\$603.00	
	40	200	TT	\$0.00	50	200	TT	\$0.00		100	200	TT	\$0.00		200	TT	\$0.00





# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR412 Magnetic Starters

2 Speed – 1 Winding, Thermal Magnetic Circuit Breaker

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (1NC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (1NO-1NC)	2	\$48.00
Thermal Bi-Metallic Ambient Compensated (1NC)	3	\$54.00
Thermal Bi-Metallic Ambient Compensated (1NO-1NC)	4	\$102.00
Solid State Overload (1NO-1NC)	(#)	\$54.00

(#) Select Code for Solid State Overload amp rating from table below.

#### 2-Speed Solid State Overload Ranges

Code	NEMA SIZE					
	0 & 1		2		3 & 4	
	Hi Amp	Lo Amp	Hi Amp	Lo Amp	Hi Amp	Lo Amp
C	0.4 - 0.85	0.4 - 0.85	6.5 - 13.5	6.5 - 13.5	17 - 35	17 - 35
D	0.8 - 1.7	0.4 - 0.85	13 - 27	6.5 - 13.5	35 - 70	17 - 35
E	0.8 - 1.7	0.8 - 1.7	13 - 27	13 - 27	35 - 70	35 - 70
F	1.6 - 3.4	0.4 - 0.85	25 - 50	6.5 - 13.5	65 - 135	17 - 35
G	1.6 - 3.4	0.8 - 1.7	25 - 50	13 - 27	65 - 135	35 - 70
H	1.6 - 3.4	1.6 - 3.4	25 - 50	25 - 50	65 - 135	65 - 135
U	3.2 - 6.8	0.8 - 1.7	-	-	-	-
K	3.2 - 6.8	1.6 - 3.4	-	-	-	-
L	3.2 - 6.8	3.2 - 6.8	-	-	-	-
M	6.5 - 13.5	1.6 - 3.4	-	-	-	-
V	6.5 - 13.5	3.2 - 6.8	-	-	-	-
W	6.5 - 13.5	6.5 - 13.5	-	-	-	-
R	13 - 27	3.2 - 6.8	-	-	-	-
S	13 - 27	6.5 - 13.5	-	-	-	-
T	13 - 27	13 - 27	-	-	-	-

#### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts (per Contactor)	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$132.00
1NC	C	\$132.00
1NO-1NC	D <sup>2</sup>	\$264.00
2NO	E <sup>2</sup>	\$264.00
2NC	F <sup>2</sup>	\$264.00

<sup>2</sup>Not available on 2 speed – 1 winding sizes 0-1.

#### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 190-480V (PFR w/UV)	C	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 575V (PFR w/UV)	D	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay - 208V (PFR)	E <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 240V (PFR)	F <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 480V (PFR)	G <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 575V (PFR)	H <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Elapsed Time Meter (120V/60Hz) Wired Across Coil (ETM)	L <sup>4</sup>	\$348.00	\$588.00	\$348.00	\$588.00	\$348.00	\$588.00
ETM + PFR w/UV (190-480V)	L <sup>4</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR w/UV (575V)	N <sup>4</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR (208V)	P <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (240V)	Q <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (480V)	R <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (575V)	S <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-

<sup>3</sup>Available for Type 1 Enclosure only.

<sup>4</sup>Requires 120V Control Circuit Voltage or CPT w/ 120V Secondary.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR412 Magnetic Starters

## Section 1

2 Speed - 1 Winding, Thermal Magnetic Circuit Breaker

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
Fast/Slow/Stop Push Button	J	\$240.00
High/Low/Off Push Button	K	\$240.00
High/Low Push Button & HOA Selector Switch	L	\$264.00
Fast/Slow Push Button & HOA Selector Switch	M	\$264.00
HOA & Slow/Fast Selector Switches	P	\$264.00
HOA & Low/High Selector Switches	R	\$264.00
Slow-Off-Fast Selector Switch	T	\$132.00
Low-Off-High Selector Switch	U	\$132.00
Fast-Slow-Off-Auto Selector Switch	V	\$150.00
High-Low-Off-Auto Selector Switch	W	\$150.00

#### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty CR104P Style)		Code	List Price GO-10G1
Type	Color - Functionality		
None		A	\$0.00
Standard Lights	Red & Amber Across Coils	K	\$324.00
	Red & Green Across Coils	L	\$324.00
	Red & Amber Across Coils & Unwired Green	X	\$486.00
LED Lights	Red & Amber Across Coils	2	\$324.00
	Red & Green Across Coils	3	\$324.00
	Red & Amber Across Coils & Unwired Green	5	\$486.00
	Red & Amber Across Coils	S	\$360.00
Push-To-Test Lights	Red & Green Across Coils	T	\$360.00
	Red & Amber Across Coils & Unwired Green	Y	\$540.00

#### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1 Relay, 2NO-2NC, 24/120V Coil - unwired	B <sup>5</sup>	\$306.00	\$468.00	\$306.00	\$468.00	\$480.00	\$636.00
2 Relays, 24/120V Coil - unwired	C <sup>5</sup>	\$612.00	\$936.00	\$612.00	\$936.00	\$960.00	\$1272.00
DIN Rail - for Customer Use	D	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00
12 Point Terminal Strip - unwired (12 PT Strip)	E	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00
Space Heater w/ NC Contact	H <sup>6</sup>	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00
1 Relay + 12 PT Strip	J <sup>5</sup>	\$415.00	\$577.00	\$415.00	\$577.00	\$589.00	\$745.00
2 Relays + 12 PT Strip	K <sup>5</sup>	\$721.00	\$1045.00	\$721.00	\$1045.00	\$1069.00	\$1381.00
DIN Rail + 12 PT Strip + Space Heater	L <sup>6</sup>	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00
2 Relays + 12 PT Strip + Space Heater	M <sup>5,6</sup>	\$841.00	\$1165.00	\$841.00	\$1165.00	\$1189.00	\$1501.00
Time Delay ON Relay, 24/120V Coil - unwired (TD)	N <sup>5</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
Time Delay OFF Relay, 24/120V Coil - unwired (TD)	P <sup>5</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
12 PT Strip + TD ON	R <sup>5</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + TD OFF	S <sup>5</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + Space Heater + TD ON	T <sup>5,6</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00
12 PT Strip + Space Heater + TD OFF	U <sup>5,6</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00

<sup>5</sup>Relay/Timer coil voltage is equivalent to CPT secondary voltage. Requires minimum 100 extra VA CPT option.

<sup>6</sup>Maximum number of auxiliary contacts shall be reduced by 1.

#### GENERAL NOTE:

On NEMA Size 3 & 4 starters, if selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) then control circuit fusing, a control power transformer, or 120V separate sourced control is required when the protective device is rated greater than 100 Amps.





# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR492 Mag-Break Magnetic Starters

2 Speed - 1 Winding, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																
---	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Steps: Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code.  
Add list price from each step to arrive at total list for price for starter.

#### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4	
	Standard Enclosure	List Price	Standard Enclosure	List Price	Standard Enclosure	List Price	Standard Enclosure	List Price
	CR	GO-10G1	CR	GO-10G1	CR	GO-10G1	CR	GO-10G1
0	492B1	\$1944.00	492B6	\$2142.00	492B2	\$2142.00	492B4	\$2880.00
1	492C1	\$2016.00	492C6	\$2214.00	492C2	\$2214.00	492C4	\$2940.00
2	492D1	\$2988.00	492D6	\$3330.00	492D2	\$3330.00	492D4	\$4170.00
3	492E1	\$3858.00	492E6	\$4542.00	492E2	\$4542.00	492E4	\$5826.00
4	492F1	\$9360.00	492F6	\$11268.00	492F2	\$11268.00	492F4	\$12408.00

Note: All enclosures include external overload reset buttons. NEMA 4 enclosures are stainless steel.

#### Step 2 (Digits 8, 9) Select Control Voltage (No CPT and Standard Size CPT)

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT	List Price GO-10G1	Standard Size CPT	NEMA Size				
						0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1
120V w/ Surge Protector (SP)	01	\$54.00	F1	\$132.00	-					
120V	02	\$0.00	F2	\$132.00	-					
240V	03	\$0.00	F3	\$132.00	-					
480V	04	\$0.00	F4	\$132.00	-					
600V	05	\$0.00	F5	\$132.00	-					
208V	08	\$0.00	F8	\$132.00	-					
24V <sup>1</sup>	09	\$0.00	-	-	-					
240V/120V w/CPT	-	-	-	-	93	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
480V/120V w/CPT	-	-	-	-	94	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
600V/120V w/CPT	-	-	-	-	95	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
208V/120V w/CPT	-	-	-	-	98	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
240V/120V w/CPT & SP	-	-	-	-	33	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
480V/120V w/CPT & SP	-	-	-	-	34	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
600V/120V w/CPT & SP	-	-	-	-	35	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
208V/120V w/CPT & SP	-	-	-	-	38	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
240V/24V w/CPT <sup>1</sup>	-	-	-	-	S3	\$294.00	\$294.00	\$352.00	-	-
480V/24V w/CPT <sup>1</sup>	-	-	-	-	S4	\$294.00	\$294.00	\$352.00	-	-
600V/24V w/CPT <sup>1</sup>	-	-	-	-	S5	\$294.00	\$294.00	\$352.00	-	-
208V/24V w/CPT <sup>1</sup>	-	-	-	-	S8	\$294.00	\$294.00	\$352.00	-	-

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR492 Mag-Break Magnetic Starters

2 Speed - 1 Winding, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 2 (Digits 8, 9) Select Control Voltage (Extra Capacity CPT + 100VA and 200VA)

Control Circuit Voltage & CPT	Standard Size CPT + 100VA	NEMA Size					Standard Size CPT + 200VA	NEMA Size					
		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1	
120V w/ Surge Protector (SP)	-						-						
120V	-						-						
240V	-						-						
480V	-						-						
600V	-						-						
208V	-						-						
24V <sup>1</sup>	-						-						
240V/120V w/CPT	13	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	23	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
480V/120V w/CPT	14	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	24	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
600V/120V w/CPT	15	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	25	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
208V/120V w/CPT	18	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	28	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
240V/120V w/CPT & SP	53	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	63	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
480V/120V w/CPT & SP	54	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	64	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
600V/120V w/CPT & SP	55	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	65	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
208V/120V w/CPT & SP	58	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	68	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
240V/24V w/CPT <sup>1</sup>	A3	\$420.00	\$420.00	\$504.00	-	-	B3	\$523.00	\$523.00	\$618.00	-	-	
480V/24V w/CPT <sup>1</sup>	A4	\$420.00	\$420.00	\$504.00	-	-	B4	\$523.00	\$523.00	\$618.00	-	-	
600V/24V w/CPT <sup>1</sup>	A5	\$420.00	\$420.00	\$504.00	-	-	B5	\$523.00	\$523.00	\$618.00	-	-	
208V/24V w/CPT <sup>1</sup>	A8	\$420.00	\$420.00	\$504.00	-	-	B8	\$523.00	\$523.00	\$618.00	-	-	

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.

#### Step 3 (Digits 10, 11) Select Protective Device

#### Mag-Break Circuit Breaker - Spectra™ Series

NEMA Size	200-208V				230-240V				460-480V				575-600V					
	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1		
0		3	MA	\$0.00	1/2	3	MA	\$0.00	1	3	MA	\$0.00	1	3	MA	\$0.00		
		1	7	MB	\$0.00	1	7	MB	\$0.00	3	7	MB	\$0.00	3	7	MB	\$0.00	
		3	15	MC	\$0.00	3	15	MC	\$0.00	5	15	MC	\$0.00	5	15	MC	\$0.00	
1		15	MC	\$0.00		15	MC	\$0.00	7 1/2	15	MC	\$0.00	10	15	MC	\$0.00		
		20	MD	\$0.00		20	MD	\$0.00	10	20	MD	\$0.00		20	MD	\$0.00		
		5	25	ME	\$0.00	5	25	ME	\$0.00		25	ME	\$0.00		25	ME	\$0.00	
		7 1/2	30	MF	\$0.00	7 1/2	30	MF	\$0.00		30	MF	\$0.00		30	MF	\$0.00	
2		7 1/2	40	MG	\$0.00		40	MG	\$0.00		40	MG	\$0.00		40	MG	\$0.00	
		25	ME	\$0.00		25	ME	\$0.00		25	ME	\$0.00		15	25	ME	\$0.00	
		30	MF	\$0.00		30	MF	\$0.00	15	30	MF	\$0.00		20	30	MF	\$0.00	
		40	MG	\$0.00	10	40	MG	\$0.00	20	40	MG	\$0.00		25	40	MG	\$0.00	
		10	50	MH	\$0.00		50	MH	\$0.00	25	50	MH	\$0.00		50	MH	\$0.00	
3		60	MJ	\$0.00	15	60	MJ	\$0.00		60	MJ	\$0.00		60	MJ	\$0.00		
		40	MG	\$0.00		40	MG	\$0.00		40	MG	\$0.00	30	40	MG	\$0.00		
		50	MH	\$0.00		50	MH	\$0.00	30	50	MH	\$0.00		50	MH	\$0.00		
		60	MJ	\$0.00		60	MJ	\$0.00		60	MJ	\$0.00		40	60	MJ	\$0.00	
		15	70	MK	\$0.00	20	70	MK	\$0.00	40	70	MK	\$0.00		50	70	MK	\$0.00
		20	80	ML	\$0.00		80	ML	\$0.00		80	ML	\$0.00		80	ML	\$0.00	
4		90	MM	\$0.00	25	90	MM	\$0.00	50	90	MM	\$0.00		90	MM	\$0.00		
		25	100	MN	\$0.00	30	100	MN	\$0.00		100	MN	\$0.00		100	MN	\$0.00	
		80	ML	\$0.00		80	ML	\$0.00		80	ML	\$0.00		60	80	ML	\$0.00	
		100	MN	\$0.00		100	MN	\$0.00	60	100	MN	\$0.00		75	100	MN	\$0.00	
		30	125	MQ	\$0.00		125	MQ	\$0.00	75	125	MQ	\$0.00		125	MQ	\$0.00	
	40	150	MR	\$0.00	40	150	MR	\$0.00		150	MR	\$0.00		100	150	MR	\$0.00	
		175	MS	\$0.00	50	175	MS	\$0.00	100	175	MS	\$0.00		175	MS	\$0.00		



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

# Section 1

### CR492 Mag-Break Magnetic Starters

2 Speed - 1 Winding, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (1NC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (1NO-1NC)	2	\$48.00
Thermal Bi-Metallic Ambient Compensated (1NC)	3	\$54.00
Thermal Bi-Metallic Ambient Compensated (1NO-1NC)	4	\$102.00
Solid State Overload (1NO-1NC)	(#)	\$54.00

(#) Select Code for Solid State Overload amp rating from table below.

#### 2-Speed Solid State Overload Ranges

Code	NEMA SIZE					
	0 & 1		2		3 & 4	
	Hi Amp	Lo Amp	Hi Amp	Lo Amp	Hi Amp	Lo Amp
C	0.4 - 0.85	0.4 - 0.85	6.5 - 13.5	6.5 - 13.5	17 - 35	17 - 35
D	0.8 - 1.7	0.4 - 0.85	13 - 27	6.5 - 13.5	35 - 70	17 - 35
E	0.8 - 1.7	0.8 - 1.7	13 - 27	13 - 27	35 - 70	35 - 70
F	1.6 - 3.4	0.4 - 0.85	25 - 50	6.5 - 13.5	65 - 135	17 - 35
G	1.6 - 3.4	0.8 - 1.7	25 - 50	13 - 27	65 - 135	35 - 70
H	1.6 - 3.4	1.6 - 3.4	25 - 50	25 - 50	65 - 135	65 - 135
U	3.2 - 6.8	0.8 - 1.7	-	-	-	-
K	3.2 - 6.8	1.6 - 3.4	-	-	-	-
L	3.2 - 6.8	3.2 - 6.8	-	-	-	-
M	6.5 - 13.5	1.6 - 3.4	-	-	-	-
V	6.5 - 13.5	3.2 - 6.8	-	-	-	-
W	6.5 - 13.5	6.5 - 13.5	-	-	-	-
R	13 - 27	3.2 - 6.8	-	-	-	-
S	13 - 27	6.5 - 13.5	-	-	-	-
T	13 - 27	13 - 27	-	-	-	-

#### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts (per Contactor)	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$132.00
1NC	C	\$132.00
1NO-1NC	D <sup>2</sup>	\$264.00
2NO	E <sup>2</sup>	\$264.00
2NC	F <sup>2</sup>	\$264.00

<sup>2</sup>Not available on 2 speed - 1 winding sizes 0-1.

#### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 190-480V (PFR w/UV)	C	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 575V (PFR w/UV)	D	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay - 208V (PFR)	E <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 240V (PFR)	F <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 480V (PFR)	G <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 575V (PFR)	H <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Elapsed Time Meter (120V/60Hz) Wired Across Coil (ETM)	I <sup>4</sup>	\$348.00	\$588.00	\$348.00	\$588.00	\$348.00	\$588.00
ETM + PFR w/UV (190-480V)	L <sup>4</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR w/UV (575V)	N <sup>4</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR (208V)	P <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (240V)	Q <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (480V)	R <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (575V)	S <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-

<sup>3</sup>Available for Type 1 Enclosure only.

<sup>4</sup>Requires 120V Control Circuit Voltage or CPT w/ 120V Secondary.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

# Section 1

### CR492 Mag-Break Magnetic Starters

2 Speed - 1 Winding, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
Fast/Slow/Stop Push Button	J	\$240.00
High/Low/Off Push Button	K	\$240.00
High/Low Push Button & HOA Selector Switch	L	\$264.00
Fast/Slow Push Button & HOA Selector Switch	M	\$264.00
HOA & Slow/Fast Selector Switches	P	\$264.00
HOA & Low/High Selector Switches	R	\$264.00
Slow-Off-Fast Selector Switch	T	\$132.00
Low-Off-High Selector Switch	U	\$132.00
Fast-Slow-Off-Auto Selector Switch	V	\$150.00
High-Low-Off-Auto Selector Switch	W	\$150.00

#### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty CR104P Style)			List Price GO-10G1
Type	Color - Functionality	Code	
None		A	\$0.00
Standard Lights	Red & Amber Across Coils	K	\$324.00
	Red & Green Across Coils	L	\$324.00
	Red & Amber Across Coils & Unwired Green	X	\$486.00
LED Lights	Red & Amber Across Coils	Z	\$324.00
	Red & Green Across Coils	3	\$324.00
	Red & Amber Across Coils & Unwired Green	5	\$486.00
Push-To-Test Lights	Red & Amber Across Coils	S	\$360.00
	Red & Green Across Coils	T	\$360.00
	Red & Amber Across Coils & Unwired Green	Y	\$540.00

#### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1 Relay, 2NO-2NC, 24/120V Coil - unwired	B <sup>5</sup>	\$306.00	\$468.00	\$306.00	\$468.00	\$480.00	\$636.00
2 Relays, 24/120V Coil - unwired	C <sup>5</sup>	\$612.00	\$936.00	\$612.00	\$936.00	\$960.00	\$1272.00
DIN Rail - for Customer Use	D	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00
12 Point Terminal Strip - unwired (12 PT Strip)	E	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00
Space Heater w/ NC Contact	H <sup>6</sup>	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00
1 Relay + 12 PT Strip	J <sup>5</sup>	\$415.00	\$577.00	\$415.00	\$577.00	\$589.00	\$745.00
2 Relays + 12 PT Strip	K <sup>5</sup>	\$721.00	\$1045.00	\$721.00	\$1045.00	\$1069.00	\$1381.00
DIN Rail + 12 PT Strip + Space Heater	L <sup>6</sup>	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00
2 Relays + 12 PT Strip + Space Heater	M <sup>5,6</sup>	\$841.00	\$1165.00	\$841.00	\$1165.00	\$1189.00	\$1501.00
Time Delay ON Relay, 24/120V Coil - unwired (TD)	N <sup>5</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
Time Delay OFF Relay, 24/120V Coil - unwired (TD)	P <sup>5</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
12 PT Strip + TD ON	R <sup>5</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + TD OFF	S <sup>5</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + Space Heater + TD ON	T <sup>5,6</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00
12 PT Strip + Space Heater + TD OFF	U <sup>5,6</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00

<sup>5</sup>Relay/Timer coil voltage is equivalent to CPT secondary voltage. Requires minimum 100 extra VA CPT option.

<sup>6</sup>Maximum number of auxiliary contacts shall be reduced by 1.

#### GENERAL NOTE:

If selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) control circuit fusing, a control power transformer, or 24V/120V separate sourced control is required, regardless of protective device rating.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR414, CR415, CR494 Magnetic Two-speed Controllers

2 Speed – 2 Winding, Combination, NEMA Type 1, 3R, 12, 4/4X

100 Horsepower Maximum

NEMA Sizes 0-4

600 Volts Maximum 50/60Hz

#### Application

Used for full-voltage 2 speed – 2 winding motors up to 100 horsepower maximum, 600 Volts maximum. Consists of fusible or non-fusible disconnect or circuit breaker to provide disconnecting means and/or branch circuit protection, two 3-pole contactors, and quantity 2 three-leg block overload relay.

#### Product Number Selection Instructions

1. Specify starter by complete Product Number.  
Example: CR415C1041A1AAAAA @ **\$1308.00, GO-10G1**.
2. Order heaters by complete Product Number from appropriate heater tables on pages 1-153 to 1-159, based on motor full-load current.
3. For information on forms not listed or special features contact nearest GE Representative.
4. **Product Notes**  
Motor full-load current should not exceed continuous ampere rating of starter.

#### CR414, CR415, CR494 Magnetic Two-speed Controllers – Contents

Application Information and Selection Instructions.....	1-104
Nonfusible Disconnect Type (CR415).....	1-105
Fusible Disconnect Type (CR415).....	1-106
Nonfusible and Fusible Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR415).....	1-107
Thermal Magnetic Circuit Breaker Type (CR414).....	1-112
Thermal Magnetic Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR414).....	1-113
Mag-Break Circuit Breaker Type (CR494).....	1-117
Mag-Break Part Number Configuration	
Size 0-4, NEMA Type 1, 3R, 12, 4/4X (CR494).....	1-118
Outlines and Dimensions .....	1-122





# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

# Section 1

### CR415 Magnetic Starters

2 Speed – 2 Winding, NEMA Type 1, 3R, 12, 4/4X

NEMA Sizes 0-4, Nonfusible Disconnect Type

600 Volts Maximum 60 Hertz

List Price includes a holding interlock, pressure terminals for the line and load connections, two 3-pole contactors with mechanical and cross electrical interlock on each contactor, plus two 3-leg block type overload relays (manual reset). All enclosures include external reset. Six heaters should be ordered as separate items. See pages 1-153 to 1-159 for selection. **List price \$9.00 each, GO-10H.**

#### CR415 2 Speed – 2 Winding Nonfusible Disconnect Type

Voltage (60Hz)	NEMA Size	Maximum Horsepower	Continuous Amp Rating	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4/4X	
				Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1	Product Number CR	List Price GO-10G1
200-208	0	3	18	415B1081A1AAAAA	\$1224.00	415B6081A1AAAAA	\$1422.00	415B2081A1AAAAA	\$1422.00	415B4081A1AAAAA	\$2160.00
200-208	1	7 1/2	27	415C1081A1AAAAA	\$1308.00	415C6081A1AAAAA	\$1506.00	415C2081A1AAAAA	\$1506.00	415C4081A1AAAAA	\$2232.00
200-208	2	10	45	415D1081A1AAAAA	\$2052.00	415D6081A1AAAAA	\$2364.00	415D2081A1AAAAA	\$2364.00	415D4081A1AAAAA	\$3216.00
200-208	3	25	90	415E1081A1AAAAA	\$3000.00	415E6081A1AAAAA	\$3684.00	415E2081A1AAAAA	\$3684.00	415E4081A1AAAAA	\$4968.00
200-208	4	40	135	415F1081A1AAAAA	\$6384.00	415F6081A1AAAAA	\$8340.00	415F2081A1AAAAA	\$8340.00	415F4081A1AAAAA	\$9480.00
230-240	0	3	18	415B1031A1AAAAA	\$1224.00	415B6031A1AAAAA	\$1422.00	415B2031A1AAAAA	\$1422.00	415B4031A1AAAAA	\$2160.00
230-240	1	7 1/2	27	415C1031A1AAAAA	\$1308.00	415C6031A1AAAAA	\$1506.00	415C2031A1AAAAA	\$1506.00	415C4031A1AAAAA	\$2232.00
230-240	2	15	45	415D1031A1AAAAA	\$2052.00	415D6031A1AAAAA	\$2364.00	415D2031A1AAAAA	\$2364.00	415D4031A1AAAAA	\$3216.00
230-240	3	30	90	415E1031A1AAAAA	\$3000.00	415E6031A1AAAAA	\$3684.00	415E2031A1AAAAA	\$3684.00	415E4031A1AAAAA	\$4968.00
230-240	4	50	135	415F1031A1AAAAA	\$6384.00	415F6031A1AAAAA	\$8340.00	415F2031A1AAAAA	\$8340.00	415F4031A1AAAAA	\$9480.00
460-480	0	5	18	415B1041A1AAAAA	\$1224.00	415B6041A1AAAAA	\$1422.00	415B2041A1AAAAA	\$1422.00	415B4041A1AAAAA	\$2160.00
460-480	1	10	27	415C1041A1AAAAA	\$1308.00	415C6041A1AAAAA	\$1506.00	415C2041A1AAAAA	\$1506.00	415C4041A1AAAAA	\$2232.00
460-480	2	25	45	415D1041A1AAAAA	\$2052.00	415D6041A1AAAAA	\$2364.00	415D2041A1AAAAA	\$2364.00	415D4041A1AAAAA	\$3216.00
460-480	3	50	90	415E1041A1AAAAA	\$3000.00	415E6041A1AAAAA	\$3684.00	415E2041A1AAAAA	\$3684.00	415E4041A1AAAAA	\$4968.00
460-480	4	100	135	415F1041A1AAAAA	\$6384.00	415F6041A1AAAAA	\$8340.00	415F2041A1AAAAA	\$8340.00	415F4041A1AAAAA	\$9480.00
575-600	0	5	18	415B1051A1AAAAA	\$1224.00	415B6051A1AAAAA	\$1422.00	415B2051A1AAAAA	\$1422.00	415B4051A1AAAAA	\$2160.00
575-600	1	10	27	415C1051A1AAAAA	\$1308.00	415C6051A1AAAAA	\$1506.00	415C2051A1AAAAA	\$1506.00	415C4051A1AAAAA	\$2232.00
575-600	2	25	45	415D1051A1AAAAA	\$2052.00	415D6051A1AAAAA	\$2364.00	415D2051A1AAAAA	\$2364.00	415D4051A1AAAAA	\$3216.00
575-600	3	50	90	415E1051A1AAAAA	\$3000.00	415E6051A1AAAAA	\$3684.00	415E2051A1AAAAA	\$3684.00	415E4051A1AAAAA	\$4968.00
575-600	4	100	135	415F1051A1AAAAA	\$6384.00	415F6051A1AAAAA	\$8340.00	415F2051A1AAAAA	\$8340.00	415F4051A1AAAAA	\$9480.00

- NEMA Size 0-4 starters with 115-120 Volt, 60-Hertz coils for separate control are available at listed prices. To order, replace Digits 8 & 9 of listed Product Numbers with 02.  
Example: CR415B1041A1AAAAA with 115-120 Volt, 60-Hertz coil for separate control becomes CR415B1021A1AAAAA Product Number.
- Motor full load current should not exceed continuous ampere rating of starter.





# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR415 Magnetic Starters

2 Speed – 2 Winding, Nonfusible and Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 0-4

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																	
Steps:			Step 1	Step 2				Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9				

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code.  
Add list price from each step to arrive at total list for price for starter.

#### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4	
	Standard Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1
0	415B1	\$1224.00	415B6	\$1422.00	415B2	\$1422.00	415B4	\$2160.00
1	415C1	\$1308.00	415C6	\$1506.00	415C2	\$1506.00	415C4	\$2232.00
2	415D1	\$2052.00	415D6	\$2364.00	415D2	\$2364.00	415D4	\$3216.00
3	415E1	\$3000.00	415E6	\$3684.00	415E2	\$3684.00	415E4	\$4968.00
4	415F1	\$6384.00	415F6	\$8340.00	415F2	\$8340.00	415F4	\$9480.00

Note: All enclosures include external overload reset buttons. NEMA 4 enclosures are stainless.

#### Step 2 (Digits 8, 9) Select Control Voltage (No CPT and Standard Size CPT)

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT	List Price GO-10G1	Standard Size CPT	NEMA Size				
						0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1
120V w/ Surge Protector (SP)	01	\$54.00	F1	\$132.00	-					
120V	02	\$0.00	F2	\$132.00	-					
240V	03	\$0.00	F3	\$132.00	-					
480V	04	\$0.00	F4	\$132.00	-					
600V	05	\$0.00	F5	\$132.00	-					
208V	08	\$0.00	F8	\$132.00	-					
24V <sup>1</sup>	09	\$0.00	-	-	-					
240V/120V w/CPT	-	-	-	-	93	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
480V/120V w/CPT	-	-	-	-	94	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
600V/120V w/CPT	-	-	-	-	95	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
208V/120V w/CPT	-	-	-	-	98	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
240V/120V w/CPT & SP	-	-	-	-	33	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
480V/120V w/CPT & SP	-	-	-	-	34	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
600V/120V w/CPT & SP	-	-	-	-	35	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
208V/120V w/CPT & SP	-	-	-	-	38	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
240V/24V w/CPT <sup>1</sup>	-	-	-	-	S3	\$294.00	\$294.00	\$352.00	-	-
480V/24V w/CPT <sup>1</sup>	-	-	-	-	S4	\$294.00	\$294.00	\$352.00	-	-
600V/24V w/CPT <sup>1</sup>	-	-	-	-	S5	\$294.00	\$294.00	\$352.00	-	-
208V/24V w/CPT <sup>1</sup>	-	-	-	-	S8	\$294.00	\$294.00	\$352.00	-	-

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR415 Magnetic Starters

## Section 1

2 Speed - 2 Winding, Nonfusible and Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 2 (Digits 8, 9) Select Control Voltage (Extra Capacity CPT + 100VA and 200VA)

	Standard Size	NEMA Size					Standard Size	NEMA Size				
		0	1	2	3	4		0	1	2	3	4
Control Circuit Voltage & CPT	CPT + 100VA	List Price GO-10G1	List Price GO-10G1	List Price GO-10G1	List Price GO-10G1	List Price GO-10G1	CPT + 200VA	List Price GO-10G1	List Price GO-10G1	List Price GO-10G1	List Price GO-10G1	List Price GO-10G1
120V w/ Surge Protector (SP)	-						-					
120V	-						-					
240V	-						-					
480V	-						-					
600V	-						-					
208V	-						-					
24V <sup>1</sup>	-						-					
240V/120V w/CPT	13	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	23	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
480V/120V w/CPT	14	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	24	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
600V/120V w/CPT	15	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	25	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
208V/120V w/CPT	18	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	28	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00
240V/120V w/CPT & SP	53	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	63	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
480V/120V w/CPT & SP	54	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	64	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
600V/120V w/CPT & SP	55	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	65	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
208V/120V w/CPT & SP	58	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	68	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00
240V/24V w/CPT <sup>1</sup>	A3	\$420.00	\$420.00	\$504.00	-	-	B3	\$523.00	\$523.00	\$618.00	-	-
480V/24V w/CPT <sup>1</sup>	A4	\$420.00	\$420.00	\$504.00	-	-	B4	\$523.00	\$523.00	\$618.00	-	-
600V/24V w/CPT <sup>1</sup>	A5	\$420.00	\$420.00	\$504.00	-	-	B5	\$523.00	\$523.00	\$618.00	-	-
208V/24V w/CPT <sup>1</sup>	A8	\$420.00	\$420.00	\$504.00	-	-	B8	\$523.00	\$523.00	\$618.00	-	-

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.

#### Step 3 (Digits 10, 11) Select Protective Device

##### Disconnect without Fuse Clips

NEMA Size	Code	List Price GO-10G1
All	1A	\$0.00

##### Disconnect with Class H Fuse Clips - For use with Non-Time Delay/Single Element Class H Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	HA	\$96.00	3	30	HA	\$96.00	5	30	H3	\$96.00	5	30	H3	\$96.00
1	7 1/2	60	HB	\$96.00	7 1/2	60	HB	\$96.00	10	60	H6	\$96.00	10	60	H6	\$96.00
2	10	100	HC	\$174.00	15	100	HC	\$174.00	15	60	H6	\$48.00	20	60	H6	\$48.00
3	25	200	HD	\$312.00	30	200	HD	\$312.00	25	100	H1	\$174.00	25	100	H1	\$174.00
4	40	400	HE	\$540.00	50	400	HE	\$540.00	30	100	H1	\$72.00	30	100	H1	\$72.00
									50	200	H2	\$312.00	50	200	H2	\$312.00
									60	200	H2	\$216.00	60	200	H2	\$216.00
									100	400	H4	\$216.00	100	400	H4	\$216.00

##### Disconnect with Class R Fuse Clips - For use with Time Delay/Dual Element Class RK1/RK5 Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	RA	\$105.00	3	30	RA	\$105.00	5	30	R3	\$105.00	5	30	R3	\$105.00
1	5	30	RA	\$105.00	5	30	RA	\$105.00	10	30	R3	\$105.00	10	30	R3	\$105.00
	7 1/2	60	RB	\$105.00	7 1/2	60	RB	\$105.00								
2	10	60	RB	\$57.00	15	60	RB	\$57.00	30	30	R3	\$57.00	15	30	R3	\$57.00
									25	60	R6	\$57.00	25	60	R6	\$57.00
3	20	100	RC	\$90.00	25	100	RC	\$90.00	60	60	R6	\$66.00	30	60	R6	\$66.00
	25	200	RD	\$330.00	30	200	RD	\$330.00	50	100	R1	\$90.00	50	100	R1	\$90.00
4	40	200	RD	\$234.00	50	200	RD	\$234.00	100	100	R1	\$90.00	60	100	R1	\$90.00
									100	200	R2	\$234.00	100	200	R2	\$234.00



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic CR415 Magnetic Starters

## Section 1

2 Speed – 2 Winding, Nonfusible and Fusible Disconnect Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

### Step 3 (Digits 10, 11) Select Protective Device (continued)

#### Disconnect with Class J Fuse Clips - For use with Time Delay/Dual Element Class J Fuses

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1	Max Hp	Fuse Clip (Amps)	Code	List Price GO-10G1
0	3	30	J3	\$114.00	3	30	J3	\$114.00	5	30	J3	\$114.00	5	30	J3	\$114.00
1	5	30	J3	\$114.00	5	30	J3	\$114.00	10	30	J3	\$114.00	10	30	J3	\$114.00
	7 1/2	60	J6	\$114.00	7 1/2	60	J6	\$114.00								
2									30	J3	\$78.00		15	30	J3	\$78.00
	10	60	J6	\$78.00	15	60	J6	\$78.00	25	60	J6	\$78.00	25	60	J6	\$78.00
									60	J6	\$120.00		30	60	J6	\$120.00
3	20	100	J1	\$144.00	25	100	J1	\$144.00	50	100	J1	\$144.00	50	100	J1	\$144.00
	25	200	J2	\$384.00	30	200	J2	\$384.00								
4									100	J1	\$192.00		60	100	J1	\$192.00
	40	200	J2	\$336.00	50	200	J2	\$336.00	100	200	J2	\$336.00	100	200	J2	\$336.00

### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (1NC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (1NO-1NC)	2	\$48.00
Thermal Bi-Metallic Ambient Compensated (1NC)	3	\$54.00
Thermal Bi-Metallic Ambient Compensated (1NO-1NC)	4	\$102.00
Solid State Overload (1NO-1NC)	(#)	\$54.00

(#) Select Code for Solid State Overload amp rating from table below.

#### 2-Speed Solid State Overload Ranges

Code	NEMA SIZE					
	0 & 1		2		3 & 4	
	Hi Amp	Lo Amp	Hi Amp	Lo Amp	Hi Amp	Lo Amp
C	0.4 - 0.85	0.4 - 0.85	6.5 - 13.5	6.5 - 13.5	17 - 35	17 - 35
D	0.8 - 1.7	0.4 - 0.85	13 - 27	6.5 - 13.5	35 - 70	17 - 35
E	0.8 - 1.7	0.8 - 1.7	13 - 27	13 - 27	35 - 70	35 - 70
F	1.6 - 3.4	0.4 - 0.85	25 - 50	6.5 - 13.5	65 - 135	17 - 35
G	1.6 - 3.4	0.8 - 1.7	25 - 50	13 - 27	65 - 135	35 - 70
H	1.6 - 3.4	1.6 - 3.4	25 - 50	25 - 50	65 - 135	65 - 135
U	3.2 - 6.8	0.8 - 1.7	-	-	-	-
K	3.2 - 6.8	1.6 - 3.4	-	-	-	-
L	3.2 - 6.8	3.2 - 6.8	-	-	-	-
M	6.5 - 13.5	1.6 - 3.4	-	-	-	-
V	6.5 - 13.5	3.2 - 6.8	-	-	-	-
W	6.5 - 13.5	6.5 - 13.5	-	-	-	-
R	13 - 27	3.2 - 6.8	-	-	-	-
S	13 - 27	6.5 - 13.5	-	-	-	-
T	13 - 27	13 - 27	-	-	-	-

### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts (per Contactor)	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$132.00
1NC	C	\$132.00
1NO-1NC	D <sup>2</sup>	\$264.00
2NO	E <sup>2</sup>	\$264.00
2NC	F <sup>2</sup>	\$264.00

<sup>2</sup>Not available on 2 speed – 1 winding sizes 0-1.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR415 Magnetic Starters

## Section 1

2 Speed - 2 Winding, Nonfusible and Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 190-480V (PFR w/UV)	C	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 575V (PFR w/UV)	D	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay - 208V (PFR)	E <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 240V (PFR)	F <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 480V (PFR)	G <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 575V (PFR)	H <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Elapsed Time Meter (120V/60Hz) Wired Across Coil (ETM)	I <sup>4</sup>	\$348.00	\$588.00	\$348.00	\$588.00	\$348.00	\$588.00
ETM + PFR w/UV (190-480V)	L <sup>4</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR w/UV (575V)	N <sup>4</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR (208V)	p <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (240V)	Q <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (480V)	R <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (575V)	S <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-

<sup>3</sup>Available for Type 1 Enclosure only.

<sup>4</sup>Requires 120V Control Circuit Voltage or CPT w/ 120V Secondary.

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
Fast/Slow/Stop Push Button	J	\$240.00
High/Low/Off Push Button	K	\$240.00
High/Low Push Button & HOA Selector Switch	L	\$264.00
Fast/Slow Push Button & HOA Selector Switch	M	\$264.00
HOA & Slow/Fast Selector Switches	P	\$264.00
HOA & Low/High Selector Switches	R	\$264.00
Slow-Off-Fast Selector Switch	T	\$132.00
Low-Off-High Selector Switch	U	\$132.00
Fast-Slow-Off-Auto Selector Switch	V	\$150.00
High-Low-Off-Auto Selector Switch	W	\$150.00

#### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty CR104P Style)		Code	List Price GO-10G1
Type	Color - Functionality		
None		A	\$0.00
Standard Lights	Red & Amber Across Coils	K	\$324.00
	Red & Green Across Coils	L	\$324.00
	Red & Amber Across Coils & Unwired Green	X	\$486.00
	Red & Amber Across Coils	2	\$324.00
LED Lights	Red & Green Across Coils	3	\$324.00
	Red & Amber Across Coils & Unwired Green	5	\$486.00
	Red & Amber Across Coils	S	\$360.00
Push-To-Test Lights	Red & Green Across Coils	T	\$360.00
	Red & Amber Across Coils & Unwired Green	Y	\$540.00



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR415 Magnetic Starters

2 Speed – 2 Winding, Nonfusible and Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1 Relay, 2NO-2NC, 24/120V Coil - unwired	B <sup>5</sup>	\$306.00	\$468.00	\$306.00	\$468.00	\$480.00	\$636.00
2 Relays, 24/120V Coil - unwired	C <sup>5</sup>	\$612.00	\$936.00	\$612.00	\$936.00	\$960.00	\$1272.00
DIN Rail - for Customer Use	D	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00
12 Point Terminal Strip - unwired (12 PT Strip)	E	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00
Space Heater w/ NC Contact	H <sup>6</sup>	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00
1 Relay + 12 PT Strip	J <sup>5</sup>	\$415.00	\$577.00	\$415.00	\$577.00	\$589.00	\$745.00
2 Relays + 12 PT Strip	K <sup>5</sup>	\$721.00	\$1045.00	\$721.00	\$1045.00	\$1069.00	\$1381.00
DIN Rail + 12 PT Strip + Space Heater	L <sup>6</sup>	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00
2 Relays + 12 PT Strip + Space Heater	M <sup>5,6</sup>	\$841.00	\$1165.00	\$841.00	\$1165.00	\$1189.00	\$1501.00
Time Delay ON Relay, 24/120V Coil - unwired (TD)	N <sup>5</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
Time Delay OFF Relay, 24/120V Coil - unwired (TD)	P <sup>5</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
12 PT Strip + TD ON	R <sup>5</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + TD OFF	S <sup>5</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + Space Heater + TD ON	T <sup>5,6</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00
12 PT Strip + Space Heater + TD OFF	U <sup>5,6</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00

<sup>5</sup>Relay/Timer coil voltage is equivalent to CPT secondary voltage. Requires minimum 100 extra VA CPT option.

<sup>6</sup>Maximum number of auxiliary contacts shall be reduced by 1.

#### GENERAL NOTE:

On NEMA Size 3 & 4 starters, if selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) then control circuit fusing, a control power transformer, or 120V separate sourced control is required when the protective device is rated greater than 100 Amps.







# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

# Section 1

### CR414 Magnetic Starters

2 Speed – 2 Winding, Thermal Magnetic Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																
Steps:			Step 1	Step 2				Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9			

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code. Add list price from each step to arrive at total list for price for starter.

#### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4	
	Standard Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1	Standard Enclosure CR	List Price GO-10G1
0	414B1	\$1506.00	414B6	\$1704.00	414B2	\$1704.00	414B4	\$2442.00
1	414C1	\$1590.00	414C6	\$1788.00	414C2	\$1788.00	414C4	\$2514.00
2	414D1	\$2334.00	414D6	\$2676.00	414D2	\$2676.00	414D4	\$3528.00
3	414E1	\$3210.00	414E6	\$3894.00	414E2	\$3894.00	414E4	\$5178.00
4	414F1	\$7176.00	414F6	\$9084.00	414F2	\$9084.00	414F4	\$10224.00

Note: All enclosures include external overload reset buttons. NEMA 4 enclosures are stainless steel.

#### Step 2 (Digits 8, 9) Select Control Voltage (No CPT and Standard Size CPT)

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT	List Price GO-10G1	Standard Size CPT	NEMA Size				
						0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1
120V w/ Surge Protector (SP)	01	\$54.00	F1	\$132.00	-					
120V	02	\$0.00	F2	\$132.00	-					
240V	03	\$0.00	F3	\$132.00	-					
480V	04	\$0.00	F4	\$132.00	-					
600V	05	\$0.00	F5	\$132.00	-					
208V	08	\$0.00	F8	\$132.00	-					
24V <sup>1</sup>	09	\$0.00	-	-	-					
240V/120V w/CPT	-	-	-	-	93	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
480V/120V w/CPT	-	-	-	-	94	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
600V/120V w/CPT	-	-	-	-	95	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
208V/120V w/CPT	-	-	-	-	98	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
240V/120V w/CPT & SP	-	-	-	-	33	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
480V/120V w/CPT & SP	-	-	-	-	34	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
600V/120V w/CPT & SP	-	-	-	-	35	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
208V/120V w/CPT & SP	-	-	-	-	38	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
240V/24V w/CPT <sup>1</sup>	-	-	-	-	S3	\$294.00	\$294.00	\$352.00	-	-
480V/24V w/CPT <sup>1</sup>	-	-	-	-	S4	\$294.00	\$294.00	\$352.00	-	-
600V/24V w/CPT <sup>1</sup>	-	-	-	-	S5	\$294.00	\$294.00	\$352.00	-	-
208V/24V w/CPT <sup>1</sup>	-	-	-	-	S8	\$294.00	\$294.00	\$352.00	-	-

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR414 Magnetic Starters

## Section 1

2 Speed - 2 Winding, Thermal Magnetic Circuit Breaker Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

#### Step 2 (Digits 8, 9) Select Control Voltage (Extra Capacity CPT + 100VA and 200VA)

Control Circuit Voltage & CPT	Standard Size CPT + 100VA	NEMA Size					Standard Size CPT + 200VA	NEMA Size					
		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1	
120V w/ Surge Protector (SP)	-						-						
120V	-						-						
240V	-						-						
480V	-						-						
600V	-						-						
208V	-						-						
24V <sup>1</sup>	-						-						
240V/120V w/CPT	13	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	23	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
480V/120V w/CPT	14	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	24	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
600V/120V w/CPT	15	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	25	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
208V/120V w/CPT	18	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	28	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
240V/120V w/CPT & SP	53	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	63	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
480V/120V w/CPT & SP	54	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	64	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
600V/120V w/CPT & SP	55	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	65	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
208V/120V w/CPT & SP	58	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	68	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
240V/24V w/CPT <sup>1</sup>	A3	\$420.00	\$420.00	\$504.00	-	-	B3	\$523.00	\$523.00	\$618.00	-	-	
480V/24V w/CPT <sup>1</sup>	A4	\$420.00	\$420.00	\$504.00	-	-	B4	\$523.00	\$523.00	\$618.00	-	-	
600V/24V w/CPT <sup>1</sup>	A5	\$420.00	\$420.00	\$504.00	-	-	B5	\$523.00	\$523.00	\$618.00	-	-	
208V/24V w/CPT <sup>1</sup>	A8	\$420.00	\$420.00	\$504.00	-	-	B8	\$523.00	\$523.00	\$618.00	-	-	

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.

#### Step 3 (Digits 10, 11) Select Protective Device

#### Thermal-Mag Circuit Breaker - Spectra™ Series

NEMA Size	200-208V				230-240V				460-480V				575-600V							
	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1				
0	2	15	TC	\$138.00	3	15	TC	\$138.00	5	15	TC	\$138.00	5	15	TC	\$138.00				
	3	20	TD	\$138.00	20	20	TD	\$138.00	20	20	TD	\$138.00	20	20	TD	\$138.00				
1	15	TC	\$138.00	15	TC	\$138.00	15	TC	\$138.00	7 1/2	15	TC	\$138.00	7 1/2	15	TC	\$138.00			
	20	TD	\$138.00	20	TD	\$138.00	20	TD	\$138.00	7 1/2	20	TD	\$138.00	10	20	TD	\$138.00			
	25	TE	\$138.00	5	25	TE	\$138.00	10	25	TE	\$138.00	25	25	TE	\$138.00	25	TE	\$138.00		
	5	30	TF	\$138.00	30	30	TF	\$138.00	30	30	TF	\$138.00	30	30	TF	\$138.00				
2	7 1/2	40	TG	\$174.00	7 1/2	40	TG	\$174.00	40	40	TG	\$174.00	40	40	TG	\$174.00				
	30	TF	\$174.00	30	30	TF	\$174.00	30	30	TF	\$174.00	15	30	TF	\$174.00					
	40	TG	\$138.00	40	TG	\$138.00	15	40	TG	\$138.00	20	40	TG	\$138.00	20	40	TG	\$138.00		
	10	50	TH	\$138.00	10	50	TH	\$138.00	20	50	TH	\$138.00	25	50	TH	\$138.00	25	50	TH	\$138.00
	60	TJ	\$210.00	60	60	TJ	\$210.00	25	60	TJ	\$210.00	60	60	TJ	\$210.00	60	60	TJ	\$210.00	
	70	TK	\$210.00	15	70	TK	\$210.00	70	70	TK	\$210.00	70	70	TK	\$210.00	70	70	TK	\$210.00	
	50	TH	\$174.00	50	50	TH	\$174.00	50	50	TH	\$174.00	30	50	TH	\$174.00	30	50	TH	\$174.00	
	60	TJ	\$0.00	60	60	TJ	\$0.00	30	60	TJ	\$0.00	60	60	TJ	\$0.00	60	60	TJ	\$0.00	
3	70	TK	\$0.00	70	70	TK	\$0.00	70	70	TK	\$0.00	40	70	TK	\$0.00	40	70	TK	\$0.00	
	15	80	TL	\$0.00	80	80	TL	\$0.00	40	80	TL	\$0.00	50	80	TL	\$0.00	50	80	TL	\$0.00
	90	TM	\$0.00	20	90	TM	\$0.00	90	90	TM	\$0.00	90	90	TM	\$0.00	90	90	TM	\$0.00	
	20	100	TN	\$0.00	100	100	TN	\$0.00	50	100	TN	\$0.00	100	100	TN	\$0.00	100	100	TN	\$0.00
	110	TP	\$0.00	25	110	TP	\$0.00	110	110	TP	\$0.00	110	110	TP	\$0.00	110	110	TP	\$0.00	
	25	125	TQ	\$630.00	30	125	TQ	\$630.00	125	125	TQ	\$630.00	125	125	TQ	\$630.00	125	125	TQ	\$630.00
4	100	TN	\$603.00	100	100	TN	\$603.00	100	100	TN	\$603.00	60	100	TN	\$603.00	60	100	TN	\$603.00	
	125	TQ	\$0.00	125	125	TQ	\$0.00	60	125	TQ	\$0.00	75	125	TQ	\$0.00	75	125	TQ	\$0.00	
	30	150	TR	\$0.00	150	150	TR	\$0.00	75	150	TR	\$0.00	100	150	TR	\$0.00	100	150	TR	\$0.00
	175	TS	\$603.00	40	175	TS	\$603.00	175	175	TS	\$603.00	175	175	TS	\$603.00	175	175	TS	\$603.00	
	40	200	TT	\$0.00	50	200	TT	\$0.00	100	200	TT	\$0.00	200	200	TT	\$0.00	200	200	TT	\$0.00



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR414 Magnetic Starters

2 Speed – 2 Winding, Thermal Magnetic Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (1NC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (1NO-1NC)	2	\$48.00
Thermal Bi-Metallic Ambient Compensated (1NC)	3	\$54.00
Thermal Bi-Metallic Ambient Compensated (1NO-1NC)	4	\$102.00
Solid State Overload (1NO-1NC)	(#)	\$54.00

(#) Select Code for Solid State Overload amp rating from table below.

#### 2-Speed Solid State Overload Ranges

Code	NEMA SIZE					
	0 & 1		2		3 & 4	
	Hi Amp	Lo Amp	Hi Amp	Lo Amp	Hi Amp	Lo Amp
C	0.4 - 0.85	0.4 - 0.85	6.5 - 13.5	6.5 - 13.5	17 - 35	17 - 35
D	0.8 - 1.7	0.4 - 0.85	13 - 27	6.5 - 13.5	35 - 70	17 - 35
E	0.8 - 1.7	0.8 - 1.7	13 - 27	13 - 27	35 - 70	35 - 70
F	1.6 - 3.4	0.4 - 0.85	25 - 50	6.5 - 13.5	65 - 135	17 - 35
G	1.6 - 3.4	0.8 - 1.7	25 - 50	13 - 27	65 - 135	35 - 70
H	1.6 - 3.4	1.6 - 3.4	25 - 50	25 - 50	65 - 135	65 - 135
U	3.2 - 6.8	0.8 - 1.7	-	-	-	-
K	3.2 - 6.8	1.6 - 3.4	-	-	-	-
L	3.2 - 6.8	3.2 - 6.8	-	-	-	-
M	6.5 - 13.5	1.6 - 3.4	-	-	-	-
V	6.5 - 13.5	3.2 - 6.8	-	-	-	-
W	6.5 - 13.5	6.5 - 13.5	-	-	-	-
R	13 - 27	3.2 - 6.8	-	-	-	-
S	13 - 27	6.5 - 13.5	-	-	-	-
T	13 - 27	13 - 27	-	-	-	-

#### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts (per Contactor)	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$132.00
1NC	C	\$132.00
1NO-1NC	D <sup>2</sup>	\$264.00
2NO	E <sup>2</sup>	\$264.00
2NC	F <sup>2</sup>	\$264.00

<sup>2</sup>Not available on 2 speed – 1 winding sizes 0-1.

#### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 190-480V (PFR w/UV)	C	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 575V (PFR w/UV)	D	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay - 208V (PFR)	E <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 240V (PFR)	F <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 480V (PFR)	G <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 575V (PFR)	H <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Elapsed Time Meter (120V/60Hz) Wired Across Coil (ETM)	I <sup>4</sup>	\$348.00	\$588.00	\$348.00	\$588.00	\$348.00	\$588.00
ETM + PFR w/UV (190-480V)	L <sup>4</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR w/UV (575V)	N <sup>4</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR (208V)	p <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (240V)	Q <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (480V)	R <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (575V)	S <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-

<sup>3</sup>Available for Type 1 Enclosure only.

<sup>4</sup>Requires 120V Control Circuit Voltage or CPT w/ 120V Secondary.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR414 Magnetic Starters

## Section 1

2 Speed - 2 Winding, Thermal Magnetic Circuit Breaker Type  
Part Number Configuration  
Valid for NEMA sizes 0-4

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
Fast/Slow/Stop Push Button	J	\$240.00
High/Low/Off Push Button	K	\$240.00
High/Low Push Button & HOA Selector Switch	L	\$264.00
Fast/Slow Push Button & HOA Selector Switch	M	\$264.00
HOA & Slow/Fast Selector Switches	P	\$264.00
HOA & Low/High Selector Switches	R	\$264.00
Slow-Off-Fast Selector Switch	T	\$132.00
Low-Off-High Selector Switch	U	\$132.00
Fast-Slow-Off-Auto Selector Switch	V	\$150.00
High-Low-Off-Auto Selector Switch	W	\$150.00

#### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty CR104P Style)		Code	List Price GO-10G1
Type	Color - Functionality		
None		A	\$0.00
Standard Lights	Red & Amber Across Coils	K	\$324.00
	Red & Green Across Coils	L	\$324.00
	Red & Amber Across Coils & Unwired Green	X	\$486.00
LED Lights	Red & Amber Across Coils	2	\$324.00
	Red & Green Across Coils	3	\$324.00
	Red & Amber Across Coils & Unwired Green	5	\$486.00
Push-To-Test Lights	Red & Amber Across Coils	S	\$360.00
	Red & Green Across Coils	T	\$360.00
	Red & Amber Across Coils & Unwired Green	Y	\$540.00

#### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1 Relay, 2NO-2NC, 24/120V Coil - unwired	B <sup>5</sup>	\$306.00	\$468.00	\$306.00	\$468.00	\$480.00	\$636.00
2 Relays, 24/120V Coil - unwired	C <sup>5</sup>	\$612.00	\$936.00	\$612.00	\$936.00	\$960.00	\$1272.00
DIN Rail - for Customer Use	D	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00
12 Point Terminal Strip - unwired (12 PT Strip)	E	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00
Space Heater w/ NC Contact	H <sup>6</sup>	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00
1 Relay + 12 PT Strip	J <sup>5</sup>	\$415.00	\$577.00	\$415.00	\$577.00	\$589.00	\$745.00
2 Relays + 12 PT Strip	K <sup>5</sup>	\$721.00	\$1045.00	\$721.00	\$1045.00	\$1069.00	\$1381.00
DIN Rail + 12 PT Strip + Space Heater	L <sup>6</sup>	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00
2 Relays + 12 PT Strip + Space Heater	M <sup>5,6</sup>	\$841.00	\$1165.00	\$841.00	\$1165.00	\$1189.00	\$1501.00
Time Delay ON Relay, 24/120V Coil - unwired (TD)	N <sup>5</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
Time Delay OFF Relay, 24/120V Coil - unwired (TD)	P <sup>5</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
12 PT Strip + TD ON	R <sup>5</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + TD OFF	S <sup>5</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + Space Heater + TD ON	T <sup>5,6</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00
12 PT Strip + Space Heater + TD OFF	U <sup>5,6</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00

<sup>5</sup>Relay/Timer coil voltage is equivalent to CPT secondary voltage. Requires minimum 100 extra VA CPT option.

<sup>6</sup>Maximum number of auxiliary contacts shall be reduced by 1.

#### GENERAL NOTE:

On NEMA Size 3 & 4 starters, if selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) then control circuit fusing, a control power transformer, or 120V separate sourced control is required when the protective device is rated greater than 100 Amps.





# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR494 Mag-Break Magnetic Starters

2 Speed - 2 Winding, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

C	R																
---	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Steps: Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code.  
Add list price from each step to arrive at total list for price for starter.

#### Step 1 (Digits 1-7) Select NEMA Size and Enclosure

NEMA Size	NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4	
	Standard Enclosure	List Price	Standard Enclosure	List Price	Standard Enclosure	List Price	Standard Enclosure	List Price
	CR	GO-10G1	CR	GO-10G1	CR	GO-10G1	CR	GO-10G1
0	494B1	\$1680.00	494B6	\$1878.00	494B2	\$1878.00	494B4	\$2616.00
1	494C1	\$1764.00	494C6	\$1962.00	494C2	\$1962.00	494C4	\$2688.00
2	494D1	\$2508.00	494D6	\$2850.00	494D2	\$2850.00	494D4	\$3702.00
3	494E1	\$3210.00	494E6	\$3894.00	494E2	\$3894.00	494E4	\$5178.00
4	494F1	\$7176.00	494F6	\$9084.00	494F2	\$9084.00	494F4	\$10224.00

Note: All enclosures include external overload reset buttons. NEMA 4 enclosures are stainless steel.

#### Step 2 (Digits 8, 9) Select Control Voltage (No CPT and Standard Size CPT)

Control Circuit Voltage & CPT	No CPT	List Price GO-10G1	Control Fuses, No CPT	List Price GO-10G1	Standard Size CPT	NEMA Size				
						0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1
120V w/ Surge Protector (SP)	01	\$54.00	F1	\$132.00	-					
120V	02	\$0.00	F2	\$132.00	-					
240V	03	\$0.00	F3	\$132.00	-					
480V	04	\$0.00	F4	\$132.00	-					
600V	05	\$0.00	F5	\$132.00	-					
208V	08	\$0.00	F8	\$132.00	-					
24V <sup>1</sup>	09	\$0.00	-	-	-					
240V/120V w/CPT	-	-	-	-	93	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
480V/120V w/CPT	-	-	-	-	94	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
600V/120V w/CPT	-	-	-	-	95	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
208V/120V w/CPT	-	-	-	-	98	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00
240V/120V w/CPT & SP	-	-	-	-	33	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
480V/120V w/CPT & SP	-	-	-	-	34	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
600V/120V w/CPT & SP	-	-	-	-	35	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
208V/120V w/CPT & SP	-	-	-	-	38	\$348.00	\$348.00	\$406.00	\$522.00	\$594.00
240V/24V w/CPT <sup>1</sup>	-	-	-	-	S3	\$294.00	\$294.00	\$352.00	-	-
480V/24V w/CPT <sup>1</sup>	-	-	-	-	S4	\$294.00	\$294.00	\$352.00	-	-
600V/24V w/CPT <sup>1</sup>	-	-	-	-	S5	\$294.00	\$294.00	\$352.00	-	-
208V/24V w/CPT <sup>1</sup>	-	-	-	-	S8	\$294.00	\$294.00	\$352.00	-	-

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR494 Mag-Break Magnetic Starters

2 Speed – 2 Winding, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 2 (Digits 8, 9) Select Control Voltage (Extra Capacity CPT + 100VA and 200VA)

	Standard Size CPT + 100VA	NEMA Size					Standard Size CPT + 200VA	NEMA Size					
		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1		0 List Price GO-10G1	1 List Price GO-10G1	2 List Price GO-10G1	3 List Price GO-10G1	4 List Price GO-10G1	
120V w/ Surge Protector (SP)	-						-						
120V	-						-						
240V	-						-						
480V	-						-						
600V	-						-						
208V	-						-						
24V <sup>1</sup>	-						-						
240V/120V w/CPT	13	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	23	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
480V/120V w/CPT	14	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	24	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
600V/120V w/CPT	15	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	25	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
208V/120V w/CPT	18	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	28	\$523.00	\$523.00	\$618.00	\$714.00	\$775.00	
240V/120V w/CPT & SP	53	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	63	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
480V/120V w/CPT & SP	54	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	64	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
600V/120V w/CPT & SP	55	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	65	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
208V/120V w/CPT & SP	58	\$474.00	\$474.00	\$558.00	\$654.00	\$714.00	68	\$577.00	\$577.00	\$672.00	\$768.00	\$829.00	
240V/24V w/CPT <sup>1</sup>	A3	\$420.00	\$420.00	\$504.00	-	-	B3	\$523.00	\$523.00	\$618.00	-	-	
480V/24V w/CPT <sup>1</sup>	A4	\$420.00	\$420.00	\$504.00	-	-	B4	\$523.00	\$523.00	\$618.00	-	-	
600V/24V w/CPT <sup>1</sup>	A5	\$420.00	\$420.00	\$504.00	-	-	B5	\$523.00	\$523.00	\$618.00	-	-	
208V/24V w/CPT <sup>1</sup>	A8	\$420.00	\$420.00	\$504.00	-	-	B8	\$523.00	\$523.00	\$618.00	-	-	

Note: CPT includes 2 primary fuses and 1 secondary fuse.

<sup>1</sup>24V coils not available for NEMA size 3 & 4.

#### Step 3 (Digits 10, 11) Select Protective Device

#### Mag-Break Circuit Breaker - Spectra™ Series

NEMA Size	200-208V				230-240V				460-480V				575-600V			
	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1	Max Hp	CB Rating (Amps)	Code	List Price GO-10G1
0	3	MA		\$0.00	1/2	3	MA	\$0.00	1	3	MA	\$0.00	1	3	MA	\$0.00
	1	7	MB	\$0.00	1	7	MB	\$0.00	3	7	MB	\$0.00	3	7	MB	\$0.00
	3	15	MC	\$0.00	3	15	MC	\$0.00	5	15	MC	\$0.00	5	15	MC	\$0.00
1	15	MC		\$0.00	15	MC		\$0.00	7 1/2	15	MC	\$0.00	10	15	MC	\$0.00
	20	MD		\$0.00	20	MD		\$0.00	10	20	MD	\$0.00	20	20	MD	\$0.00
	5	25	ME	\$0.00	5	25	ME	\$0.00	25	25	ME	\$0.00	25	25	ME	\$0.00
	30	MF		\$0.00	7 1/2	30	MF	\$0.00	30	30	MF	\$0.00	30	30	MF	\$0.00
2	7 1/2	40	MG	\$0.00	40	MG		\$0.00	40	40	MG	\$0.00	40	40	MG	\$0.00
	25	ME		\$0.00	25	ME		\$0.00	25	25	ME	\$0.00	15	25	ME	\$0.00
	30	MF		\$0.00	30	MF		\$0.00	15	30	MF	\$0.00	20	30	MF	\$0.00
	40	MG		\$0.00	10	40	MG	\$0.00	20	40	MG	\$0.00	25	40	MG	\$0.00
3	10	50	MH	\$0.00	50	MH		\$0.00	25	50	MH	\$0.00	50	50	MH	\$0.00
	60	MJ		\$0.00	15	60	MJ	\$0.00	60	60	MJ	\$0.00	60	60	MJ	\$0.00
	40	MG		\$0.00	40	MG		\$0.00	40	40	MG	\$0.00	30	40	MG	\$0.00
	50	MH		\$0.00	50	MH		\$0.00	30	50	MH	\$0.00	50	50	MH	\$0.00
4	60	MJ		\$0.00	60	MJ		\$0.00	60	60	MJ	\$0.00	40	60	MJ	\$0.00
	15	70	MK	\$0.00	20	70	MK	\$0.00	40	70	MK	\$0.00	50	70	MK	\$0.00
	20	80	ML	\$0.00	80	ML		\$0.00	80	80	ML	\$0.00	80	80	ML	\$0.00
	90	MM		\$0.00	25	90	MM	\$0.00	50	90	MM	\$0.00	90	90	MM	\$0.00
4	25	100	MN	\$0.00	30	100	MN	\$0.00	100	100	MN	\$0.00	100	100	MN	\$0.00
	80	ML		\$0.00	80	ML		\$0.00	80	80	ML	\$0.00	60	80	ML	\$0.00
	100	MN		\$0.00	100	MN		\$0.00	60	100	MN	\$0.00	75	100	MN	\$0.00
	30	125	MQ	\$0.00	125	MQ		\$0.00	75	125	MQ	\$0.00	125	125	MQ	\$0.00
4	40	150	MR	\$0.00	40	150	MR	\$0.00	150	150	MR	\$0.00	100	150	MR	\$0.00
	175	MS		\$0.00	50	175	MS	\$0.00	100	175	MS	\$0.00	175	175	MS	\$0.00



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR494 Mag-Break Magnetic Starters

2 Speed - 2 Winding, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 4 (Digit 12) Select Overload Relay

Overload Relay	Code	List Price GO-10G1
Thermal Bi-Metallic Non-compensated (1NC)	1	\$0.00
Thermal Bi-Metallic Non-compensated (1NO-1NC)	2	\$48.00
Thermal Bi-Metallic Ambient Compensated (1NC)	3	\$54.00
Thermal Bi-Metallic Ambient Compensated (1NO-1NC)	4	\$102.00
Solid State Overload (1NO-1NC)	(#)	\$54.00

(#) Select Code for Solid State Overload amp rating from table below.

#### 2-Speed Solid State Overload Ranges

Code	NEMA SIZE					
	0 & 1		2		3 & 4	
	Hi Amp	Lo Amp	Hi Amp	Lo Amp	Hi Amp	Lo Amp
C	0.4 - 0.85	0.4 - 0.85	6.5 - 13.5	6.5 - 13.5	17 - 35	17 - 35
D	0.8 - 1.7	0.4 - 0.85	13 - 27	6.5 - 13.5	35 - 70	17 - 35
E	0.8 - 1.7	0.8 - 1.7	13 - 27	13 - 27	35 - 70	35 - 70
F	1.6 - 3.4	0.4 - 0.85	25 - 50	6.5 - 13.5	65 - 135	17 - 35
G	1.6 - 3.4	0.8 - 1.7	25 - 50	13 - 27	65 - 135	35 - 70
H	1.6 - 3.4	1.6 - 3.4	25 - 50	25 - 50	65 - 135	65 - 135
U	3.2 - 6.8	0.8 - 1.7	-	-	-	-
K	3.2 - 6.8	1.6 - 3.4	-	-	-	-
L	3.2 - 6.8	3.2 - 6.8	-	-	-	-
M	6.5 - 13.5	1.6 - 3.4	-	-	-	-
V	6.5 - 13.5	3.2 - 6.8	-	-	-	-
W	6.5 - 13.5	6.5 - 13.5	-	-	-	-
R	13 - 27	3.2 - 6.8	-	-	-	-
S	13 - 27	6.5 - 13.5	-	-	-	-
T	13 - 27	13 - 27	-	-	-	-

#### Step 5 (Digit 13) Select Auxiliary Contacts

Aux Contacts (per Contactor)	Code	List Price GO-10G1
None	A	\$0.00
1NO	B	\$132.00
1NC	C	\$132.00
1NO-1NC	D <sup>2</sup>	\$264.00
2NO	E <sup>2</sup>	\$264.00
2NC	F <sup>2</sup>	\$264.00

<sup>2</sup>Not available on 2 speed - 1 winding sizes 0-1.

#### Step 6 (Digit 14) Select Monitoring Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 190-480V (PFR w/UV)	C	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay with Undervoltage Protection (panel mounted) - 575V (PFR w/UV)	D	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Phase Failure Relay - 208V (PFR)	E <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 240V (PFR)	F <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 480V (PFR)	G <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Phase Failure Relay - 575V (PFR)	H <sup>3</sup>	\$425.00	-	\$425.00	-	\$425.00	-
Elapsed Time Meter (120V/60Hz) Wired Across Coil (ETM)	I <sup>4</sup>	\$348.00	\$588.00	\$348.00	\$588.00	\$348.00	\$588.00
ETM + PFR w/UV (190-480V)	L <sup>4</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR w/UV (575V)	N <sup>4</sup>	\$1404.00	\$1644.00	\$1404.00	\$1644.00	\$1404.00	\$1644.00
ETM + PFR (208V)	p <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (240V)	Q <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (480V)	R <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-
ETM + PFR (575V)	S <sup>3,4</sup>	\$773.00	-	\$773.00	-	\$773.00	-

<sup>3</sup>Available for Type 1 Enclosure only.

<sup>4</sup>Requires 120V Control Circuit Voltage or CPT w/ 120V Secondary.





# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

# Section 1

### CR494 Mag-Break Magnetic Starters

2 Speed – 2 Winding, Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 0-4

#### Step 7 (Digit 15) Select Push Button/Selector Switch

Push Button/Selector Switch - Heavy Duty	Code	List Price GO-10G1
None	A	\$0.00
Fast/Slow/Stop Push Button	J	\$240.00
High/Low/Off Push Button	K	\$240.00
High/Low Push Button & HOA Selector Switch	L	\$264.00
Fast/Slow Push Button & HOA Selector Switch	M	\$264.00
HOA & Slow/Fast Selector Switches	P	\$264.00
HOA & Low/High Selector Switches	R	\$264.00
Slow-Off-Fast Selector Switch	T	\$132.00
Low-Off-High Selector Switch	U	\$132.00
Fast-Slow-Off-Auto Selector Switch	V	\$150.00
High-Low-Off-Auto Selector Switch	W	\$150.00

#### Step 8 (Digit 16) Select Pilot Device

Pilot Light (Heavy Duty CR104P Style)		Code	List Price GO-10G1
Type	Color - Functionality		
None		A	\$0.00
Standard Lights	Red & Amber Across Coils	K	\$324.00
	Red & Green Across Coils	L	\$324.00
	Red & Amber Across Coils & Unwired Green	X	\$486.00
LED Lights	Red & Amber Across Coils	2	\$324.00
	Red & Green Across Coils	3	\$324.00
	Red & Amber Across Coils & Unwired Green	5	\$486.00
Push-To-Test Lights	Red & Amber Across Coils	S	\$360.00
	Red & Green Across Coils	T	\$360.00
	Red & Amber Across Coils & Unwired Green	Y	\$540.00

#### Step 9 (Digit 17) Select Control Options

Device	Code	List Price GO-10G1					
		NEMA Size 0-2		NEMA Size 3		NEMA Size 4	
		Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X	Type 1, 3R, & 12	Type 4/4X
None	A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1 Relay, 2NO-2NC, 24/120V Coil - unwired	B <sup>5</sup>	\$306.00	\$468.00	\$306.00	\$468.00	\$480.00	\$636.00
2 Relays, 24/120V Coil - unwired	C <sup>5</sup>	\$612.00	\$936.00	\$612.00	\$936.00	\$960.00	\$1272.00
DIN Rail - for Customer Use	D	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00	\$89.00
12 Point Terminal Strip - unwired (12 PT Strip)	E	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00
Space Heater w/ NC Contact	H <sup>6</sup>	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00
1 Relay + 12 PT Strip	J <sup>5</sup>	\$415.00	\$577.00	\$415.00	\$577.00	\$589.00	\$745.00
2 Relays + 12 PT Strip	K <sup>5</sup>	\$721.00	\$1045.00	\$721.00	\$1045.00	\$1069.00	\$1381.00
DIN Rail + 12 PT Strip + Space Heater	L <sup>6</sup>	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00	\$318.00
2 Relays + 12 PT Strip + Space Heater	M <sup>5,6</sup>	\$841.00	\$1165.00	\$841.00	\$1165.00	\$1189.00	\$1501.00
Time Delay ON Relay, 24/120V Coil - unwired (TD)	N <sup>5</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
Time Delay OFF Relay, 24/120V Coil - unwired (TD)	P <sup>5</sup>	\$504.00	\$660.00	\$504.00	\$660.00	\$504.00	\$660.00
12 PT Strip + TD ON	R <sup>5</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + TD OFF	S <sup>5</sup>	\$613.00	\$769.00	\$613.00	\$769.00	\$613.00	\$769.00
12 PT Strip + Space Heater + TD ON	T <sup>5,6</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00
12 PT Strip + Space Heater + TD OFF	U <sup>5,6</sup>	\$733.00	\$889.00	\$733.00	\$889.00	\$733.00	\$889.00

<sup>5</sup>Relay/Timer coil voltage is equivalent to CPT secondary voltage. Requires minimum 100 extra VA CPT option.

<sup>6</sup>Maximum number of auxiliary contacts shall be reduced by 1.

#### GENERAL NOTE:

If selecting factory installed and wired operator devices (Push Buttons, Selector Switches, and/or Pilot Lights) control circuit fusing, a control power transformer, or 24V/120V separate sourced control is required, regardless of protective device rating.



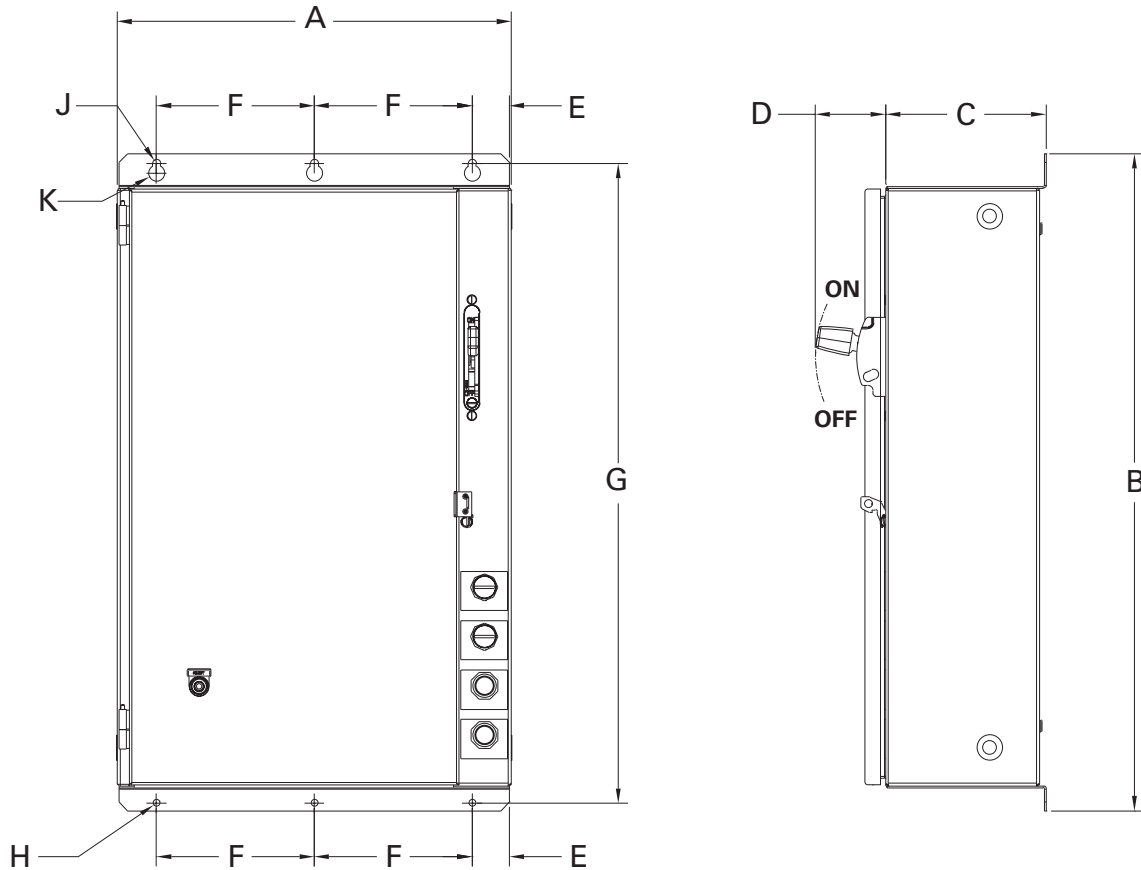
# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR412, CR413, CR492, CR414, CR415, CR494 Magnetic Starters

## Section 1

2 Speed, Combination, NEMA Type 1, 3R, 12, 4/4X  
 100 Horsepower Maximum  
 NEMA Sizes 0-4  
 600 Volts Maximum 50/60Hz  
 Outlines, Dimensions in. (mm)



#### NEMA Type 1 Enclosure

(Enclosure Code = 1)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	19.78 (502.4)	33.32 (846.3)	8.14 (206.7)	3.56 (90.4)	1.89 (48.0)	8.00 (203.2)	32.44 (824.0)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3-4	23.00 (584.2)	53.82 (1367)	8.14 (206.7)	3.73 (94.6)	3.39 (86.1)	8.00 (203.2)	52.94 (1344.7)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)

#### NEMA Type 3R/12 Enclosure

(Enclosure Code = 6 or 2)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	20.00 (508.0)	33.25 (844.6)	8.20 (208.2)	3.48 (88.5)	1.91 (48.5)	8.00 (203.2)	32.13 (816.0)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3-4	23.00 (584.2)	53.82 (1367.0)	8.20 (208.2)	3.50 (88.8)	3.41 (86.6)	8.00 (203.2)	52.70 (1338.5)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR412, CR413, CR492, CR414, CR415, CR494 Magnetic Starters

## Section 1

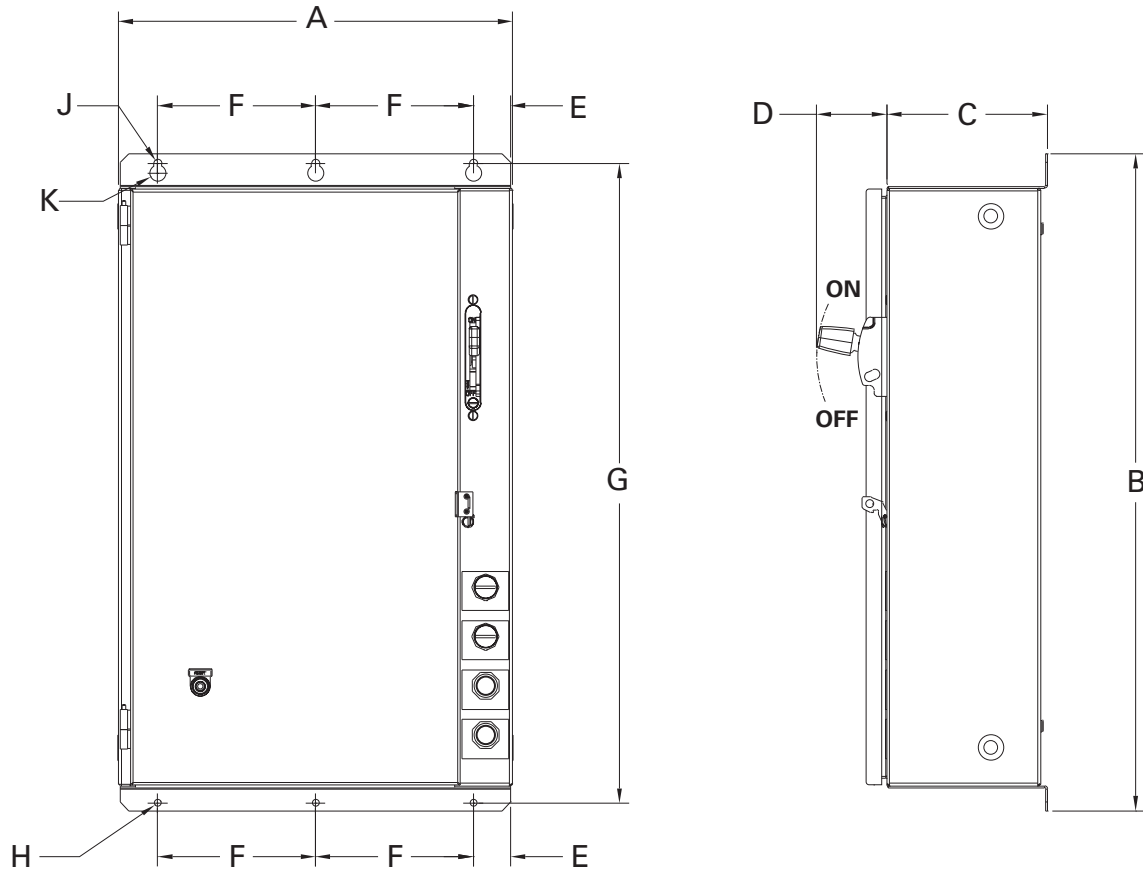
2 Speed, Combination, NEMA Type 1, 3R, 12, 4/4X

100 Horsepower Maximum

NEMA Sizes 0-4

600 Volts Maximum 50/60Hz

Outlines, Dimensions in. (mm)



### NEMA Type 4/4X Enclosure

(Enclosure Code = 4)

NEMA Size	A	B	C	D	E	F	G	H (dia)	J (dia)	K (dia)
0-2	20.00 (508.0)	33.32 (846.3)	8.14 (206.7)	3.72 (94.6)	1.91 (48.5)	8.00 (203.2)	32.20 (817.8)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)
3-4	23.00 (584.2)	53.76 (1365.5)	8.14 (206.7)	3.55 (90.2)	3.41 (86.6)	8.00 (203.2)	52.64 (1336.9)	0.34 (8.7)	0.41 (10.3)	0.81 (20.6)



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

# Section 1

### CR306, CR307, CR308, CR309, CR310, CR311, CR387, CR390, CR407, CR408, CR410, CR411, CR487, CR490 Magnetic Starters

Factory-Installed Modifications

NEMA Sizes 00-6

#### Starter Modifications—Factory Installed

Factory-installed modifications are available for those starters as indicated in the tables. Shown here are the **List Price Additions** to standard catalog listed forms and are subject to **GO-10G** discount. Prices shown are not to be used as separate selling prices. For field modification kits see pages 1-124 to 1-131. Supplying combinations of these items may affect standard enclosure dimensions and type of construction. In extreme instances, it may not be possible to furnish all of them within the limitations of a starter design.

Type of Installation/ Starters	Item No.	Modifications	Enclosure Type	Starter NEMA Size									
				00	0	1	2	3	4	5	6		
				List Price Addition, GO-10G									
Pilot Devices Mounted in Cover or Flange of CR306 CR307 CR308 CR387 CR407 CR408 CR487	1	Push Buttons											
	1a	START-STOP <sup>1</sup>	1	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$132.00	
	1b	OFF-ON <sup>1</sup>	1	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$132.00	
	1c	START-STOP (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	
	1d	START Push Button and H-O-A Selector Switch (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$264.00	\$264.00	\$264.00	\$264.00	\$264.00	\$264.00	\$264.00	\$264.00	
	1e	Single Push Button, Unwired (Specify Marking) (HEAVY-DUTY, CR104P)	1	<sup>2</sup>	\$40.00	\$40.00	\$40.00	\$40.00	\$40.00	\$40.00	\$40.00	\$40.00	
		Single Push Button, Unwired (Specify Marking) (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00	
	1f	Single Illuminated Push Button, Unwired (Specify Marking) (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	
	2	Selector Switches											
	2a	HAND-OFF-AUTO <sup>1,3</sup>	1	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$132.00	
		HAND-OFF-AUTO <sup>1,3</sup> (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	
	2b	OFF-ON <sup>1</sup>	1	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$132.00	
		OFF-ON (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	
	2c	Single Selector Switch Maintained (Specify Marking)											
		Two- or Three-Position (Specify Position) <sup>4</sup> (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	
		Four-Position <sup>4</sup> (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	
	2d	Key Operated Maintained (Specify Marking and Key-Removal Position)											
		Two- or Three-Position <sup>4</sup> (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$168.00	\$168.00	\$168.00	\$168.00	\$168.00	\$168.00	\$168.00	\$168.00	
	3	Nonstandard Markings (Specify)	Any	<sup>2</sup>	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00	

<sup>1</sup> Factory-installed modification kit for sizes 00-5.

<sup>2</sup> Not available in NEMA Size 00. Use Size 0 starter and modification.

<sup>3</sup> This modification not available with items 1a, 1b or 1c because STOP push button would not work in AUTO position; instead order modification 1d.

<sup>4</sup> Specify CR104 operator and contact block by product number.

#### Control Circuit Fusing

Per the NEC and UL508 Section 18.2 - Control Circuit Fuses must be used when the branch circuit protective device rating is too large to serve as protection for the control circuit. This depends on the control wire size and whether all control circuit wires are within the enclosure. See table below:

Control Circuit Wire Size (AWG)	Provide supplemental control circuit protection if control circuits with wires longer than 12 inches are connected to branch circuit protection exceeding the ratings below		Maximum Supplemental Control Circuit Protection Rating (Amperes)
	Maximum Branch Circuit Protection Rating (Amperes)		
	Conductors within Enclosure	Conductors outside Enclosure	
22	12	3	3
20	20	5	5
18	25	7	7
16	40	10	10
14	100	45	20
12	120	60	25

The factory must provide this protection, if the circuit provided by the factory requires the fuses. The factory will provide control circuit fuses in enclosed starters and contactors with pilot devices, control relays or other control components that are factory wired; when used with line voltage control; when the size listed below is being supplied.

Non-combination starters (CR305, CR306, CR309, CR385, CR386)  
Size 4 and above

Combination starters  
Size 0-3 with Mag-Break Protector  
Size 3 with:  
—Circuit Breaker greater than 100 amps, or  
—Fuse Clips greater than 100 amps, or  
Size 4 and above with any circuit breakers, circuit protector or fuse clips.

**Control Circuit fuses (Modification 9) must be added to the enclosed starter or contactor pricing.**

All CPTs will be supplied with primary fuses. CPTs without primary fuses are no longer available.

When control circuit fuses are not factory supplied, customer provided wiring or branch circuit protection sizing to these contactors and starters may still require that the customer/installer add the fusing in the field. It will be the customer/installer's responsibility to ensure code compliance under these conditions.

Heater Selection Tables: See pages 1-153 to 1-159



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR306, CR307, CR308, CR309, CR310, CR311, CR387, CR390, CR407, CR408, CR410, CR411, CR487, CR490 Magnetic Starters

#### Factory-Installed Modifications

#### Starter Modifications—Factory Installed

The general information at the top of page 1-124 regarding factory-installed modifications, also applies to those listed in the table below.

Type of Installation/ Starters	Item No.	Modifications	Enclosure Type	Starter NEMA Size								
				00	0	1	2	3	4	5	6	
				List Price Addition, GO-10G								
Pilot Devices Mounted In Cover or Flange of CR306, CR307, CR308, CR387, CR407, CR408, CR487	4	Indicating Light <sup>1</sup>										
	4a	One (Red Only) <sup>2</sup>	1	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00	\$162.00	
	4b	One (Specify Red or Green) (HEAVY-DUTY, CR104P)	Any	<sup>3</sup>	\$162.00	\$162.00	\$162.00	\$162.00	\$162.00	\$162.00	\$162.00	
	4c	Two (Includes 1 NC Auxiliary Contact) <sup>4</sup> (HEAVY-DUTY, CR104P)	Any	<sup>3</sup>	\$390.00	\$390.00	\$390.00	\$390.00	\$390.00	\$390.00	\$390.00	
	4d	One Push-To-Test and/or Transformer Type (Red or Green)	Any	<sup>3</sup>	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	
	4e	Two Push-To-Test (Includes 1 NC Auxiliary Contact) and/or Transformer Type <sup>4</sup>	Any	<sup>3</sup>	\$426.00	\$426.00	\$426.00	\$426.00	\$426.00	\$426.00	\$426.00	
Pilot Devices Mounted In Cover or Flange of CR309, CR310, CR311, CR390, CR410, CR411, CR490	5	Push Buttons										
	5a	FORWARD-STOP-REVERSE	Any	<sup>3</sup>	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	
	5b	HIGH-LOW-OFF	Any	<sup>3</sup>	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	
	5c	FAST-SLOW-STOP	Any	<sup>3</sup>	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	
	5d	HIGH-LOW Push Button and H-O-A Selector Switch	Any	<sup>3</sup>	\$264.00	\$264.00	\$264.00	\$264.00	\$264.00	\$264.00	\$264.00	
	5e	Single Push Button, Unwired (Specify Marking) <sup>5</sup>	Any	<sup>3</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	
	5f	Single Illuminated Push Button, Unwired (Specify Marking) <sup>5</sup>	Any	<sup>3</sup>	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	
	6	Selector Switches										
	6a	LOW-OFF-HIGH	Any	<sup>3</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	
	6b	SLOW-OFF-FAST	Any	<sup>3</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	
	6c	FORWARD-OFF-REVERSE	Any	<sup>3</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	
	6d	LOW-HIGH and HAND-OFF-AUTO	Any	<sup>3</sup>	\$264.00	\$264.00	\$264.00	\$264.00	\$264.00	\$264.00	\$264.00	
	6e	HAND-OFF-AUTO	Any	<sup>3</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	
	6f	Single Selector Switch Maintained (Specify Marking and Positions) (Specify Two or Three Positions) <sup>5</sup>	Any	<sup>3</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	
6g	Key Operated Maintained (Specify Marking and Key-Removal Positions) (Specify Two or Three Positions) <sup>5</sup>	Any	<sup>3</sup>	\$168.00	\$168.00	\$168.00	\$168.00	\$168.00	\$168.00	\$168.00		
6h	Nonstandard Markings	Any	<sup>3</sup>	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00		

**Note:** For indicating light modifications on CR309-311 & CR390, see p. 1-124.

<sup>1</sup> One indicating light: Wired in parallel with operating coil.

Two indicating lights: Red is wired in parallel with operating coil, green is wired through an auxiliary contact.

<sup>2</sup> Factory-installed field modification kit for sizes 00-4 and size 5 without CPT.

<sup>3</sup> Not available in NEMA Size 00. Use Size 0 starter and modification.

<sup>4</sup> Maximum of three additional auxiliary contacts available on size 0-1.

<sup>5</sup> Specify CR104P operator and contact block by product number.

#### Control Circuit Fusing

Per the NEC and UL508 Section 18.2 - Control Circuit Fuses must be used when the branch circuit protective device rating is too large to serve as protection for the control circuit. This depends on the control wire size and whether all control circuit wires are within the enclosure. See table below:

Provide supplemental control circuit protection if control circuits with wires longer than 12 inches are connected to branch circuit protection exceeding the ratings below

Control Circuit Wire Size (AWG)	Maximum Branch Circuit Protection Rating (Amperes)		Maximum Supplemental Control Circuit Protection Rating (Amperes)
	Conductors within Enclosure	Conductors outside Enclosure	
22	12	3	3
20	20	5	5
18	25	7	7
16	40	10	10
14	100	45	20
12	120	60	25

The factory must provide this protection, if the circuit provided by the factory requires the fuses. The factory will provide control circuit fuses in enclosed starters and contactors with pilot devices, control relays or other control components that are factory wired; when used with line voltage control; when the size listed below is being supplied.

Non-combination starters (CR305, CR306, CR309, CR385, CR386)

Size 4 and above

Combination starters

Size 0-3 with Mag-Break Protector

Size 3 with:

—Circuit Breaker greater than 100 amps, or

—Fuse Clips greater than 100 amps, or

Size 4 and above with any circuit breakers, circuit protector or fuse clips.

**Control Circuit fuses (Modification 9) must be added to the enclosed starter or contactor pricing.**

All CPTs will be supplied with primary fuses. CPTs without primary fuses are no longer available.

When control circuit fuses are not factory supplied, customer provided wiring or branch circuit protection sizing to these contactors and starters may still require that the customer/installer add the fusing in the field. It will be the customer/installer's responsibility to ensure code compliance under these conditions.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

# Section 1

## CR306, CR307, CR308, CR309, CR310, CR311, CR387, CR390, CR407, CR408, CR410, CR411, CR487, CR490 Magnetic Starters

### Factory-Installed Modifications

### Starter Modifications—Factory Installed

The general information at the top of page 1-124, regarding factory-installed modifications, also applies to those listed in the table below.

Type of Installation/ Starters	Item No.	Modifications	Enclosure Type	Starter NEMA Size										
				00	0	1	2	3	4	5	6			
				List Price Addition, GO-10G										
Pilot Devices Mounted in Cover or Flange of CR309, CR410, CR411, CR490	7	Indicating Lights (Specify Color) <sup>1</sup>												
	7a	Two	Any	<sup>2</sup>	\$324.00	\$324.00	\$324.00	\$324.00	\$324.00	\$324.00	\$324.00	\$324.00	\$324.00	
	7b	Three	Any	<sup>2</sup>	\$618.00	\$618.00	\$618.00	\$618.00	\$618.00	\$618.00	\$618.00	\$618.00	\$618.00	
	7c	Two Push-To-Test	Any	<sup>2</sup>	\$360.00	\$360.00	\$360.00	\$360.00	\$360.00	\$360.00	\$360.00	\$360.00	\$360.00	
	7d	Three Push-To-Test	Any	<sup>2</sup>	\$672.00	\$672.00	\$672.00	\$672.00	\$672.00	\$672.00	\$672.00	\$672.00	\$672.00	
Control Circuit in CR306, CR307, CR308, CR309, CR310, CR311, CR387, CR390, CR407, CR408, CR410, CR411, CR487, CR490	8	Separate Control Circuit (Specify Voltage and Frequency, Reference Items 13a and 13b for Standard Voltages)	Any	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
	9	Fused Control Circuit—Two Fuses	Any	<sup>2</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	
	10	Control Transformer—Standard Capacity, 50 or 60 Hertz <sup>3</sup> Two Primary and One Fuse Secondary, (Specify Voltage Rating) Standard Voltages at 60 Hertz 220-230-240 Primary, 110-115-120 Secondary 440-460-480 Primary, 110-115-120 Secondary 550-575-600 Primary, 110-115-120 Secondary 200-208 Primary, 115-120 Secondary	Any	<sup>2</sup>	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00	\$594.00	\$594.00	\$594.00	\$594.00	
	11	Control Transformer—100 VA Additional Capacity, 60 Hertz	Any	<sup>2</sup>	\$420.00	\$420.00	\$504.00	\$600.00	\$660.00	\$720.00	\$720.00	\$720.00	\$720.00	
	12													
	13	Operating Coil												
	13a <sup>6</sup>	Standard Voltages at 60 Hertz: 24, 115-120, 200-208, 230-240, 460-480, 575-600	Any	N/C	N/C	N/C	N/C	N/C	N/C	N/C	<sup>6</sup>	<sup>6</sup>	<sup>6</sup>	<sup>6</sup>
	13b	Standard Voltages at 50 Hertz: 110, 220, 380-415, 440, 550	Any	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	13d <sup>4</sup>	DC—Standard Voltages: 24, 115-125	Any	<sup>5</sup>	<sup>5</sup>	\$102.00	\$114.00	\$198.00	\$264.00	\$720.00	\$720.00	\$720.00	\$720.00	

<sup>1</sup> Two indicating lights have each one wired in parallel with each operating coil. (Both red or red/amber or red/green.) Three lights have one wired in parallel with each operating coil with the third one wired through two normally closed auxiliary contacts. (Both red or red/amber, with green "OFF.")

<sup>2</sup> Not available in NEMA Size 00. Use size 0 starter and modification.

<sup>3</sup> The National Electrical Code, Article 450-3(B), requires primary fuses in most typical installations. Refer to the NEC, Article 450 prior to ordering control transformer without primary fuses to insure compliance. Control circuit fuse kits from page 1-136 may be used to provide primary fusing. Fuses must be sized to meet the requirements of the NEC according to the "Recommended Fuse" table.

<sup>4</sup> Available in CR305 Contactor forms.

<sup>5</sup> Not available in NEMA Sizes 00 or 0. Use Size 1 contactor and modification.

<sup>6</sup> 24V coil not available on size 5 and 6.

### Recommended Fuse

CPT VA	Primary Voltage		
	208/240	480	600
50	1	0.5	0.5
100	2	1	0.75
150	3	1.5	1
250	5	2	2
300	6	3	2

### Control Circuit Fusing

Per the NEC and UL508 Section 18.2 - Control Circuit Fuses must be used when the branch circuit protective device rating is too large to serve as protection for the control circuit. This depends on the control wire size and whether all control circuit wires are within the enclosure. See table below:

Provide supplemental control circuit protection if control circuits with wires longer than 12 inches are connected to branch circuit protection exceeding the ratings below

Control Circuit Wire Size (AWG)	Maximum Branch Circuit Protection Rating (Amperes)		Maximum Supplemental Control Circuit Protection Rating (Amperes)
	Conductors within Enclosure	Conductors outside Enclosure	
22	12	3	3
20	20	5	5
18	25	7	7
16	40	10	10
14	100	45	20
12	120	60	25

The factory must provide this protection, if the circuit provided by the factory requires the fuses. The factory will provide control circuit fuses in enclosed starters and contactors with pilot devices, control relays or other control components that are factory wired; when used with line voltage control; when the size listed below is being supplied.

Non-combination starters (CR305, CR306, CR309, CR385, CR386)

Size 4 and above

Combination starters

Size 0-3 with Mag-Break Protector

Size 3 with:

—Circuit Breaker greater than 100 amps, or

—Fuse Clips greater than 100 amps, or

Size 4 and above with any circuit breakers, circuit protector or fuse clips.

**Control Circuit fuses (Modification 9) must be added to the enclosed starter or contactor pricing.**

All CPTs will be supplied with primary fuses. CPTs without primary fuses are no longer available.

When control circuit fuses are not factory supplied, customer provided wiring or branch circuit protection sizing to these contactors and starters may still require that the customer/installer add the fusing in the field. It will be the customer/installer's responsibility to ensure code compliance under these conditions.

Heater Selection Tables: See pages 1-153 to 1-159



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR306, CR307, CR308, CR309, CR310, CR311, CR387, CR390, CR407, CR408, CR410, CR411, CR487, CR490 Magnetic Starters

#### Factory-Installed Modifications

#### Starter Modifications—Factory Installed

The general information at the top of page 1-124, regarding factory-installed modifications, also applies to those listed in the table below.

Type of Installation/Starters	Item No.	Modifications	Enclosure Type	Starter NEMA Size							
				00	0	1	2	3	4	5	6
				List Price Addition, GO-10G							
Auxiliary Relays Mounted In CR306, CR307, CR308, CR387, CR407, CR408, CR487	14 <sup>1</sup>	Control Relay, Four-Pole (Convertible) Unwired (Specify Coil Voltage)	1, 3R, 12 4/4X	<sup>2</sup>	\$306.00 <sup>3</sup>	\$306.00 <sup>3</sup>	\$306.00	\$306.00	\$480.00	\$540.00	\$540.00
	15 <sup>1</sup>	Time-Delay Relay, Unwired, Pneumatic—1 to 60 Seconds, 1 NO-1 NC (Specify TDD or TDE and Coil Voltage) <sup>3</sup>	1, 3R, 12 4/4X	<sup>2</sup>	\$504.00	\$504.00	\$504.00	\$504.00	\$504.00	\$504.00	\$504.00
	16 <sup>1</sup>	Timing Relay, Motor Driven, Unwired (Specify Voltage & Timing Range) <sup>3</sup>	Any	<sup>2</sup>	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
	17 <sup>1</sup>	Phase Loss, Phase Reversal, Three-Phase, Undervoltage Relay (Starting & Running Protection, Specify Voltage)	Any	<sup>2</sup>	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
	18	Two-Speed Controllers									
Auxiliary Relays Mounted In CR309, CR310, CR311, CR390, CR410, CR411, CR490	18a	Compelling Relay (Forces Low-Speed Start) <sup>3</sup>	Any	<sup>2</sup>	\$396.00	\$396.00	\$396.00	\$396.00	\$396.00	\$396.00	\$396.00
	18b	Accelerating or Decelerating, Timing Relay (Imposes Time-delay Between Speed Change) <sup>3</sup>	Any	<sup>2</sup>	\$924.00	\$924.00	\$924.00	\$924.00	\$924.00	\$924.00	\$924.00
Auxiliary Contacts Mounted In CR306, CR307, CR308, CR309, CR310, CR311, CR387, CR390, CR407, CR408, CR410, CR411, CR487, CR490	19	Magnetic Contactor or Starter (Specify Number of NO or NC) — Single Speed, Nonreversing: Four Maximum, Sizes 0, 1 Five Maximum, Size 2-6 Reversers and Two-Speed, Two Winding: Two Maximum, Per Contactor, Sizes 0-6 Two-Speed, One Winding: One on Left Contactor, Two on Right Contactor, Size 0, 1 Two Maximum Per Contactor, Sizes 2-6	Any	<sup>2</sup>	\$66.00	\$66.00	\$66.00	\$66.00	\$66.00	\$66.00	\$66.00
Auxiliary Contacts on Operator Handle	20	Disconnect Switch									
	20a	One Normally Open or One Normally Closed (Specify)	1, 3R, 4/4X, 12	<sup>2</sup>	\$66.00	\$66.00	\$66.00	\$66.00	\$66.00	\$66.00	\$66.00
	20b	Single Pole Double Throw	1, 3R, 4/4X, 12	<sup>2</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00
	21	Circuit Breaker									
	21a	One Normally Open or One Normally Closed (Specify)	1, 3R, 4/4X, 12	<sup>2</sup>	\$66.00	\$66.00	\$66.00	\$66.00	\$66.00	\$66.00	\$66.00
21b	Single Pole Double Throw	1, 3R, 4/4X, 12	<sup>2</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	

<sup>1</sup> NEMA Type 1 enclosures require oiltight pilot devices when this modification is used with NEMA Starter sizes 0, 1, and 2. Only oiltight pilot devices will fit the oversized enclosure required. The list price addition for the oversized enclosure is already included in the published list price.

<sup>2</sup> Not available in NEMA Size 00. Use Size 0 starter and modification.

<sup>3</sup> Requires 100 VA extra capacity control transformer.

#### Control Circuit Fusing

Per the NEC and UL508 Section 18.2 - Control Circuit Fuses must be used when the branch circuit protective device rating is too large to serve as protection for the control circuit. This depends on the control wire size and whether all control circuit wires are within the enclosure. See table below:

Control Circuit Wire Size (AWG)	Provide supplemental control circuit protection if control circuits with wires longer than 12 inches are connected to branch circuit protection exceeding the ratings below		Maximum Supplemental Control Circuit Protection Rating (Amperes)
	Maximum Branch Circuit Protection Rating (Amperes)		
	Conductors within Enclosure	Conductors outside Enclosure	
22	12	3	3
20	20	5	5
18	25	7	7
16	40	10	10
14	100	45	20
12	120	60	25

The factory must provide this protection, if the circuit provided by the factory requires the fuses. The factory will provide control circuit fuses in enclosed starters and contactors with pilot devices, control relays or other control components that are factory wired; when used with line voltage control; when the size listed below is being supplied.

Non-combination starters (CR305, CR306, CR309, CR385, CR386)

Size 4 and above

Combination starters

Size 0-3 with Mag-Break Protector

Size 3 with:

—Circuit Breaker greater than 100 amps, or

—Fuse Clips greater than 100 amps, or

Size 4 and above with any circuit breakers, circuit protector or fuse clips.

**Control Circuit fuses (Modification 9) must be added to the enclosed starter or contactor pricing.**

All CPTs will be supplied with primary fuses. CPTs without primary fuses are no longer available.

When control circuit fuses are not factory supplied, customer provided wiring or branch circuit protection sizing to these contactors and starters may still require that the customer/installer add the fusing in the field. It will be the customer/installer's responsibility to ensure code compliance under these conditions.



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic

## Section 1

### CR306, CR307, CR308, CR309, CR310, CR311, CR387, CR390, CR407, CR408, CR410, CR411, CR487, CR490 Magnetic Starters

#### Factory-Installed Modifications

#### Starter Modifications—Factory Installed

The general information at the top of page 1-124, regarding factory-installed modifications, also applies to those listed in the table below.

Type of Installation/ Starters	Item No.	Modifications	Enclosure Type	Starter NEMA Size								
				00	0	1	2	3	4	5	6	
				List Price Addition, GO-10G								
Overload Relay Mounted On CR306, CR307, CR308, CR309, CR310, CR311, CR387, CR390, CR407, CR408, CR410, CR411, CR487, CR490	22a	1 NC Contact, Manual Reset (Standard)	Any	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	22b	1 NO and 1 NC Isolated Contact	Any	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00
	22c	Ambient Compensated (1 NC Contact)	Any	\$27.00	\$27.00	\$27.00	\$27.00	\$27.00	\$27.00	\$27.00	\$27.00	\$27.00
	23	Automatic Reset	Any	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00
	24	Omit the Overload (Deduct)	Any	\$-30.00	\$-30.00	\$-30.00	\$-54.00	\$-90.00	\$-144.00	\$-504.00	\$-504.00	\$-504.00
	25	Solid-State Overload <sup>1</sup>	Any	—	—	\$27.00	\$27.00	\$27.00	\$27.00	\$27.00	\$27.00	\$27.00
Metering Mounted In CR306, CR307, CR308, CR309, CR310, CR311, CR387, CR390, CR407, CR408, CR410, CR411, CR487, CR490	27	Elapsed Time Meter	1, 3R, 12	<sup>2</sup>	\$348.00	\$348.00	\$348.00	\$348.00	\$348.00	\$348.00	\$348.00	\$348.00
			4/4X	<sup>2</sup>	\$588.00	\$588.00	\$588.00	\$588.00	\$588.00	\$588.00	\$588.00	\$588.00
Fuse Clips Mounted In CR308, CR311, CR408, CR411	28	Class H (Standard)	Any	<sup>2</sup>	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
		Class J	Any	<sup>2</sup>	\$18.00	\$18.00	\$30.00	\$72.00	\$120.00	\$168.00	—	—
		Class R	Any	<sup>2</sup>	\$9.00	\$9.00	\$9.00	\$18.00	\$18.00	\$42.00	—	—
Enclosure CR306, CR307, CR308, CR309, CR310, CR311, CR387, CR390, CR407, CR408, CR410, CR411, CR487, CR490	30	Space Heater <sup>3</sup>	Any	<sup>2</sup>	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$420.00
		50 Watts—NEMA Size 0-4 Contactor/Starter 100 Watts—NEMA Size 5 Contactor/Starter										
Misc. Mounted On CR306, CR307, CR308, CR309, CR310, CR311, CR387, CR390, CR407, CR408, CR410, CR411, CR487, CR490	31	Operating Coil Surge Suppressor (120 V/60 Hz)	Any	<sup>2</sup>	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00
	32	Insulated Neutral Lug	Any	<sup>2</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00
	33	Ground Lug	Any	<sup>2</sup>	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00
	34	Terminal Block, (Catalog Number CR151B) 30A, Unwired (per point) (Specify Points)	Any	<sup>2</sup>	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00
	35	Power Factor Correction Capacitor Terminals	Any	<sup>2</sup>	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00

<sup>1</sup>Solid-state overload is ambient insensitive and has 1 NO and 1 NC isolated contacts as standard.

<sup>2</sup>Not available in NEMA Size 00. Use Size 0 starter and modification.

<sup>3</sup>If connected to control circuit transformer, 115-Volt heater requires an extra capacity transformer for Size 0-1 and Size 5.

#### Control Circuit Fusing

Per the NEC and UL508 Section 18.2 - Control Circuit Fuses must be used when the branch circuit protective device rating is too large to serve as protection for the control circuit. This depends on the control wire size and whether all control circuit wires are within the enclosure. See table below:

**Provide supplemental control circuit protection if control circuits with wires longer than 12 inches are connected to branch circuit protection exceeding the ratings below**

Control Circuit Wire Size (AWG)	Maximum Branch Circuit Protection Rating (Amperes)		Maximum Supplemental Control Circuit Protection Rating (Amperes)
	Conductors within Enclosure	Conductors outside Enclosure	
22	12	3	3
20	20	5	5
18	25	7	7
16	40	10	10
14	100	45	20
12	120	60	25

The factory must provide this protection, if the circuit provided by the factory requires the fuses. The factory will provide control circuit fuses in enclosed starters and contactors with pilot devices, control relays or other control components that are factory wired; when used with line voltage control; when the size listed below is being supplied.

Non-combination starters (CR305, CR306, CR309, CR385, CR386)  
Size 4 and above

Combination starters  
Size 0-3 with Mag-Break Protector  
Size 3 with:  
—Circuit Breaker greater than 100 amps, or  
—Fuse Clips greater than 100 amps, or  
Size 4 and above with any circuit breakers, circuit protector or fuse clips.

**Control Circuit fuses (Modification 9) must be added to the enclosed starter or contactor pricing.**

All CPTs will be supplied with primary fuses. CPTs without primary fuses are no longer available.

When control circuit fuses are not factory supplied, customer provided wiring or branch circuit protection sizing to these contactors and starters may still require that the customer/installer add the fusing in the field. It will be the customer/installer's responsibility to ensure code compliance under these conditions.





# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

# Section 1

## CR306, CR307, CR308, CR309, CR310, CR311, CR387, CR390, CR407, CR408, CR410, CR411, CR487, CR490 Magnetic Starters

### Factory-Installed Modifications

#### Starter Modifications—Factory Installed

The general information at the top of page 1-124 regarding factory-installed modifications, also applies to those listed in the table below.

Combination Type Starters	Item No.	Modifications	Enclosure Type	Starter NEMA Size						
				00	0	1	2	3	4	5
				List Price Addition, GO-10G						
CR309 Two-Speed with Nonfusible or Fusible Switch CR311 CR411	37	Nonfusible	1	1	\$564.00	\$564.00	\$720.00	\$912.00	\$1260.00	\$2256.00
			3R, 12	1	\$576.00	\$576.00	\$768.00	\$996.00	\$2028.00	\$2496.00
			4/4X	1	\$924.00	\$924.00	\$1176.00	\$1848.00	\$2244.00	\$3240.00
	38	Fusible 30A 250-600V	1	1	\$660.00	\$660.00	—	—	—	—
			3R, 12	1	\$672.00	\$672.00	—	—	—	—
			4/4X	1	\$1020.00	\$1020.00	—	—	—	—
	39	Fusible 60A 250-600V	1	—	—	\$660.00	\$768.00	—	—	—
			3R, 12	—	—	\$672.00	\$816.00	—	—	—
			4/4X	—	—	\$1020.00	\$1224.00	—	—	—
	40	Fusible 100A 250-600V	1	—	—	—	\$894.00	\$984.00	—	—
			3R, 12	—	—	—	\$942.00	\$1068.00	—	—
			4/4X	—	—	—	\$1350.00	\$1920.00	—	—
	41	Fusible 200A 250-600V	1	—	—	—	—	\$1224.00	\$1524.00	—
			3R, 12	—	—	—	—	\$1308.00	\$2244.00	—
			4/4X	—	—	—	—	\$2160.00	\$2460.00	—
	42	Fusible 400A 250-600V	1	—	—	—	—	—	\$2172.00	\$2472.00
			3R, 12	—	—	—	—	—	\$2568.00	\$2712.00
			4/4X	—	—	—	—	—	\$3108.00	\$3456.00
CR309 Two-Speed with Circuit Breaker CR310, CR410	43	Circuit Breaker	1	1	\$846.00	\$846.00	\$1002.00	\$1122.00	\$2052.00	\$3990.00
			3R, 12	1	\$846.00	\$846.00	\$1080.00	\$1206.00	\$2772.00	\$4566.00
			4/4X	1	\$1206.00	\$1206.00	\$1488.00	\$2058.00	\$2988.00	\$4974.00

<sup>1</sup> Not available in NEMA Size 00. Use Size 0 starter and modification.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR306, CR307, CR308, CR310 Magnetic Starters

## Section 1

Factory-Installed Modifications for Magnetic Starters  
NEMA Sizes 00-9

#### Factory-Installed Auxiliary Contacts

The final letter of the Product Number denotes extra auxiliary contacts (sometimes referred to as auxiliary interlocks). Order the desired extra auxiliary contacts, factory installed on the starter, by replacing the final letter of the Product Number with a letter from the first column of the auxiliary contact table.

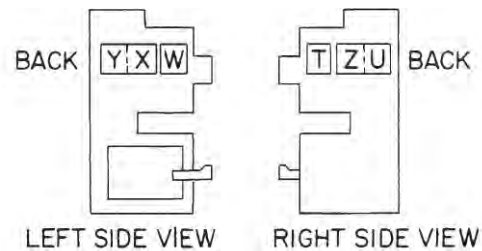
Example: CR307G104BAB is a Size 5 starter with one extra auxiliary contact, normally open.

If a 306 Product Number has no 3-letter suffix, first add an "AAA" suffix, and then substitute a letter from first column of the auxiliary contact table.

Example: CR306C022 becomes CR306C022AAD for a Size 1 starter with one extra NO and one extra NC auxiliary contact.

Extra Auxiliary Contact Table

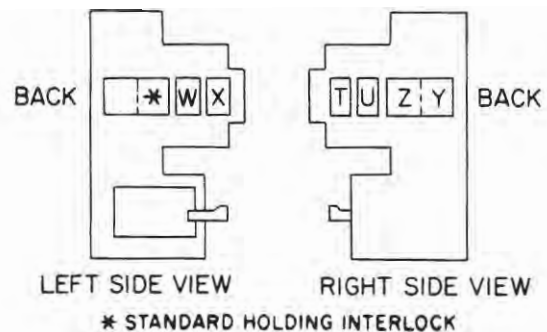
Final Suffix Letter of Product No. on Starter	Contact Location 4 Contacts Max.					
	W	X	Y	T	Z	U
A or None						
B		+				
C			⊗			
D		+	⊗			
E	+	+				
F	⊗		⊗			
G	+	+	⊗			
H	⊗	+	⊗			
J	+	+			+	
K	⊗		⊗			⊗
L	+	+		+	+	
M	⊗		⊗	⊗		⊗
N		+	⊗		+	⊗
P	+	+	⊗		+	
R	⊗	+	⊗			⊗



NEMA Sizes 0 and 1 Single-Speed, Nonreversing, 2- and 3-Pole Starters

Extra Auxiliary Contact Table

Final Suffix Letter of Product No. on Starter	Contact Location 5 Contacts Max.					
	W	X	Y	Z	T	U
A or None						
B	+					
C	⊗					
D			⊗	+		
E	+	+				
F	⊗	⊗				
G	+		⊗	+		
H	⊗		⊗	+		
J	+	+		+		
K	⊗	⊗	⊗			
L	+	+		+		+
M	⊗	⊗	⊗			⊗
N	⊗	+	⊗	+		
P	+	+	⊗	+		
R	⊗	⊗	⊗	+		
S	⊗	+	⊗	+		+
T	⊗	+	⊗	+		⊗
U	+	+	⊗	+		+
W	⊗	⊗	⊗	+		⊗
X	+	+		+	+	+
Y	⊗	⊗	⊗		⊗	⊗



NEMA Sizes 2, 3 and 4, Single-Speed Nonreversing Starters



# NEMA Full Voltage Power Devices

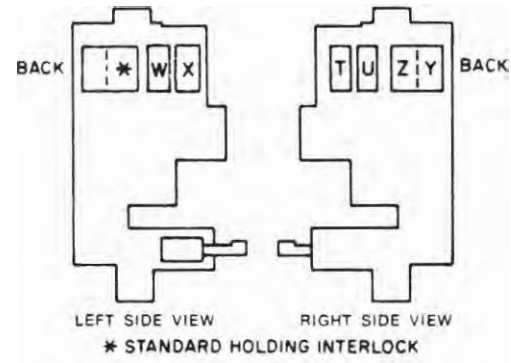
## NEMA Rated Full Voltage Starters - Magnetic

### CR306, CR307, CR308, CR310 Magnetic Starters

Factory-Installed Modifications for Magnetic Starters  
NEMA Sizes 0-9

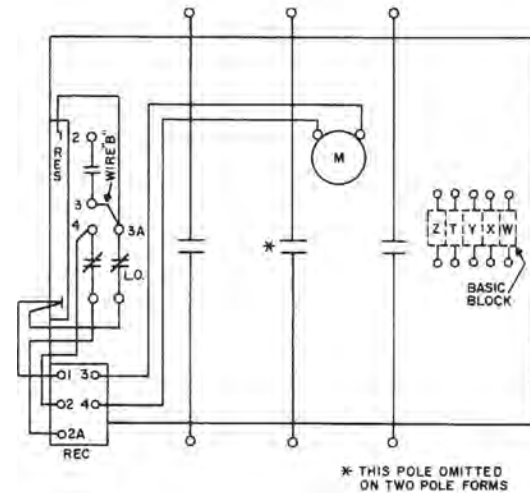
## Section 1

Extra Auxiliary Contact Table						
Final Suffix Letter of Product No. on Starter	Contact Location 5 Contacts Max.					
	W	X	Y	Z	T	U
A or None						
B	†					
C	*					
D			*	†		
E	†	†				
F	*	*				
G	†		*	†		
H	*		*	†		
J	†	†		†		
K	*	*	*			
L	†	†		†		†
M	*	*	*			*
N	*	†	*	†		
P	†	†	*	†		
R	*	*	*	†		
S	*	†	*	†		†
T	*	†	*	†		*
U	†	†	*	†		†
W	*	*	*	†		*
X	†	†		†	†	†
Y	*	*	*		*	*



NEMA Sizes 5 and 6 Single-Speed, Nonreversing, Starters

Extra Auxiliary Contact Table					
Final Suffix Letter of Product No. on Starter	Contact Location 5 Contacts Max.				
	W	X	Y	T	Z
A or None					
B	†				
C	*				
D	*	†			
E	†	†			
F	*	*			
G	†	*	†		
H	*	*	†		
J	†	†	†		
K	*	*	*		
L	†	†	†	†	
M	*	*	*	*	
N	*	†	*	†	
P	†	†	*	†	
R	*	*	*	†	
S	*	†	*	†	†
T	*	†	*	†	*
U	†	†	*	†	†
W	*	*	*	†	*
X	†	†	†	†	†
Y	*	*	*	*	*



Typical connection diagram  
NEMA Sizes 7-9



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR305X, CR385X Auxiliary Contact Kits

For Field Installation on Magnetic Starters  
NEMA Sizes 0-7

#### Application

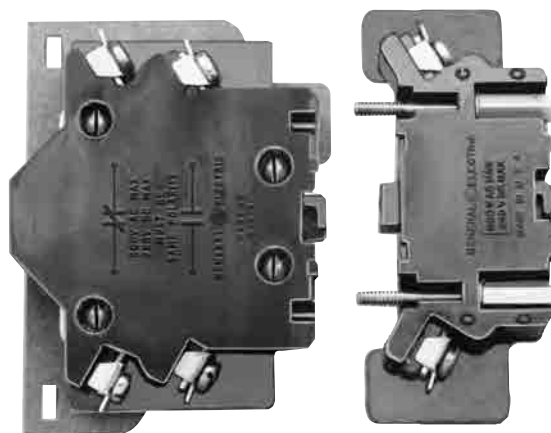
Auxiliary contacts can add to the versatility of magnetic starters by providing additional control circuits to do a variety of jobs without adding to the width of the starter.

Kits make it easy to add contacts to control accessory equipment such as indicating lights; to control sequencing of other motor starters; and in conjunction with a standard reversing starter and plugging switch, to plug-stop motors. Auxiliary contacts can be added to all across-the-line magnetic starters, combination magnetic starters, reversing and multi-speed starters.

Each auxiliary contact is rated 10 Amperes ac, resistive load, NEMA "A600," and is suitable for either right or left side mounting. An insulating shield is also provided between each auxiliary contact unit and the starter. Auxiliary contacts are furnished in the basic block design or as an adder block.

Each contact is marked NO or NC on the block and is not convertible.

Logic reed contacts suitable for low energy level circuits are also available. These are designed for applications on low-voltage control circuits (24 Volts and below), such as inputs to computers and programmable starters.



Basic Block and Adder Block

#### Product Number Selection Instructions

- Order by quantity and complete product number.  
Example: Three CR305X300A at **\$36.00 each, GO-10G.**

#### Reference Publications

Instructions	
NEMA Size	Publication Number
0, 1	GEH-4758
2	GEH-4759
3, 4	GEH-4760
5, 6	GEH-4761
7-9	GEH-5109
0, 1 Logic Reed	GEH-5178
2 Logic Reed	GEH-5185
3, 4 Logic Reed	GEH-5186
5, 6 Logic Reed	GEH-5187

#### Field-Installed Modifications for Magnetic Starters – Contents

Auxiliary Contact Kits (CR305X, CR385X) .....	1-132
Modification Kits .....	1-135
Fuse-Clip Kits (CR308X) .....	1-139



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR305X, CR385X Auxiliary Contact Kits

## Section 1

Field-Installed Modification Kits  
For 300-Line Starters

#### Auxiliary Contact Kits - Basic Blocks

NEMA Size	Contact Configuration	Block Design	Product Number	List Price GO-10G
0,1	1NO	Basic	CR305X100A	\$36.00
0,1	1NC	Basic	CR305X100B	\$36.00
0,1	1NO-1NC	Basic	CR305X100C	\$48.00
2	1NO	Basic	CR305X200A	\$36.00
2	1NC	Basic	CR305X200B	\$36.00
2	1NO-1NC	Basic	CR305X200C	\$48.00
3,4	1NO	Basic	CR305X300A	\$36.00
3,4	1NC	Basic	CR305X300B	\$36.00
3,4	1NO-1NC	Basic	CR305X300C	\$48.00
5,6	1NO	Basic	CR305X500A	\$36.00
5,6	1NC	Basic	CR305X500B	\$36.00
5,6	1NO-1NC	Basic	CR305X500C	\$48.00
7	1NO	Basic	CR385X600A	\$198.00
7	1NC	Basic	CR385X600B	\$198.00
7	1NO-1NC	Basic	CR385X600C	\$396.00
8-9	1NO	Basic	CR385X800A	\$198.00
8-9	1NC	Basic	CR385X800B	\$198.00
8-9	1NO-1NC	Basic	CR385X800C	\$396.00

#### Auxiliary Contact Kits - Adder Blocks

NEMA Size	Contact Configuration	Block Design	Product Number	List Price GO-10G
0-9	1NO	Adder	CR305X100D <sup>1</sup>	\$36.00
0-9	1NC	Adder	CR305X100E <sup>1</sup>	\$36.00

#### Logic Reed Switch Auxiliary Contacts<sup>2</sup>

NEMA Size	Contact Configuration	Product Number	List Price GO-10G
00, 0, 1	1NO-0NC	CR305X100RA	\$45.00
00, 0, 1	0NO-1NC	CR305X100RB	\$45.00
00, 0, 1	1NO-1NC	CR305X100RC	\$72.00
2	1NO-0NC	CR305X200RA	\$45.00
2	0NO-1NC	CR305X200RB	\$45.00
2	1NO-1NC	CR305X200RC	\$72.00
3, 4	1NO-0NC	CR305X300RA	\$45.00
3, 4	0NO-1NC	CR305X300RB	\$45.00
3, 4	1NO-1NC	CR305X300RC	\$72.00
5, 6	1NO-0NC	CR305X500RA	\$45.00
5, 6	0NO-1NC	CR305X500RB	\$45.00
5, 6	1NO-1NC	CR305X500RC	\$72.00

#### Contact Ratings - Basic Blocks

##### High Fidelity Contact Basic Block

120 VAC maximum .15 A maximum, 8 VA maximum resistive.  
30 VDC maximum .15 A maximum, 4.5 VA maximum resistive.

##### Standard Block

AC Volts	Continuous Current Amperes	Inrush Current Amperes	DC Volts	Continuous Current Amperes	Inrush Current Amperes
115	6.0	60	125	1.1	—
230	3.0	30	250	0.5	—
460	1.5	15	—	—	—
575	1.2	12	—	—	—

<sup>1</sup>First adder block must be mounted to a basic block. A second adder block can be added to the first adder block on size 2 through size 9 starters.

Four extra auxiliary contacts (not blocks) is the maximum that can be added to either a NEMA size 0 or 1 starter while five is the maximum extra auxiliary contacts that can be added to NEMA Size 2 through 6 devices.

<sup>2</sup>CR305X logic reed switch auxiliary contacts may be ordered as a factory-installed modification. Order by description. For factory-installed modification, add **\$75.00, GO-10G**, per circuit to price of starter.



# NEMA Full Voltage Power Devices

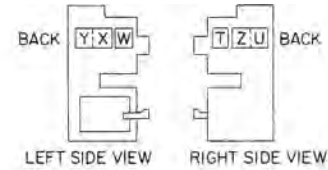
## NEMA Rated Full Voltage Starters - Magnetic

### CR305X Auxiliary Contact Kits

For Field Installation on Magnetic Starters (300-Line)  
Selection and Installation Guides

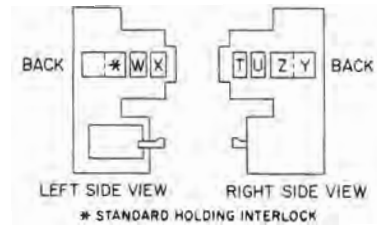
## Section 1

Extra Auxiliary Contact Table						Kits for Field Modification				
Contact Location						Order in Quantities Shown				
5 Contacts Maximum						Product Number CR305				
W	X	Y	T	Z	U	X100A	X100B	X100C <sup>1</sup>	X100D	X100E
						Basic Blocks			Adder Blocks	
	+					1				
	+	⊘					1			
	+	⊘						1		
+	+					1			1	
⊘		⊘					1			1
+	+	⊘						1	1	
+	+	⊘						1		1
+	+	⊘				2			1	
⊘		⊘			+		2			1
+	+		+	+		2			2	
⊘		⊘	⊘	⊘			2			2
+	+	⊘			+	1		1	1	
⊘	+	⊘			⊘		1	1		1



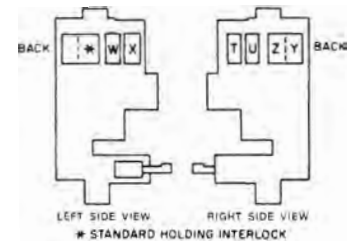
NEMA Sizes 0 and 1, Single-Speed, Nonreversing, 2- and 3-Pole and Starters (side views)

Extra Auxiliary Contact Table						Kits for Field Modification				
Contact Location						Order in Quantities Shown				
5 Contacts Maximum						Product Number CR305				
						For Size 2				
W	X	Y	Z	T	U	X200A	X200B	X200C <sup>1</sup>	X100D	X100E
						Basic Blocks			Adder Blocks	
	+								1	
⊘										1
	+		⊘					1		
+	+								2	
⊘	⊘							1		2
+		⊘						1	1	
+	+		⊘			1			2	
⊘		⊘					1			2
+	+				+	1			3	
⊘		⊘			⊘		1			3
+	+	⊘						1	1	1
⊘	⊘	⊘						1	2	
⊘	+	⊘			+			1	2	1
⊘	+	⊘			⊘			1	1	2
+	+	⊘			⊘			1	3	
⊘	⊘	⊘			⊘			1	3	3
+	+		⊘	+	+	1			4	
⊘	⊘	⊘		⊘	⊘		1			4



NEMA Sizes 2, 3 and 4, Single-Speed, Nonreversing, Starters (side views)

Extra Auxiliary Contact Table						Kits for Field Modification				
Contact Location						Order in Quantities Shown				
5 Contacts Maximum						Product Number CR305				
W	X	Y	Z	T	U	X500A	X500B	X500C <sup>1</sup>	X100D	X100E
						Basic Blocks			Adder Blocks	
	+								1	
⊘										1
	+		⊘					1		
+	+								2	
⊘	⊘							1		2
+		⊘						1	1	
+	+		⊘			1			2	
⊘		⊘					1			2
+	+	⊘			+	1			3	
⊘	⊘	⊘			⊘		1			3
+	+	⊘						1	1	1
⊘	⊘	⊘						1	2	
⊘	+	⊘			+			1	2	1
⊘	+	⊘			⊘			1	1	2
+	+	⊘			⊘			1	3	
⊘	⊘	⊘			⊘			1	3	3
+	+		⊘	+	+	1			4	
⊘	⊘	⊘		⊘	⊘		1			4



NEMA Sizes 5 and 6 Single-Speed, Nonreversing, Starters (side views)

<sup>1</sup>Both NO and NC contacts must be wired for same polarity



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic Field-Installed Modification Kits

## Section 1

For 300-Line Starters  
NEMA Sizes 00-6

### Pilot Device Modification Kits

The push button and selector switch kits listed here are supplied complete with the necessary components, hardware and written instructions for easy field installation on Type 1 enclosed starters—306.

Kit Type	NEMA Size	Product Number	List Price GO-10G
Momentary Contact Start-Stop Push Button Kits	00, 0, 1	CR305X120N	\$48.00
Momentary Contact Start-Stop Push Button Kits	2	CR305X220N	\$48.00
Momentary Contact Start-Stop Push Button Kits	3, 4	CR305X320B	\$48.00
Momentary Contact Start-Stop Push Button Kits	5	CR305X520B	\$48.00
Hand-Off-Auto Selector Switch Kits	00, 0, 1	CR305X130N	\$48.00
Hand-Off-Auto Selector Switch Kits	2	CR305X230N	\$48.00
Hand-Off-Auto Selector Switch Kits	3, 4	CR305X330B	\$48.00
Hand-Off-Auto Selector Switch Kits	5	CR305X530B	\$48.00
Off-On Selector Switch Kits	00, 0, 1	CR305X130P	\$48.00
Off-On Selector Switch Kits	2	CR305X230D	\$48.00
Off-On Selector Switch Kits	3, 4	CR305X330D	\$48.00
Off-On Selector Switch Kits	5	CR305X530D	\$48.00



Selector Switch Kits

### Fifth-Pole Kits

To be installed on NEMA Size 0, 1, and 2 magnetic four-pole contactors and starters. Permits the addition of a fifth pole with the same rating as the main poles.

NEMA Size	Mounting Position	Product Number	List Price GO-10G
0, 1	Right	CR305X111B	\$66.00
2 (add to 4-pole form)	Left	CR305X211B	\$120.00



START-STOP Push Button kits

### Adapter Mounting Plate

For mounting a 300-line magnetic starter in place of a competitive unit.

Adapter plate good for mounting in place of the following:

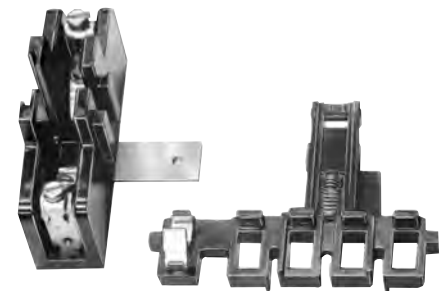
A-B 709. Size 1: W B200. Sizes 00-2: Furnas Sizes 00-1: GTE TM.

Sizes 00-2: Sq. D 8536, Sizes 00-2.

Not needed for C-H—same as GE.

**Note:** GTE now known as Joslyn Clark.

NEMA Size	Product Number	List Price GO-10G
00-1	CR306X191A	\$9.00



Fifth-Pole Kit

### Indicating Light Kits (Red)

To be installed on contactor and extend through knockout in cover of CR305-306 and devices in Type 1 enclosures. Each kit has three resistors allowing light to be used with all voltages of 110 through 600. Uses NE-45 bulb. Can be used with push button or selector switch kit.

NEMA Size	Product Number	List Price GO-10G
00, 0, 1	CR305X150N	\$90.00
2	CR305X250N	\$90.00
3, 4	CR305X350B	\$90.00
5	CR305X550B	\$90.00
NE-45 Bulb	CR2940U200BL	\$9.24 <sup>1</sup>

<sup>1</sup>NE-45 bulb is GO-10P8.



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic Field-Installed Modification Kits

For 300-Line Starters  
NEMA Sizes 00-6

## Section 1

### Surge Suppression Kit

To be connected in parallel with operating coil where the demands of solid-state circuitry necessitate prevention of undesirable reactions in logic circuits. For use on 120 Volt ac only.



Surge Suppression Kit

NEMA Size	Product Number	List Price GO-10G
0-6	CR305X146C	\$33.90

### Control Circuit Fuse Kits

Control circuit fuse kits are designed for installation on NEMA Size 00-5 across-the-line contactors and starters. They install on the side of the contactor and provide fuse protection for control circuit wiring.

These kits incorporate one or two 10 Ampere 600 Volt fuse holders for use with KTK or KTK-R fuses (or equivalent). The fuses are easily accessible with the starter enclosure covers open, and each kit contains instructions and hardware for easy installation. Instructions: GEH-4822.

NEMA Size	No. of Fuses	Fuse Type	Product Number	List Price GO-10G
00-1	1	KTK	CR305X141A	\$24.00
00-1	2	KTK	CR305X141B	\$36.00
2	1	KTK	CR305X241A	\$24.00
2	2	KTK	CR305X241B	\$36.00
3, 4	1	KTK	CR305X341A	\$24.00
3, 4	2	KTK	CR305X341B	\$36.00
5, 6	1	KTK	CR305X541A	\$24.00
5, 6	2	KTK	CR305X541B	\$36.00
00-1	1	KTK-R	CR305X141C	\$24.00
00-1	2	KTK-R	CR305X141D	\$36.00
2	1	KTK-R	CR305X241C	\$24.00
2	2	KTK-R	CR305X241D	\$36.00
3, 4	1	KTK-R	CR305X341C	\$24.00
3, 4	2	KTK-R	CR305X341D	\$36.00
5, 6	1	KTK-R	CR305X541C	\$24.00
5, 6	2	KTK-R	CR305X541D	\$36.00

### Reference Publications

#### Instructions, Indicating Light Kits for Type 1 Enclosure

NEMA Size	Publication Number
00, 0, 1	GEH-4767
2	GEH-4768
3, 4	GEH-4770

#### Instructions, Push Button and Selector Switch Kits for Type 1 Enclosure

NEMA Size	Publication Number
00, 0, 1	GEH-4763
2	GEH-4764
3, 4	GEH-4765
5	GEH-4766





# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic Field-Installed Modification Kits

For 300-Line Starters

## Section 1

### Combination Starter Transformer Kit

To be installed in CR307, CR308, and CR387 Size 0-6 combination starter. It supplies low-voltage control for such a device. Note: Control Circuit fuse kits from page 1-136 may be used, but refer to footnote 3 on page 1-126 for information regarding sizing of fuses to meet National Electrical Code (NEC) requirements. Secondary fuse is included in price.

#### Standard Capacity

VA Capacity	NEMA Size	Product Number	List Price GO-10G1
50	0, 1	CR308XT1**A	\$108.00
100	2	CR308XT2**A	\$132.00
250	3	CR308XT3**A	\$198.00
250	4	CR308XT4**A	\$246.00
	5	CR308XT5**A <sup>1</sup>	\$282.00

#### Extra Capacity (100 Watts)

VA Capacity	NEMA Size	Product Number	List Price GO-10G1
150	0, 1	CR308XT1**B	\$180.00
150	2	CR308XT2**B	\$204.00
300	3	CR308XT3**B	\$270.00
300	4	CR308XT4**B	\$318.00
	5	CR308XT5**B <sup>2</sup>	\$354.00

### \*\*Voltage and Frequency Suffixes (60 Hz)

#### Suffix

04	220-230-240/440-460-480-volt dual primary reconnectable, 110-115-120 volt secondary
05	550-575-600-volt primary, 110-115-120 volt secondary
23	200-208-volt primary, 115-120 volt secondary

### Control Amplifier

The GE CR305X control amplifier is suitable for applications with low level 24 Volt dc outputs. It allows the low level signals from a programmable control, microprocessor, or photoelectric cell to operate GE's 300-Line starters while their control coils operate at the line voltage. The control amplifier is UL listed and CSA Certified, and forms are available for NEMA Sizes 00 through 5.

Operation Type	NEMA Size	Product Number	List Price GO-10G
Nonreversing	00, 0, & 1	CR305X112A	\$54.00
Nonreversing	2	CR305X212A	\$54.00
Nonreversing	3 & 4	CR305X312A	\$54.00
Reversing	00, 0, 1, 2, 3, & 4	CR305X112P <sup>3</sup>	\$54.00

### Space Heater Kits

CR305X701 and CR305X702 space heater kits (50 Watts, except size 5 and 6 at 100 Watts) come complete with one NC auxiliary contact, necessary hardware and ready for installation on any NEMA Size 0 through 6 enclosed starter, CR306, CR307, CR308, CR309, CR310, and CR311, or equivalent 200-Line devices.

NEMA Size	Operating Voltage	Product Number	List Price GO-10G
0-1	115	CR305X701D <sup>4</sup>	\$120.00
0-1	230	CR305X701A	\$120.00
0-1	460	CR305X701B	\$120.00
0-1	600	CR305X701C	\$120.00
2, 3, 4	115	CR305X702D	\$120.00
2, 3, 4	230	CR305X702A	\$120.00
2, 3, 4	460	CR305X702B	\$120.00
2, 3, 4	600	CR305X702C	\$120.00
5, 6	115	CR305X705D <sup>4</sup>	\$120.00
5, 6	230	CR305X705A	\$120.00
5, 6	460	CR305X705B	\$120.00
5, 6	600	CR305X705C	\$120.00

<sup>1</sup>Consists of a 50 VA transformer and a relay. Use primary voltage for starter/contactors coil.

<sup>2</sup>Consists of a 150 VA transformer and a relay. Use primary voltage for starter/contactors coil.

<sup>3</sup>A quantity of two panel mount CR305X112P is required for use with reversing starters.

<sup>4</sup>If connected to control circuit transformer, 115-volt heater requires an extra-capacity transformer. Contact nearest GE Representative for additional information.



Transformer Kit



Typical Size 2 Starter with CR305X Control Amplifier Mounted on Right



Space Heater Installed on Typical NEMA Size 1 Starter



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic Field-Installed Modification Kits

For 300-Line Starters

## Section 1

### Mechanical Interlock Kits

To be installed on open CR306 or CR386 starters unless otherwise noted. If kit will not interlock starter you need, order a mechanically interlocked starter assembled complete at the factory. Kits include all parts to mechanically interlock 2 devices.

NEMA Size	Mounting Position	Baseplate	Product Number	List Price GO-10G
0-1	Horizontal	No	CR309X100B	\$42.00
2	Horizontal	No	CR309X200D	\$96.00
3-4	Horizontal	No	CR309X300B	\$180.00
5	Horizontal	Yes	CR309X501K	\$240.00
0-1	Vertical	Yes	CR309X102B <sup>5</sup>	\$96.00
2	Vertical	Yes	CR309X202B <sup>5</sup>	\$180.00
3-4	Vertical	Yes	CR309X302B <sup>5</sup>	\$240.00
5	Vertical	No	CR309X502K	\$240.00
6	Vertical	No	CR309X602B <sup>6</sup>	\$450.00
7	Vertical	No	CR389X100C	\$450.00
8-9	Vertical	No	CR389X100H	\$450.00

### Reference Publications

#### Instructions:

Space heater kits	GEH-4772
Control transformer kits	GEH-4842



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR308X Fuse-Clip Kits for Starters

Adapter Plate for Class J Fuses  
NEMA Sizes 00-5

## Section 1

#### Application - Fuse Clip Kits

---

These compact kits contain all necessary parts to convert a fusible starter to a different rating; to change a nonfusible starter over to the desired fusible rating; or to change a fusible starter to a nonfusible starter. Each kit includes six fuse-clip assemblies with mounting hardware.

Detailed instructions are furnished with every packaged unit to attain simplified conversion in the field. A screwdriver is the only tool required to make the changeover.

#### Product Number Selection Instructions

---

1. Order by complete Product Number.  
Example: CR308X112B at **\$15.00, GO-10G1**.
2. Where Product Number is not available, order by complete description, using a listed Product Number as reference.
3. Motor full-load current should not exceed ampere rating of starter, as listed on page 1-4.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR308X Fuse-Clip Kits for Starters

For 300-Line Starters

## Section 1

### Fuse-Clip Kits Class NEC Fuses

NEMA Size	Single Element NEC Fuse Max.		Single Element NEC Fuse Max.		Dual Element NEC Fuse Max.		Dual Element NEC Fuse Max.		Dual Element NEC Fuse Max.		Disconnect Switch Continuous Amperage Rating	Fuse Clip Rating @ 250 Volt Max.	Fuse Clip Rating @ 600 Volt Max.	Product Number	List Price GO-10G1
	@ 200-208V	@ 230-240V	@ 460-480V	@ 575-600V	@ 200-208V	@ 230-240V	@ 460-600V								
0,	3	3	5	5	-	-	-	-	-	-	30	Non-fuse -straps	Non-fuse -straps	CR308X110A	\$6.80
1	7 1/2	7 1/2	10	10	-	-	-	-	-	-	-	-	-	-	-
0,	3	3	-	-	3	3	-	-	-	-	30	30	-	CR308X111B <sup>1</sup>	\$15.00
1	-	-	-	-	7 1/2	7 1/2	-	-	-	-	-	-	-	-	-
0,	-	-	5	5	-	-	5	-	-	-	30	-	30	CR308X112B	\$15.00
1	-	-	7 1/2	7 1/2	-	-	10	-	-	-	-	-	-	-	-
2	10	15	25	25	-	-	-	-	-	-	60	Non-fuse -straps	Non-fuse -straps	CR308X120A	\$7.80
1,	7 1/2	7 1/2	-	-	7 1/2	7 1/2	-	-	-	-	30,	60	-	CR308X121C <sup>1</sup>	\$15.00
2	-	-	-	-	10	15	-	-	-	-	60	-	-	-	-
1,	-	-	10	10	-	-	25	-	-	-	30,	-	60	CR308X122C	\$21.00
2	-	-	15	20	-	-	-	-	-	-	60	-	-	-	-
3	25	30	50	50	-	-	-	-	-	-	100	Non-fuse -straps	Non-fuse -straps	CR308X130A	\$13.80
2,	10	15	25	25	25	15,	50	-	-	-	60,	100	100	CR308X132D <sup>1,2</sup>	\$60.00
3	-	-	30	30	-	30	-	-	-	-	100	-	-	-	-
3	25	30	50	50	25	30	-	-	-	-	100	200	200	CR308X132E <sup>1</sup>	\$108.00
4	40	50	100	100	-	-	-	-	-	-	200	Non-fuse -straps	Non-fuse -straps	CR308X140A	\$31.80
4	-	-	60	60	40	50	100	-	-	-	200	200	200	CR308X142E <sup>1</sup>	\$96.00
4	40	50	100	100	-	-	-	-	-	-	200	400	400	CR308X142F	\$276.00

### Fuse-Clip Kits Class R Fuses

NEMA Size	Single Element NEC Fuse Max.		Single Element NEC Fuse Max.		Dual Element NEC Fuse Max.		Dual Element NEC Fuse Max.		Dual Element NEC Fuse Max.		Disconnect Switch Continuous Amperage Rating	Fuse Clip Rating @ 250 Volt Max.	Fuse Clip Rating @ 600 Volt Max.	Product Number	List Price GO-10G1
	@ 200-208V	@ 230-240V	@ 460-480V	@ 575-600V	@ 200-208V	@ 230-240V	@ 460-600V								
0	3	3	-	-	3	3	-	-	-	-	30	30	-	CR308X611P <sup>1</sup>	\$18.00
1	-	-	-	-	7 1/2	7 1/2	-	-	-	-	-	-	-	CR308X611P <sup>1</sup>	\$18.00
0	-	-	5	5	-	-	5	-	-	-	30	-	30	CR308X612R	\$24.00
1	-	-	7 1/2	7 1/2	-	-	10	-	-	-	-	-	-	CR308X612R	\$24.00
2	-	-	-	-	10	15	-	-	-	-	60	60	-	CR308X621P <sup>1</sup>	\$24.00
1	7 1/2	7 1/2	-	-	7 1/2	7 1/2	-	-	-	-	30	60	-	CR308X621S <sup>1</sup>	\$24.00
2	-	-	15	20	-	-	25	-	-	-	60	-	60	CR308X622S	\$30.00
1	-	-	10	10	-	-	-	-	-	-	30	-	60	CR308X622T	\$30.00
3	-	-	-	-	25	30	-	-	-	-	100	100	-	CR308X631P <sup>1</sup>	\$78.00
2	10	15	-	-	15	15	-	-	-	-	60	100	-	CR308X631R <sup>1</sup>	\$78.00
3	-	-	30	30	-	-	50	-	-	-	100	-	100	CR308X632S <sup>1</sup>	\$78.00
2	-	-	25	25	-	-	-	-	-	-	60	-	100	CR308X632T <sup>2</sup>	\$78.00
4	-	-	-	-	40	50	-	-	-	-	200	200	-	CR308X641P	\$114.00
4	-	-	60	60	-	-	100	-	-	-	200	-	200	CR308X642S <sup>1</sup>	\$318.00

<sup>1</sup>For ordinary starting duty only. Dual element or next larger size fuses are recommended for frequent starts or long accelerating time.

<sup>2</sup>Oversize enclosure required for NEMA Type 1 enclosure.

### Adapter Plate for Class J Fuses

Product Number	List Price GO-10G1
CR308X400A	\$10.50

### Application - Adapter Plate for Class J Fuses

The CR308X400A is a universal-type adapter plate with hardware for converting to Class J fuses in combination-type magnetic motor starters, NEMA Sizes 0-3. Clips in standard NEMA Size 4 starters can be repositioned to accept Class J fuses without extra hardware. The adapter can be used to convert standard 600-Volt fusible starters by providing for easy relocation of the fuse clips in the starters. For most applications, clip sizes for Class J fuses are the same as those for ordinary NEC fuses.

The adapter can also be used to convert nonfusible starters by ordering the proper clips for Type QMR switches.

With Class J current-limiting fuses, the starters are rated at 100,000 Amperes rms symmetrical.

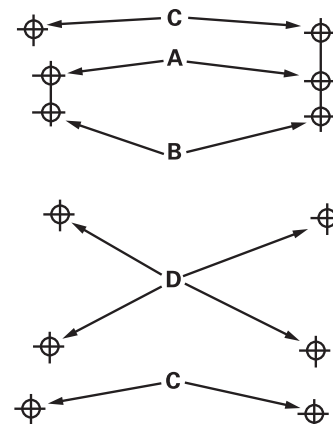
### Mounting Hole Locations

A— 30-Ampere and 60-Ampere Class J fuse block location

B— 100-Ampere Class J fuse block location

C— Overfusing 100-Ampere to 200-Ampere Class J fuse block location

D— Mounting holes for installing adapter plate to enclosure box



Adapter Plate Mounting Hole Locations



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic Enclosures For NEMA Rated Full Voltage Starters (300-Line)

### Application

To accommodate an occasional requirement for a starter in an enclosure, not stocked complete, it may be convenient and economical to stock enclosure kits for use with open starters; or even for conversion of a starter stocked in a different enclosure. UL listing can be maintained by use of these listed enclosures with listed starters, accessories, and modification kits.

Standard instructions, wiring-diagram labels and overload heater selection labels are included in each kit. Each enclosure includes an external reset for the starter overload relay, and provisions or plugged holes for optional addition of appropriate pilot devices. For example, push button(s), selector switch, and/or pilot light can be added, once the proper plug(s) is (are) removed. The external reset can be removed and replaced by use of a suitable hole plug kit.

### Product Number Selection Instructions

- Order by complete product number.  
Example: CR306X290B at **\$60.00, GO-10G.**

### Reference Publications

Instructions					
Base Product No.	Size 1	Size 2	Size 3	Size 4	Size 5
CR306X, 309X GEH-4879	GEH-4880	GEH-4881	GEH-4882	GEH-4883	
CR307X, 308X, CR387X	GEH-4884	GEH-4885	GEH-4886	GEH-4887	GEH-4888
CR310X, 311X CR390X	GEH-4890	GEH-4891	GEH-4892	GEH-4893	—

### Enclosures for NEMA Rated Full Voltage Starters (300-Line) – Contents

Application Information and Selection Instructions.....	1-141
Selection Tables.....	1-142
Combination Starter Enclosure Kits.....	1-143



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic Enclosures For NEMA Rated Full Voltage Starters (300-Line)

## Section 1

### Nonreversing

Enclosure Type	NEMA Size	For Use With CR306	Provision for Control Transformer	Width	Height	Depth	Outline Number	Product Number	List Price GO-10G1
NEMA Type 1	00, 0, 1	A, B, C	No	6.00	10.00	4.63	55-178430P001	CR306X190B	\$42.00
NEMA Type 1	2	D	No	7.38	13.25	6.13	55-178434P001	CR306X290B	\$86.00
NEMA Type 1	3	E	No	8.75	20.25	7.31	55-200200	CR306X390B	\$120.00
NEMA Type 1	4	F	No	8.75	25.00	7.31	55-200202	CR306X490B	\$252.00
NEMA Type 1	5	G	No					CR306X590B	\$462.00
NEMA Type 1	00, 0, 1	A, B, C	Yes	10.00	10.00	4.63	55-178440P001	CR306X190C	\$60.00
NEMA Type 1	2	D	Yes	12.00	13.25	6.13	55-178441P001	CR306X290C	\$96.00
NEMA Type 1	3	E	Yes	18.00	21.62	8.62	55-200208	CR306X390C	\$168.00
NEMA Type 1	4	F	Yes					CR306X490C	\$312.00
NEMA Type 1	5	G	Yes					CR306X590C	\$642.00
NEMA Type 3R	00, 0, 1	A, B, C	No	6.88	14.50	4.75	55-192653	CR306X190K	\$96.00
NEMA Type 3R	2	D	No	7.84	16.50	6.50	55-192656	CR306X290K	\$204.00
NEMA Type 3R	3	E	Yes or No	17.19	23.50	7.25	55-210105	CR306X390K <sup>1</sup>	\$288.00
NEMA Type 3R	4	F	Yes or No	17.19	27.50	7.25	55-210106	CR306X490K <sup>1</sup>	\$780.00
NEMA Type 3R	5	G	Yes or No					CR306X590K <sup>1</sup>	\$1794.00
NEMA Type 3R	00, 0, 1	A, B, C	Yes	10.38	14.50	4.75	55-205749	CR306X190M	\$96.00
NEMA Type 3R	2	D	Yes	12.50	16.50	6.50	55-205749	CR306X290M	\$204.00
NEMA Type 12	00, 0, 1	A, B, C	No	6.25	14.25	4.75	55-184777	CR306X190G	\$96.00
NEMA Type 12	2	D	No	7.63	16.25	6.25	55-184781	CR306X290G	\$204.00
NEMA Type 12	3	E	No	10.00	27.25	7.25	55-200203	CR306X390G	\$288.00
NEMA Type 12	4	F	No					CR306X490G	\$780.00
NEMA Type 12	5	G	No					CR306X590G	\$1794.00
NEMA Type 12	00, 0, 1	A, B, C	Yes	10.25	14.25	4.75	55-188449	CR306X190L	\$96.00
NEMA Type 12	2	D	Yes	12.25	16.25	6.25	55-184780	CR306X290L	\$204.00
NEMA Type 12	3	E	Yes					CR306X390L	\$288.00
NEMA Type 12	4	F	Yes					CR306X490L	\$780.00
NEMA Type 12	5	G	Yes					CR306X590L	\$1794.00
NEMA Type 4/4X	00, 0, 1	A, B, C	Yes					CR306X190T	\$246.00
NEMA Type 4/4X	2	D	Yes					CR306X290T	\$510.00
NEMA Type 4/4X	3	E	Yes					CR306X390S	\$750.00
NEMA Type 4/4X	4	F	Yes					CR306X490S	\$1314.00
NEMA Type 4/4X	5	G	Yes					CR306X590S	\$1800.00

- NEMA Type 1: Includes provisions for 1 pilot device and 1 red neon light;
- NEMA Type 3R and 12 includes 2 plugged holes for heavy duty pilot device(s);
- NEMA Type 4/4X includes 3 plugged holes for heavy duty pilot devices.

### Reversing

Enclosure Type	NEMA Size	For Use With CR306	Provision for Control Transformer	Width	Height	Depth	Outline Number	Product Number	List Price GO-10G
NEMA Type 1	00, 0, 1	A, B, C	Yes or No					CR309X190C <sup>1</sup>	\$54.00
NEMA Type 1	2	D	Yes or No					CR309X290C <sup>1</sup>	\$114.00
NEMA Type 1	3	E	No					CR309X390B	\$186.00
NEMA Type 1	4	F	No					CR309X490B	\$330.00
NEMA Type 1	3	E	Yes					CR309X390C	\$234.00
NEMA Type 1	4	F	Yes					CR309X490C	\$390.00
NEMA Type 3R	00, 0, 1	A, B, C	Yes or No	14.38	14.50	4.75	55-192655	CR309X190J	\$162.00
NEMA Type 3R	2	D	Yes or No					CR309X290J	\$294.00
NEMA Type 3R	3	E	Yes or No					CR309X390J	\$582.00
NEMA Type 3R	4	F	Yes or No					CR309X490J	\$942.00
NEMA Type 12	00, 0, 1	A, B, C	Yes or No					CR309X190L	\$162.00
NEMA Type 12	2	D	Yes or No					CR309X290L	\$294.00
NEMA Type 12	3	E	Yes or No					CR309X390L	\$582.00
NEMA Type 12	4	F	Yes or No					CR309X490L	\$942.00
NEMA Type 4/4X	00, 0, 1	A, B, C	Yes or No					CR309X190S <sup>2</sup>	\$450.00
NEMA Type 4/4X	2	D	Yes or No					CR309X290S <sup>2</sup>	\$750.00
NEMA Type 4/4X	3	E	Yes or No					CR309X390S <sup>2</sup>	\$1122.00
NEMA Type 4/4X	4	F	Yes or No					CR309X490S <sup>2</sup>	\$1974.00

- NEMA Types 1, 3R and 12 include 3 plugged holes for heavy duty pilot device(s);
- NEMA Type 4/4X includes 5 plugged holes for heavy duty pilot device(s).

<sup>1</sup>For use with or without control transformer.

<sup>2</sup>Type 4/4X stainless steel reversers also include baseplate.

Product Number Selection Instructions: See page 1-141



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic Combination Starter Enclosure Kits

## Section 1

For 300-Line Starters

All Include Handle Mechanism and Provision for Control Transformer

### Nonreversing Fusible or Nonfusible Disconnect Type

Enclosure Type	NEMA Size	For Use with CR308	Provision for Control Transformer	Width	Height	Depth	Outline Number	Product Number	List Price GO-10G1
NEMA Type 1	0, 1	B, C	Yes	10.00	24.00	6.13	55-178488	CR308X190B	\$218.00
NEMA Type 1	2	D	Yes					CR308X290B	\$351.00
NEMA Type 1	3	E	Yes					CR308X390B	\$615.00
NEMA Type 1	4	F	Yes					CR308X490B	\$1004.00
NEMA Type 1	5	G	Yes					CR308X590B	\$2196.00
NEMA Type 3R	0, 1	B, C	Yes	11.00	25.25	7.92	55-209066	CR308X190J <sup>1</sup>	\$374.00
NEMA Type 3R	2	D	Yes					CR308X290J <sup>1</sup>	\$567.00
NEMA Type 3R	3	E	Yes					CR308X390J <sup>1</sup>	\$891.00
NEMA Type 3R	4	F	Yes					CR308X490J <sup>1</sup>	\$1748.00
NEMA Type 3R	5	G	Yes					CR308X590J <sup>1</sup>	\$3972.00
NEMA Type 12	0, 1	B, C	Yes					CR308X190E <sup>1</sup>	\$374.00
NEMA Type 12	2	D	Yes					CR308X290E <sup>1</sup>	\$567.00
NEMA Type 12	3	E	Yes					CR308X390E <sup>1</sup>	\$891.00
NEMA Type 12	4	F	Yes					CR308X490E <sup>1</sup>	\$1748.00
NEMA Type 12	5	G	Yes					CR308X590E <sup>1</sup>	\$3972.00
NEMA Type 4/4X	0, 1	B, C	Yes					CR308X190S <sup>1</sup>	\$792.00
NEMA Type 4/4X	2	D	Yes					CR308X290S <sup>1</sup>	\$1239.00
NEMA Type 4/4X	3	E	Yes					CR308X390S <sup>1</sup>	\$2163.00
NEMA Type 4/4X	4	F	Yes					CR308X490S <sup>1</sup>	\$2984.00
NEMA Type 4/4X	5	G	Yes					CR308X590S <sup>1</sup>	\$7148.00

Note: Includes 2 plugged holes for Heavy-Duty Pilot Devices.

### Reversing Fusible or Nonfusible Disconnect Type

Enclosure Type	NEMA Size	For Use with CR311	Provision for Control Transformer	Product Number	List Price GO-10G1
NEMA Type 1	0, 1	B, C	Yes	CR311X190B	\$306.00
NEMA Type 1	2	D	Yes	CR311X290B	\$471.00
NEMA Type 1	3	E	Yes	CR311X390B	\$765.00
NEMA Type 1	4	F	Yes	CR311X490B	\$1184.00
NEMA Type 3R	0, 1	B, C	Yes	CR311X190J <sup>1</sup>	\$510.00
NEMA Type 3R	2	D	Yes	CR311X290J <sup>1</sup>	\$735.00
NEMA Type 3R	3	E	Yes	CR311X390J <sup>1</sup>	\$1113.00
NEMA Type 3R	4	F	Yes	CR311X490J <sup>1</sup>	\$2138.00
NEMA Type 12	0, 1	B, C	Yes	CR311X190E <sup>1</sup>	\$510.00
NEMA Type 12	2	D	Yes	CR311X290E <sup>1</sup>	\$735.00
NEMA Type 12	3	E	Yes	CR311X390E <sup>1</sup>	\$1113.00
NEMA Type 12	4	F	Yes	CR311X490E <sup>1</sup>	\$2138.00
NEMA Type 4/4X	0, 1	B, C	Yes	CR311X190S <sup>1</sup>	\$1038.00
NEMA Type 4/4X	2	D	Yes	CR311X290S <sup>1</sup>	\$1587.00
NEMA Type 4/4X	3	E	Yes	CR311X390S <sup>1</sup>	\$2721.00
NEMA Type 4/4X	4	F	Yes	CR311X490S <sup>1</sup>	\$3656.00

Note: Includes 3 plugged holes for Heavy-Duty Pilot Devices.

### Nonreversing Thermal Magnetic Circuit Breaker Type

Enclosure Type	NEMA Size	For Use with CR307	Provision for Control Transformer	Width	Height	Depth	Outline Number	Product Number	List Price GO-10G1
NEMA Type 1	0, 1	B, C	Yes	10.00	24.00	6.13	55-178488	CR307X190B	\$258.00
NEMA Type 1	2	D	Yes					CR307X290B	\$426.00
NEMA Type 1	3	E	Yes					CR307X390B	\$576.00
NEMA Type 1	4	F	Yes					CR307X490B	\$1149.00
NEMA Type 1	5	G	Yes					CR307X590B	\$2783.00
NEMA Type 3R	0, 1	B, C	Yes	11.00	25.25	7.92	55-209066	CR307X190J <sup>1</sup>	\$408.00
NEMA Type 3R	2	D	Yes					CR307X290J <sup>1</sup>	\$642.00
NEMA Type 3R	3	E	Yes					CR307X390J <sup>1</sup>	\$852.00
NEMA Type 3R	4	F	Yes					CR307X490J <sup>1</sup>	\$1893.00
NEMA Type 3R	5	G	Yes					CR307X590J <sup>1</sup>	\$4103.00
NEMA Type 12	0, 1	B, C	Yes					CR307X190E <sup>1</sup>	\$408.00
NEMA Type 12	2	D	Yes					CR307X290E <sup>1</sup>	\$642.00
NEMA Type 12	3	E	Yes					CR307X390E <sup>1</sup>	\$852.00
NEMA Type 12	4	F	Yes					CR307X490E <sup>1</sup>	\$1893.00
NEMA Type 12	5	G	Yes					CR307X590E <sup>1</sup>	\$4103.00
NEMA Type 4/4X	0, 1	B, C	Yes					CR307X190S <sup>1</sup>	\$834.00
NEMA Type 4/4X	2	D	Yes					CR307X290S <sup>1</sup>	\$1314.00
NEMA Type 4/4X	3	E	Yes					CR307X390S <sup>1</sup>	\$2124.00
NEMA Type 4/4X	4	F	Yes					CR307X490S <sup>1</sup>	\$3129.00
NEMA Type 4/4X	5	G	Yes					CR307X590S <sup>1</sup>	\$7835.00

Note: Includes 2 plugged holes for Heavy-Duty Pilot Devices.

<sup>1</sup>Types 12, 3R, and 4/4X also include baseplate



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic Combination Starter Enclosure Kits

## Section 1

For 300-Line Starters

All Include Handle Mechanism and Provision for Control Transformer

### Reversing Thermal Magnetic Circuit Breaker Type

Enclosure Type	NEMA Size	For Use with CR310	Provision for Control Transformer	Product Number	List Price GO-10G1
NEMA Type 1	0, 1	B, C	Yes	CR310X190B	\$306.00
NEMA Type 1	2	D	Yes	CR310X290B	\$546.00
NEMA Type 1	3	E	Yes	CR310X390B	\$726.00
NEMA Type 1	4	F	Yes	CR310X490B	\$1329.00
NEMA Type 3R	0, 1	B, C	Yes	CR310X190J <sup>1</sup>	\$530.00
NEMA Type 3R	2	D	Yes	CR310X290J <sup>1</sup>	\$810.00
NEMA Type 3R	3	E	Yes	CR310X390J <sup>1</sup>	\$1074.00
NEMA Type 3R	4	F	Yes	CR310X490J <sup>1</sup>	\$2283.00
NEMA Type 12	0, 1	B, C	Yes	CR310X190E <sup>1</sup>	\$530.00
NEMA Type 12	2	D	Yes	CR310X290E <sup>1</sup>	\$810.00
NEMA Type 12	3	E	Yes	CR310X390E <sup>1</sup>	\$1074.00
NEMA Type 12	4	F	Yes	CR310X490E <sup>1</sup>	\$2283.00
NEMA Type 4/4X	0, 1	B, C	Yes	CR310X190S <sup>1</sup>	\$1056.00
NEMA Type 4/4X	2	D	Yes	CR310X290S <sup>1</sup>	\$1662.00
NEMA Type 4/4X	3	E	Yes	CR310X390S <sup>1</sup>	\$2682.00
NEMA Type 4/4X	4	F	Yes	CR310X490S <sup>1</sup>	\$3801.00

Note: Includes 3 plugged holes for Heavy-Duty Pilot Devices.

### Nonreversing Mag-Break Type

Enclosure Type	NEMA Size	For Use with CR387	Provision for Control Transformer	Product Number	List Price GO-10G1
NEMA Type 1	0, 1	B, C	Yes	CR387X190B	\$258.00
NEMA Type 1	2	D	Yes	CR387X290B	\$426.00
NEMA Type 1	3	E	Yes	CR387X390B	\$576.00
NEMA Type 1	4	F	Yes	CR387X490B	\$2783.00
NEMA Type 3R	0, 1	B, C	Yes	CR387X190J <sup>1</sup>	\$408.00
NEMA Type 3R	2	D	Yes	CR387X290J <sup>1</sup>	\$642.00
NEMA Type 3R	3	E	Yes	CR387X390J <sup>1</sup>	\$852.00
NEMA Type 3R	4	F	Yes	CR387X490J <sup>1</sup>	\$1893.00
NEMA Type 12	0, 1	B, C	Yes	CR387X190E <sup>1</sup>	\$408.00
NEMA Type 12	2	D	Yes	CR387X290E <sup>1</sup>	\$642.00
NEMA Type 12	3	E	Yes	CR387X390E <sup>1</sup>	\$852.00
NEMA Type 12	4	F	Yes	CR387X490E <sup>1</sup>	\$1893.00
NEMA Type 4/4X	0, 1	B, C	Yes	CR387X190S <sup>1</sup>	\$834.00
NEMA Type 4/4X	2	D	Yes	CR387X290S <sup>1</sup>	\$1314.00
NEMA Type 4/4X	3	E	Yes	CR387X390S <sup>1</sup>	\$2124.00
NEMA Type 4/4X	4	F	Yes	CR387X490S <sup>1</sup>	\$3129.00

Note: Includes 2 plugged holes for Heavy-Duty Pilot Devices.

### Reversing Mag-Break Type

Enclosure Type	NEMA Size	For Use with CR390	Provision for Control Transformer	Product Number	List Price GO-10G1
NEMA Type 1	0, 1	B, C	Yes	CR390X190B	\$324.00
NEMA Type 1	2	D	Yes	CR390X290B	\$546.00
NEMA Type 1	3	E	Yes	CR390X390B	\$726.00
NEMA Type 1	4	F	Yes	CR390X490B	\$1329.00
NEMA Type 3R	0, 1	B, C	Yes	CR390X190J <sup>1</sup>	\$528.00
NEMA Type 3R	2	D	Yes	CR390X290J <sup>1</sup>	\$810.00
NEMA Type 3R	3	E	Yes	CR390X390J <sup>1</sup>	\$1074.00
NEMA Type 3R	4	F	Yes	CR390X490J <sup>1</sup>	\$2283.00
NEMA Type 12	0, 1	B, C	Yes	CR390X190E <sup>1</sup>	\$528.00
NEMA Type 12	2	D	Yes	CR390X290E <sup>1</sup>	\$810.00
NEMA Type 12	3	E	Yes	CR390X390E <sup>1</sup>	\$1074.00
NEMA Type 12	4	F	Yes	CR390X490E <sup>1</sup>	\$2283.00
NEMA Type 4/4X	0, 1	B, C	Yes	CR390X190S <sup>1</sup>	\$1056.00
NEMA Type 4/4X	2	D	Yes	CR390X290S <sup>1</sup>	\$1662.00
NEMA Type 4/4X	3	E	Yes	CR390X390S <sup>1</sup>	\$2682.00
NEMA Type 4/4X	4	F	Yes	CR390X490S <sup>1</sup>	\$3816.00

Note: Includes 3 plugged holes for Heavy-Duty Pilot Devices.

### Hole Plug Kits

Hole For:	Enclosure Type	Product Number	List Price, GO-11G
OL Reset	1, 12, or 3R	55-194336G005	\$8.00
Heavy-Duty Pilot Device	1, 12, or 3R	CR104PXG103	\$6.00 <sup>2</sup>
OL Reset	4/4X	55-194336G003	\$8.00
Heavy-Duty Pilot Device	4/4X	CR104PXG113	\$6.00 <sup>2</sup>

<sup>1</sup>Types 12, 3R, and 4/4X also include baseplate  
<sup>2</sup>GO-10P1.





# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR324 Block Overload Relays for Panel Mounting

600 VAC/250 VDC, Three-Pole  
135 Maximum Amperes Continuous

#### Application

The panel-mount block overload relay provides overload protection for motors having full-load currents up to 135 Amperes. The relays are furnished complete for use on control panels. When an overload condition occurs in any of the three legs in which heaters are inserted, it will cause the relay to trip, opening a normally closed contact, and, as an option, closing a normally open contact.

Standard and ambient compensated forms with various contact arrangements are available. A normally open circuit may be connected to a signal light, an alarm bell, or input circuit of a programmable controller, e.g., to provide indication of an overload relay trip.

#### Features

- Flexibility of operation; trip rating can be easily changed by replacing the front-accessible heaters.
- Dual Bimetal Current Monitoring; additional bimetal strip “anticipates” the rate of temperature rise in the motor winding; effectively reduces trip time in locked rotor conditions. It prevents dangerous temperature overshoot in the motor windings.

#### Product Number Selection Instructions

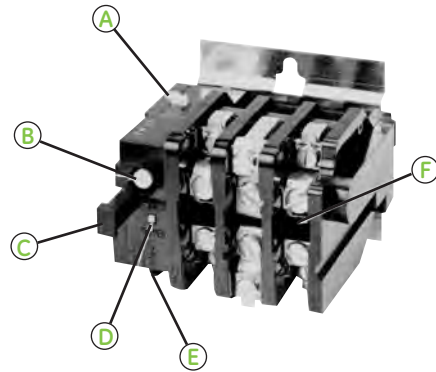
1. Order required relay by complete product number as shown in pricing table.  
Example: An open block-type relay with one normally closed contact is to be mounted in a control panel. Three-leg overload protection is needed and the full-load current of the motor being controlled is 40.5 amperes. Order: CR324D310A at **\$78.00, GO-10H** and three CR123C400B heaters. List Price **\$9.00 each, GO-10H**. Heaters are selected from tables on page 1-157.

#### Reference Publications

Time Current Curves	GES-7202
Instructions	GEH-4821

#### Overload Relays for Panel Mounting (CR324) – Contents

Application Information and Selection Instructions.....	1-145
Three-Pole, 135 Maximum Amperes Continuous.....	1-146
Outlines and Dimensions .....	1-147



Typical 300-line Overload Relay with Heater  
Shown in Center Pole Only

- (A) Manual weld check for contacts
- (B) Overload trip adjustment  $\pm 10\%$
- (C) Safe reset operates on upstroke only
- (D) Visual trip indication
- (E) Optional normally open isolated, high-fidelity contacts
- (F) GE exclusive dual bimetal overload protection



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR324 Block Overload Relays for Panel Mounting

## Section 1

600 VAC/250 VDC, Three-Pole  
135 Maximum Amperes Continuous

#### CR324 Block Overload Relays

Current Rating (Amps)	NEMA Size	Contact Configuration	Manual Reset				Automatic Reset			
			Standard Panel-Mount		Ambient Compensated Panel-Mount		Standard Panel-Mount		Ambient Compensated Panel-Mount	
			Product Number CR324	List Price GO-10H	Product Number CR324	List Price GO-10H	Product Number CR324	List Price GO-10H	Product Number CR324	List Price GO-10H
27	1	1NC	C310A	\$54.00	C610A	\$66.00	C310A1 <sup>1</sup>	\$54.00	C610A1 <sup>1</sup>	\$66.00
27	1	1NO-1NC	C360A	\$78.00	C660A	\$90.00	-	-	-	-
45	2	1NC	D310A	\$78.00	D610A	\$90.00	D310A1 <sup>1</sup>	\$78.00	D610A1 <sup>1</sup>	\$90.00
45	2	1NO-1NC	D360A	\$102.00	D660A	\$114.00	-	-	-	-
90	3	1NC	E310A	\$108.00	E610A	\$120.00	E310A1 <sup>1</sup>	\$108.00	E610A1 <sup>1</sup>	\$120.00
90	3	1NO-1NC	E360A	\$132.00	E660A	\$144.00	-	-	-	-
135	4	1NC	F310A	\$168.00	F610A	\$180.00	F310A1 <sup>1</sup>	\$168.00	F610A1 <sup>1</sup>	\$180.00
135	4	1NO-1NC	F360A	\$192.00	F660A	\$204.00	-	-	-	-

<sup>1</sup>For NO/NC (SPDT) contact forms, contact nearest GE Representative.

#### Contact Ratings

Continuous Rating Amperes	Make Amperes	Recommended Maximum Interrupting Capacity, Amperes					
		DC Circuits			AC Circuits		
		125 V	250 V	115 V	230 V	460 V	575 V
10	30	0.35	0.17	3	1.5	0.75	0.6

#### Accessories

##### External Reset Kit

Enclosure Type	NEMA Size	Reset Distance (in.) Behind Panel	Product Number	List Price GO-10H
NEMA Type 1	00-5	1 - 6	CR124X100C	\$21.00
NEMA Type 12				
NEMA Type 4/4X	00-5	1 - 6	CR124X100D	\$25.00

For Single or Block Overload Relays and 200-, 300- and 400-line Starters.



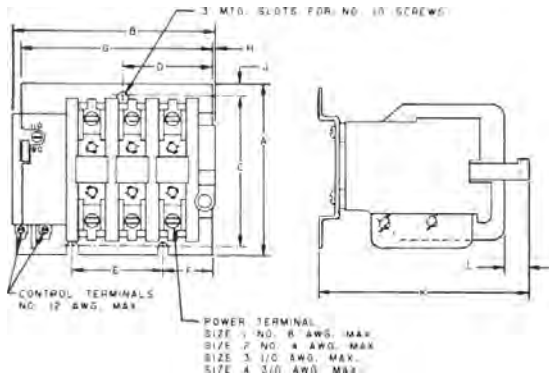
# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

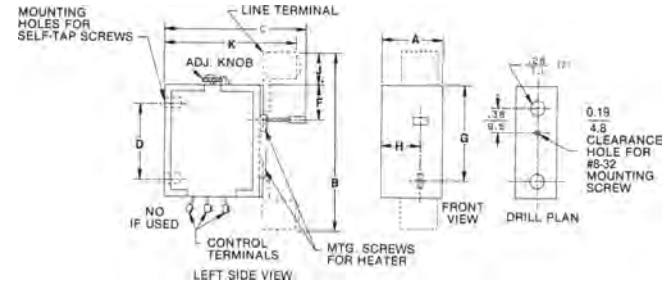
### CR324, CR124 Thermal Overload Relays

Outlines, Dimensions in. (mm), and Weights (For Estimating Only)

## Section 1



CR324



CR124

#### CR324 NEMA Sizes 1-4

NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Dimension G	Dimension H	Dimension J	Dimension K	Dimension L	Mounting Screw Size
1	3.19 (81.0)	3.71 (94.2)	2.75 (69.8)	1.75 (44.4)	1.50 (38.1)	1.00 (25.4)	3.50 (88.9)	0.06 (1.5)	0.22 (5.5)	3.75 (95.2)	.66 (1.66)	#10
2	3.19 (81.0)	3.71 (94.2)	2.75 (69.8)	1.75 (44.4)	1.50 (38.1)	1.00 (25.4)	3.50 (88.9)	0.06 (1.5)	0.22 (5.5)	3.75 (95.2)	.66 (1.66)	#10
3	4.62 (117.4)	6.25 (158.8)	4.00 (101.6)	2.62 (66.5)	3.00 (76.2)	1.12 (28.4)	—	—	.38 (9.6)	4.28 (108.7)	.54 (13.7)	1/4"
4	4.62 (117.4)	6.25 (158.8)	4.00 (101.6)	2.62 (66.5)	3.00 (76.2)	1.12 (28.4)	—	—	.38 (9.6)	4.28 (108.7)	.54 (13.7)	1/4"

#### CR124 NEMA Sizes 1-4

NEMA Size	Product Number	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Dimension G	Dimension H	Dimension J	Dimension K	Shipping Weight
1	CR124C	0.94 (23.8)	2.75 (70.0)	3.41 (86.5)	See Drill Plan	0.28 (7.1)	—	1.38 (34.9)	0.79 (20.0)	0.58 (14.7)	—	6 oz.
1	CR124K	0.94 (23.8)	3.25 (82.6)	3.38 (86.0)	See Drill Plan	0.28 (7.1)	—	1.81 (46.0)	0.79 (20.0)	0.63 (15.9)	—	6 oz.
2	CR124D	0.94 (23.8)	2.72 (69.1)	3.41 (86.5)	See Drill Plan	0.28 (7.1)	—	1.38 (34.9)	0.79 (20.0)	0.34 (8.7)	—	6 oz.
2	CR124L	0.94 (23.8)	3.06 (77.8)	3.38 (86.0)	See Drill Plan	0.28 (7.1)	—	1.81 (46.0)	0.79 (20.0)	0.44 (11.1)	—	6 oz.
3	CR124E	1.50 (38.1)	5.00 (127.0)	4.28 (108.7)	2.31 (58.7)	0.50 (12.7)	1.00 (25.4)	—	1.13 (28.6)	0.75 (19.1)	3.8 (95.2)	1 lb.
3	CR124M <sup>1</sup>	1.63 (41.3)	6.28 (159.5)	4.25 (108.0)	2.31 (58.7)	0.34 (8.7)	—	0.50 (12.7)	0.81 (20.6)	1.63 (41.3)	3.66 (92.9)	1 lb.
4	CR124F	1.50 (38.1)	5.25 (133.4)	4.28 (108.7)	2.31 (58.7)	0.50 (12.7)	1.00 (25.4)	—	1.13 (28.6)	1.00 (25.4)	3.94 (100.0)	1.5 lbs.
4	CR124N <sup>1</sup>	1.63 (41.3)	6.81 (173.0)	4.25 (108.0)	2.31 (58.7)	0.34 (8.7)	—	0.50 (12.7)	0.81 (20.6)	1.88 (47.6)	4.47 (113.5)	1.5 lbs.
5	CR124G011 <sup>2</sup>	3.00 (76.2)	8.50 (215.9)	5.44 (138.1)	6.00 (152.4)	—	1.00 (25.4)	—	—	3.63 (92.2)	5.63 (142.9)	3 lbs.
5	CR124G019 <sup>2</sup>	3.00 (76.2)	8.50 (215.9)	5.44 (138.1)	6.00 (152.4)	—	1.00 (25.4)	—	—	3.63 (92.2)	5.63 (142.9)	3 lbs.

<sup>1</sup>Control terminals are at top, adjusting knob at bottom on these forms.

<sup>2</sup>Between clearance holes through 3/4" thick compound base for 3/8" mounting bolts; upper hole is 2 3/8" above top of relay body (1 1/4" below top of top terminal).



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

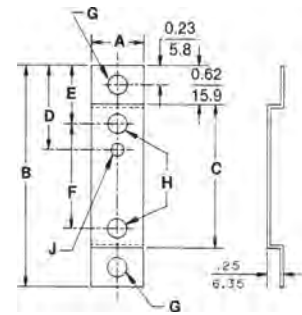
### CR324, CR124 Thermal Overload Relays

Outlines, Dimensions in. (mm), and Weights (For Estimating Only)

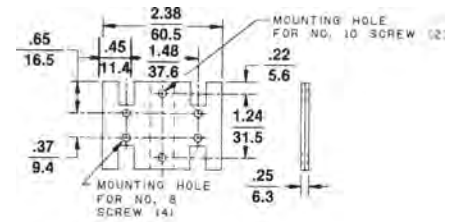
## Section 1

### CR124 Panel Mounting Bracket 1-Pole Sizes 1-4 Relays

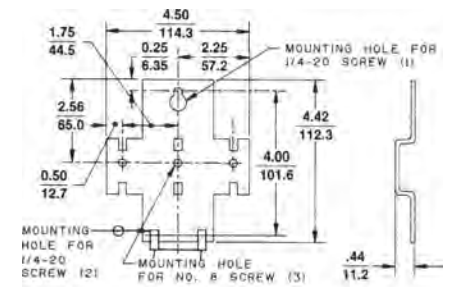
NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Dimension G	Dimension H	Dimension J
1, 2	0.75 (19.1)	3.12 (79.4)	2.50 (63.5)	1.35 (34.3)	—	—	0.28D (7.1D)	—	0.19D (4.8)
3, 4	1.00 (25.4)	4.50 (114.3)	3.13 (79.5)	—	1.00 (25.4)	2.31 (58.7)	0.28D (7.1D)	0.26D (6.5D)	—



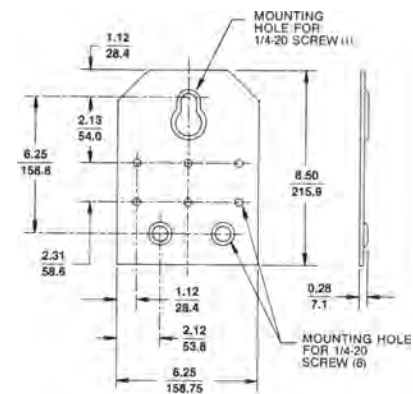
Panel Mounting Bracket,  
1-Pole Sizes 1-4 Relays



Panel Mounting Bracket,  
2-Pole Sizes 1 and 2 Relays



Panel Mounting Bracket,  
3-Pole Sizes 1 and 2 Relays



Panel Mounting Bracket,  
3-Pole Sizes 3 and 4 Relays



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic Electronic Overload Relays

## Section 1

### Features

- Self powered
- Great accuracy
- Full reliability
- Phase unbalance protection
- Direct mount to IEC contactors, C-2000
- Panel mount adapter for NEMA contactors
- Interchangeable with thermal overload relay
- Multiple trip class selection; class 5-10-20-30
- Manual / Auto reset
- Setting range from 0.1 up to 150A
- Thermal memory
- Phase loss protection
- Increased flexibility; fewer product numbers; less stock required
- UL 508 certified

### Electronic Overload Relays

	Setting Range (A)		Product Number	Reference Number	List Price GO-10GS
	Min.	Max.			
Frame 1	0.1	0.5	RE1D	101866	\$155.00
	0.4	2	RE1H	101867	\$155.00
	1	5	RE1K	101868	\$155.00
	1.6	8	RE1M	101869	\$155.00
	6.4	32	RE1S	101870	\$155.00
Frame 2	9	45	RE1W	101871	\$155.00
	15	75	RE2H	101872	\$275.00
Frame 3	22	110	RE2M	101873	\$275.00
	30	150	RE3E	101874	\$450.00

### Accessories

Size	Description	Product Number	Reference Number	List Price GO-10GS
Size 1	Panel Mount Adapter	RE1XP	247302	\$24.00
Size 2		RE2XP	247303	\$24.00
	Remote Reset Button Cover	RETC	247795	\$4.00



Frame 1



Frame 2



Frame 3



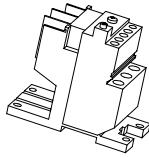
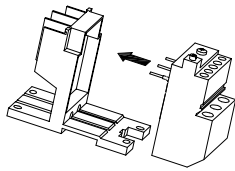
# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

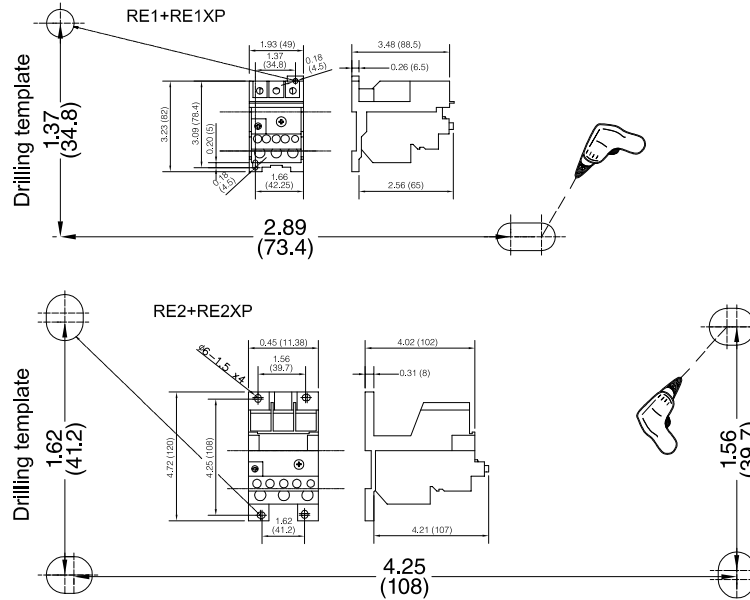
### Electronic Overload Relays

Outlines, Dimensions in. (mm), Trip Curves

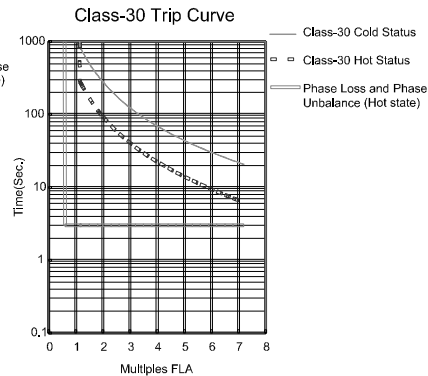
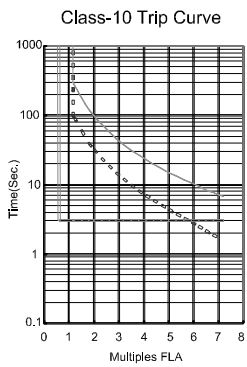
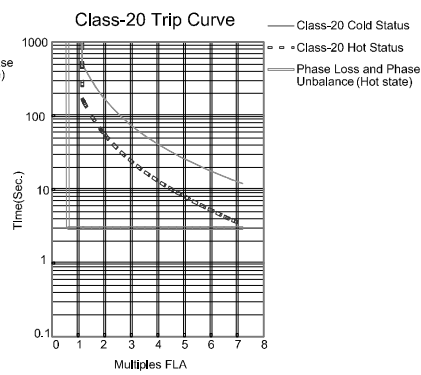
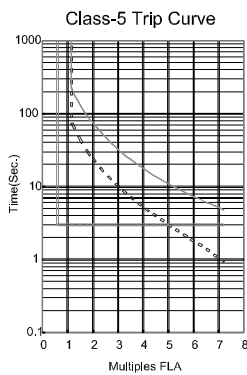
## Section 1



RE3: USE LUG KIT CKX03



Panel Mount



Trip Curves



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### Approximate Motor Full-Load Current Ratings

#### Full-Load Current of Normal Efficiency Motors—Average Expected Values

For three-phase, 60-Hertz, GE Type K (NEMA Design B) Tri-Clad 700-Line, normal efficiency, drip-proof, normal starting torque, continuous, 40°C ambient (1.15 service factor) horizontal induction motors.

Motor Horse-power	Synchronous Speed RPM	Average Expected Values of Full-Load Currents <sup>1</sup>			
		200V	230V	460V	575V
1/4 <sup>2</sup>	1800	1.6	1.4	0.70	0.56
	1200	1.7	1.5	0.75	0.60
1/3 <sup>2</sup>	3600	2.0	1.7	0.85	0.68
	1800	1.7	1.5	0.75	0.60
1/2	1200	2.0	1.7	0.85	0.68
	3600	2.0	1.8	0.88	0.70
3/4	1800	2.3	2.0	1.0	0.80
	1200	2.3	2.0	1.0	0.80
1	900	3.2	2.8	1.4	1.4
	3600	2.8	2.4	1.2	0.96
1 1/2	1800	3.2	2.8	1.4	1.1
	1200	3.7	3.2	1.6	1.3
2	900	4.4	3.8	1.9	1.5
	3600	3.7	3.2	1.6	1.3
3	1800	4.1	3.6	1.8	1.4
	1200	4.4	3.8	1.9	1.5
4	900	5.5	4.8	2.4	1.9
	3600	5.3	4.6	2.3	1.8
5	1800	6.0	5.2	2.6	2.1
	1200	6.0	5.2	2.6	2.1
7 1/2	900	7.1	6.2	3.1	2.5
	3600	6.9	6.0	3.0	2.4
10	1800	7.1	6.2	3.1	2.5
	1200	7.6	6.6	3.3	2.6
15	900	10.6	9.2	4.6	3.7
	3600	9.4	8.2	4.1	3.3
20	1800	9.9	8.6	4.3	3.4
	1200	12.0	10.4	5.2	4.2
30	900	15.4	13.4	6.7	5.4
	3600	15.4	13.4	6.7	5.4
40	1800	16.3	14.2	7.1	5.7
	1200	19.3	16.8	8.4	6.7
50	900	19.8	17.2	8.6	6.9
	3600	21.6	18.8	9.4	7.5
75	1800	23.7	20.6	10.3	8.2
	1200	26.0	23.6	11.3	9.0
100	900	28.5	24.8	12.4	9.9
	3600	27.4	23.8	11.9	9.5
150	1800	31.3	27.2	13.6	10.9
	1200	32.7	28.4	14.2	11.4
200	900	33.1	28.8	14.4	11.5
	3600	42.6	37.0	18.5	14.8
300	1800	46.7	40.6	20.3	16.2
	1200	45.1	39.2	19.6	15.7
400	900	47.6	41.4	20.7	16.6
	3600	62.3	54.2	27.1	21.7
500	1800	59.3	51.6	25.8	20.6
	1200	56.6	48.2	24.6	19.7
600	900	63.9	55.6	27.8	22.2

Motor Horse-power	Synchronous Speed RPM	Average Expected Values of Full-Load Currents			
		200V	230V	460V	575V
25	3600	72.0	62.6	31.3	25.0
	1800	71.3	62.0	31.0	24.8
30	1200	73.8	64.2	32.1	25.7
	900	82.6	71.8	35.9	28.7
35	3600	85.6	74.4	37.2	29.8
	1800	86.0	74.8	37.4	29.9
40	1200	88.6	77.0	38.5	30.8
	900	92.2	80.2	40.1	32.1
45	3600	110	95.6	47.8	39.2
	1800	116	100.9	50.4	40.3
50	1200	114	99.6	49.8	39.8
	900	122	105.8	52.9	42.3
55	3600	140	122.2	61.1	48.9
	1800	142	123.6	61.8	49.4
60	1200	144	125.2	62.6	50.1
	900	159	138.2	69.1	55.3
65	3600	163	141.4	70.7	56.6
	1800	172	149.8	74.9	59.9
70	1200	172	149.2	74.6	59.7
	900	176	153.4	76.7	61.4
75	3600	206	178.8	89.4	71.5
	1800	207	180.0	90.0	72.0
80	1200	206	179.2	89.6	71.7
	900	221	191.8	95.9	76.7
85	3600	262	228	114	91.2
	1800	281	244	122	97.7
90	1200	283	246	123	98.4
	900	296	258	129	103
95	3600	334	290	145	116
	1800	340	296	148	118
100	1200	352	306	153	122
	900	370	322	161	129
105	3600	398	346	173	138
	1800	412	348	179	143
110	1200	419	364	182	146
	900	435	378	189	151
115	3600	—	446	223	178
	1800	—	468	234	187
120	1200	—	482	241	193
	900	—	574	287	230
125	1800	—	590	295	236
	1200	—	594	297	238
130	3600	—	676	338	270
	1800	—	686	343	274
135	3600	—	774	387	310
	1800	—	792	396	317
140	3600	—	890	445	356

Note: The listed data is based on approximate full-load current ratings of standard, open, 1.15 service factor, continuous rated GE motors. Full-load current ratings of similar motors of other manufacturers may vary considerably. Therefore, whenever possible use actual full-load current rating given on motor nameplate. Contact motor manufacturer for full-load currents of single-phase and DC motors.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### Approximate Motor Full-Load Current Ratings

## Section 1

#### Full-Load Current of Energy Saver™ Motors—Average Expected Values

For three-phase, 60-Hertz, GE Type KS (NEMA Design B) Energy Saver™ high-efficiency, drip-proof, normal starting torque, continuous, 40°C ambient (1.15 service factor) horizontal induction motors.

Motor Horse-power	Synchronous Speed RPM	Average Expected Values of Full-Load Currents <sup>1</sup>			
		200V	230V	460V	575V
3	1200	10.4	9.0	4.5	3.6
5	1200	16.1	14.0	7.0	5.6
	3600	20.2	17.6	8.8	7.0
7 1/2	1800	20.7	18.0	9.0	7.2
	1200	22.5	19.6	9.8	7.8
	3600	26.2	22.8	11.4	9.1
10	1800	27.6	24.0	12.0	9.6
	1200	29.4	25.6	12.8	10.2
	3600	40.7	35.4	17.7	14.2
15	1800	42.1	36.6	18.3	14.6
	1200	42.1	36.4	18.2	14.6
	3600	52.2	45.4	22.7	18.1
20	1800	54.3	47.2	23.6	18.9
	1200	55.4	48.2	24.1	19.3
	3600	65.1	56.6	28.3	22.6
25	1800	66.0	57.4	28.7	23.0
	1200	69.9	60.8	30.4	24.3
	3600	76.4	66.4	33.2	26.6
30	1800	79.4	69.0	34.5	27.6
	1200	83.3	72.4	36.2	29.0
	3600	100.7	87.6	43.8	35.0
40	1800	104.6	91.0	45.5	36.4
	1200	108.3	94.2	47.1	37.7

Motor Horse-power	Synchronous Speed RPM	Average Expected Values of Full-Load Currents <sup>1</sup>			
		200V	230V	460V	575V
	3600	126.0	110.0	55.0	44.0
50	1800	132.2	115.0	57.5	46.0
	1200	134.6	117.0	58.5	46.8
	3600	151.6	131.8	65.9	52.7
60	1800	160.8	139.8	69.9	55.9
	1200	161.5	140.4	70.2	56.2
	3600	187.4	163.0	81.5	65.2
75	1800	198.7	172.8	86.4	69.1
	1200	199.4	173.4	86.7	69.4
	3600	253.0	220.0	110.0	88.0
100	1800	264.5	230.0	115.0	92.0
	1200	257.6	224.0	112.0	89.6
	3600	317.9	276.4	138.2	110.6
125	1800	314.6	273.6	136.8	109.4
	1200	319.7	278.0	139.0	111.2
	3600	381.3	331.6	165.8	132.6
150	1800	381.8	332.0	166.0	132.8
	1200	395.6	344.0	172.0	137.6
	3600	480.7	418.0	209.0	167.2
200	1800	499.1	434.0	217.0	173.6
	1200	522.1	454.0	227.0	181.6
	3600	637.1	554.0	277.0	221.6
250	1800	676.2	588.0	294.0	235.2

<sup>1</sup> For expected values on 208-Volt, 50-Hertz, three-phase motors, contact nearest GE Representative.





# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR123C, CR123F Motor Starter Heaters

#### Heater Selection

## Section 1

### Magnetic Starters—Full Voltage

#### Heater Selection Information

To prevent overloading the starter do not select heater(s) for a motor of larger rating than the maximum given on the nameplate for the starter.

For continuous rated motors, with a service factor of 1.15 to 1.25, select the heater with maximum motor Amperes equal to or immediately greater than the motor full-load current (provides a maximum of 125 percent protection). For continuous rated motors with no service factor, multiply the full-load current of the motor by 0.90 and use this value to select the heater.

To protect the heater and starter during a short circuit, provide motor-branch-circuit protection in accordance with Table 430-152 in Article 430 of the National Electrical Code. In no case should the fuse rating exceed 4 times the motor full-load current for single-element fuses, or 2.25 times for dual-element fuses, or the fuse size listed in heater table under Maximum Fuse Rating.

**Caution:** Overload relays, when furnished with automatic reset, should not be used with two-wire, maintained contact pilot devices such as pressure, float and limit switches, as inadvertent restarting of the motor can occur.

### How To Select Heaters

The table below should be used to determine which column of motor full-load Amperes applies for heater selection. Select in order, the basic device—including product number and description, the NEMA Type of enclosure, and the column to be used in the proper table by NEMA Size.

If full-load Amperes of the motor falls between two ratings, select heaters for the higher rating.

### Ordering Information

All CR123C and 123F heaters are packaged three to a carton. Items of these heaters being ordered for either customer's stock or any other purpose, are to be specified in multiples of three (such as 3, 6, 9, 12, 15, etc.). Minimum order quantity is three.

Heater Product Number	List Price Each, GO-10H
CR123C (All)	\$9.00
CR123F (All)	\$9.00

Heater Rack Product Number	List Price Each, GO-10D
CR243X10049	\$96.00

Base Product Number Starter/Overload Relay	Description	NEMA Type Enclosure	Quantity Heaters Required	Heater Table Column (Pages 1-154 to 1-155)	
CR306	Single-Phase, 2-Pole, Size 00-2	Open	1	A	
	Single-Phase, 2-Pole, Size 00-2	1, 3R, 4/4X, 12	1	B	
	Single-Phase, 2-Pole, Size 3	Open	2	A	
	Single-Phase, 2-Pole, Size 6	1, 3R, 4/4X, 12	2	B	
CR306	3-Phase, 3-Pole, 3-Leg Protection standard, size 00-5	Open	3	C	
	ambient compensated, size 00, 0, 1, 2 & 5	Open	3	C	
	ambient compensated, size 3	Open	3	D	
	ambient compensated, size 8	Open	3	E	
CR306, CR307, CR308, CR387, CR407, CR408, CR487	3-Phase, 3-Pole, 3-Leg Protection standard, size 00-5	1, 3R, 4/4X, 12	3	D	
	ambient compensated, size 00, 0, 1, 2 & 5	1, 3R, 4/4X, 12	3	C	
	ambient compensated, size 3	1, 3R, 4/4X, 12	3	D	
	ambient compensated, size 8	1, 3R, 4/4X, 12	3	E	
CR309	3-Phase, 3 3-Pole, 3-Leg Protection standard, size 00-5	Open	3-Reverser	6-Two-Speed	C
	ambient compensated, size 00, 0, 1, 2 & 5	Open	3-Reverser	6-Two-Speed	C
	ambient compensated, size 3	Open	3-Reverser	6-Two-Speed	D
	ambient compensated, size 8	Open	3-Reverser	6-Two-Speed	E
CR309, CR410, CR411, CR490	3-Phase, 3 3-Pole, 3-Leg Protection standard, size 00-5	1, 3R, 4/4X, 12	3-Reverser	6-Two-Speed	D
	ambient compensated, size 00, 0, 1, 2 & 5	1, 3R, 4/4X, 12	3-Reverser	6-Two-Speed	C
	ambient compensated, size 3	1, 3R, 4/4X, 12	3-Reverser	6-Two-Speed	D
	ambient compensated, size 8	1, 3R, 4/4X, 12	3-Reverser	6-Two-Speed	E
CR324	Panel-Mounted		See tables, page 1-157		
All NEMA Sizes 6-9	3-Phase, 3-Leg Protection, Standard		See tables, page 1-156		
CR124	Single-Element, Panel-Mounted		See tables, page 1-158		
CR124	Single-Element, Ambient Compensated, Standard and Quick Trip		See tables, page 1-157		



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR123C, CR123F Motor Starter Heaters

#### Heater Selection

## Section 1

Product	
CR123C (All)	\$9.00
CR123F (All)	\$9.00

All CR123C and 123F heaters are packaged three to a carton. Items of these heaters, being ordered for either customer's stock or any other purpose, are to be specified in multiples of three (such as 3, 6, 9, 12, 15, etc.). Minimum order quantity is three.

#### NEMA Sizes 00, 0 and 1

Maximum Motor Full-Load Amperes				Heater Product Number
A	B	C	D	
0.48	0.46	0.45	0.43	CR123C054A
0.55	0.50	0.49	0.48	CR123C060A
0.57	0.57	0.53	0.53	CR123C066A
0.65	0.62	0.59	0.58	CR123C071A
0.69	0.68	0.65	0.64	CR123C078A
0.83	0.80	0.76	0.74	CR123C087A
0.97	0.91	0.84	0.84	CR123C097A
1.03	0.99	0.93	0.92	CR123C109A
1.12	1.09	1.04	1.02	CR123C118A
1.26	1.22	1.15	1.10	CR123C131A
1.40	1.31	1.27	1.23	CR123C148A
1.46	1.46	1.39	1.38	CR123C163A
1.63	1.59	1.55	1.49	CR123C184A
1.79	1.74	1.73	1.67	CR123C196A
1.97	1.93	1.89	1.79	CR123C220A
2.25	2.13	2.05	1.98	CR123C239A
2.43	2.37	2.28	2.24	CR123C268A
2.60	2.52	2.47	2.43	CR123C301A
2.96	2.87	2.79	2.75	CR123C326A
3.57	3.39	3.31	3.25	CR123C356A
3.86	3.59	3.70	3.43	CR123C379A
4.43	4.31	4.06	4.03	CR123C419A
4.87	4.57	4.47	4.43	CR123C466A
5.37	5.31	4.95	4.94	CR123C526A
5.99	5.86	5.49	5.36	CR123C592A
6.39	6.19	5.91	5.77	CR123C630A
6.87	6.61	6.47	6.35	CR123C695A
7.71	7.61	7.20	6.92	CR123C778A
8.72	8.46	8.22	7.99	CR123C867A
9.50	9.35	8.72	8.47	CR123C955A
10.5	10.4	9.67	9.19	CR123C104B
11.7	11.3	10.4	10.0	CR123C113B
12.2	11.9	11.0	10.7	CR123C125B
13.5	13.0	12.4	12.0	CR123C137B
15.1	14.5	13.2	12.9	CR123C151B
17.5	17.4	15.4	15.1	CR123C163B
18.9	18.6	17.1	16.3	CR123C180B
20.8	20.5	18.1	17.9	CR123C198B
22.4	22.3	20.0	19.7	CR123C214B
25.5	24.7	21.5	21.2	CR123C228B
26.2	25.7	22.5	22.3	CR123C250B
27.0	27.0	23.9	23.5	CR123C273B
—	—	26.3	25.5	CR123C303B
—	—	27.0	27.0	CR123C330B

#### NEMA Size 1P

Maximum Motor Full-Load Amperes		Heater Product Number
A	B	
14.2	14.2	CR123C151B
17.3	17.3	CR123C163B
18.7	18.7	CR123C180B
20.6	20.6	CR123C198B
22.5	22.5	CR123C214B
24.7	24.7	CR123C228B
25.5	25.5	CR123C250B
26.7	26.7	CR123C273B
27.9	27.9	CR123C303B
32.1	32.1	CR123C330B
36.0	36.0	CR123C366B

#### NEMA Size 2

Maximum Motor Full-Load Amperes				Heater Product Number
A	B	C	D	
5.92	5.79	—	—	CR123C592A
6.23	6.12	5.85	5.72	CR123C630A
6.63	6.49	6.47	6.30	CR123C695A
7.72	7.59	7.35	7.04	CR123C778A
8.96	8.71	8.06	7.91	CR123C867A
9.92	9.19	9.03	8.80	CR123C955A
10.4	10.1	9.61	9.27	CR123C104B
11.7	11.2	10.5	9.99	CR123C113B
12.1	11.9	11.6	11.1	CR123C125B
13.5	12.6	12.5	12.1	CR123C137B
14.7	14.5	13.6	13.1	CR123C151B
18.3	17.7	16.7	15.5	CR123C163B
20.1	19.1	17.9	16.8	CR123C180B
22.3	21.4	18.7	18.0	CR123C198B
25.0	22.9	20.4	19.7	CR123C214B
27.7	24.7	22.7	21.6	CR123C228B
29.3	25.9	24.7	23.9	CR123C250B
30.7	27.1	26.3	25.5	CR123C273B
32.7	30.2	29.5	28.2	CR123C303B
35.6	34.8	32.5	31.6	CR123C330B
39.4	38.7	36.7	34.7	CR123C366B
45.0	45.0	41.9	37.8	CR123C400B
—	—	43.2	40.6	CR123C440B
—	—	45.0	45.0	CR123C460B



Product Number Selection Instructions: See page 1-153

# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR123C, CR123F Motor Starter Heaters

#### Heater Selection

## Section 1

Product Number	List Price Each, GO-10H
CR123C (All)	\$9.00
CR123F (All)	\$9.00

All CR123C and 123F heaters are packaged three to a carton. Items of these heaters, being ordered for either customer's stock or any other purpose, are to be specified in multiples of three (such as 3, 6, 9, 12, 15, etc.). Minimum order quantity is three.

#### NEMA Size 3

Maximum Motor Full-Load Amperes				Heater Product Number
A	B	C	D	
20.2	19.4	—	—	CR123F199B
21.0	20.1	—	—	CR123F218B
21.8	21.1	19.3	18.4	CR123F233B
24.5	24.6	22.1	21.1	CR123F243B
25.7	25.2	23.4	22.1	CR123F270B
29.2	29.2	27.0	26.1	CR123F300B
33.5	32.8	29.1	28.0	CR123F327B
37.0	35.1	31.8	31.3	CR123F357B
39.2	38.4	33.9	33.3	CR123F395B
42.7	40.4	37.6	34.3	CR123F430B
45.7	45.7	41.9	40.9	CR123F487B
48.4	48.9	47.7	44.7	CR123F567B
54.9	54.7	52.1	51.0	CR123F614B
62.7	58.6	55.8	52.0	CR123F658B
67.5	63.4	59.7	55.4	CR123F719B
77.1	72.3	68.1	63.3	CR123F772B
81.5	76.6	71.5	66.1	CR123F848B
86.3	83.8	78.2	73.5	CR123F914B
90.0	90.0	87.5	82.2	CR123F104C
—	—	90.0	90.0	CR123F114C

#### NEMA Size 5

Maximum Motor Full-Load Amperes		Heater Product Number
C	D	
118	115	CR123C592A
128	125	CR123C630A
138	135	CR123C695A
155	151	CR123C778A
168	164	CR123C867A
184	179	CR123C955A
200	195	CR123C104B
221	215	CR123C113B
237	231	CR123C125B
262	255	CR123C137B
270	270	CR123C151B

#### NEMA Size 4

Maximum Motor Full-Load Amperes			Heater Product Number
C	D	E	
32.2	32.0	32.0	CR123F357B
34.0	34.2	34.2	CR123F395B
36.8	36.7	36.7	CR123F430B
44.6	43.9	43.9	CR123F487B
48.4	46.6	46.6	CR123F567B
53.9	52.6	52.6	CR123F614B
57.4	55.6	55.6	CR123F658B
60.0	58.7	58.7	CR123F719B
69.5	67.1	67.1	CR123F772B
71.7	70.6	70.6	CR123F848B
79.9	76.3	76.3	CR123F914B
92.3	88.7	88.7	CR123F104C
97.0	93.4	93.4	CR123F114C
108.0	102.0	105.0	CR123F118C
118.0	110.0	114.0	CR123F133C
131.0	122.0	128.0	CR123F149C
135.0	131.0	131.0	CR123F161C
—	135.0	135.0	CR123F174C



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR123C, CR123F Motor Starter Heaters

Heater Selection

## Section 1

### Heater Tables—NEMA Sizes 6-9

Information shown in tables for full voltage starters can be used by customer to select heaters for Size 6-9 combination starters also. However, for these combination forms, the factory will verify selection and install the required heaters based on available motor data.

Product	
CR123C (All)	\$9.00
CR123F (All)	\$9.00

All CR123C and 123F heaters are packaged three to a carton. Items of these heaters, being ordered for either customer's stock or any other purpose, are to be specified in multiples of three (such as 3, 6, 9, 12, 15, etc.). Minimum order quantity is three.

### NEMA Sizes 6-9

CR306HH—Size 6 Three Heaters Required		CR386J—Size 7 Three Heaters Required		CR386K—Size 8 Three Heaters Required		CR386L—Size 9 Three Heaters Required	
Maximum Motor Amperes	Heater Product Number	Maximum Motor Amperes	Heater Product Number	Maximum Motor Amperes	Heater Product Number	Maximum Motor Amperes	Heater Product Number
197	CR123C220A	387	CR123C326A	516	CR123C301A	1075	CR123C301A
214	CR123C239A	461	CR123C356A	580	CR123C326A	1210	CR123C326A
238	CR123C268A	515	CR123C379A	690	CR123C356A	1440	CR123C356A
258	CR123C301A	565	CR123C419A	772	CR123C379A	1610	CR123C379A
290	CR123C326A	622	CR123C466A	846	CR123C419A	1765	CR123C419A
346	CR123C356A	688	CR123C526A	934	CR123C466A	1950	CR123C466A
387	CR123C379A	763	CR123C592A	1030	CR123C526A	2150	CR123C526A
424	CR123C419A	810	CR123C630A	1147	CR123C592A	2250	CR123C592A
467	CR123C466A			1215	CR123C630A		
516	CR123C526A						
540	CR123C592A						



Product Number Selection Instructions: See page 1-153

# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR123C, CR123F Panel Mounted Overload Relay Heaters

#### Heater Selection

#### Overload Relays

For CR324 Standard and Ambient Compensated Block Overloads—Panel-Mounted

Product Number	List Price Each, GO-10H
CR123C (All)	\$9.00
CR123F (All)	\$9.00

All CR123C and 123F heaters are packaged three to a carton. Items of these heaters, being ordered for either customer's stock or any other purpose, are to be specified in multiples of three (such as 3, 6, 9, 12, 15, etc.). Minimum order quantity is three.

Three Heaters					
Maximum Motor Full-Load Amperes	Heater Product Number	Maximum Fuse Rating	Maximum Motor Full-Load Amperes	Heater Product Number	Maximum Fuse Rating
<b>CR324C (Size 0, 1)</b>					
0.39	CR123C054A	3	3.89	CR123C466A	15
0.42	CR123C060A	3	4.30	CR123C526A	15
0.45	CR123C066A	3	4.77	CR123C592A	15
0.51	CR123C071A	3	5.14	CR123C630A	20
0.56	CR123C078A	3	5.63	CR123C695A	20
0.65	CR123C087A	3	6.26	CR123C778A	25
0.73	CR123C097A	3	7.15	CR123C867A	25
0.81	CR123C109A	3	7.58	CR123C955A	30
0.90	CR123C118A	3	8.39	CR123C104B	30
1.00	CR123C131A	3	9.11	CR123C113B	35
1.10	CR123C148A	3	9.67	CR123C125B	35
1.21	CR123C163A	3	11.0	CR123C137B	40
1.35	CR123C184A	3	11.9	CR123C151B	45
1.50	CR123C196A	6	14.3	CR123C163B	50
1.64	CR123C220A	6	16.1	CR123C180B	60
1.78	CR123C239A	6	17.2	CR123C198B	60
1.98	CR123C268A	6	19.2	CR123C214B <sup>1</sup>	70
2.15	CR123C301A	6	20.6	CR123C228B <sup>1</sup>	80
2.42	CR123C326A	6	21.8	CR123C250B <sup>1</sup>	80
2.88	CR123C356A	10	23.4	CR123C273B <sup>1</sup>	80
3.22	CR123C379A	12	26.1	CR123C303B <sup>1</sup>	90
3.53	CR123C419A	12	27.0	CR123C330B <sup>1</sup>	90
<b>CR324D (Size 2)</b>					
5.14	CR123C630A	20	8.39	CR123C104B	30
5.63	CR123C695A	20	9.11	CR123C113B	35
6.26	CR123C778A	20	9.67	CR123C125B	35
7.15	CR123C867A	25	11.0	CR123C137B	40
7.58	CR123C955A	30	12.0	CR123C151B	45
14.4	CR123C163B	60	28.0	CR123C303B	100
16.3	CR123C180B	60	32.1	CR123C330B	110
17.3	CR123C198B	60	35.9	CR123C366B	125
19.3	CR123C214B	70	41.5	CR123C400B	150
20.9	CR123C228B	80	43.4	CR123C440B	150
22.9	CR123C250B	90	45.0	CR123C460B	150
24.7	CR123C273B	90			

<sup>1</sup>Size 1 only.

Three Heaters					
Maximum Motor Full-Load Amperes	Heater Product Number	Maximum Fuse Rating	Maximum Motor Full-Load Amperes	Heater Product Number	Maximum Fuse Rating
<b>CR324E (Size 3)</b>					
18.0	CR123F233B	70	44.4	CR123F567B	175
20.5	CR123F243B	80	48.4	CR123F614B	175
21.7	CR123F270B	80	52.4	CR123F658B	200
25.1	CR123F300B	90	57.0	CR123F719B	225
27.0	CR123F327B	100	64.5	CR123F772B	225
30.5	CR123F357B	110	68.8	CR123F848B	250
32.5	CR123F395B	125	75.7	CR123F914B	275
33.9	CR123F430B	125	86.2	CR123F104C	275
38.9	CR123F487B	150	90.0	CR123F114C	300
<b>CR324F (Size 4)</b>					
30.5	CR123F357B	100	68.6	CR123F848B	250
32.5	CR123F395B	125	75.7	CR123F914B	275
33.9	CR123F430B	125	86.2	CR123F104C	275
38.9	CR123F487B	150	93.0	CR123F114C	300
44.4	CR123F567B	175	109.0	CR123F118C	350
48.4	CR123F614B	175	123.0	CR123F133C	400
52.4	CR123F658B	200	131.0	CR123F149C	400
57.0	CR123F719B	225	135.0	CR123F161C	400
64.5	CR123F772B	225			



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR123C, CR123F Panel Mounted Overload Relay Heaters

## Section 1

### Heater Selection

#### Overload Relays

Product	Price
CR123K (All)	\$9.00
CR123L (All)	\$9.00

All CR123C and 123F heaters are packaged three to a carton. Items of these heaters, being ordered for either customer's stock or any other purpose, are to be specified in multiples of three (such as 3, 6, 9, 12, 15, etc.). Minimum order quantity is three.

Maximum Motor Full-Load Amperes	Heater Product	Maximum Motor Full-Load Amperes	Heater Product Number	Maximum Motor Full-Load Amperes	Heater Product Number
<b>For CR124C (Size 0, 1)</b>		<b>For CR124D (Size 2)</b>		<b>For CR124F (Size 4)</b>	
0.33	CR123C036A	6.63	CR123C695A	17.2	CR123F181B
.37	CR123C039A	7.59	CR123C778A	19.0	CR123F199B
.41	CR123C043A	8.39	CR123C867A	21.0	CR123F218B
.46	CR123C048A	9.20	CR123C955A	22.9	CR123F233B
.52	CR123C054A	9.93	CR123C104B	24.8	CR123F243B
.57	CR123C060A	11.2	CR123C113B	27.2	CR123F270B
.61	CR123C066A	12.5	CR123C125B	30.0	CR123F300B
.67	CR123C071A	14.1	CR123C137B	33.0	CR123F327B
.75	CR123C078A	15.5	CR123C151B	36.2	CR123F357B
.84	CR123C087A	17.4	CR123C163B	40.0	CR123F395B
.94	CR123C097A	19.8	CR123C180B	44.0	CR123F430B
1.03	CR123C109A	21.2	CR123C198B	49.6	CR123F487B
1.14	CR123C118A	22.7	CR123C214B	56.5	CR123F567B
1.30	CR123C131A	24.9	CR123C228B	64.2	CR123F614B
1.42	CR123C148A	27.3	CR123C250B	71.8	CR123F658B
1.61	CR123C163A	29.7	CR123C273B	76.4	CR123F719B
1.72	CR123C184A	33.2	CR123C303B	86.6	CR123F772B
1.93	CR123C196A	39.0	CR123C330B	94.7	CR123F848B
2.10	CR123C220A	45.0	CR123C366B	103	CR123F914B
2.34	CR123C239A	<b>For CR124E (Size 3)</b>		115	CR123F104C
2.64	CR123C268A	17.2	CR123F181B	130	CR123F114C
2.86	CR123C301A	19.0	CR123F199B	135	CR123F118C
3.13	CR123C326A	21.0	CR123F218B	<b>For CR124G (Size 5)<sup>2</sup></b>	
3.32	CR123C356A	22.9	CR123F233B	89	CR123F395B
3.68	CR123C379A	24.8	CR123F243B	93	CR123F430B
4.08	CR123C419A	27.2	CR123F270B	100	CR123F487B
4.61	CR123C466A	30.0	CR123F300B	110	CR123F567B
5.21	CR123C526A	33.0	CR123F327B	120	CR123F614B
5.62	CR123C592A	36.2	CR123F357B	132	CR123F658B
6.12	CR123C630A	40.0	CR123F395B	145	CR123F719B
6.83	CR123C695A	44.0	CR123F430B	160	CR123F772B
7.70	CR123C778A	48.4	CR123F487B	176	CR123F848B
8.48	CR123C867A	53.3	CR123F567B	191	CR123F914B
9.19	CR123C955A	58.6	CR123F614B	213	CR123F104C
9.92	CR123C104B	64.4	CR123F658B	237	CR123F114C
11.1	CR123C113B	71.3	CR123F719B	258	CR123F118C
12.2	CR123C125B	78.0	CR123F772B	270	CR123F133C
13.5	CR123C137B	86.0	CR123F848B		
14.6	CR123C151B	90.0	CR123F914B		
16.1	CR123C163B				
17.9	CR123C180B				
19.3	CR123C198B <sup>1</sup>				
20.6	CR123C214B <sup>1</sup>				
22.6	CR123C228B <sup>1</sup>				
24.8	CR123C250B <sup>1</sup>				
27.0	CR123C273B <sup>1</sup>				

<sup>1</sup>For use on size 1 only.

<sup>2</sup>Two heaters required.

Product Number Selection Instructions: See page 1-153



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR123K, CR123L Panel Mounted Overload Relay Heaters

## Section 1

#### Heater Selection Overload Relays

Product	List Price Each, GO-10H
CR123K (All)	\$9.00
CR123L (All)	\$9.00

#### Standard-Trip Overload Heaters

Maximum Motor Full-Load Amperes					Heater Product Number
CR124K (Size 1)	CR124L (Size 2)	CR124M (Size 3)	CR124N (Size 4)	CR124P (Size 5)	
1.07	—	—	—	—	CR123K123A
1.19	—	—	—	—	CR123K135A
1.31	—	—	—	—	CR123K150A
1.45	—	—	—	—	CR123K165A
1.59	—	—	—	—	CR123K182A
1.77	—	—	—	—	CR123K200A
1.98	—	—	—	—	CR123K222A
2.21	—	—	—	—	CR123K249A
2.40	—	—	—	—	CR123K277A
2.62	—	—	—	—	CR123K301A
2.89	—	—	—	—	CR123K329A
3.17	—	—	—	—	CR123K362A
3.49	—	—	—	69.4	CR123K398A
3.82	—	—	—	76.8	CR123K438A
4.21	—	—	—	84.7	CR123K479A
4.65	4.65	—	—	99.2	CR123K527A
5.13	5.13	—	—	108	CR123K582A
5.69	5.69	—	—	120	CR123K642A
6.32	6.32	—	—	133	CR123K713A
6.99	6.99	—	—	144	CR123K791A
7.69	7.69	—	—	156	CR123K875A
8.37	8.37	—	—	167	CR123K963A
9.13	9.13	—	—	177	CR123K105B
9.96	9.96	—	—	199	CR123K114B
10.8	10.8	—	—	219	CR123K125B
11.7	11.7	—	—	242	CR123K136B
12.9	12.9	—	—	267	CR123K148B
14.1	14.1	—	—	270	CR123K163B
15.4	15.4	—	—	—	CR123K178B
16.9	16.9	—	—	—	CR123K194B
18.8	18.8	20.1	—	—	CR123K213B
20.7	20.7	22.5	—	—	CR123K236B
22.9	22.9	24.8	—	—	CR123K260B
25.5	25.5	27.3	—	—	CR123K288B
27.0	28.1	30.5	—	—	CR123K320B
—	30.9	32.2	—	—	CR123K352B
—	32.9	34.6	35.2	—	CR123K387B
—	36.2	40.9	42.7	—	CR123K425B
—	40.0	43.6	45.2	—	CR123K468B
—	45.0	45.3	48.2	—	CR123K515B
—	—	50.3	55.2	—	CR123K585B
—	—	55.8	57.2	—	CR123K650B
—	—	61.2	67.5	—	CR123K720B
—	—	67.0	69.0	—	CR123K790B
—	—	72.8	74.7	—	CR123K865B
—	—	81.4	82.4	—	CR123K940B
—	—	90.0	90.7	—	CR123K105C
—	—	—	103	—	CR123K118C
—	—	—	113	—	CR123K130C
—	—	—	125	—	CR123K143C
—	—	—	133	—	CR123K157C

All CR123K and 123L heaters are packaged three to a carton. Items of these heaters, being ordered for either customer's stock or any other purpose, are to be specified in multiples of three (such as 3, 6, 9, 12, 15, etc.). Minimum order quantity is three.

For CR124 Single-Element Overloads—Not mounted directly on starters.

#### Quick-Trip Overload Heaters

Maximum Motor Full-Load Amperes					Heater Product Number
CR124K (Size 1)	CR124L (Size 2)	CR124M (Size 3)	CR124N (Size 4)	CR124P (Size 5)	
1.53	—	—	—	—	CR123L174A
1.68	—	—	—	—	CR123L193A
1.84	—	—	—	—	CR123L211A
2.03	—	—	—	—	CR123L232A
2.25	—	—	—	—	CR123L255A
2.47	—	—	—	—	CR123L282A
2.73	—	—	—	—	CR123L310A
3.03	—	—	—	—	CR123L343A
3.35	—	—	—	—	CR123L380A
3.69	—	—	—	73.9	CR123L420A
4.07	—	—	—	81.6	CR123L463A
4.48	—	—	—	89.6	CR123L510A
4.93	—	—	—	99.2	CR123L561A
5.43	5.43	—	—	108	CR123L618A
5.99	5.99	—	—	119	CR123L680A
6.59	6.59	—	—	131	CR123L750A
7.27	7.27	—	—	144	CR123L825A
7.99	7.99	—	—	159	CR123L910A
8.87	8.87	—	—	177	CR123L100B
9.76	9.76	—	—	194	CR123L111B
10.7	10.7	—	—	215	CR123L122B
11.6	11.6	—	—	237	CR123L135B
13.1	13.1	—	—	263	CR123L147B
14.4	14.4	—	—	270	CR123L165B
15.8	15.8	—	—	—	CR123L181B
17.5	17.5	—	—	—	CR123L199B
19.2	19.2	21.7	—	—	CR123L220B
21.1	21.1	23.7	—	—	CR123L241B
23.3	23.3	25.0	—	—	CR123L265B
25.7	25.7	29.1	—	—	CR123L293B
27.0	28.0	29.9	—	—	CR123L322B
—	31.1	32.8	—	—	CR123L352B
—	32.9	34.9	34.2	—	CR123L390B
—	35.9	37.3	38.6	—	CR123L426B
—	41.5	42.9	45.4	—	CR123L464B
—	45.0	45.9	48.3	—	CR123L520B
—	—	50.3	54.0	—	CR123L593B
—	—	55.0	57.5	—	CR123L650B
—	—	61.0	62.6	—	CR123L710B
—	—	67.1	68.3	—	CR123L787B
—	—	73.6	75.6	—	CR123L866B
—	—	82.9	88.8	—	CR123L950B
—	—	90.0	100	—	CR123L107C
—	—	—	113	—	CR123L126C
—	—	—	123	—	CR123L142C
—	—	—	133	—	CCR123L155C



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

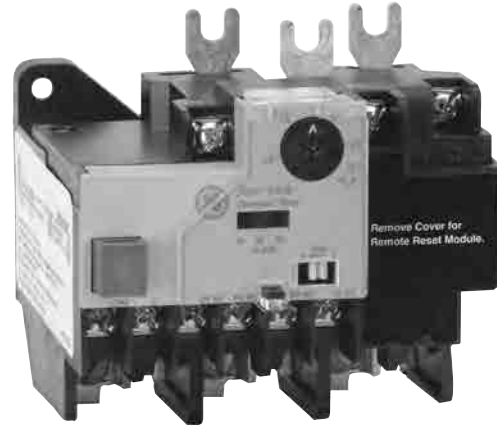
### CR324X Solid State Overload Relays

For Panel Mounting  
3-Pole, 600 VAC

## Section 1

#### Technical Features

- 2:1 Adjustable full load amps with tactile feedback dial
- Selectable 10/20/30 protection class
- Ambient insensitive within the stated operating temperature range of –20° to +70°C
- Built-in thermal memory to prevent hot motor restarts
- Protection against complete phase current loss
- Manual reset (standard) and remote reset (optional) 120 VAC
- Accuracy: ± 2%
- Repeatability: ± 2%
- Self-powered @ 50% of minimum current range
- Size: 1-6 (0.40A-540A, 600 V, 50/60 Hz)
- Unbalance trip signal for PLC operation
- Manual trip
- Visual trip indication
- Standard isolated 1 NO and 1 NC aux. contact (A600, Q600)
- Built-in line/load straps
- Fits with existing 300-Line Starters
- Power factor correction terminals (sizes 1-4)
- DIN rail mountable sizes 1 & 2



CR324X Overload Relay (Panel-Mount)

#### Solid State Overload Relays for Panel Mounting (CR324X) – Contents

Technical Features .....	1-160
Selection Instructions.....	1-161
Outlines and Dimensions .....	1-163





# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR324X Solid State Overload Relays

## Section 1

For Panel Mounting  
3-Pole, 600 VAC

#### Product Number Selection Instructions

1. Replace \* in product number with appropriate digit from Full Load Current Selection Table below.

#### Solid State Overload Relays

NEMA Size	Continuous Ampere Rating	Mounting Position	Product Number	List Price GO-10GS
1	27	Panel Mount	CR324CX*P	\$162.00
2	45	Panel Mount	CR324DX*P	\$177.00
3, 4	90,135	Panel Mount	CR324FX*P	\$255.00
1	27	for MRO & Replacement	CR324CX*S	\$150.00
2	45	for MRO & Replacement	CR324DX*S	\$165.00
3, 4	90,135	for MRO & Replacement	CR324FX*S <sup>1,2</sup>	\$255.00
5	270	for MRO & Replacement	CR324GX*S <sup>3</sup>	\$162.00
6	540	for MRO & Replacement	CR324HX*K <sup>4</sup>	\$750.00
6	540	for MRO & Replacement	CR324HX*S <sup>5</sup>	\$162.00

<sup>1</sup>If Product No. digit "K" is selected from Full Load Current Selection Table, deduct \$55.00 from list price.

<sup>2</sup>Reset on CR324FX\*S overloads is approximately 1" longer than on equivalent bimetal overloads. For GE 300-Line enclosures, perform the actions noted below:

Enclosure Reset Extension Type	Adjustment Required
Threaded Rod (standard)	Cut threaded shaft 1" and adjust for 1/8" gap.
"U" Style, 2 1/8" long	Replace extension with product number 55-512811G005.
"U" Style, 1 1/2" long	Replace extension with product number 55-512811G002.

<sup>3</sup>CR324GX\*S may be used as replacement for bimetal overload on size 5 starters. Use existing CTs.

<sup>4</sup>CR324HX\*K kit must be used as solid-state replacement for bimetal overloads on size 6, since CT ratio changes, CTs included.

<sup>5</sup>CR324HX\*S may be used as a replacement for existing solid-state overload on size 6. Use existing CTs.

#### Solid State Overload Relay Options

Item	NEMA Size	Voltage	Product Number	List Price GO-10GS
Remote Reset	1-6	120 VAC	CR324XRRM02	\$32.00
Panel Mount Adapter	1	N/A	CR324CXPMA	\$12.00
	2	N/A	CR324DXPMA	\$12.00

#### Full Load Current Selection Table

For continuous rated motors, with a service factor of 1.15 to 1.25, select the heater with maximum motor Amperes equal to or immediately greater than the motor full-load current (provides a maximum of 125 percent protection). For continuous rated motors with no service factor, multiply the full-load current of the motor by 0.90 and use this value to select the heater.

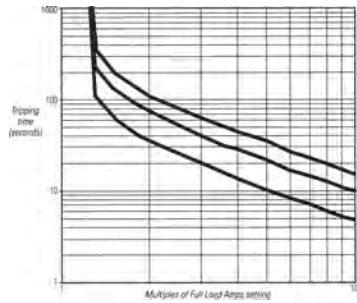
Overload Range for Solid State Starters	NEMA Size	Fuse Max.	Breaker Max.	Insert Digit in Product Number
0.4-0.85	00-1	3	15	C
0.8-1.7	00-1	6	15	D
1.6-3.4	00-1	12	15	E
3.2-6.8	00-1	25	25	F
6.5-13.5	00-1	50	50	G
13-27	00-1	100	100	H
6.5-13.5	2	50	50	G
13-27	2	100	100	H
25-50	2	200	200	J
17-35	3 & 4	125	125	K
35-70	3 & 4	250	250	L
65-135	3 & 4	500	400	M
35-70	5			N
65-135	5	500	400	P
130-270	5	600	800	Q
130-270	6	1200	800	S
260-540	6	1200	800	T



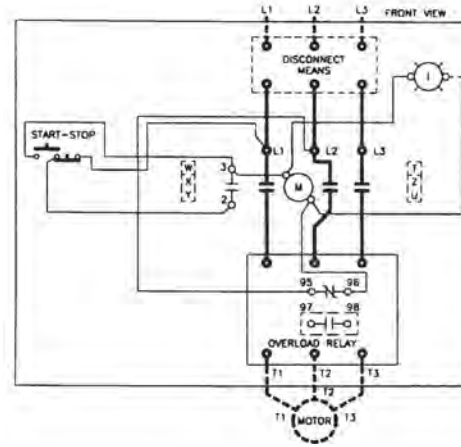
# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Magnetic CR324X Solid State Overload Relays

## Section 1

For Panel Mounting  
3-Pole, 600 VAC



Tripping Time (sec.) vs. Multiples of F.L.A. for  
GE CR324X overload, cold state



Typical 3-Phase Diagram

### Fusible Combination Starter Short Circuit Ratings

Fusible Combination Starters & CR324X Solid-State Overload Relays

NEMA Size	Fuse Type	Maximum Symmetrical rms Amperes
0-3	H, K	5,000 at 600 V
4, 5	H, K	10,000 at 600 V
0-4	J	100,000 at 600 V
0-4	RK1, RK5	65,000 at 480 V
5	J, RK1, RK5	100,000 at 600 V
6	J, L, RK1, RK5	100,000 at 600 V

### CR324X Circuit Breaker Combination Starter Short Circuit Ratings

Circuit Breaker Combination Starters & CR324X Solid-State Overload Relays

Breaker Type	Rating	NEMA Size	Maximum Symmetrical rms Amperes		
			240 Volts	480 Volts	600 Volts
TEB	15-50	0	5,000	—	—
	15-70	1	5,000	—	—
	15-100	2	5,000	—	—
	25-150	3	5,000	—	—
TEC Mag-Break® Breaker	3-15	0	25,000	25,000	5,000
	3-15	1	25,000	25,000	5,000
	15-50	2	25,000	25,000	5,000
	30-100	3	25,000	25,000	5,000
	50-150	4	25,000	25,000	5,000
TEC/TECL	3-30	0	100,000	100,000	100,000
	3-50	1	100,000	100,000	100,000
	15-50	2	100,000	100,000	100,000
	30-100	3	100,000	100,000	100,000
	50-100	4	100,000	100,000	100,000
TED	15-50	0	5,000	5,000	5,000
	15-30	1	25,000	25,000	5,000
	35-70	1	5,000	5,000	5,000
	15-50	2	25,000	25,000	5,000
	60-100	2	5,000	5,000	5,000
	25-100	3	25,000	25,000	5,000
TFJ, TFK & TFC THFK TJJ, TJK & TJC THJK	110-150	3	5,000	5,000	5,000
	70-225	4	25,000	25,000	18,000
	70-225	4	25,000	25,000	18,000
	225-600	5	10,000	10,000	10,000
	225-400	5	35,000	35,000	25,000
TKM, TKC THKMB TB6, TBC	450-600	5	35,000	35,000	25,000
	300-800	6	42,000	42,000	22,000
	300-800	6	65,000	35,000	25,000
	300-800	6	65,000	65,000	42,000



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Magnetic

### CR324X Solid State Overload Relays

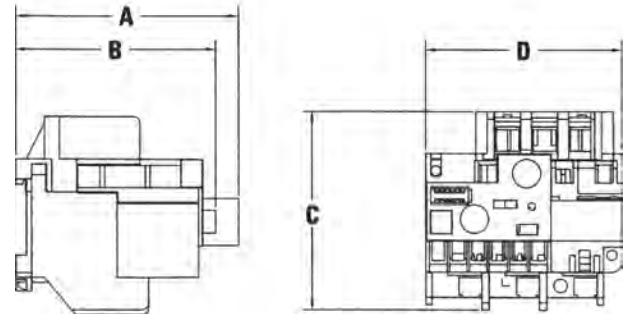
## Section 1

For Panel Mounting  
3-Pole, 600 VAC

#### Panel Mount

Size	A*	B	C	D
1	4.11	3.77	3.60	3.70
2	4.11	3.77	3.60	3.70
3	5.60	5.26	5.06	6.25
4	5.60	5.26	5.06	6.25

\*If used

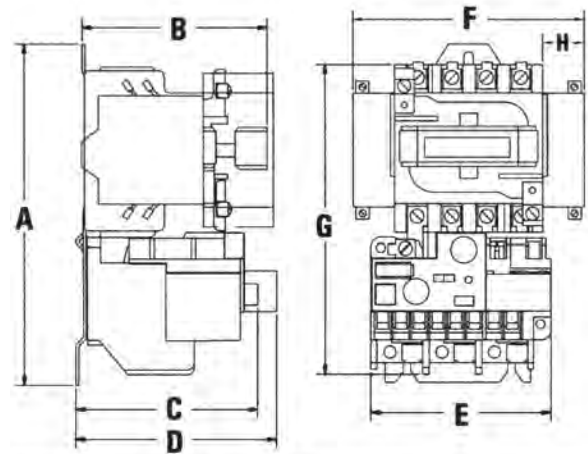


Panel Mount

#### Open NEMA Starter

Size	A	B	C	D*	E	F*	G	H*
1	7.00	3.63	3.94	3.92	3.70	4.76	6.50	.84
2	9.12	4.57	5.50	4.91	3.70	5.44	8.50	.84
3	11.62	5.32	6.50	5.66	6.24	7.50	10.62	.88
4	11.62	5.32	6.50	5.66	6.24	7.50	10.62	.88

\*If used



Open NEMA Starter

#### Current Ranges Available

	0.4- 0.85	0.8- 1.7	1.6- 3.4	3.2- 6.8	6.5- 13.5	13- 27	25- 50	17- 35	35- 70	65- 135	130- 270	260- 540
Size 1	√	√	√	√	√							
Size 2					√	√	√					
Size 3*								√	√	√*		
Size 4								√	√	√		
Size 5										√	√	
Size 6											√	√

\*Size 3, 90 amps max.

#### Outline Drawings

NEMA Size	Pub. #
1	55-534723
2	55-216101
3	55-216103
4	55-216103
5	55-194095
6	55-194096

For modified starters: Refer to DEU-005, or price as a similar standard starter and include adder from page 1-128 and change discount to GO-10GS.

#### Reference Publications

UL File E103664	CAS File LR30821
Publication	DEP-058
Order Motor Starter publications from Section 16	
Instructions - NEMA Size 1, 2	GEH-6430
Instructions - NEMA Size 3, 4	GEH-6431
Instructions - NEMA Size 5, 6	GEH-6432



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Starters - Manual

### CR101H, CR101Y

Single-Phase

1 Hp Maximum @ 115V or 230V

3/4 Hp Maximum @ 277V for 2-pole Forms

25-60 Hz

The CR101H and CR101Y manual motor starters provide dependable overload protection for single-phase motors up to one horsepower (115 or 230 Volts), and are the most economical starter choices where undervoltage protection is not required.

CR1062 series of manual starters are designed for infrequent starting of single-phase and polyphase motors up to ten horsepower on applications where they can be directly operated.

#### Application

Designed for starting and stopping single-phase motors up to 10 HP. These manual starters have provision for overload protection and their low cost provides economical starter selection for applications where no undervoltage protection is required. This line of starters may be used on such equipment as grinders, conveyors, fans, mixers, and blowers.

#### Features

- Terminal design; box terminals provide easy access for wiring.
- Molded plastic switch housing; protects starter mechanism.
- Small size; open starter fits GEM™ or handy box.

#### Product Number Selection Instructions

Order starter by complete product number and specify overload heater as a separate item by complete product number.

#### Examples:

1. A general-purpose enclosed starter for surface wall mounting is desired. The starter is to break both lines. Motor to be started with this device has a full-load current of 0.6 Ampere.  
Order:  
1 CR101H1 manual motor starter at **\$45.00 each, GO-10G3**.  
1 CR123H074A heater at **\$6.00 each, GO-10G3**.
2. The complete combination surface-mounted station, CR101H12, may also be ordered by components, e.g. order 1-CR101X10 flush plate, at **\$71.00 each, GO-10G3**;  
1-CR101X14 box at **\$6.00 each, GO-10G3**; and 1-CR101H manual starter at **\$39.00 each, GO-10G3**. The other complete general-purpose manual starters may be broken down in this manner.

#### NEMA Rated Full Voltage Manual Starters – Contents

Application Information and Selection Instructions (CR101H, CR101Y) .....	1-164
Non-combination, Single Phase .....	1-165
Enclosure Components.....	1-166
Outlines and Dimensions (CR101H, CR101Y).....	1-167
Application Information and Selection Instructions (CR1062) .....	1-168
Single-Phase and Polyphase.....	1-169
Outlines and Dimensions (CR1062).....	1-171
Manual Starter Heaters for Single-phase and Polyphase .....	1-172

## Section 1



Open Starter



Manual Starter in NEMA Type 1 General Purpose Enclosure



NEMA Type 4 Water- and Dust-Tight Manual Starter



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Manual

## Section 1

### CR101H, CR101Y

Single-Phase

Non-combination

1 HP Maximum at 115 or 230 Volts

3/4 HP Maximum at 277 Volts for 2 pole forms

25 to 60 Hz

#### CR101H, CR101Y

Open starters include an unmounted nameplate. List prices do not include heater(s). Heaters can be selected from the table at right and ordered as a separate item at **\$6.00 each, GO-10H**.

One heater is required per starter (two for 2-speed forms and for combination starter CR101H13).

#### Toggle-Operated Nonreversing Open<sup>1</sup>

No. of Poles	Product Number	List Price GO-10G3
1	CR101Y <sup>2</sup>	\$33.00
2	CR101H <sup>2</sup>	\$39.00

<sup>1</sup>For flush or outlet box mounting.

<sup>2</sup>Units are individually boxed and "Poly-Packed" 10 per carton as standard.

#### Toggle-Operated Nonreversing Enclosed NEMA Type 1<sup>3</sup>

No. of Poles	Indicating Light	Product Number	List Price GO-10G3
1	No	CR101Y1 <sup>2</sup>	\$39.00
2	No	CR101H1 <sup>2</sup>	\$45.00
1	Yes	CR101Y11 <sup>4</sup>	\$57.00
2	Yes	CR101H11 <sup>4</sup>	\$63.00

<sup>2</sup>Units are individually boxed and "Poly-Packed" 10 per carton as standard.

<sup>3</sup>Surface mounting.

<sup>4</sup>Includes a 115/230-Volt neon lamp(s). Not available at 277 Volts.

#### Lever-Operated Nonreversing Enclosed NEMA Type 3/4/12

No. of Poles	Hubs	Product Number	List Price GO-10G3
1	3/4-inch Hub on One End	CR101Y400H	\$138.00
2	3/4-inch Hub on One End	CR101H400H	\$144.00
1	3/4-inch Hub on Both Ends	CR101Y400J	\$150.00
2	3/4-inch Hub on Both Ends	CR101H400J	\$156.00

#### Multi-speed Enclosed NEMA Type 1 Surface Mount

No. of Poles	Indicating Light	Product Number	List Price GO-10G3
1	None	CR101Y600B	\$172.00
1	Two	CR101Y610B <sup>4</sup>	\$255.00
2	None	CR101H600B	\$187.00
2	Two	CR101H610B <sup>4</sup>	\$270.00

<sup>4</sup>Includes a 115/230-Volt neon lamp(s). Not available at 277 Volts.

#### Multi-speed Enclosed NEMA Type 1 Gray Flush-Plate

No. of Poles	Indicating Light	Product Number	List Price GO-10G3
1	None	CR101Y600A	\$165.00
1	Two	CR101Y610A <sup>4</sup>	\$247.00
2	None	CR101H600A	\$180.00
2	Two	CR101H610A <sup>4</sup>	\$262.00

<sup>4</sup>Includes a 115/230-Volt neon lamp(s). Not available at 277 Volts.

#### Multi-speed Enclosed NEMA Type 1 Stainless-Steel Flush-Plate

No. of Poles	Indicating Light	Product Number	List Price GO-10G3
1	None	CR101Y608A	\$172.00
1	Two	CR101Y618A <sup>4</sup>	\$255.00
2	None	CR101H608A	\$187.00
2	Two	CR101H618A <sup>4</sup>	\$270.00

<sup>4</sup>Includes a 115/230-Volt neon lamp(s). Not available at 277 Volts.

#### Combination Device Enclosed NEMA Type 1

No. of Poles	Description	Product Number	List Price GO-10G3
2	CR101H + Base Unit HOA	CR101H12	\$102.00
2	2 (CR101H)	CR101H13	\$108.00

#### Overload Heater Units for CR101H, Y

All CR123H heaters are packaged as single units.

Product Number	List Price Each, GO-10H
CR123H (all)	\$6.00

The table below gives a proper size heater to trip the switch on approximately 125 percent motor current.

Listed values are for motors with 1.15-1.25 service factor. For motors with 1.0 service factor continuously, multiply full-load current of motor by 0.9 and use this value to select heater. Contact nearest GE Representative for recommendation on heaters to be used with definite-purpose motors. If motor full-load Amperes falls between two ratings, select heater for the highest of those two.

For 1.35 service factor motors, multiply full-load current of motor by 1.15 and use this value to select heater(s).

Maximum Motor Full-Load Amperes	Heater Product Number
.48	CR123H055A
.53	CR123H061A
.58	CR123H067A
.65	CR123H074A
.71	CR123H082A
.78	CR123H090A
.86	CR123H099A
.95	CR123H108A
1.04	CR123H120A
1.14	CR123H132A
1.25	CR123H144A
1.37	CR123H158A
1.49	CR123H172A
1.63	CR123H188A
1.78	CR123H205A
1.95	CR123H224A
2.13	CR123H245A
2.32	CR123H267A
2.53	CR123H291A
2.76	CR123H317A
3.01	CR123H346A
3.27	CR123H377A
3.56	CR123H410A
3.88	CR123H446A
4.22	CR123H486A
4.60	CR123H529A
5.00	CR123H575A
5.43	CR123H625A
5.90	CR123H680A
6.41	CR123H739A
6.98	CR123H802A
7.60	CR123H873A
8.25	CR123H950A
8.95	CR123H103B
9.75	CR123H112B
10.6	CR123H122B
11.4	CR123H132B
12.5	CR123H144B
13.6	CR123H157B
14.8	CR123H171B
16.0	CR123H186B

#### Maximum Horsepower Ratings-AC or DC

##### Continuous Carry-16 Amperes

Product Number	No. of Poles	Horsepower @ 32 V AC	Horsepower @ 115 V AC	Horsepower @ 230 V AC	Horsepower @ 277 V AC	Horsepower @ 115 V DC	Horsepower @ 230 V DC
CR101Y	1	1/4	1	1	—	1	1/4
CR101H	2	1/4	1	1	3/4	1	1



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Manual CR101H, CR101Y

## Enclosure Components

### Enclosure Components - Single Units

Flush plates painted gray or of stainless steel are available for flush mounting of all listed open manual starters.

Safety to maintenance personnel and operators and security to equipment is provided by locking attachment, CR101X3, for use on all toggle-operated manual starter forms.

Customers can assemble CR101H1, H11, Y1, or Y11 general-purpose manual starters by adding either an open CR101H or Y manual starter to a CR101X6 back and a CR101X4 or X5 cover.

Product Description	Product Number	List Price GO-10G3
Flush plate with 115/230-Volt indicating light and screws	CR101X1	\$21.00
Standard flush plate with screws	CR101X2	\$3.00
Locking attachment (lock not included)	CR101X3	\$6.00
Cover (front with 115/230-Volt neon indicating light and screws)	CR101X4	\$21.00
Standard cover (front with screws)	CR101X5	\$3.00
Enclosure back with screws (surface-mounting)	CR101X6	\$3.00
Stainless-steel flush plate with 115/230-Volt indicating light and screws	CR101X7	\$24.00
Stainless-steel flush plate with screws	CR101X8	\$6.00

### Combination Plates and Box

Customer convenience and flexibility is made possible by the availability of combination flush plates. These plates may be used flush mounted with a CR101X14 or other 2-1/2-inch deep, two gang boxes to make a general-purpose surface-mounted installation. Open manual starters must be ordered separately.

Product Description	Product Number	List Price GO-10G3
Combination flush plate with HAND-AUTO switch	CR101X10	\$71.00
Combination flush plate with HAND-AUTO switch and 115/230-Volt neon indicating light	CR101X11	\$84.00
Combination flush plate for 2—CR101 open starters	CR101X12	\$30.00
Combination flush plate for 2—CR101 open starters with 2—115/230-Volt neon indicating lights	CR101X13	\$60.00
Box (back) for combination forms	CR101X14	\$6.00

## Section 1



CR101X4 Enclosure Components



CR101X6 Enclosure Components



CR101X8 and CR101X7  
Stainless Steel Flush Plates



CR101X11 Enclosure Components



CR101X3 Locking Attachment



CR101X14 Combination Flush Plate  
and Box (Back)



Product Number Selection Instructions: See page 1-164

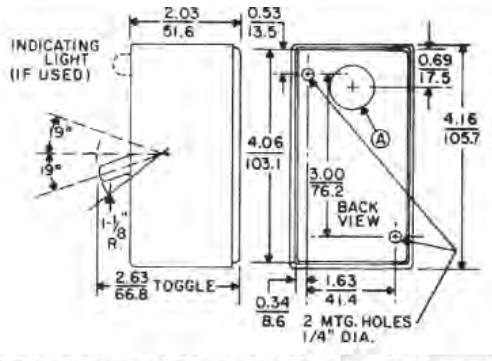
# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Manual

## Section 1

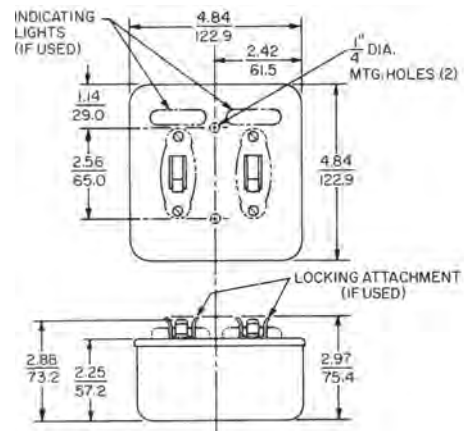
### CR101H, CR101Y

CR101 Open, Types 1, 4

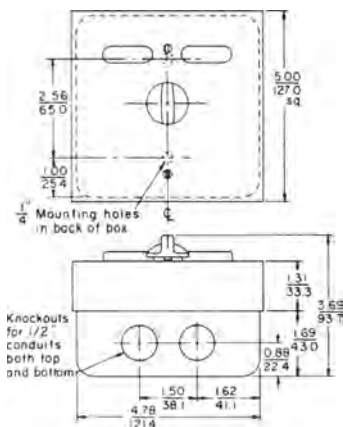
Outlines and Dimensions (in/mm), and Weights (For Estimating Only)



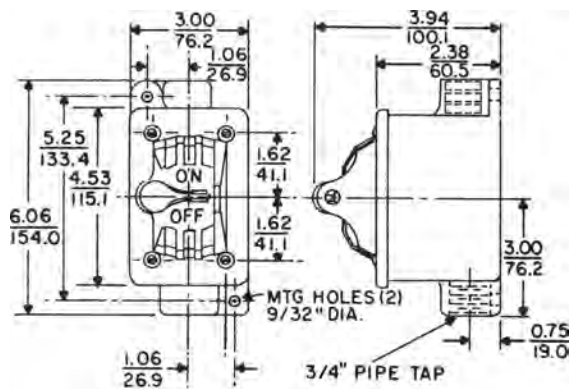
CR101 Manual Starter in Type 1 Enclosure, 2 lbs.



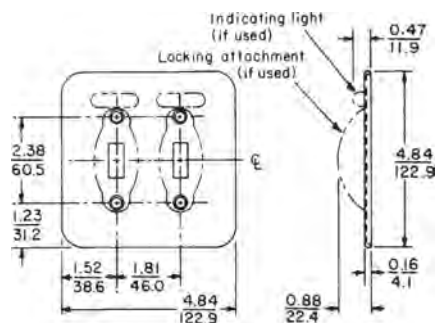
CR101H12 or CR101X13 Combination Starter, 4 lbs.



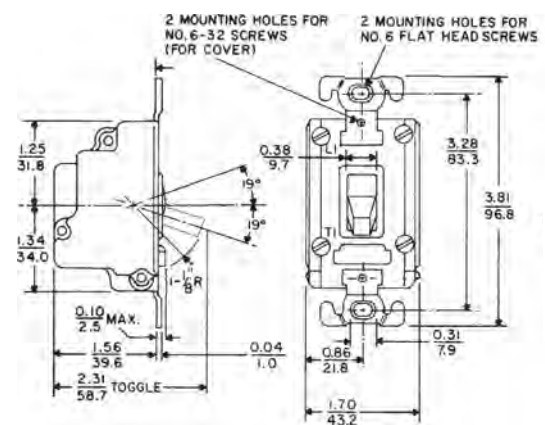
CR101 Two-Speed Manual Starter in Type 1 Enclosure, 3 lbs.



CR101 Manual Starter in Type 4 Enclosure, 4 lbs.



CR101X12 or CR101X13 Combination Flush Plate, 1 lb.



CR101 Manual Starter, Open Type, 1 lb.



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Manual

## Section 1

### CR1062

Single-Phase and Polyphase

10 HP Maximum

600 Volts

25 to 60 Hertz

#### Application

Designed for controlling small ac motors. Standard CR1062R and S starter forms provide overload protection but cannot be used where undervoltage protection is required or for remote or automatic operation.

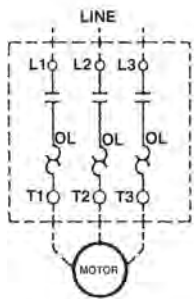
#### Features

- Front-connected; clamp-type terminals for easy wiring.
- Trip-free overload mechanism; can't be held closed.
- Knockout in enclosure cover permits installation of indicating light kit.

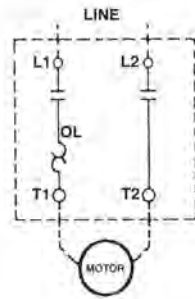
#### Product Number Selection Instructions

1. Devices may be ordered under the new easy-to-use product numbering system outlined on page 1-169. Customers may still use the original product numbering system for devices listed on page 1-170.
2. Select overload relay heaters from tables on page 1-172. Three heaters should be specified and ordered as separate items. **List Price \$9.00 each, GO-10H.** Packaged in quantities of three; must be ordered in multiples of three. Single-phase forms require one heater, four-pole forms require two heaters and three-pole forms require three heaters.

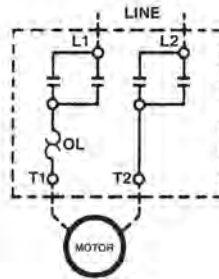
#### Schematic Diagrams



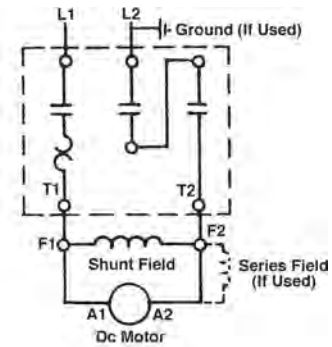
Typical 3-Phase  
Connections CR1062R & S



Typical Single-Phase  
Connections CR1062R & S



Typical Single-Phase  
Connections CR1062T



Typical Connections  
for DC Starters

#### Horsepower Ratings

		Maximum Horsepower Ratings					
		Coil Motor Voltage and Frequency					
		60 Hertz			50 Hertz		
Phase	NEMA Size	115 V	200-208 V	230-240 V	277 V	460-600 V	380 V
Single	M-0	1	—	2	2	—	—
	M-1	2	—	3	2	—	—
	M-1P	3	—	5	2	—	—
Three	M-0	—	3	3	—	5	5
	M-1	—	7-1/2	7-1/2	—	10	10

#### Reference Publications

Instructions

GEH-4737



Product Number Selection Instructions: See page 1-168



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Manual

## Section 1

### CR1062

Single-Phase and Polyphase

10 HP Maximum

600 Volts

25 to 60 Hertz

#### 1 Select NEMA Size and Number of Poles

NEMA Size	Number of Poles	Product No. Digits	List Price Adder, GO-10G3
M-0	Single-Phase DC (in series)	R1	\$120.00
	Single-Phase (AC)	R2	\$99.00
	3-Pole Three-Phase	R3	\$120.00
M-1	Single-Phase DC (in series)	S1	\$150.00
	Single-Phase (AC)	S2	\$129.00
	3-Pole Three-Phase	S3	\$150.00
M-1P	Single-Phase DC (in series)	—	—
	Single-Phase AC in Parallel	T2	\$195.00
	3-Pole Three-Phase	—	—

#### 2 Select Protection

Protection	Single-Phase		Three-Phase	
	Product No. Digit	List Price Adder, GO-10G3	Product No. Digit	List Price Adder, GO-10G3
Standard Overload	A	\$0.00	A	\$0.00
Omit Overload	B	Deduct \$9.00	B	Deduct \$24.00

Order heaters as a separate item from Heater Selection Tables, page 1-172.

#### 3 Select Auxiliary Contacts

Auxiliary Contacts	Size 0		Size 1		Size 1-P	
	Product No. Digit	List Price Adder, GO-10G3	Product No. Digit	List Price Adder, GO-10G3	Product No. Digit	List Price Adder, GO-10G3
None	A	\$0.00	A	\$0.00	A	\$0.00
1 NO	B	\$60.00	B	\$72.00	B	\$72.00
2 NO	C	\$120.00	C	\$144.00	—	—

Cannot have 2 auxiliary contacts with size 1-P device.

#### 4 Select Type of Operator and Enclosure Type

Type of Operator	Enclosure Class	Product No. Digit	List Price Adder, GO-10G3
Push Button	Open	P1	\$0.00
	Type 1	P2	\$12.00
	Type 3/12/13	—	—
	Type 4/4X	—	—
	Flush Mounted	P5	\$146.00
Toggle Lever	Open	T1	\$0.00
	Type 1	T2	\$12.00
	Type 3/12/13	T3	\$54.00
	Type 4/4X	T4	\$246.00
	Flush Mounted	T5	\$146.00

No hubs installed on Types 1, 3, 12, and 13 enclosures. 3/4-inch hubs standard on Type 4X enclosures.

#### 5 Select Indicating Light Option

	Product No. Digit			
	Type 1 Enclosure	List Price Adder, GO-10G3	Type 3/12/13 and 4/4X Enclosures	List Price Adder, GO-10G3
No Indicating Light	00	\$0.00	00	\$0.00
120 V/60 Hz 100 V/50 Hz	02	\$48.00	02	\$162.00
240 V/60 Hz 220 V/50 Hz	03	\$48.00	03	\$162.00
480 V/60 Hz 440 V/50 Hz	04	\$48.00	04	\$162.00
600 V/60 Hz	05	\$48.00	05	\$162.00

#### 6 Select Indicating Light Color

Indicating Light Color	Product No. Digit
No Indicating Light	Ø
Red Light	R
Green Light	G

#### Enclosure Kits

Description	Product Number	List Price, GO-10G3
Type 1 Enclosure for Toggle-Operated 2- to 4-Pole Starters	CR1062X9	\$12.00
Type 1 Enclosure for Push Button-Operated 2- to 4-Pole Starters	CR1062X10	\$12.00
Type 3/12/13 Enclosure (no hubs) Toggle Devices Only	CR1062X28	\$54.00
Type 4X Enclosure (with hubs) Toggle Devices Only	CR1062X23	\$246.00
Type 1 Flush-Mounted Enclosure for Toggle-Operated Starters	CR1062X30	\$146.00
Type 1 Flush-Mounted Enclosure for Push Button-Operated Starters	CR1062X31	\$146.00

	1	2	3	4	5	6
C	R	1	0	6	2	

Example: CR1062S3ABT302R is a Size M-1 three-phase starter with overload protection, 1NO auxiliary contact and toggle operation in a NEMA Type 3/12/13 enclosure with a red 120V indicating light at \$150.00 + 72.00 + 54.00 + 162.00 = \$438.00 each.



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Manual

## Section 1

### CR1062

Single-Phase and Polyphase

10 HP Maximum

600 Volts

25 to 60 Hertz

#### Across-the-Line Forms, Surface-Mounted

Single-phase starters require one heater. Three-phase nonreversing starters require three heaters. Specify quantity and order as separate items. **List Price \$9.00 each, GO-10H.** Packaged in quantities of three; must be ordered in multiples of three. Select heater(s) from tables on page 1-172. No hubs installed on Types 1, 3R, 12, and 13 enclosures. 3/4-inch hubs standard on Type 4X enclosures.



Open Type

#### Open

NEMA Size	Motor Type	Operator Type	Product Number	List Price GO-10G3
M-0	Single Phase	Push Button	CR1062R2AAP1000	\$99.00
M-1	Single Phase	Push Button	CR1062S2AAP1000	\$129.00
M-1P	Single Phase	Push Button	CR1062T2AAP1000	\$195.00
M-0	Three Phase	Push Button	CR1062R3AAP1000	\$120.00
M-1	Three Phase	Push Button	CR1062S3AAP1000	\$150.00
M-0	Single Phase	Toggle	CR1062R2AAT1000	\$99.00
M-1	Single Phase	Toggle	CR1062S2AAT1000	\$129.00
M-1P	Single Phase	Toggle	CR1062T2AAT1000	\$195.00
M-0	Three Phase	Toggle	CR1062R3AAT1000	\$120.00
M-1	Three Phase	Toggle	CR1062S3AAT1000	\$150.00



Type 1 Surface Mounting

#### Enclosed NEMA Type 1

NEMA Size	Motor Type	Operator Type	Product Number	List Price GO-10G3
M-0	Single Phase	Push Button	CR1062R2AAP2000	\$111.00
M-1	Single Phase	Push Button	CR1062S2AAP2000	\$141.00
M-1P	Single Phase	Push Button	CR1062T2AAP2000	\$207.00
M-0	Three Phase	Push Button	CR1062R3AAP2000	\$132.00
M-1	Three Phase	Push Button	CR1062S3AAP2000	\$162.00
M-0	Single Phase	Toggle	CR1062R2AAT2000	\$111.00
M-1	Single Phase	Toggle	CR1062S2AAT2000	\$141.00
M-1P	Single Phase	Toggle	CR1062T2AAT2000	\$207.00
M-0	Three Phase	Toggle	CR1062R3AAT2000	\$132.00
M-1	Three Phase	Toggle	CR1062S3AAT2000	\$162.00



Type 1 Flush Mounting

#### Enclosed NEMA Type 3R/12/13

NEMA Size	Motor Type	Operator Type	Product Number	List Price GO-10G3
M-0	Single Phase	Toggle	CR1062R2AAT3000	\$153.00
M-1	Single Phase	Toggle	CR1062S2AAT3000	\$183.00
M-1P	Single Phase	Toggle	CR1062T2AAT3000	\$249.00
M-0	Three Phase	Toggle	CR1062R3AAT3000	\$174.00
M-1	Three Phase	Toggle	CR1062S3AAT3000	\$204.00

#### Enclosed NEMA Type 4/4X

NEMA Size	Motor Type	Operator Type	Product Number	List Price GO-10G3
M-0	Single Phase	Toggle	CR1062R2AAT4000	\$345.00
M-1	Single Phase	Toggle	CR1062S2AAT4000	\$375.00
M-1P	Single Phase	Toggle	CR1062T2AAT4000	\$441.00
M-0	Three Phase	Toggle	CR1062R3AAT4000	\$366.00
M-1	Three Phase	Toggle	CR1062S3AAT4000	\$396.00



Type 4-4X

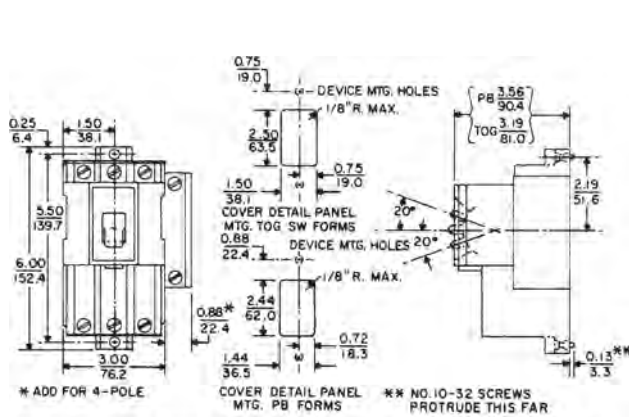


# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Manual CR1062

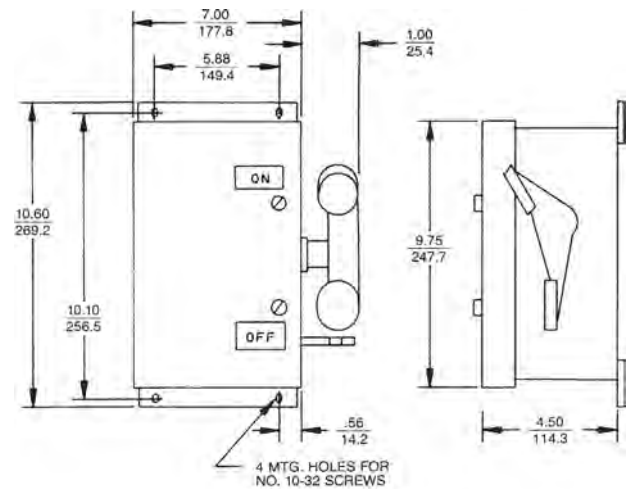
## Section 1

Standard

Outlines and Dimensions ( $\frac{in}{mm}$ ), and Weights (For Estimating Only)

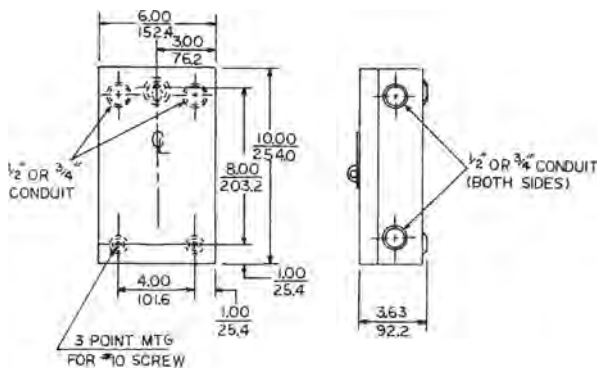


Open Type Toggle and Push Button Operated, NEMA Sizes M-0 and M-1; 2-, 3- and 4-Pole; Approximate shipping weight 2 1/2 lbs.

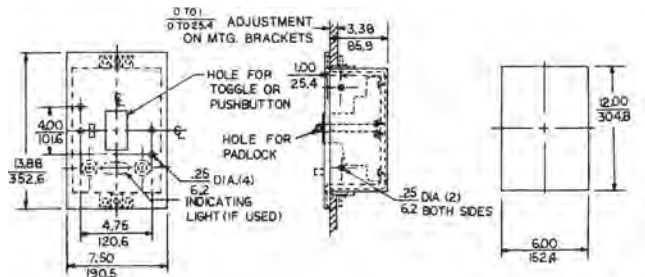


NEMA Type 3/12/13/4/4X Enclosure, NEMA Sizes M-0, M-1 and M-1P; 2-, 3- and 4-Pole; Approximate shipping weight 6 lbs.

M-1P meets 1984 Wire Bending Space Requirements.



NEMA Type 1 Enclosure, NEMA Sizes M-0, M-1 and M-1P; 2-, 3- and 4-Pole; Approximate shipping weight 4 1/2 lbs.



NEMA Type 1 Flush-Mounted Enclosure



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Manual CR1062

## Heaters

### Manual Starters—Single-Phase and Polyphase

## Section 1

### How To Select Heaters

Select proper Maximum Motor Full-Load Motor Ampere table per size, pole arrangement, and number of overload relays. One heater is required for each overload relay. If motor full-load amperes falls between two ratings, select heater for the higher rating.

The tables below give a proper size heater to trip the switch on approximately 125 percent motor current.

Listed values are for motors with 1.15-1.25 service factor. For motors with 1.0 service factor continuously, multiply full-load current of motor by 0.9 and use this value to select heater. Contact nearest GE Representative for recommendation for heaters to be used with definite-purpose motors.

For 1.35 service factor motors, multiply full-load current of motor by 1.15 and use this value to select heater(s).

### Heater Ordering Information

All CR123C and 123R heaters are packaged three to a carton. Items of these heaters, being ordered for either customer's stock or any other purpose, are to be specified in multiples of three (such as 3, 6, 9, 12, 15, etc.) Minimum order quantity is three.

Heater Product Number	List Price Each, GO-10H
CR123C,R (All)	\$9.00

Note: The National Electrical Code requires running overcurrent protection in all three lines of three-phase motors.

### Heaters for CR1062R, CR1062S Starters

NEMA Sizes M-0, M-1, Single-Phase, One Overload

Max. Motor Full-Load Amperes	General-Use Heater Product Number	Group Fusing Size M-0 Only <sup>2</sup>	
		Heater Product Number	Max. Fuse Rating 115-230 V
0.34	CR123C036A	CR123R036A	60A
.37	CR123C039A	CR123R039A	60A
.42	CR123C043A	CR123R043A	60A
.47	CR123C048A	CR123R048A	60A
.52	CR123C054A	CR123R054A	60A
.57	CR123C060A	CR123R060A	60A
.63	CR123C066A	CR123R066A	60A
.69	CR123C071A	CR123R071A	60A
.77	CR123C078A	CR123R078A	60A
.87	CR123C087A	CR123R087A	60A
.97	CR123C097A	CR123R097A	60A
1.06	CR123C109A	CR123R109A	60A
1.18	CR123C118A	CR123R118A	60A
1.33	CR123C131A	CR123R131A	60A
1.47	CR123C148A	CR123R148A	60A
1.66	CR123C163A	CR123R163A	60A
1.78	CR123C184A	CR123R184A	60A
2.00	CR123C196A	CR123R196A	60A
2.18	CR123C220A	CR123R220A	60A
2.45	CR123C239A	CR123R239A	60A
2.76	CR123C268A	CR123R268A	60A
3.00	CR123C301A	CR123R301A	60A
3.27	CR123C326A	CR123R326A	60A
3.49	CR123C356A	CR123R356A	100A
3.86	CR123C379A	CR123R379A	100A
4.30	CR123C419A	CR123R419A	100A
4.88	CR123C466A	CR123R466A	100A
5.49	CR123C526A	CR123R526A	100A
5.85	CR123C592A	CR123R592A	100A
6.45	CR123C630A	CR123R630A	100A
7.22	CR123C695A	CR123R695A	100A
8.05	CR123C778A	CR123R778A	100A
8.88	CR123C867A	CR123R867A	100A
9.66	CR123C955A	CR123R955A	100A
10.5	CR123C104B	CR123C104B	100A
11.6	CR123C113B	CR123C113B	100A
12.7	CR123C125B	CR123C125B	100A
13.2	CR123C137B	CR123C137B	100A
15.1	CR123C151B	CR123C151B	100A
16.6	CR123C163B	CR123C163B	100A
17.6	CR123C180B	CR123C180B	100A
19.8 <sup>1</sup>	CR123C198B	—	—
21.1 <sup>1</sup>	CR123C214B	—	—
23.1 <sup>1</sup>	CR123C228B	—	—
25.2 <sup>1</sup>	CR123C250B	—	—

<sup>1</sup>Size M-1 only.

<sup>2</sup>Does not apply to NEMA Type 7 forms.

### Reference Publications

Heater Selection Guide

GET-2681



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Starters - Manual CR1062

## Section 1

### Heaters

#### Manual Starters—Single-Phase and Polyphase

#### Heaters for CR1062R, CR1062S Starters

NEMA Sizes M-0, M-1, Three-Phase, Three Overloads

Max. Motor Full-Load Amperes	General-Use Heater Product Number	Group Fusing Size M-0 Only <sup>2</sup>			
		Heater Product Number	Max. Fuse Rating		
			115-230 V	460-600 V	
0.29	CR123C036A	CR123R036A	60A	30A	
.31	CR123C039A	CR123R039A	60A	30A	
.34	CR123C043A	CR123R043A	60A	30A	
.40	CR123C048A	CR123R048A	60A	30A	
.44	CR123C054A	CR123R054A	60A	30A	
.48	CR123C060A	CR123R060A	60A	30A	
.52	CR123C066A	CR123R066A	60A	30A	
.58	CR123C071A	CR123R071A	60A	30A	
.64	CR123C078A	CR123R078A	60A	30A	
.71	CR123C087A	CR123R087A	60A	30A	
.81	CR123C097A	CR123R097A	60A	30A	
.89	CR123C109A	CR123R109A	60A	30A	
.98	CR123C118A	CR123R118A	60A	30A	
1.12	CR123C131A	CR123R131A	60A	30A	
1.22	CR123C148A	CR123R148A	60A	30A	
1.38	CR123C163A	CR123R163A	60A	30A	
1.48	CR123C184A	CR123R184A	60A	30A	
1.66	CR123C196A	CR123R196A	60A	30A	
1.80	CR123C220A	CR123R220A	60A	30A	
2.03	CR123C239A	CR123R239A	60A	30A	
2.28	CR123C268A	CR123R268A	60A	30A	
2.47	CR123C301A	CR123R301A	60A	30A	
2.71	CR123C326A	CR123R326A	60A	30A	
2.87	CR123C356A	CR123R356A	60A	30A	
3.18	CR123C379A	CR123R379A	60A	30A	
3.54	CR123C419A	CR123R419A	100A	30A	
3.89	CR123C466A	CR123R466A	100A	30A	
4.51	CR123C526A	CR123R526A	100A	30A	
4.90	CR123C592A	CR123R592A	100A	30A	
5.30	CR123C630A	CR123R630A	100A	30A	
5.94	CR123C695A	CR123R695A	100A	30A	
6.70	CR123C778A	CR123R778A	100A	—	
7.36	CR123C867A	CR123R867A	100A	—	
7.98	CR123C955A	CR123R955A	100A	—	
8.59	CR123C104B	CR123C104B	100A	—	
9.46	CR123C113B	CR123C113B	100A	—	
10.3	CR123C125B	CR123C125B	100A	—	
11.7	CR123C137B	CR123C137B	100A	—	
12.6	CR123C151B	CR123C151B	100A	—	
13.8	CR123C163B	CR123C163B	100A	—	
15.4	CR123C180B	CR123C180B	100A	—	
16.6	CR123C198B	CR123C198B	100A	—	
17.4	CR123C214B	CR123C214B	100A	—	
19.4 <sup>1</sup>	CR123C228B	—	—	—	
20.6 <sup>1</sup>	CR123C250B	—	—	—	
22.0 <sup>1</sup>	CR123C273B	—	—	—	
25.3 <sup>1</sup>	CR123C303B	—	—	—	

<sup>1</sup>Size M-1 only.

<sup>2</sup>Does not apply to NEMA Type 7 forms.

#### Heaters for CR1062T Starters

NEMA Size M-1P, Single-Phase, One Overload

Maximum Motor Full-Load Amperes	Heater Product Number
8.56	CR123C778A
9.43	CR123C867A
10.3	CR123C955A
11.0	CR123C104B
12.1	CR123C113B
13.2	CR123C125B
15.0	CR123C137B
16.2	CR123C151B
17.7	CR123C163B
19.7	CR123C180B
21.2	CR123C198B
22.2	CR123C214B
24.9	CR123C228B
26.4	CR123C250B
30.0	CR123C273B
32.7	CR123C303B
34.0	CR123C330B

#### Heater Ordering Information

All CR123C and 123R heaters are packaged three to a carton. Items of these heaters, being ordered for either customer's stock or any other purpose, are to be specified in multiples of three (such as 3, 6, 9, 12, 15, etc.) Minimum order quantity is three.

Heater Product Number	List Price Each, GO-10H
CR123C,R (All)	\$9.00

Note: The National Electrical Code requires running overcurrent protection in all three lines of three-phase motors.



# NEMA Full Voltage Power Devices Pumping Panels

## CR340, CR341 Pumping Panels

100 Hp Max. @ 240V, 600 Hp Max. @ 600V  
NEMA Sizes 1-7

# Section 1

### Application

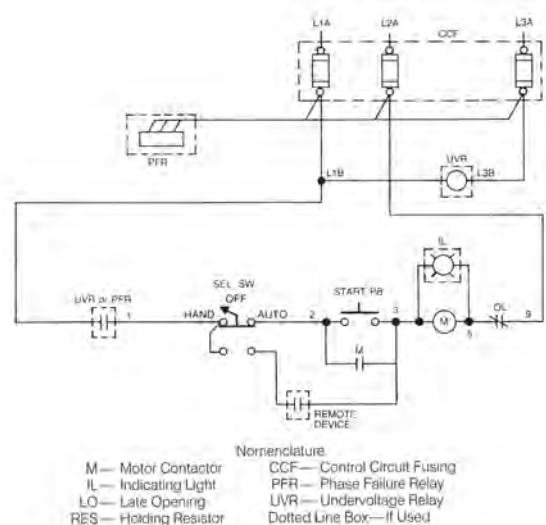
Specifically designed for outdoor installation, these pumping panels provide full voltage control of squirrel-cage pump motors. They offer protection from motor burnouts due to overloading, protection against untimely restarts after power failure, and protection of the motor circuit against damage from short circuits. Enclosure provides additional space for customer to mount desired modifications and accessories. Custom panel designs available upon request. Contact nearest GE representative or authorized distributor for additional information.



Typical CR341 Pumping Panels, Wide Case (Left) and Narrow Case (Right)

### Product Number Selection Instructions

- The GE pumping panels are specifically designed for outdoor installation. They provide full-voltage control of squirrel-cage pump motors. Overload, undervoltage, and short-circuit protection is included as standard.
  - GE pumping panels are available with traditional NEMA Class 20 bimetal thermal overloads, Class 10/20/30 selectable and adjustable electronic overloads with phase loss protection and Class 10 adjustable thermal overloads with differential protection.
  - In addition, pump panels can be provided with no overload relay, Class 10 overloads with fixed heaters, adjustable trip and differential trip; standard NEMA Class 20 overload relays or the Class 10/20/30 Electronic overload relay. Note the full line of Class 10 overload relays are approved for use with Franklin Electric vertical pump motors.
- 4. 50 Hertz Starters**  
50 Hertz forms are available. Contact your nearest GE Representative for proper selection and pricing.
- 5. Product Notes**  
Fuse clips are sized for dual element time-delay fuses.  
Order heaters by complete product number from tables on pages 1-188 and 1-189.



Typical CR340 and CR341, NEMA Sizes 1-6

### Reference Publications

Instructions	GEH-4715
Installation Instructions	GEH-4142

### Pumping Panels – Contents

Application Information and Selection Instructions (CR340, CR341).....	1-174
Fusible Disconnect Type with Thermal Overload Relays, Thermal Class 20 (CR341).....	1-175
Fusible Disconnect Type with Thermal Overload Relays, Thermal Class 10 (CR341).....	1-176
Fusible Disconnect Type with Solid State Overload Relays, Class 10-20-30 (CR341).....	1-178
Fusible Disconnect Type Part Number Configuration (CR341).....	1-179
With Thermal Overload Relay, Relay Class 20 (CR340).....	1-182
Mag-Break Type with Thermal Overload Relays, Thermal Class 10 (CR340).....	1-183
Mag-Break Type with Solid State Overload Relays, Class 10-20-30 (CR340).....	1-184
Mag-Break Type Part Number Configuration (CR340).....	1-185
Heaters (CR340, CR341).....	1-188
Outlines and Dimensions (CR340, CR341).....	1-190



# NEMA Full Voltage Power Devices Pumping Panels

# Section 1

## CR341 Pumping Panels

Fusible Disconnect Type

With Thermal Overload Relay

Thermal Class 20 (Fuses not included except where footnoted)

### Fusible Disconnect

List price includes complete starter with fusible switch, H-O-A selector switch, START push button, and three-leg ambient compensated overload protection in Type 3R enclosure. Three heaters should be ordered as separate items. See table on page 1-188. Fuses are not included except where footnoted.

### Mag-Break and Thermal Magnetic

List price includes complete starter with circuit breaker, H-O-A selector switch, START push button, and three-leg ambient compensated overload protection in Type 3R enclosure. Three heaters should be ordered as separate items. See table on page 1-188.

The following tables contain common product numbers. Use the selection guide starting on page 1-179 to select other configurations.

### Class H Fuse Clips

Coil Voltage (60Hz)	NEMA Size	Horsepower	Fuse Clip Rating (Amps)	NEMA Type 3R Narrow		NEMA Type 3R Wide	
				Product Number CR	List Price GO-10GP	Product Number CR	List Price GO-10GP
230-240	1	7 1/2	30	341K013BAA1AA	\$741.00	341C013BAA1AA	\$768.00
230-240	2	15	60	341L013CAA1AA	\$1011.00	341D013CAA1AA	\$1038.00
230-240	3	20	60	-	-	341E013CAA1AA	\$1686.00
230-240	3	30	100	-	-	341E013DAA1AA	\$1686.00
230-240	4	50	200	-	-	341F013EAC1AA <sup>1</sup>	\$3276.00
230-240	5	60	200	-	-	341G013EAC1AA <sup>1</sup>	\$6876.00
230-240	5	100	400	-	-	341G013FAC1AA <sup>1</sup>	\$6876.00
460-480	2	10	30	341K014BAA1AA	\$753.00	341C014BAA1AA	\$780.00
460-480	2	15	30	341L014BAA1AA	\$1029.00	341D014BAA1AA	\$1056.00
460-480	2	25	60	341L014CAA1AA	\$1029.00	341D014CAA1AA	\$1056.00
460-480	3	30	60	-	-	341E014CAA1AA	\$1722.00
460-480	3	50	100	-	-	341E014DAA1AA	\$1722.00
460-480	4	60	100	-	-	341F014DAA1AA	\$3168.00
460-480	4	100	200	-	-	341F014EAC1AA <sup>1</sup>	\$3300.00
460-480	5	125	200	-	-	341G014EAC1AA <sup>1</sup>	\$7020.00
460-480	5	200	400	-	-	341G014FAC1AA <sup>1</sup>	\$7020.00
460-480	6	400	600	-	-	341H014GAD1AA <sup>1,2</sup>	\$18303.00
460-480	7	500	1600	-	-	341J014NAD1AA <sup>1,2</sup>	\$27738.00
460-480	7	600	1800	-	-	341J014PAD1AA <sup>1,2</sup>	\$27738.00

For pump panel without overload, change 8th digit in product number from "1" to "4" and subtract price according to table below.

### Class R Fuse Clips

Coil Voltage (60Hz)	NEMA Size	Horsepower	Fuse Clip Rating (Amps)	NEMA Type 3R Narrow		NEMA Type 3R Wide	
				Product Number CR	List Price GO-10GP	Product Number CR	List Price GO-10GP
230-240	1	7 1/2	30	341K113BAA1AA	\$750.00	341C113BAA1AA	\$777.00
230-240	2	15	60	341L113CAA1AA	\$1020.00	341D113CAA1AA	\$1047.00
230-240	3	20	60	-	-	341E113CAA1AA	\$1704.00
230-240	3	30	100	-	-	341E113DAA1AA	\$1704.00
230-240	4	50	200	-	-	341F113EAC1AA <sup>1</sup>	\$3294.00
230-240	5	60	200	-	-	341G113EAC1AA <sup>1</sup>	\$6918.00
230-240	5	100	400	-	-	341G113FAC1AA <sup>1</sup>	\$6918.00
460-480	1	10	30	341K114BAA1AA	\$762.00	341C114BAA1AA	\$789.00
460-480	2	15	30	341L114BAA1AA	\$1038.00	341D114BAA1AA	\$1065.00
460-480	2	25	60	341L114CAA1AA	\$1038.00	341D114CAA1AA	\$1065.00
460-480	3	30	60	-	-	341E114CAA1AA	\$1740.00
460-480	3	50	100	-	-	341E114DAA1AA	\$1740.00
460-480	4	60	100	-	-	341F114DAA1AA	\$3186.00
460-480	4	100	200	-	-	341F114EAC1AA <sup>1</sup>	\$3318.00
460-480	5	125	200	-	-	341G114EAC1AA <sup>1</sup>	\$7062.00
460-480	5	200	400	-	-	341G114FAC1AA <sup>1</sup>	\$7062.00

For pump panel without overload, change 8th digit in product number from "1" to "4" and subtract price according to table below.

<sup>1</sup>Control Circuit Fusing included in pricing.

<sup>2</sup>List Price includes CLF fuses.

### Without Overload

NEMA Size	No overload list price deduction
1	\$30.00
2	\$54.00
3	\$90.00
4	\$144.00
5	\$504.00

Example: CR341K013BAA1AA becomes CR341K043BAA1AA at \$711.



# NEMA Full Voltage Power Devices Pumping Panels

# Section 1

## CR341 Pumping Panels

Fusible Disconnect Type

With Thermal Overload Relay

Thermal Class 10 with Differential Protection

List price includes complete starter with fusible switch, H-O-A selector switch, START push button, and three-leg ambient compensated overload protection in Type 3R enclosure with manual reset. Heaters are included in Class 10 overloads. Horsepower ratings are based on standard NEC motor data and normal service conditions. All forms are UL listed and CSA certified.

The following tables contain common product numbers. Use the selection guide starting on page 1-179 to select other configurations.

### Class H Fuse Clips

NEMA Size	Maximum Horsepower (3 phase) @ 230-240V <sup>1</sup>	Maximum Horsepower (3 phase) @ 440-480V <sup>1</sup>	Fuse Clip Rating (Amps)	Maximum Fuse Rating (Amps)	Overload Range (Amps)	NEMA Type 3R Narrow		NEMA Type 3R Wide	
						Product Number CR	List Price GO-10GP	Product Number CR	List Price GO-10GP
1	-	1	30	6	1.3-1.9	341K09*BAA1AAG	\$753.00	341C09*BAA1AAG	\$780.00
1	1/2	1 1/2	30	10	1.8-2.7	341K09*BAA1AAH	\$753.00	341C09*BAA1AAH	\$780.00
1	1	2	30	15	2.5-4.1	341K09*BAA1AAJ	\$753.00	341C09*BAA1AAJ	\$780.00
1	1 1/2	3	30	20	4.0-6.3	341K09*BAA1AAK	\$753.00	341C09*BAA1AAK	\$780.00
1	2	5	30	25	5.5-8.5	341K09*BAA1AAL	\$753.00	341C09*BAA1AAL	\$780.00
1	3	7 1/2	30	30	8.0-12.0	341K09*BAA1AAM	\$753.00	341C09*BAA1AAM	\$780.00
1	5	10	30	30	10.0-16.0	341K09*BAA1AAP	\$753.00	341C09*BAA1AAP	\$780.00
1	-	-	30	30	14.5-18.0	341K09*BAA1AAR	\$753.00	341C09*BAA1AAR	\$780.00
1	-	-	30	30	17.5-22.0	341K09*BAA1AAS	\$753.00	341C09*BAA1AAS	\$780.00
1	7 1/2	-	30	30	21.0-26.0	341K09*BAA1AAT	\$753.00	341C09*BAA1AAT	\$780.00
2	-	15	60	60	17.5-22.0	341L09*CAA1AAG	\$1029.00	341D09*CAA1AAG	\$1056.00
2	-	-	60	60	21-26	341L09*CAA1AAH	\$1029.00	341D09*CAA1AAH	\$1056.00
2	10	20	60	60	25-32	341L09*CAA1AAJ	\$1029.00	341D09*CAA1AAJ	\$1056.00
2	-	25	60	60	30-43	341L09*CAA1AAK	\$1029.00	341D09*CAA1AAK	\$1056.00
2	15	-	60	60	42-55	341L09*CAA1AAL	\$1029.00	341D09*CAA1AAL	\$1056.00
3	-	30	100	100	30-43	-	-	341E09*DAA1AAG	\$1722.00
3	20	40	100	100	42-55	-	-	341E09*DAA1AAH	\$1722.00
3	-	-	100	100	54-65	-	-	341E09*DAA1AAJ	\$1722.00
3	30	50	100	100	63-90	-	-	341E09*DAA1AAK	\$1722.00
4	-	60	200	200	63-90	-	-	341F09*EAC1AAG <sup>2</sup>	\$3300.00
4	40	100	200	200	90-120	-	-	341F09*EAC1AAH <sup>2</sup>	\$3300.00
4	50	-	200	200	110-140	-	-	341F09*EAC1AAJ <sup>2</sup>	\$3300.00
5	75	150	400	400	120-190	-	-	341G09*FAC1AAG <sup>2</sup>	\$7020.00
5	-	200	400	400	175-280	-	-	341G09*FAC1AAH <sup>2</sup>	\$7020.00
5	100	-	400	400	200-310	-	-	341G09*FAC1AAJ <sup>2</sup>	\$7020.00

\* Insert number from coil table on next page in place of asterisk in product number for voltage/frequency desired.

### Class R Fuse Clips

NEMA Size	Maximum Horsepower (3 phase) @ 230-240V <sup>1</sup>	Maximum Horsepower (3 phase) @ 440-480V <sup>1</sup>	Fuse Clip Rating (Amps)	Maximum Fuse Rating (Amps)	Overload Range (Amps)	NEMA Type 3R Narrow		NEMA Type 3R Wide	
						Product Number CR	List Price GO-10GP	Product Number CR	List Price GO-10GP
1	-	1	30	6	1.3-1.9	341K19*BAA1AAG	\$762.00	341C19*BAA1AAG	\$789.00
1	1/2	1 1/2	30	10	1.8-2.7	341K19*BAA1AAH	\$762.00	341C19*BAA1AAH	\$789.00
1	1	2	30	15	2.5-4.1	341K19*BAA1AAJ	\$762.00	341C19*BAA1AAJ	\$789.00
1	1 1/2	3	30	20	4.0-6.3	341K19*BAA1AAK	\$762.00	341C19*BAA1AAK	\$789.00
1	2	5	30	25	5.5-8.5	341K19*BAA1AAL	\$762.00	341C19*BAA1AAL	\$789.00
1	3	7 1/2	30	30	8.0-12.0	341K19*BAA1AAM	\$762.00	341C19*BAA1AAM	\$789.00
1	5	10	30	30	10.0-16.0	341K19*BAA1AAP	\$762.00	341C19*BAA1AAP	\$789.00
1	-	-	30	30	14.5-18.0	341K19*BAA1AAR	\$762.00	341C19*BAA1AAR	\$789.00
1	-	-	30	30	17.5-22.0	341K19*BAA1AAS	\$762.00	341C19*BAA1AAS	\$789.00
1	7 1/2	-	30	30	21.0-26.0	341K19*BAA1AAT	\$762.00	341C19*BAA1AAT	\$789.00
2	-	15	60	60	17.5-22.0	341L19*CAA1AAG	\$1038.00	341D19*CAA1AAG	\$1065.00
2	-	-	60	60	21-26	341L19*CAA1AAH	\$1038.00	341D19*CAA1AAH	\$1065.00
2	10	20	60	60	25-32	341L19*CAA1AAJ	\$1038.00	341D19*CAA1AAJ	\$1065.00
2	-	25	60	60	30-43	341L19*CAA1AAK	\$1038.00	341D19*CAA1AAK	\$1065.00
2	15	-	60	60	42-55	341L19*CAA1AAL	\$1038.00	341D19*CAA1AAL	\$1065.00
3	-	30	100	100	30-43	-	-	341E19*DAA1AAG	\$1740.00
3	20	40	100	100	42-55	-	-	341E19*DAA1AAH	\$1740.00
3	-	-	100	100	54-65	-	-	341E19*DAA1AAJ	\$1740.00
3	30	50	100	100	63-90	-	-	341E19*DAA1AAK	\$1740.00
4	-	60	200	200	63-90	-	-	341F19*EAC1AAG <sup>2</sup>	\$3318.00
4	40	100	200	200	90-120	-	-	341F19*EAC1AAH <sup>2</sup>	\$3318.00
4	50	-	200	200	110-140	-	-	341F19*EAC1AAJ <sup>2</sup>	\$3318.00
5	75	150	400	400	120-190	-	-	341G19*FAC1AAG <sup>2</sup>	\$7062.00
5	-	200	400	400	175-280	-	-	341G19*FAC1AAH <sup>2</sup>	\$7062.00
5	100	-	400	400	200-310	-	-	341G19*FAC1AAJ <sup>2</sup>	\$7062.00

\* Insert number from coil table on next page in place of asterisk in product number for voltage/frequency desired.

• NEMA sizes 1-3 rated 5,000 rms symmetrical amperes maximum.

• NEMA sizes 4 & 5 rated 10,000 rms symmetrical amperes maximum.

<sup>1</sup>Horsepower ratings are based on standard NEC motor data and normal service conditions.

<sup>2</sup>Control Circuit Fusing included in pricing.



Product Number Selection Instructions: See page 1-174



# NEMA Full Voltage Power Devices Pumping Panels

## Section 1

### CR341 Pumping Panels

Fusible Disconnect Type

With Thermal Overload Relay

Thermal Class 10 with Differential Protection

List price includes complete starter with fusible switch, H-O-A selector switch, START push button, and three-leg ambient compensated overload protection in Type 3R enclosure with manual reset. Heaters are included in Class 10 overloads. Horsepower ratings are based on standard NEC motor data and normal service conditions. All forms are UL listed and CSA certified.

#### \*Coil Table

(To Complete Product Number)

Coil Number <sup>1</sup>	Voltage	Frequency
1	200-208 V	60 Hertz
3	230-240 V	60 Hertz
4	460-480 V	60 Hertz
5	575-600 V	60 Hertz
6	380-415 V	50 Hertz

<sup>1</sup>50 Hertz forms are available. Contact nearest GE Representative for proper selection and pricing.



# NEMA Full Voltage Power Devices Pumping Panels

# Section 1

## CR341 Pumping Panels

Fusible Disconnect Type

With Solid State Overload Relay

Solid State Class 10-20-30 Electronic Overload with Adjustable Setting

List price includes complete starter with fusible switch (Class H clips), H-O-A selector switch, START push button, overload in a Type 3R enclosure with manual reset. Horsepower ratings are based on standard NEC motor data and normal service conditions. Note: See pages 1-160 through 1-163 for detailed information on electronic overload relays.

The following tables contain common product numbers. Use the selection guide starting on page 1-179 to select other configurations.

### Class H Fuse Clips

NEMA Size	Maximum Horsepower (3 phase) @ 230-240V <sup>1</sup>	Maximum Horsepower (3 phase) @ 440-480V <sup>1</sup>	Fuse Clip Rating (Amps)	Maximum Fuse Rating (Amps)	Overload Range (Amps)	NEMA Type 3R Narrow		NEMA Type 3R Wide	
						Product Number CR	List Price GO-10GP	Product Number CR	List Price GO-10GP
1	-	-	30	3	0.4-0.85	341K0X*BAA1AAC	\$780.00	341C0X*BAA1AAC	\$807.00
1	-	0.75	30	6	0.8-1.7	341K0X*BAA1AAD	\$780.00	341C0X*BAA1AAD	\$807.00
1	0.75	2	30	10	1.6-3.4	341K0X*BAA1AAE	\$780.00	341C0X*BAA1AAE	\$807.00
1	2	3	30	25	3.2-6.8	341K0X*BAA1AAF	\$780.00	341C0X*BAA1AAF	\$807.00
1	3	7.5	30	30	6.5-13.5	341K0X*BAA1AAG	\$780.00	341C0X*BAA1AAG	\$807.00
1	7.5	10	30	30	13-27	341K0X*BAA1AAH	\$780.00	341C0X*BAA1AAH	\$807.00
2	3	7.5	30	30	6.5-13.5	341L0X*BAA1AAG	\$1056.00	341D0X*BAA1AAG	\$1082.00
2	7.5	20	60	60	13-27	341L0X*CAA1AAH	\$1056.00	341D0X*CAA1AAH	\$1082.00
2	15	25	60	60	25-50	341L0X*CAA1AAJ	\$1056.00	341D0X*CAA1AAJ	\$1082.00
3	10	25	60	50	17-35	-	-	341E0X*CAC1AAK <sup>3</sup>	\$1881.00
3	25	50	60	60	35-70	-	-	341E0X*CAC1AAL <sup>3</sup>	\$1881.00
3	30	-	60	60	65-90	-	-	341E0X*CAC1AAM <sup>3</sup>	\$1881.00
4	10	25	200	200	17-35	-	-	341F0X*EAC1AAK <sup>3</sup>	\$3327.00
4	25	50	200	200	35-70	-	-	341F0X*EAC1AAL <sup>3</sup>	\$3327.00
4	50	100	200	200	65-135	-	-	341F0X*EAC1AAM <sup>3</sup>	\$3327.00
5	50	100	200	200	65-135	-	-	341G0X*EAC1AAP <sup>3</sup>	\$7048.00
5	100	200	400	400	130-270	-	-	341G0X*FAC1AAQv	\$7048.00
6	100	200	600	600	130-270	-	-	341H0X*GAD1AAS <sup>3</sup>	\$18330.00
6	200	400	1200	1200	260-540	-	-	341H0X*LAD1AAT <sup>3</sup>	\$18330.00

\* Insert number from coil table below in place of asterisk in product number for voltage/frequency desired.

### Class R Fuse Clips

NEMA Size	Maximum Horsepower (3 phase) @ 230-240V <sup>1</sup>	Maximum Horsepower (3 phase) @ 440-480V <sup>1</sup>	Fuse Clip Rating (Amps)	Maximum Fuse Rating (Amps)	Overload Range (Amps)	NEMA Type 3R Narrow		NEMA Type 3R Wide	
						Product Number CR	List Price GO-10GP	Product Number CR	List Price GO-10GP
1	-	-	30	3	0.4-0.85	341K1X*BAA1AAC	\$789.00	341C1X*BAA1AAC	\$816.00
1	-	0.75	30	6	0.8-1.7	341K1X*BAA1AAD	\$789.00	341C1X*BAA1AAD	\$816.00
1	0.75	2	30	10	1.6-3.4	341K1X*BAA1AAE	\$789.00	341C1X*BAA1AAE	\$816.00
1	2	3	30	25	3.2-6.8	341K1X*BAA1AAF	\$789.00	341C1X*BAA1AAF	\$816.00
1	3	7.5	30	30	6.5-13.5	341K1X*BAA1AAG	\$789.00	341C1X*BAA1AAG	\$816.00
1	7.5	10	30	30	13-27	341K1X*BAA1AAH	\$789.00	341C1X*BAA1AAH	\$816.00
2	3	7.5	30	30	6.5-13.5	341L1X*BAA1AAG	\$1065.00	341D1X*BAA1AAG	\$1091.00
2	7.5	20	60	60	13-27	341L1X*CAA1AAH	\$1065.00	341D1X*CAA1AAH	\$1091.00
2	15	25	60	60	25-50	341L1X*CAA1AAJ	\$1065.00	341D1X*CAA1AAJ	\$1091.00
3	10	25	60	50	17-35	-	-	341E1X*CAC1AAK <sup>3</sup>	\$1899.00
3	25	50	60	60	35-70	-	-	341E1X*CAC1AAL <sup>3</sup>	\$1899.00
3	30	-	60	60	65-90	-	-	341E1X*CAC1AAM <sup>3</sup>	\$1899.00
4	10	25	200	200	17-35	-	-	341F1X*EAC1AAK <sup>3</sup>	\$3345.00
4	25	50	200	200	35-70	-	-	341F1X*EAC1AAL <sup>3</sup>	\$3345.00
4	50	100	200	200	65-135	-	-	341F1X*EAC1AAM <sup>3</sup>	\$3345.00
5	50	100	200	200	65-135	-	-	341G1X*EAC1AAP <sup>3</sup>	\$7090.00
5	100	200	400	400	130-270	-	-	341G1X*FAC1AAQ <sup>3</sup>	\$7090.00

\* Insert number from coil table below in place of asterisk in product number for voltage/frequency desired

### \*Coil Table

(To Complete Product Number)

Coil Number <sup>2</sup>	Voltage	Frequency
1	200-208 V	60 Hertz
3	230-240 V	60 Hertz
4	460-480 V	60 Hertz
5	575-600 V	60 Hertz
6	380-415 V	50 Hertz

• NEMA sizes 1-3 rated 5,000 rms symmetrical amperes maximum.

• NEMA sizes 4 & 5 rated 10,000 rms symmetrical amperes maximum.

<sup>1</sup>Horsepower ratings are based on standard NEC motor data and normal service conditions.

<sup>2</sup>50 Hertz forms are available. Contact nearest GE Representative for proper selection and pricing.

<sup>3</sup>Control Circuit Fusing included in pricing.

Product Number Selection Instructions: See page 1-174



# NEMA Full Voltage Power Devices Pumping Panels

# Section 1

## CR341 Pumping Panels

Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 1-5

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

C	R														
---	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Steps: Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9 Step 10 Step 11

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code.  
Add list price from each step to arrive at total list for price for starter.

### Step 1 (Digits 1-6) Select Pump Panel Type, NEMA Size & Enclosure (NEMA Sizes 1 & 2)

Voltage	NEMA Size 1				NEMA Size 2				
	Narrow Enclosure CR	List Price GO-10GP	Wide Enclosure CR	List Price GO-10GP	Narrow Enclosure CR	List Price GO-10GP	Wide Enclosure CR	List Price GO-10GP	
Pumping Panel - Fusible Disconnect	230-240	341K	\$741.00	341C	\$768.00	341L	\$1011.00	341D	\$1038.00
Pumping Panel - Fusible Disconnect	460-480	341K	\$753.00	341C	\$780.00	341L	\$1029.00	341D	\$1056.00

### Step 1 (Digits 1-6) Select Pump Panel Type, NEMA Size & Enclosure (NEMA Sizes 3 - 5)

Voltage	NEMA Size 3				NEMA Size 4				NEMA Size 5				
	Narrow Enclosure CR	List Price GO-10GP	Wide Enclosure CR	List Price GO-10GP	Narrow Enclosure CR	List Price GO-10GP	Wide Enclosure CR	List Price GO-10GP	Narrow Enclosure CR	List Price GO-10GP	Wide Enclosure CR	List Price GO-10GP	
Pumping Panel - Fusible Disconnect	230-240	N/A	-	341E	\$1818.00	N/A	-	341F	\$3276.00	N/A	-	341G	\$6876.00
Pumping Panel - Fusible Disconnect	460-480	N/A	-	341E	\$1854.00	N/A	-	341F	\$3300.00	N/A	-	341G	\$7020.00

Note for sizes 3, 4 & 5: Control Circuit Fusing (CCF) included in pricing. In Step 7 (Digit 12), page 1-180, select appropriate code including CCF.

### Step 2 (Digit 7) Select Disconnect Means

Option	Code	List Price GO-10GP				
		NEMA Size				
		1	2	3	4	5
Class H Fuse Clips - Standard IC Rating	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Class R Fuse Clips - Higher IC Rating	1	\$9.00	\$9.00	\$18.00	\$18.00	\$42.00

### Step 3 (Digit 8) Select Overload Relay

Option	Code	List Price GO-10GP				
		NEMA Size				
		1	2	3	4	5
Class 20 Thermal Bi-Metallic Ambient Compensated	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
No overloads	4	-\$30.00	-\$54.00	-\$90.00	-\$144.00	-\$504.00
Class 10 IEC Ambient Compensated	9 <sup>1</sup>	\$12.00	\$18.00	\$36.00	\$24.00	\$144.00
Starter Mount Class 10-20-30 Solid State	X	\$27.00	\$26.00	\$27.00	\$27.00	\$28.00
Panel Mount Class 10-20-30 Solid State	Y <sup>2</sup>	\$27.00	\$26.00	\$27.00	\$27.00	\$28.00

<sup>1</sup>Adder applies for 230-240V only. No adder for 460/480V.

<sup>2</sup>Not available on Narrow Enclosures.

### Step 4 (Digit 9) Select Line/Coil Voltage

Voltage	Hz	Code	List Price GO-10GP
200-208 V	60	1	\$0.00
230-240 V	60	3	\$0.00
460-480 V	60	4	\$0.00
575-600 V	60	5	\$0.00
380 V	50	6	\$0.00



# NEMA Full Voltage Power Devices Pumping Panels

## CR341 Pumping Panels

Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 1-5

# Section 1

### Step 5 (Digit 10) Select Disconnect

#### Fuse Clip Rating (Amps)

NEMA Size					Trip Code	List Price GO-10GP
1	2	3	4	5		
Disconnect Switchless Fuse Clips					A	\$0.00
30	30				B	\$0.00
60	60	60			C	\$0.00
	100	100	100		D	\$0.00
		200	200	200	E	\$0.00
				400	F	\$0.00

### Step 6 (Digit 11) Select Timer Option

Device	Code	List Price GO-10GP
HOA SS, Start PB (Standard)	A	\$0.00
HOA SS	B	-\$26.00
Program Timer with Mini Door	C <sup>2,3,4</sup>	\$592.00
Program Timer with Seq Restart	D <sup>2,3,4</sup>	\$492.00
Back Spin Timer	E <sup>2,3</sup>	\$468.00
Start-Stop PB	K	-\$26.00
Program Timer with no options	L <sup>2,3,4</sup>	\$492.00

<sup>2</sup>Available in Wide enclosure forms only.

<sup>3</sup>Extra Capacity CPT required.

<sup>4</sup>Not UL Listed.

### Step 7 (Digit 12) Select Control Circuit

Option	Code	List Price GO-10GP				
		NEMA Size				
		1	2	3	4	5
None - Standard - Line Voltage	A <sup>5</sup>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Separate Control 120V	B <sup>5</sup>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Control Circuit Fusing (CCF), Line Voltage	C <sup>6</sup>	\$132.00	\$132.00	\$0.00	\$0.00	\$0.00
CCF, Separate Control 120V	D <sup>6</sup>	\$132.00	\$132.00	\$132.00	\$0.00	\$0.00
CCF, CPT Standard Capacity	E <sup>2</sup>	\$294.00	\$360.00	\$468.00	\$540.00	\$594.00
CCF, CPT +100VA Extra Capacity	F <sup>2</sup>	\$420.00	\$504.00	\$600.00	\$660.00	\$720.00

Note: CPT includes 1 secondary fuse.

<sup>2</sup>Available in Wide enclosure forms only.

<sup>5</sup>Only available for sizes 0-2, CCF is required for sizes 3, 4 and 5.

<sup>6</sup>Price adder for sizes 4 and 5 included in list price in Step 1 (Digits 1-6), page 1-179.

### Step 8 (Digit 13) Select Lightning Arrestors/Surge

Option	Code	List Price GO-10GP
None (Standard)	1	\$0.00
Lightning Arrestor	3 <sup>2</sup>	\$240.00
Lightning Arrestor, Surge Capacitor	5 <sup>2,4</sup>	\$528.00
Surge Capacitor	7 <sup>2,4</sup>	\$288.00

<sup>2</sup>Available in Wide enclosure forms only.

<sup>4</sup>Not UL Listed.



# NEMA Full Voltage Power Devices Pumping Panels

# Section 1

## CR341 Pumping Panels

Fusible Disconnect Type

Part Number Configuration

Valid for NEMA sizes 1-5

### Step 9 (Digit 14) Select Options

Option	Code	List Price GO-10GP
None (Standard)	A	\$0.00
Unwired Control Circuit	B	\$0.00
Elapsed Time Meter	D <sup>2</sup>	\$348.00
Space Heater	E	\$120.00
1 NO Aux Contact (Extra)	F	\$66.00
2 NO Aux Contact (Extra)	G	\$132.00
1 NC Aux Contact (Extra)	H	\$66.00
2 NC Aux Contact (Extra)	J	\$132.00
1 NO-1NC Aux Contact (Extra)	K	\$132.00
Red & Green Indicator Light	L <sup>2</sup>	\$390.00
Red Indicator Light (Motor On)	N <sup>2</sup>	\$162.00
Aux Relay (2NO-2NC)	P <sup>2</sup>	\$264.00
ETM, w/ NO aux	S <sup>2</sup>	\$348.00

<sup>2</sup>Available in Wide enclosure forms only.

### Step 10 (Digit 15) Select Under Voltage/Phase Failure Relay

Option	Code	List Price GO-10GP
None (Standard)	A	\$0.00
Under Voltage Relay	B <sup>2</sup>	\$306.00
Under Voltage Relay & Phase Failure Relay	C <sup>2</sup>	\$1056.00
Phase Failure Relay	D <sup>2</sup>	\$1056.00

<sup>2</sup>Available in Wide enclosure forms only.

### Step 11 (Digit 16) Select Overload Range

Note: Leave Digit/Code BLANK for Class 20 - Use Tables below for Class 10 IEC & Class 10-20-30

Overload	Code	List Price GO-10GP
Class 20 Thermal Bi-Metallic Ambient Compensated	Blank	\$0.00
Class 10 IEC Ambient Compensated	Select below	\$0.00
Class 10-20-30 Solid State	Select below	\$0.00

#### Class 10 IEC

Code	NEMA Size				
	1	2	3	4	5
G	1.3-1.9	17.5-22.0	30-43	63-90	120-190
H	1.8-2.7	21-26	42-55	90-120	175-280
J	2.5-4.1	25-32	54-65	110-140	200-310
K	4.0-6.3	30-43	63-90		
L	5.5-8.5	42-55			
M	8.0-12.0				
P	10.0-16.0				
R	14.5-18.0				
S	17.5-22.0				
T	21.0-26.0				

#### Class 10-20-30 Solid State

Code	NEMA Size				
	1	2	3	4	5
C	0.4-0.85				
D	0.8-1.7				
E	1.6-3.4				
F	3.2-6.8				
G	6.5-13.5	6.5-13.5			
H	13-27	13-27			
J		25-50			
K			17-35	17-35	
L			35-70	35-70	
M			65-90	65-135	
P					65-135
Q					130-270



# NEMA Full Voltage Power Devices Pumping Panels

# Section 1

## CR340 Pumping Panels

With Thermal Overload Relay  
Relay Class 20

List price includes complete starter with circuit breaker, H-O-A selector switch, START push button, and three-leg ambient compensated overload protection in Type 3R enclosure with manual reset. Horsepower ratings are based on standard NEC motor data and normal service conditions. All forms are UL listed and CSA certified.

The following tables contain common product numbers. Use the selection guide starting on page 1-185 to select other configurations.

### Thermal Magnetic Circuit Breaker Type

Coil Voltage (60Hz) <sup>1</sup>	NEMA Size	Maximum Horsepower (3 phase)	CB Rating (Amps)	NEMA Type 3R Narrow		NEMA Type 3R Wide	
				Product Number CR	List Price GO-10GP	Product Number CR	List Price GO-10GP
230-240	1	2	15	340K013AAA1AA	\$765.00	340C013AAA1AA	\$792.00
230-240	1	3	20	340K013BAA1AA	\$765.00	340C013BAA1AA	\$792.00
230-240	1	5	40	340K013FAA1AA	\$765.00	340C013FAA1AA	\$792.00
230-240	1	7 1/2	50	340K013HAA1AA	\$765.00	340C013HAA1AA	\$792.00
230-240	2	10	50	340L013HAA1AA	\$1023.00	340D013HAA1AA	\$1050.00
230-240	2	15	70	340L013KAA1AA	\$1023.00	340D013KAA1AA	\$1050.00

For pump panel without overload, change 8th digit in product number from "1" to "4" and subtract price according to table below.

### Mag-Break Type

Coil Voltage (60Hz) <sup>1</sup>	NEMA Size	Maximum Horsepower (3 phase)	CB Rating (Amps)	NEMA Type 3R Narrow		NEMA Type 3R Wide	
				Product Number CR	List Price GO-10GP	Product Number CR	List Price GO-10GP
230-240	1	3	15	340K213CAC1AA	\$957.00	340C213CAC1AA	\$984.00
230-240	1	7 1/2	30	340K213DAC1AA	\$957.00	340C213DAC1AA	\$984.00
230-240	2	15	50	340L213EAC1AA	\$1197.00	340D213EAC1AA	\$1224.00
230-240	3	30	100	-	-	340E213FAC1AA	\$1746.00
230-240	4	50	150	-	-	340F213GAC1AA	\$3828.00
230-240	5	100	400	-	-	340G213HAC1AA	\$8538.00
460-480	1	7 1/2	15	340K214CAC1AA	\$957.00	340C214CAC1AA	\$984.00
460-480	1	10	30	340K214DAC1AA	\$957.00	340C214DAC1AA <sup>2</sup>	\$984.00
460-480	2	25	50	340L214EAC1AA	\$1197.00	340D214EAC1AA <sup>2</sup>	\$1224.00
460-480	3	50	100	-	-	340E214FAC1AA <sup>2</sup>	\$1746.00
460-480	4	100	150	-	-	340F214GAC1AA <sup>2</sup>	\$3828.00
460-480	5	200	400	-	-	340G214HAC1AA	\$8538.00
460-480	6	400	600	-	-	340H214KAD1AA	\$18357.00
460-480	7	600	1200	-	-	340J214NAD1AA	\$24681.00

For pump panel without overload (sizes 0-5 only), change 8th digit in product number from "1" to "4" and subtract price according to table below.

### Without Overload

NEMA Size	No overload list price deduction
1	\$30.00
2	\$54.00
3	\$90.00
4	\$144.00
5	\$504.00

Example: CR340K013AAA1AA becomes CR340K043AAA1AA at \$735.00.

<sup>1</sup>150 Hertz forms are available. Contact nearest GE Representative for proper selection and pricing.

<sup>2</sup>Available with CL-type current limiter and UL listed 100kA/C short-circuit rating, contact a GE Representative for availability and pricing. The 7th digit in the product number changes to "3".

General Note:

Control Circuit Fusing included in pricing for Mag-Break Type.



# NEMA Full Voltage Power Devices

## Pumping Panels

### CR340 Pumping Panels

# Section 1

Mag-Break Type  
With Thermal Overload Relay  
Thermal Class 10 with Differential Protection

List price includes complete starter with Mag-Break circuit breaker disconnect, H-O-A selector switch, START push button, and three-leg ambient compensated overload protection in Type 3R enclosure with manual reset. Heaters are included in Class 10 overloads. Horsepower ratings are based on standard NEC motor data and normal service conditions. All forms are UL listed and CSA certified.

The following tables contain common product numbers. Use the selection guide starting on page 1-185 to select other configurations.

#### Mag-Break Type with Thermal Overload Relay, Thermal Class 10 with Differential Protection

NEMA Size	Maximum Horsepower (3 phase) @ 230-240V <sup>1</sup>	Maximum Horsepower (3 phase) @ 440-480V <sup>1</sup>	Maximum CB Rating (Amps)	Overload Range (Amps)	NEMA Type 3R Narrow		NEMA Type 3R Wide	
					Product Number CR	List Price GO-10GP	Product Number CR	List Price GO-10GP
1	-	1	7	1.3-1.9	340K29*BAC1AAG	\$1089.00	340C29*BAC1AAG	\$1116.00
1	1/2	1 1/2	7	1.8-2.7	340K29*BAC1AAH	\$1089.00	340C29*BAC1AAH	\$1116.00
1	1	2	15	2.5-4.1	340K29*CAC1AAJ	\$1089.00	340C29*CAC1AAJ	\$1116.00
1	1 1/2	3	15	4.0-6.3	340K29*CAC1AAK	\$1089.00	340C29*CAC1AAK	\$1116.00
1	2	5	15	5.5-8.5	340K29*CAC1AAL	\$1089.00	340C29*CAC1AAL	\$1116.00
1	3	7 1/2	30	8.0-12.0	340K29*DAC1AAM	\$1089.00	340C29*DAC1AAM	\$1116.00
1	5	10	30	10.0-16.0	340K29*DAC1AAP	\$1089.00	340C29*DAC1AAP	\$1116.00
1	-	-	30	14.5-18.0	340K29*DAC1AAR	\$1089.00	340C29*DAC1AAR	\$1116.00
1	-	-	30	17.5-22.0	340K29*DAC1AAS	\$1089.00	340C29*DAC1AAS	\$1116.00
1	7 1/2	-	30	21.0-26.0	340K29*DAC1AAT	\$1089.00	340C29*DAC1AAT	\$1116.00
2	-	15	30	17.5-22.0	340L29*DAC1AAG	\$1329.00	340D29*DAC1AAG	\$1356.00
2	-	-	50	21-26	340L29*EAC1AAH	\$1329.00	340D29*EAC1AAH	\$1356.00
2	10	20	50	25-32	340L29*EAC1AAJ	\$1329.00	340D29*EAC1AAJ	\$1356.00
2	-	25	50	30-43	340L29*EAC1AAK	\$1329.00	340D29*EAC1AAK	\$1356.00
2	15	-	50	42-55	340L29*EAC1AAL	\$1329.00	340D29*EAC1AAL	\$1356.00
3	-	30	50	30-43	-	-	340E29*EAC1AAG	\$1878.00
3	20	40	100	42-55	-	-	340E29*FAC1AAH	\$1878.00
3	-	-	100	54-65	-	-	340E29*FAC1AAJ	\$1878.00
3	30	50	100	63-90	-	-	340E29*FAC1AAK	\$1878.00
4	-	60	100	63-90	-	-	340F29*FAC1AAG	\$3828.00
4	40	100	150	90-120	-	-	340F29*GAC1AAH	\$3828.00
4	50	-	150	110-140	-	-	340F29*GAC1AAJ	\$3828.00
5	75	150	400	120-190	-	-	340G29*HAC1AAG	\$8538.00
5	-	200	400	175-280	-	-	340G29*HAC1AAH	\$8538.00
5	100	-	400	200-310	-	-	340G29*HAC1AAJ	\$8538.00

\* Insert number from coil table below in place of asterisk in product number for voltage/frequency desired

#### \*Coil Table

(To Complete Product Number)

Coil Number <sup>2</sup>	Voltage	Frequency
1	200-208 V	60 Hertz
3	230-240 V	60 Hertz
4	460-480 V	60 Hertz
5	575-600 V	60 Hertz
6	380-415 V	50 Hertz

- NEMA sizes 1-3 rated 5,000 rms symmetrical amperes maximum.
- NEMA sizes 4 & 5 rated 10,000 rms symmetrical amperes maximum.

<sup>1</sup>Horsepower ratings are based on standard NEC motor data and normal service conditions.

<sup>2</sup>50 Hertz forms are available. Contact nearest GE Representative for proper selection and pricing.

General Note:

Control Circuit Fusing included in pricing for Mag-Break Type.



# NEMA Full Voltage Power Devices Pumping Panels

# Section 1

## CR340 Pumping Panels

Mag-Break Type

With Solid State Overload Relay

Solid State Class 10-20-30 Electronic Overload with Adjustable Setting

List price includes complete starter with Mag-Break circuit breaker disconnect, H-O-A selector switch, START push button, overload in a Type 3R enclosure with manual reset. Horsepower ratings are based on standard NEC motor data and normal service conditions.

Note: See pages 1-160 through 1-163 for detailed information on electronic overload relays.

The following tables contain common product numbers. Use the selection guide starting on page 1-185 to select other configurations.

### Mag-Break Type with Thermal Overload Relay, Solid State Class 10-20-30 Electronic Overload

NEMA Size	Maximum Horsepower (3 phase) @ 230-240V <sup>1</sup>	Maximum Horsepower (3 phase) @ 440-480V <sup>1</sup>	CB Trip Rating (Amps)	Overload Range (Amps)	NEMA Type 3R Narrow		NEMA Type 3R Wide	
					Product Number CR	List Price GO-10GP	Product Number CR	List Price GO-10GP
1	-	-	3	0.4-0.85	340K2X*AAC1AAC	\$1084.00	340C2X*AAC1AAC	\$1011.00
1	-	0.75	3	0.8-1.7	340K2X*AAC1AAD	\$1084.00	340C2X*AAC1AAD	\$1011.00
1	0.75	2	7	1.6-3.4	340K2X*BAC1AAE	\$1216.00	340C2X*BAC1AAE	\$1143.00
1	2	3	7	3.2-6.8	340K2X*BAC1AAF	\$1216.00	340C2X*BAC1AAF	\$1143.00
1	3	7.5	7	6.5-13.5	340K2X*BAC1AAG	\$1216.00	340C2X*BAC1AAG	\$1143.00
1	7.5	10	30	13-27	340K2X*DAC1AAH	\$1216.00	340C2X*DAC1AAH	\$1143.00
2	3	7.5	30	6.5-13.5	340L2X*DAC1AAG	\$1356.00	340D2X*DAC1AAG	\$1383.00
2	7.5	20	50	13-27	340L2X*EAC1AAH	\$1356.00	340D2X*EAC1AAH	\$1383.00
2	15	25	50	25-50	340L2X*EAC1AAJ	\$1356.00	340D2X*EAC1AAJ	\$1383.00
3	10	25	50	17-35	-	-	340E2X*EAC1AAK	\$1895.00
3	25	50	100	35-70	-	-	340E2X*FAC1AAL	\$1895.00
3	30	-	100	65-90	-	-	340E2X*FAC1AAM	\$1895.00
4	10	25	100	17-35	-	-	340F2X*FAC1AAK	\$3755.00
4	25	50	100	35-70	-	-	340F2X*FAC1AAL	\$3755.00
4	50	100	150	65-135	-	-	340F2X*GAC1AAM	\$3755.00
5	50	100	150	65-135	-	-	340G2X*GAC1AAP	\$8565.00
5	100	200	400	130-270	-	-	340G2X*HAC1AAQ	\$8565.00
6	100	200	400	130-270	-	-	340H2X*FAD1AAS	\$18385.00
6	200	400	600	260-540	-	-	340H2X*GAD1AAT	\$18385.00

\* Insert number from coil table below in place of asterisk in product number for voltage/frequency desired.

### \*Coil Table

(To Complete Product Number)

Coil Number	Voltage	Frequency
1	200-208 V	60 Hertz
3	230-240 V	60 Hertz
4	460-480 V	60 Hertz
5	575-600 V	60 Hertz
6	380-415 V	50 Hertz

- NEMA sizes 1-3 rated 5,000 rms symmetrical amperes maximum.
- NEMA sizes 4 & 5 rated 10,000 rms symmetrical amperes maximum.

<sup>1</sup>Horsepower ratings are based on standard NEC motor data and normal service conditions.

General Note:

Control Circuit Fusing included in pricing.





# NEMA Full Voltage Power Devices Pumping Panels

# Section 1

## CR340 Pumping Panels

Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 1-5

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

C	R														
---	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Steps: Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9 Step 10 Step 11

To configure the part number, use the tables below to fill in the digit boxes with the appropriate code.  
Add list price from each step to arrive at total list for price for starter.

### Step 1 (Digits 1-6) Select Pump Panel Type, NEMA Size & Enclosure (NEMA Sizes 1 & 2)

	NEMA Size 1				NEMA Size 2			
	Narrow Enclosure CR	List Price GO-10GP	Wide Enclosure CR	List Price GO-10GP	Narrow Enclosure CR	List Price GO-10GP	Wide Enclosure CR	List Price GO-10GP
Pumping Panel - Circuit Breaker Type	340K	\$957.00	340C	\$984.00	340L	\$1197.00	340D	\$1224.00

### Step 1 (Digits 1-6) Select Pump Panel Type, NEMA Size & Enclosure (NEMA Sizes 3 - 5)

	NEMA Size 3				NEMA Size 4				NEMA Size 5			
	Narrow Enclosure CR	List Price GO-10GP	Wide Enclosure CR	List Price GO-10GP	Narrow Enclosure CR	List Price GO-10GP	Wide Enclosure CR	List Price GO-10GP	Narrow Enclosure CR	List Price GO-10GP	Wide Enclosure CR	List Price GO-10GP
Pumping Panel - Circuit Breaker Type	N/A	-	340E	\$1746.00	N/A	-	340F	\$3828.00	N/A	-	340G	\$8538.00

Note for sizes 4 & 5: Control Circuit Fusing (CCF) included in pricing. In Step 7 (Digit 12), page 1-186, select appropriate code including CCF.

### Step 2 (Digit 7) Select Disconnect Means

Option	Code	List Price GO-10GP				
		NEMA Size				
		1	2	3	4	5
Thermal Mag - Standard IC Rating	0 <sup>1</sup>	-\$192.00	-\$174.00	-	-	-
Mag-Break - Standard IC Rating	2	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Mag-Break - Higher IC Rating	3	\$180.00	\$180.00	\$414.00	\$858.00	\$1742.00

<sup>1</sup>Available sizes 1 & 2, and 230-240V only.

### Step 3 (Digit 8) Select Overload Relay

Option	Code	List Price GO-10GP				
		NEMA Size				
		1	2	3	4	5
Class 20 Thermal Bi-Metallic Ambient Compensated	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Class 10 IEC Ambient Compensated	9	\$0.00	\$132.00	\$0.00	\$0.00	\$0.00
Starter Mount Class 10-20-30 Solid State	X	\$27.00	\$27.00	\$17.00	-\$73.00	\$27.00
Panel Mount Class 10-20-30 Solid State	Y <sup>2</sup>	\$27.00	\$27.00	\$17.00	-\$73.00	\$27.00

<sup>2</sup>Not available on Narrow Enclosures.

### Step 4 (Digit 9) Select Line/Coil Voltage

Voltage	Hz	Code	List Price GO-10GP
200-208 V	60	1	\$0.00
230-240 V	60	3	\$0.00
460-480 V	60	4	\$0.00
575-600 V	60	5	\$0.00
380 V	50	6	\$0.00



# NEMA Full Voltage Power Devices Pumping Panels

# Section 1

## CR340 Pumping Panels

Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 1-5

### Step 5 (Digit 10) Select Disconnect

#### Thermal Mag Circuit Breaker Trips<sup>2</sup>

NEMA Size		Trip Code	List Price GO-10GP
1	2		
15	15	A	\$0.00
20	20	B	\$0.00
25	25	C	\$0.00
30	30	D	\$0.00
35	35	E	\$0.00
40	40	F	\$0.00
45	45	G	\$0.00
50	50	H	\$0.00
	60	J	\$0.00
	70	K	\$0.00
	80	L	\$0.00
	90	M	\$0.00
	100	N	\$0.00

<sup>2</sup>Available sizes 1 & 2 only.

#### Mag-Break Trips

NEMA Size					Trip Code	List Price GO-10GP
1	2	3	4	5		
3					A	\$0.00
7					B	\$0.00
15	15				C	\$0.00
30	30	30			D	\$0.00
	50	50	50		E	\$0.00
		100	100		F	\$0.00
			150		G	\$0.00
				400F <sup>3</sup>	H	\$0.00
				400G <sup>4</sup>	J	\$0.00

<sup>3</sup>Standard IC Rating.

<sup>4</sup>Higher IC Rating.

### Step 6 (Digit 11) Select Timer Option

Device	Code	List Price GO-10GP
HOA SS, Start PB (Standard)	A	\$0.00
HOA SS	B	-\$26.00
Program Timer with Mini Door	C <sup>5,6,7</sup>	\$592.00
Program Timer with Seq Restart	D <sup>5,6,7</sup>	\$492.00
Back Spin Timer	E <sup>5,6</sup>	\$468.00
Start-Stop PB	K	-\$26.00
Program Timer with no options	L <sup>5,6,7</sup>	\$492.00

<sup>5</sup>Available in Wide enclosure forms only.

<sup>6</sup>Extra Capacity CPT required.

<sup>7</sup>Not UL Listed.

### Step 7 (Digit 12) Select Control Circuit

Option	Code	List Price GO-10GP				
		NEMA Size				
		1	2	3	4	5
None - Standard - Line Voltage - Thermal Mag	A <sup>8</sup>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Separate Control 120V	B <sup>8</sup>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Control Circuit Fusing (CCF), Line Voltage - Standard on Mag-Break	C <sup>9</sup>	\$132.00	\$132.00	\$0.00	\$0.00	\$0.00
CCF, Separate Control 120V	D <sup>9</sup>	\$132.00	\$132.00	\$0.00	\$0.00	\$0.00
CCF, CPT Standard Capacity	E <sup>5</sup>	\$294.00	\$360.00	\$468.00	\$540.00	\$594.00
CCF, CPT +100VA Extra Capacity	F <sup>5</sup>	\$420.00	\$504.00	\$600.00	\$660.00	\$720.00

Note: CPT includes 1 secondary fuse.

<sup>5</sup>Available in Wide enclosure forms only.

<sup>8</sup>Only available for Thermal Mag circuit breaker type Pump Panels.

<sup>9</sup>Price adder included in list price in Step 1 (Digits 1-6), page 1-185 for Mag-Break circuit breaker type Pump Panels. Use list price adders only on Thermal Mag circuit breaker type.

### Step 8 (Digit 13) Select Lightning Arrestors/Surge

Option	Code	List Price GO-10GP
None (Standard)	1	\$0.00
Lightning Arrestor	3 <sup>5</sup>	\$240.00
Lightning Arrestor, Surge Capacitor	5 <sup>5,7</sup>	\$528.00
Surge Capacitor	7 <sup>5,7</sup>	\$288.00

<sup>5</sup>Available in Wide enclosure forms only.

<sup>7</sup>Not UL Listed.



# NEMA Full Voltage Power Devices Pumping Panels

# Section 1

## CR340 Pumping Panels

Mag-Break Circuit Breaker Type

Part Number Configuration

Valid for NEMA sizes 1-5

### Step 9 (Digit 14) Select Options

Option	Code	List Price GO-10GP
None (Standard)	A	\$0.00
Unwired Control Circuit	B	\$0.00
Elapsed Time Meter	D <sup>5</sup>	\$348.00
Space Heater	E	\$120.00
1 NO Aux Contact (Extra)	F	\$66.00
2 NO Aux Contact (Extra)	G	\$132.00
1 NC Aux Contact (Extra)	H	\$66.00
2 NC Aux Contact (Extra)	J	\$132.00
1 NO-1NC Aux Contact (Extra)	K	\$132.00
Red & Green Indicator Light	L <sup>5</sup>	\$390.00
Red Indicator Light (Motor On)	N <sup>5</sup>	\$162.00
Aux Relay (2NO-2NC)	P <sup>5</sup>	\$264.00
ETM, w/ NO aux	S <sup>5</sup>	\$348.00

<sup>5</sup>Available in Wide enclosure forms only.

### Step 10 (Digit 15) Select Under Voltage/Phase Failure Relay

Option	Code	List Price GO-10GP
None (Standard)	A	\$0.00
Under Voltage Relay	B <sup>5</sup>	\$306.00
Under Voltage Relay & Phase Failure Relay	C <sup>5</sup>	\$1056.00
Phase Failure Relay	D <sup>5</sup>	\$1056.00

<sup>5</sup>Available in Wide enclosure forms only.

### Step 11 (Digit 16) Select Overload Range

Note: Leave Digit/Code BLANK for Class 20 - Use Tables below for Class 10 IEC & Class 10-20-30 Electronic Overload

Overload	Code	List Price GO-10GP
Class 20 Thermal Bi-Metallic Ambient Compensated	Blank	\$0.00
Class 10 IEC Ambient Compensated	Select below	\$0.00
Class 10-20-30 Solid State	Select below	\$0.00

#### Class 10 IEC

Code	NEMA Size				
	1	2	3	4	5
G	1.3-1.9	17.5-22.0	30-43	63-90	120-190
H	1.8-2.7	21-26	42-55	90-120	175-280
J	2.5-4.1	25-32	54-65	110-140	200-310
K	4.0-6.3	30-43	63-90		
L	5.5-8.5	42-55			
M	8.0-12.0				
P	10.0-16.0				
R	14.5-18.0				
S	17.5-22.0				
T	21.0-26.0				

#### Class 10-20-30 Solid State

Code	NEMA Size				
	1	2	3	4	5
C	0.4-0.85				
D	0.8-1.7				
E	1.6-3.4				
F	3.2-6.8				
G	6.5-13.5	6.5-13.5			
H	13-27	13-27			
J		25-50			
K			17-35	17-35	
L			35-70	35-70	
M			65-90	65-135	
P					65-135
Q					130-270



# NEMA Full Voltage Power Devices Pumping Panels

## CR340, CR341 Heaters

### Class 20 Overload Heaters

For use with polyphase motors. For continuous rated motors with a service factor of 1.15 to 1.25, select heaters from the heater table for the motor full-load amperes. This provides a maximum of 125% protection.

For continuous rated motors with 1.0 service factor, multiply the full-load amperes of the motor by 0.90 and use this value to select heaters.

### Ordering Information

All heaters listed are packaged in multiples of three. Items of these heaters should be ordered in quantities of three-unit multiples (such as 3, 6, 9, 12, etc.). The minimum order quantity is three. Example: (For motors with FLA of 9.28)

Item 1- 2 CR341D013C at **\$1038.00 ea. = \$2076.00, GO-10GP** for 2 motors.

Item 1A-6 CR123C104B at **\$9.00 ea. = \$54.00, GO-10H** for starters.

Heater Product Number	List Price Each, GO-10H
CR123C, F, L (All)	\$9.00

### Size 1 — Class 20 Overload Relay Heaters

#### Motor Full-Load Amps.

3-Phase 3-Heaters	Heater Product Number	Max. Fuse Rating	Max. Breaker Rating	TEC/TECL Rating
.41-.45	CR123C054A	3	—	—
.46-.49	CR123C060A	3	15	—
.50-.53	CR123C066A	3	15	—
.54-.59	CR123C071A	3	15	—
.60-.65	CR123C078A	3	15	—
.66-.76	CR123C087A	3	15	3
.77-.84	CR123C097A	3	15	3
.85-.93	CR123C109A	3	15	3
.94-1.04	CR123C118A	3	15	3
1.05-1.15	CR123C131A	3	15	3
1.16-1.27	CR123C148A	3	15	3
1.28-1.39	CR123C163A	3	15	3
1.40-1.55	CR123C184A	6	15	3
1.56-1.73	CR123C196A	6	15	3
1.74-1.89	CR123C220A	6	15	3
1.90-2.05	CR123C239A	6	15	3
2.06-2.28	CR123C268A	6	15	3
2.29-2.47	CR123C301A	6	15	3
2.48-2.79	CR123C326A	10	15	7
2.80-3.31	CR123C356A	10	15	7
3.32-3.70	CR123C379A	10	15	7
3.71-4.06	CR123C419A	15	15	7
4.07-4.47	CR123C466A	15	15	7
4.48-4.95	CR123C526A	15	15	7
4.96-5.49	CR123C592A	20	20	7
5.50-5.91	CR123C630A	20	20	7
5.92-6.47	CR123C695A	25	20	15
6.48-7.20	CR123C778A	25	20	15
7.21-8.22	CR123C867A	30	30	15
8.23-8.72	CR123C955A	30	30	15
8.73-9.67	CR123C104B	35	30	15
9.68-10.4	CR123C113B	35	30	15
10.5-11.0	CR123C125B	40	40	15
11.1-12.4	CR123C137B	45	40	15
12.5-13.2	CR123C151B	50	50	15, 30
13.3-15.4	CR123C163B	60	50	30
15.5-17.1	CR123C180B	60	50	30
17.2-18.1	CR123C198B	70	50	30
18.2-20.0	CR123C214B	70	50	30
20.1-21.5	CR123C228B	80	50	30
21.6-22.5	CR123C250B	80	70	30
22.6-23.9	CR123C273B	80	70	30
24.0-26.3	CR123C303B	90	70	30, 50
26.4-27.0	CR123C330B	90	70	50

### Size 2 — Class 20 Overload Relay Heaters

#### Motor Full-Load Amps.

3-Phase 3-Heaters	Heater Product Number	Max. Fuse Rating	Max. Breaker Rating	TEC/TECL Rating
5.48-5.85	CR123C630A	20	—	—
5.86-6.47	CR123C695A	20	—	—
6.48-7.35	CR123C778A	25	—	—
7.36-8.06	CR123C867A	30	—	—
8.07-9.03	CR123C955A	30	—	—
9.04-9.61	CR123C104B	35	30	15
9.62-10.5	CR123C113B	35	30	15
10.6-11.6	CR123C125B	40	40	15
11.7-12.5	CR123C137B	45	40	15
12.6-13.6	CR123C151B	50	50	15
13.7-16.7	CR123C163B	60	50	30
16.8-17.9	CR123C180B	60	50	30
18.0-18.7	CR123C198B	70	70	30
18.8-20.4	CR123C214B	80	70	30
20.5-22.7	CR123C228B	80	70	30
22.8-24.7	CR123C250B	90	70	30
24.8-26.3	CR123C273B	90	70	30
26.4-29.5	CR123C303B	100	100	30, 50
29.6-32.5	CR123C330B	100	100	50
32.6-36.7	CR123C366B	100	100	50
36.8-41.9	CR123C400B	100	100	50
42.0-43.2	CR123C440B	100	100	50
43.3-45.0	CR123C460B	100	100	—

### Size 3 — Standard Or Ambient Compensated Class 20 Overload Relay Heaters

#### Motor Full-Load Amps.

3-Phase 3-Heaters	Heater Product Number	Max. Fuse Rating	Max. Breaker Rating	TEC/TECL Rating
17.4-18.4	CR123F233B	70	70	30
18.5-21.1	CR123F243B	80	70	30
21.2-22.1	CR123F270B	80	70	30
22.2-26.1	CR123F300B	90	70	30
26.2-28.0	CR123F327B	100	100	50
28.1-31.3	CR123F357B	100	100	50
31.4-33.3	CR123F395B	100	100	50
33.4-34.3	CR123F430B	100	100	50
34.4-40.9	CR123F487B	100	100	50
41.0-44.7	CR123F567B	100	100	50, 100
44.8-51.0	CR123F614B	100	125	100
51.1-52.0	CR123F658B	100	125	100
52.1-55.4	CR123F719B	100	125	100
55.5-63.3	CR123F772B	100	150	100
63.4-66.1	CR123F848B	100	150	100
66.2-73.5	CR123F914B	100	150	100
73.6-82.2	CR123F104C	100	150	100
82.3-90.0	CR123F114C	100	150	100

### Size 4 — Class 20 Overload Relay Heaters

#### Motor Full-Load Amps.

3-Phase 3-Heaters	Heater Product Number	Max. Fuse Rating	Max. Breaker Rating	TEC/TECL Rating
28.8-31.1	CR123F357B	110	100	50
31.2-33.3	CR123F395B	125	100	50
33.4-35.6	CR123F430B	125	100	50
35.7-42.6	CR123F487B	150	100	50, 100
42.7-45.2	CR123F567B	175	125	50, 100
45.3-51.1	CR123F614B	175	150	100
51.2-53.9	CR123F658B	200	150	100
54.0-56.9	CR123F719B	200	150	100
57.0-65.2	CR123F772B	200	175	100
65.3-68.6	CR123F848B	200	200	100
68.7-74.0	CR123F914B	200	200	100
74.1-86.0	CR123F104C	200	200	100, 150
86.1-90.7	CR123F114C	200	225	150
90.8-103	CR123F118C	200	225	150
104-109	CR123F133C	200	225	150
110-119	CR123F149C	200	225	150
120-131	CR123F161C	200	225	150
132-135	CR123F174C	200	225	150



# NEMA Full Voltage Power Devices Pumping Panels

# Section 1

## CR340, CR341

### Heaters

#### Class 20 Overload Heaters (continued)

See page 1-188 for ordering information and pricing.

#### Size 5 – Class 20 Overload Relay Heaters

Motor Full-Load Amps.			
3-Phase, 3-Heaters	Heater Product Number	Maximum Fuse Rating	Maximum Circuit Rating
109-118	CR123C592A	400	600
119-128	CR123C630A	400	600
129-138	CR123C695A	400	600
139-155	CR123C778A	400	600
156-168	CR123C867A	400	600
169-184	CR123C955A	400	600
185-200	CR123C104B	400	600
201-221	CR123C113B	400	600
222-237	CR123C125B	400	600
238-262	CR123C137B	400	600
263-270	CR123C151B	400	600

#### Size 6 – Class 20 Overload Relay Heaters

Motor Full-Load Amps.	
3-Phase, 3-Heaters	Heater Product Number
181-197	CR123C220A
198-214	CR123C239A
215-238	CR123C268A
239-258	CR123C301A
259-290	CR123C326A
291-346	CR123C356A
347-387	CR123C379A
388-424	CR123C419A
425-467	CR123C466A
468-516	CR123C526A
517-540	CR123C592A

#### Size 7 – Class 20 Overload Relay Heaters

Motor Full-Load Amps.	
3-Phase, 3-Heaters	Heater Product Number
346-387	CR123C326A
388-461	CR123C356A
462-515	CR123C379A
516-565	CR123C419A
566-622	CR123C466A
623-688	CR123C526A
689-763	CR123C592A
764-810	CR123C630A

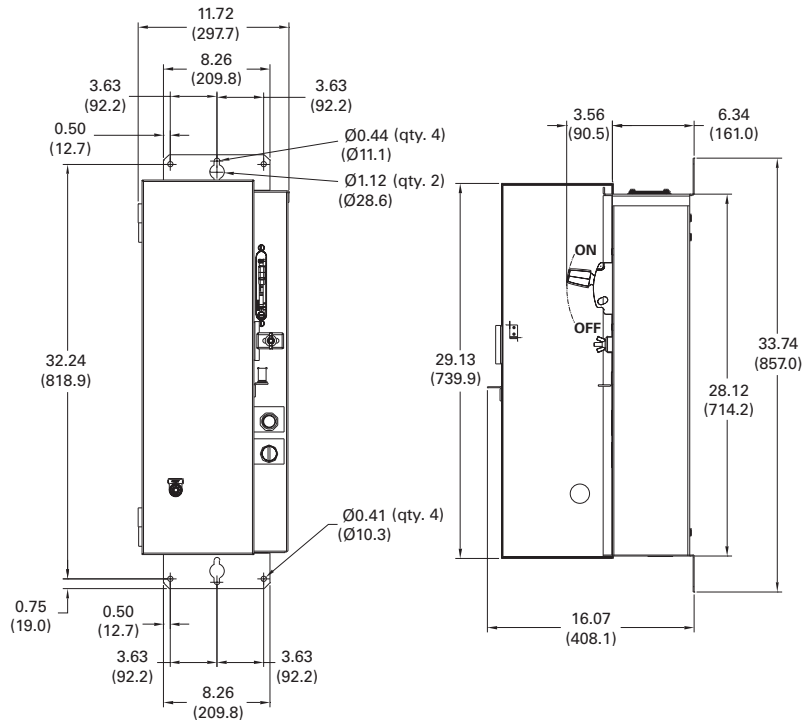


# NEMA Full Voltage Power Devices Pumping Panels

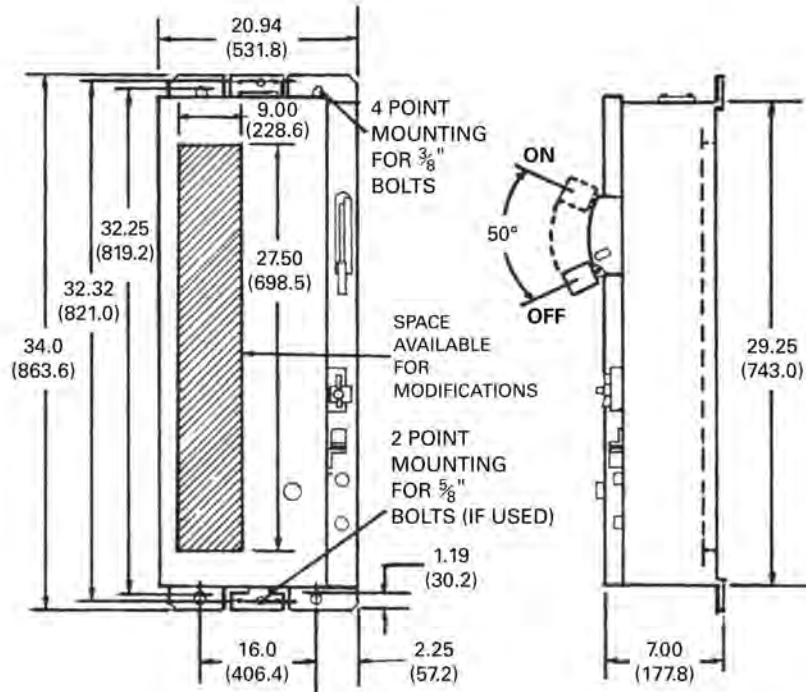
## CR340, CR341

Outlines, Dimensions in. (mm), and Weights (For Estimating Only)

# Section 1



CR340, CR341 NEMA Sizes 1 and 2 Narrow-Type Enclosures; 32 lbs. (Size 1), 47 lbs. (Size 2)



CR340, CR341 NEMA Sizes 1 and 2 Wide-Type Enclosures; 85 lbs. (Size 1), 90 lbs. (Size 2)

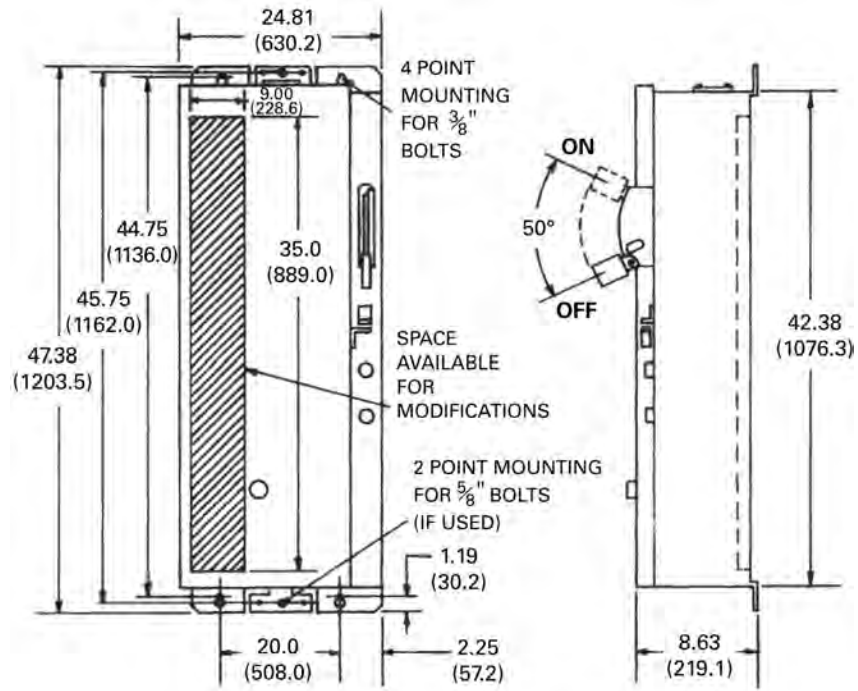


# NEMA Full Voltage Power Devices Pumping Panels

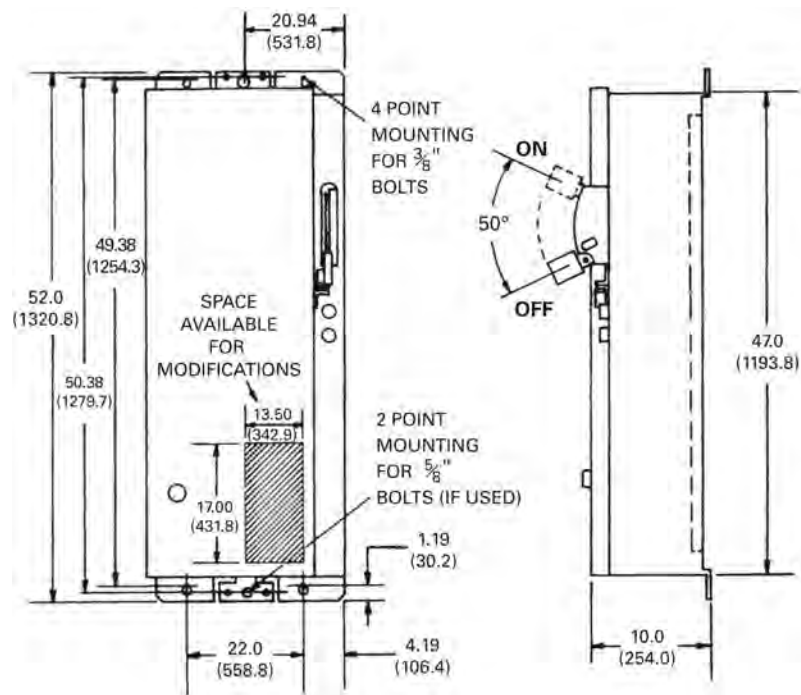
## CR340, CR341

Outlines, Dimensions in. (mm), and Weights (For Estimating Only)

# Section 1



CR340, CR341 NEMA Sizes 3 and 4 Wide-Type Enclosures; 195 lbs.



CR340, CR341 NEMA Size 5 Wide-Type Enclosures; 285 lbs.

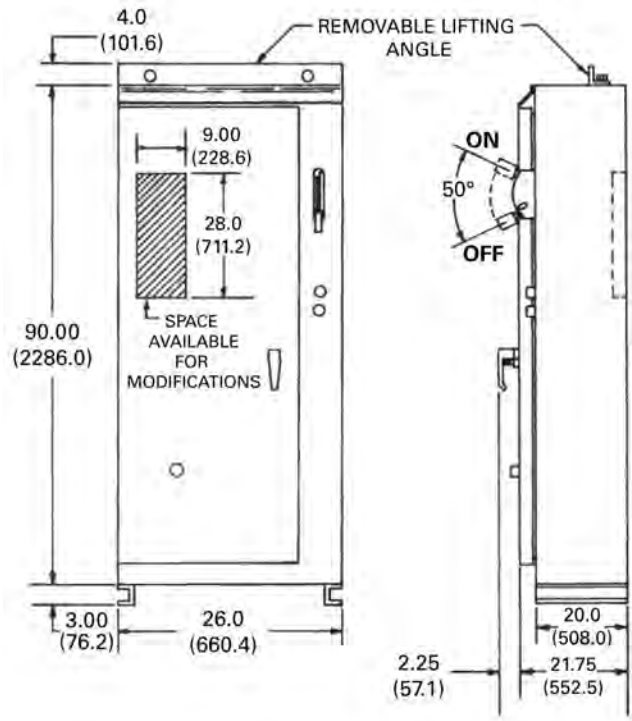


# NEMA Full Voltage Power Devices Pumping Panels

## CR340, CR341

Outlines, Dimensions in. (mm), and Weights (For Estimating Only)

# Section 1



CR340, CR341 NEMA Sizes 6 and 7 Wide-Type Enclosures; 1,200 lbs. (Size 6), 1,300 lbs. (Size 7)





# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Contactors CR305, CR385 Magnetic Contactors

1600 Hp Maximum  
NEMA Sizes 00-9  
600V Maximum 50/60 Hertz  
2500 Amperes Maximum

## Section 1

### Application

GE's magnetic contactor is designed for use on today's modern equipment. Especially suitable for handling the switching of resistance heating and capacitor circuit loads, their compact size also fits the needs of the panel building industry. In addition, they may be used for controlling ac motors where overload protection is provided separately.

### Features

- Easy disassembly for maintenance and inspection of contacts.
- Auxiliary contacts with vertical contact surfaces enclosed to prevent accumulation of dust and dirt.
- Attractive, modern squared-off design enclosure.
- Magnet faces specially treated to resist rust.
- Provision for ring terminals may be specified as a special feature, if required. No price addition applies for this optional feature.

### Product Number Selection Instructions

1. Specify contactor by product number.  
Example: CR305B103 at **\$186.00, GO-10G** is a Size 0, 18-Ampere, three-pole contactor (extra pole to be used as an auxiliary), with 230-240 Volt 60 Hertz coil. Contactor is in Type 1 enclosure.
2. Order forms not listed or with special features by complete description.  
Example: Similar to CR305B103 at **\$186.00** except with a red indicating light in cover at **\$90.00**. Total **List Price: \$276.00, GO-10G**.
3. The final letter of the product number denotes extra auxiliary contacts (sometimes referred to as auxiliary interlocks). Order the desired extra auxiliary contacts by replacing the final letter from first column of auxiliary interlock table (see page 1-130).  
Example: CR305C102AAB at **\$282.00, GO-10G**, is Size 1 contactor with one extra auxiliary contact, normally open.
4. Contactors are available with coils of other ratings (at same price) than those shown on pages 1-194 to 1-196. Refer to coil suffix table on page 1-6 for information. To order contactor forms with these other coil ratings, insert suffix from table in place of fifth and sixth numbers of contactor product number shown on pages 1-194 to 1-196.  
Example: A CR305C123 NEMA Size 1, three-pole contactor in Type 1 enclosure, except with 24 Volt, 60 Hertz coil, becomes a CR305C124 product number.  
  
For NEMA Size 7-9 contactors with other control circuit voltages, contact your nearest GE Representative.



Typical CR305 Open-Type Magnetic Contactor

### 5. Holding Contacts

Each CR305 contactor is furnished with a normally open auxiliary contact for use as a holding interlock in three-wire control circuits. This auxiliary contact has the same rating as a main pole (contact) for Sizes 00, 0, and 1. If this contact is not required on these sizes, specify contactor with one less pole.

### 6. 50 Hertz Contactors

Pricing of contactors for use on 50 Hertz is the same as in table for 60 Hertz. See three-phase horsepower ratings for 380-415 Volts, 50 Hertz on page 1-4.

### 7. Product Notes

Motor full-load current should not exceed continuous ampere rating of contactor.

### Reference Publications

Instructions	
NEMA Size	Publication Number
00, 0, 1	GEH-5190
2	GEH-4774
3	GEH-4806
4	GEH-4807
5	GEH-4839
6	GEH-5198
7-9	GEH-5108

### Magnetic Nonreversing Contactors (CR305, CR385) – Contents

Application Information and Selection Instructions (CR305, CR385) .....	1-193
NEMA Sizes 00-9, One- and Two-Pole (CR305, CR385) .....	1-194
NEMA Sizes 00-9, Three-Pole (CR305, CR385) .....	1-195
NEMA Sizes 00-9, Four-Pole (CR305, CR385) .....	1-196
Factory Installed Modifications (CR305, CR385) .....	1-197
Outlines and Dimensions (CR305, CR385) .....	1-208







# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Contactors

### CR305, CR385 Magnetic Contactors

## Section 1

Three-phase, Four-Pole

Nonreversing, Open, NEMA Type 1, 3R, 12, 4/4X

NEMA Sizes 00-5

600 Volts Maximum 50/60 Hertz

Four-Pole:

List price includes holding contact (normally open) and pressure terminals for the line and load connector.

#### CR305, Three-Phase, 4-Pole Magnetic Contactors NEMA sizes 00-5

NEMA Size	Continuous Ampere Rating <sup>1</sup>		Voltage @ 60 Hz	Horsepower	Open Type		NEMA Type 1		NEMA Type 3R		NEMA Type 12		NEMA Type 4/4X	
	Enclosed	Open			Product Number CR305	List Price GO-10G	Product Number CR305	List Price GO-10G	Product Number CR305	List Price GO-10G	Product Number CR305	List Price GO-10G	Product Number CR305	List Price GO-10G
0	18A	20A	115-120	—	R002AEA	\$222.00	R102AEA	\$234.00	R602AEA	\$306.00	R202AEA	\$306.00	R402AEA	\$450.00
0	18A	20A	200-208	3	R023AEA	\$222.00	R123AEA	\$234.00	R623AEA	\$306.00	R223AEA	\$306.00	R423AEA	\$450.00
0	18A	20A	230-240	3	R003AEA	\$222.00	R103AEA	\$234.00	R603AEA	\$306.00	R203AEA	\$306.00	R403AEA	\$450.00
0	18A	20A	460-480	5	R004AEA	\$222.00	R104AEA	\$234.00	R604AEA	\$306.00	R204AEA	\$306.00	R404AEA	\$450.00
0	18A	20A	575-600	5	R005AEA	\$222.00	R105AEA	\$234.00	R605AEA	\$306.00	R205AEA	\$306.00	R405AEA	\$450.00
1	27A	30A	115-120	—	S002AEA	\$252.00	S102AEA	\$264.00	S602AEA	\$336.00	S202AEA	\$336.00	S402AEA	\$480.00
1	27A	30A	200-208	7 1/2	S023AEA	\$252.00	S123AEA	\$264.00	S623AEA	\$336.00	S223AEA	\$336.00	S423AEA	\$480.00
1	27A	30A	230-240	7 1/2	S003AEA	\$252.00	S103AEA	\$264.00	S603AEA	\$336.00	S203AEA	\$336.00	S403AEA	\$480.00
1	27A	30A	460-480	10	S004AEA	\$252.00	S104AEA	\$264.00	S604AEA	\$336.00	S204AEA	\$336.00	S404AEA	\$480.00
1	27A	30A	575-600	10	S005AEA	\$252.00	S105AEA	\$264.00	S605AEA	\$336.00	S205AEA	\$336.00	S405AEA	\$480.00
2	45A	50A	115-120	—	T002	\$480.00	T102	\$540.00	T602	\$672.00	T202	\$672.00	T402	\$1140.00
2	45A	50A	200-208	10	T023	\$480.00	T123	\$540.00	T623	\$672.00	T223	\$672.00	T423	\$1140.00
2	45A	50A	230-240	15	T003	\$480.00	T103	\$540.00	T603	\$672.00	T203	\$672.00	T403	\$1140.00
2	45A	50A	460-480	25	T004	\$480.00	T104	\$540.00	T604	\$672.00	T204	\$672.00	T404	\$1140.00
2	45A	50A	575-600	25	T005	\$480.00	T105	\$540.00	T605	\$672.00	T205	\$672.00	T405	\$1140.00
3	90A	100A	115-120	—	U002	\$768.00	U102	\$888.00	U602	\$1044.00	U202	\$1044.00	U402	\$1668.00
3	90A	100A	200-208	25	U023	\$768.00	U123	\$888.00	U623	\$1044.00	U223	\$1044.00	U423	\$1668.00
3	90A	100A	230-240	30	U003	\$768.00	U103	\$888.00	U603	\$1044.00	U203	\$1044.00	U403	\$1668.00
3	90A	100A	460-480	50	U004	\$768.00	U104	\$888.00	U604	\$1044.00	U204	\$1044.00	U404	\$1668.00
3	90A	100A	575-600	50	U005	\$768.00	U105	\$888.00	U605	\$1044.00	U205	\$1044.00	U405	\$1668.00
4	135A	150A	115-120	—	W002	\$2004.00	W102	\$2256.00	W602	\$2952.00	W202	\$2952.00	W402	\$3732.00
4	135A	150A	200-208	40	W023	\$2004.00	W123	\$2256.00	W623	\$2952.00	W223	\$2952.00	W423	\$3732.00
4	135A	150A	230-240	50	W003	\$2004.00	W103	\$2256.00	W603	\$2952.00	W203	\$2952.00	W403	\$3732.00
4	135A	150A	460-480	100	W004	\$2004.00	W104	\$2256.00	W604	\$2952.00	W204	\$2952.00	W404	\$3732.00
4	135A	150A	575-600	100	W005	\$2004.00	W105	\$2256.00	W605	\$2952.00	W205	\$2952.00	W405	\$3732.00
5	270A	300A	115-120	—	Z002	\$5766.00	Z102	\$6690.00	Z602	\$8142.00	Z202	\$8142.00	Z402	\$8142.00
5	270A	300A	200-208	75	Z023	\$5766.00	Z123	\$6690.00	Z623	\$8142.00	Z223	\$8142.00	Z423	\$8142.00
5	270A	300A	230-240	100	Z003	\$5766.00	Z103	\$6690.00	Z603	\$8142.00	Z203	\$8142.00	Z403	\$8142.00
5	270A	300A	460-480	200	Z004	\$5766.00	Z104	\$6690.00	Z604	\$8142.00	Z204	\$8142.00	Z404	\$8142.00
5	270A	300A	575-600	200	Z005	\$5766.00	Z105	\$6690.00	Z605	\$8142.00	Z205	\$8142.00	Z405	\$8142.00

<sup>1</sup>Motor full-load current should not exceed continuous ampere rating of contactor.



Product Number Selection Instructions: See page 1-193

Other Coil Voltages: See page 1-6

Factory Installed Modifications: See pages 1-197 to 1-201

Field Installed Modifications: See pages 1-202 to 1-207

# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Contactors

### CR305, CR385 Magnetic Contactors

## Section 1

#### Factory-Installed Modifications

#### Contactor Modifications—Factory Installed

Factory-installed modifications are available for those contactors as indicated in the tables. Shown here are the **List Price Additions** to standard product listed forms and are subject to **GO-10G** discount. Prices shown are not to be used as separate selling prices. For field modification kits see pages 1-202 to 1-207. Supplying combinations of these items may affect standard enclosure dimensions and type of construction. In extreme instances, it may not be possible to furnish all of them within the limitations of a contactor design.

Type of Installation/ Contactors	Item No.	Modifications	Enclosure Type	NEMA Size								
				00	0	1	2	3	4	5	6	
				List Price Addition, GO-10G								
Pilot Devices Mounted in Cover or Flange of CR305	1	Push Buttons										
	1a	START-STOP <sup>1</sup>	1	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$132.00
	1b	OFF-ON <sup>1</sup>	1	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$132.00
	1c	START-STOP (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00
	1d	START Push Button and H-O-A Selector Switch (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$264.00	\$264.00	\$264.00	\$264.00	\$264.00	\$264.00	\$264.00	\$264.00
	1e	Single Push Button, Unwired (Specify Marking) (HEAVY-DUTY, CR104P)	1	<sup>2</sup>	\$40.00	\$40.00	\$40.00	\$40.00	\$40.00	\$40.00	\$40.00	\$40.00
		Single Push Button, Unwired (Specify Marking) (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00
	1f	Single Illuminated Push Button, Unwired (Specify Marking) (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00
	2	Selector Switches										
	2a	HAND-OFF-AUTO <sup>1,3</sup>	1	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$132.00
		HAND-OFF-AUTO <sup>1,3</sup> (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00
	2b	OFF-ON <sup>1</sup>	1	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$132.00
		OFF-ON (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00
	2c	Single Selector Switch Maintained (Specify Marking)										
		Two- or Three-Position (Specify Position) <sup>4</sup> (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00
		Four-Position <sup>4</sup> (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00
	2d	Key Operated Maintained (Specify Marking and Key-Removal Position)										
		Two- or Three-Position <sup>4</sup> (HEAVY-DUTY, CR104P)	Any	<sup>2</sup>	\$168.00	\$168.00	\$168.00	\$168.00	\$168.00	\$168.00	\$168.00	\$168.00
3	Nonstandard Markings (Specify)	Any	<sup>2</sup>	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00	

<sup>1</sup> Factory-installed modification kit for sizes 00-5.

<sup>2</sup> Not available in NEMA Size 00. Use Size 0 starter and modification.

<sup>3</sup> This modification not available with items 1a, 1b or 1c because STOP push button would not work in AUTO position; instead order modification 1d.

<sup>4</sup> Specify CR104 operator and contact block by product number

#### Reference Publications

##### Instructions

NEMA Size	Publication Number
00, 0, 1	GEH-5190
2	GEH-4774
3	GEH-4806
4	GEH-4807
5	GEH-4839
6	GEH-5198



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Contactors

### CR305, CR385 Magnetic Contactors

Factory-Installed Modifications

## Section 1

### Contactor Modifications—Factory Installed

The general information at the top of page 1-197, regarding factory-installed modifications, also applies to those listed in the tables below.

Type of Installation/ Contactors	Item No.	Modifications	Enclosure Type	NEMA Size								
				00	0	1	2	3	4	5	6	
				List Price Addition, GO-10G								
Pilot Devices Mounted In Cover or Flange of CR305	4	Indicating Light <sup>1</sup>										
	4a	One (Red Only) <sup>2</sup>	1	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00	\$90.00	\$162.00
	4b	One (Specify Red or Green) (HEAVY-DUTY, CR104P)	Any	<sup>3</sup>	\$162.00	\$162.00	\$162.00	\$162.00	\$162.00	\$162.00	\$162.00	\$162.00
	4c	Two (Includes 1 NC Auxiliary Contact) <sup>4</sup> (HEAVY-DUTY, CR104P)	Any	<sup>3</sup>	\$390.00	\$390.00	\$390.00	\$390.00	\$390.00	\$390.00	\$390.00	\$390.00
	4d	One Push-To-Test and/or Transformer Type (Red or Green)	Any	<sup>3</sup>	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00	\$180.00
	4e	Two Push-To-Test (Includes 1 NC Auxiliary Contact) and/or Transformer Type <sup>4</sup>	Any	<sup>3</sup>	\$426.00	\$426.00	\$426.00	\$426.00	\$426.00	\$426.00	\$426.00	\$426.00

- <sup>1</sup> One indicating light: Wired in parallel with operating coil. Two indicating lights: Red is wired in parallel with operating coil, green is wired through an auxiliary contact.  
<sup>2</sup> Factory-installed field modification kit for sizes 00-4 and size 5 without CPT.  
<sup>3</sup> Not available in NEMA Size 00. Use Size 0 contactor modification.  
<sup>4</sup> Maximum of three additional auxiliary contacts available on size 0-1.

Type of Installation/ Contactors	Item No.	Modifications	Enclosure Type	NEMA Size								
				00	0	1	2	3	4	5	6	
				List Price Addition, GO-10G								
Control Circuit in CR305	8	Separate Control Circuit (Specify Voltage and Frequency, Reference Items 13a and 13b for Standard Voltages)	Any	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	9	Fused Control Circuit—Two Fuses	Any	<sup>1</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00
	10	Control Transformer—Standard Capacity, 50 or 60 Hertz <sup>2</sup> Two Primary and One Fuse Secondary, (Specify Voltage Rating) Standard Voltages at 60 Hertz 220-230-240 Primary, 110-115-120 Secondary 440-460-480 Primary, 110-115-120 Secondary 550-575-600 Primary, 110-115-120 Secondary 200-208 Primary, 115-120 Secondary	Any	<sup>1</sup>	\$294.00	\$294.00	\$352.00	\$468.00	\$540.00	\$594.00	\$594.00	\$594.00
	11	Control Transformer—100 VA Additional Capacity, 60 Hertz	Any	<sup>1</sup>	\$288.00	\$288.00	\$372.00	\$468.00	\$528.00	\$588.00	\$588.00	
	12											
	13	Operating Coil										
	13a <sup>4</sup>	Standard Voltages at 60 Hertz: 24, 115-120, 200-208, 230-240, 460-480, 575-600	Any	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	13b	Standard Voltages at 50 Hertz: 110, 220, 380-415, 440, 550	Any	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	13d	DC—Standard Voltages: 24, 115-125	Any	<sup>3</sup>	<sup>3</sup>	\$102.00	\$114.00	\$198.00	\$264.00	\$720.00	\$720.00	

- <sup>1</sup> Not available in NEMA Size 00. Use size 0 contactor modification.  
<sup>2</sup> The National Electrical Code, Article 450-3(B), requires primary fuses in most typical installations. Refer to the NEC, Article 450 prior to ordering control transformer without primary fuses to insure compliance. Control circuit fuse kits from page 1-206 may be used to provide primary fusing. Fuses must be sized to meet the requirements of the NEC according to the table below.  
<sup>3</sup> Not available in NEMA Sizes 00 or 0. Use Size 1 contactor modification.  
<sup>4</sup> 24V coil not available on size 5 and 6.

### Recommended Fuse

CPT VA	Primary Voltage		
	208/240	480	600
50	1	0.5	0.5
100	2	1	0.75
150	3	1.5	1
250	5	2	2
300	6	3	2



Other Coil Voltages: See page 1-6  
 Factory Installed Modifications: See pages 1-197 to 1-201  
 Field Installed Modifications: See pages 1-202 to 1-207

# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Contactors

### CR305, CR385 Magnetic Contactors

Factory-Installed Modifications

## Section 1

### Contactor Modifications—Factory Installed

The general information at the top of page 1-197, regarding factory-installed modifications, also applies to those listed in the tables below.

Type of Installation	Item No.	Modifications	Enclosure Type	NEMA Size							
				00	0	1	2	3	4	5	6
Auxiliary Relays Mounted In CR305	14 <sup>1</sup>	Control Relay, Four-Pole (Convertible) Unwired (Specify Coil Voltage)	1, 3R, 12	<sup>2</sup>	\$306.00 <sup>3</sup>	\$306.00 <sup>3</sup>	\$306.00	\$306.00	\$480.00	\$540.00	\$540.00
			4/4X	<sup>2</sup>	\$468.00 <sup>3</sup>	\$468.00 <sup>3</sup>	\$468.00	\$468.00	\$636.00	\$708.00	\$708.00
	15 <sup>1</sup>	Time-Delay Relay, Unwired, Pneumatic—1 to 60 Seconds, 1 NO-1 NC (Specify TDD or TDE and Coil Voltage) <sup>3</sup>	1, 3R, 12	<sup>2</sup>	\$504.00	\$504.00	\$504.00	\$504.00	\$504.00	\$504.00	\$504.00
			4/4X	<sup>2</sup>	\$660.00	\$660.00	\$660.00	\$660.00	\$660.00	\$660.00	\$660.00
	16 <sup>1</sup>	Timing Relay, Motor Driven, Unwired (Specify Voltage & Timing Range) <sup>3</sup>	Any	<sup>2</sup>	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
	17 <sup>1</sup>	Phase Loss, Phase Reversal, Three-Phase, Undervoltage Relay (Starting & Running Protection, Specify Voltage)	Any	<sup>2</sup>	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00	\$1056.00
Auxiliary Contacts Mounted In CR305	19	Magnetic Contactor (Specify Number of NO or NC) — Single Speed, Nonreversing: Four Maximum, Sizes 0, 1 Five Maximum, Size 2-6 Reversers and Two-Speed, Two Winding: Two Maximum, Per Contactor, Sizes 0-6 Two-Speed, One Winding: One on Left Contactor, Two on Right Contactor, Size 0, 1 Two Maximum Per Contactor, Sizes 2-6	Any	<sup>2</sup>	\$66.00	\$66.00	\$66.00	\$66.00	\$66.00	\$66.00	\$66.00

<sup>1</sup> NEMA Type 1 enclosures require oiltight pilot devices when this modification is used with NEMA Contactor sizes 0, 1, and 2. Only oiltight pilot devices will fit the oversized enclosure required. The list price addition for the oversized enclosure is already included in the published list price.

<sup>2</sup> Not available in NEMA Size 00. Use Size 0 contactor modification.  
<sup>3</sup> Requires 100 VA extra capacity control transformer.

Type of Installation/Contactors	Item No.	Modifications	Enclosure Type	NEMA Size							
				00	0	1	2	3	4	5	6
Metering Mounted In CR305	27	Elapsed Time Meter	1, 3R, 12	<sup>1</sup>	\$348.00	\$348.00	\$348.00	\$348.00	\$348.00	\$348.00	\$348.00
			4/4X	<sup>1</sup>	\$588.00	\$588.00	\$588.00	\$588.00	\$588.00	\$588.00	\$588.00
Enclosure CR305	30	Space Heater <sup>2</sup> 50 Watts—NEMA Size 0-4 Contactor/Starter 100 Watts—NEMA Size 5 Contactor	Any	<sup>1</sup>	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$120.00	\$420.00
Misc. Mounted On CR305	31	Operating Coil Surge Suppressor (120 V/60 Hz)	Any		\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00
	32	Insulated Neutral Lug	Any	<sup>1</sup>	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00	\$132.00
	33	Ground Lug	Any	<sup>1</sup>	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00
	34	Terminal Block, (Product Number CR151B) 30A, Unwired (per point) (Specify Points)	Any	<sup>1</sup>	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00
	35	Power Factor Correction Capacitor Terminals	Any	<sup>1</sup>	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00	\$24.00

<sup>1</sup> Not available in NEMA Size 00. Use Size 0 contactor modification.  
<sup>2</sup> If connected to control circuit transformer, 115-Volt heater requires an extra capacity transformer for Size 0-1 and Size 5.



# NEMA Full Voltage Power Devices

## NEMA Rated Full Voltage Contactors

### CR305, CR385 Magnetic Contactors

Factory-Installed Modifications

## Section 1

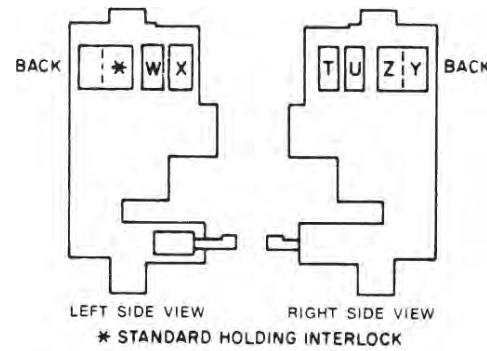
### Factory-Installed Auxiliary Contacts

The final letter of the Product Number denotes extra auxiliary contacts (sometimes referred to as auxiliary interlocks). Order the desired extra auxiliary contacts, factory installed on the contactor, by replacing the final letter of the Product Number with a letter from the first column of the auxiliary contact table.

If a CR305 or 306 Product Number has no 3-letter suffix, first add an "AAA" suffix, and then substitute a letter from first column of the auxiliary contact table. Example: CR306C022 becomes CR306C022AAD for a Size 1 contactor with one extra NO and one extra NC auxiliary contact.

Extra Auxiliary Contact Table

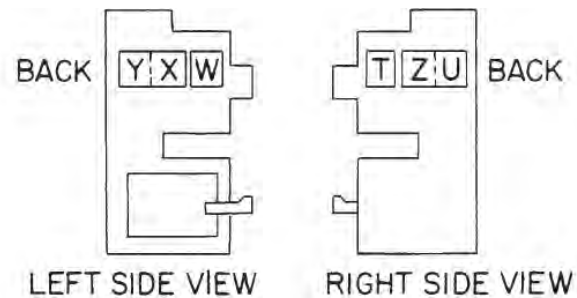
Final Suffix Letter of Product No. on Contactor	Contact Location 5 Contacts Max.					
	W	X	Y	Z	T	U
A or None						
B	†					
C	✖					
D			✖	†		
E	†	†				
F	✖	✖				
G	†		✖	†		
H	✖		✖	†		
J	†	†		†		
K	✖	✖	✖			
L	†	†		†		†
M	✖	✖	✖			✖
N	✖	†	✖	†		
P	†	†	✖	†		
R	✖	✖	✖	†		
S	✖	†	✖	†		†
T	✖	†	✖	†		✖
U	†	†	✖	†		†
W	✖	✖	✖	†		✖
X	†	†		†	†	†
Y	✖	✖	✖		✖	✖



NEMA Sizes 5 and 6,  
Single-Speed, Nonreversing Contactors

Extra Auxiliary Contact Table

Final Suffix Letter of Product No. on Contactor	Contact Location 4 Contacts Max.					
	W	X	Y	T	Z	U
A or None						
B		†				
C			✖			
D		†	✖			
E	†	†				
F	✖		✖			
G	†	†	✖			
H	✖	†	✖			
J	†	†			†	
K	✖		✖			✖
L	†	†		†	†	
M	✖		✖	✖		✖
N		†	✖		†	✖
P	†	†	✖		†	
R	✖	†	✖			✖



NEMA Sizes 0 and 1,  
Single-Speed, Nonreversing 2- and 3-Pole Contactors



Product Number Selection Instructions: See page 1-193

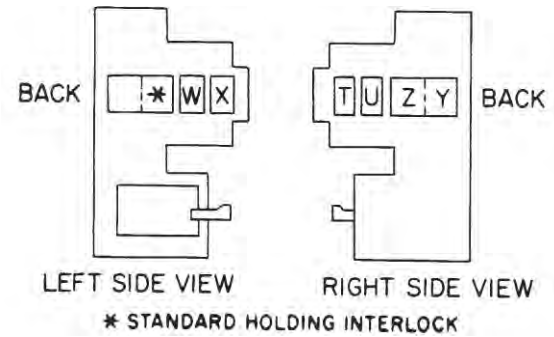


# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Contactors CR305, CR385 Magnetic Contactors Factory-Installed Modifications

## Section 1

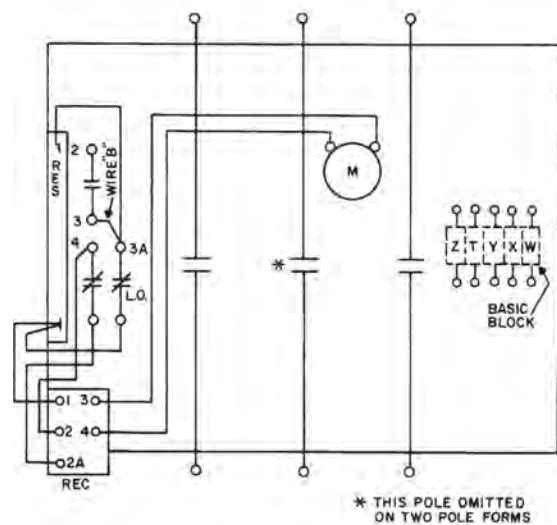
### NEMA Sizes 7-9, Single-Speed, Nonreversing contactors

Extra Auxiliary Contact Table						
Final Suffix Letter of Product No. on Contactor	Contact Location 5 Contacts Max.					
	W	X	Y	Z	T	U
A or None						
B	†					
C	‡					
D			‡	†		
E	†	†				
F	‡	‡				
G	†		‡	†		
H	‡		‡	†		
J	†	†		†		
K	‡	‡	‡			
L	†	†		†		†
M	‡	‡	‡			‡
N	‡	†	‡	†		
P	†	†	‡	†		
R	‡	‡	‡	†		
S	‡	†	‡	†		†
T	‡	†	‡	†		‡
U	†	†	‡	†		†
W	‡	‡	‡	†		‡
X	†	†		†	†	†
Y	‡	‡	‡		‡	‡



NEMA Sizes 2, 3, and 4,  
Single-Speed, Nonreversing Contactors

Extra Auxiliary Contact Table					
Final Suffix Letter of Product No. on Contactor	Contact Location 5 Contacts Max.				
	W	X	Y	T	Z
A or None					
B	†				
C	‡				
D	‡	†			
E	†	†			
F	‡	‡			
G	†	‡	†		
H	‡	‡	†		
J	†	†	†		
K	‡	‡	‡		
L	†	†	†	†	
M	‡	‡	‡	‡	
N	‡	†	‡	†	
P	†	†	‡	†	
R	‡	‡	‡	†	
S	‡	†	‡	†	†
T	‡	†	‡	†	‡
U	†	†	‡	†	†
W	‡	‡	‡	†	‡
X	†	†	†	†	†
Y	‡	‡	‡	‡	‡



Typical connection diagram,  
NEMA Sizes 7-9



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Contactors

## CR305, CR385 Auxiliary Contact Kits

For Field Installation on Magnetic Contactors  
NEMA Sizes 0-7

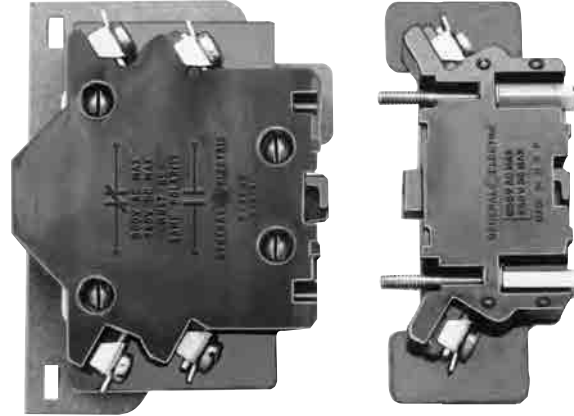
## Section 1

### Application

Auxiliary contacts can add to the versatility of magnetic contactors by providing additional control circuits to do a variety of jobs without adding to the width of the contactor.

Kits make it easy to add contacts to control accessory equipment such as indicating lights. Auxiliary contacts can be added to all across-the-line magnetic contactors. Each auxiliary contact is rated 10 Amperes ac, resistive load, NEMA "A600," and is suitable for either right or left side mounting. An insulating shield is also provided between each auxiliary contact unit and the contactor. Auxiliary contacts are furnished in the basic block design or as an adder block.

Each contact is marked NO or NC on the block and is not convertible. Logic reed contacts suitable for low energy level circuits are also available. These are designed for applications on low-voltage control circuits (24 Volts and below), such as inputs to computers and programmable starters.



Basic Block and Adder Block

### Product Number Selection Instructions

- Order by quantity and complete Product Number.  
Example: Three CR305X300A at **\$36.00 each, GO-10G.**

### Reference Publications

Instructions	Publication Number
NEMA Size	
0, 1	GEH-4758
2	GEH-4759
3, 4	GEH-4760
5, 6	GEH-4761
7-9	GEH-5109
0, 1 Logic Reed	GEH-5178
2 Logic Reed	GEH-5185
3, 4 Logic Reed	GEH-5186
5, 6 Logic Reed	GEH-5187

### Field-Installed Modifications for Magnetic Contactors

#### (CR305, CR385) – Contents

Application Information and Selection Instructions.....	1-202
Auxiliary Contact Kits (CR305X, CR385X) .....	1-203
Modification Kits .....	1-205
Outlines and Dimensions (CR305, CR385) .....	1-208



Product Number Selection Instructions: See page 1-202

# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Contactors CR305X, CR385X Auxiliary Contact Kits

## Section 1

Field-Installed Modification Kits

For 300-Line Contactors

### Auxiliary Contact Kits

NEMA Size	Contact Configuration	Block Design	Product Number	List Price GO-10G
0,1	1NO	Basic	CR305X100A	\$36.00
0,1	1NC	Basic	CR305X100B	\$36.00
0,1	1NO-1NC	Basic	CR305X100C	\$48.00
2	1NO	Basic	CR305X200A	\$36.00
2	1NC	Basic	CR305X200B	\$36.00
2	1NO-1NC	Basic	CR305X200C	\$48.00
3,4	1NO	Basic	CR305X300A	\$36.00
3,4	1NC	Basic	CR305X300B	\$36.00
3,4	1NO-1NC	Basic	CR305X300C	\$48.00
5,6	1NO	Basic	CR305X500A	\$36.00
5,6	1NC	Basic	CR305X500B	\$36.00
5,6	1NO-1NC	Basic	CR305X500C	\$48.00
7	1NO	Basic	CR385X600A	\$198.00
7	1NC	Basic	CR385X600B	\$198.00
7	1NO-1NC	Basic	CR385X600C	\$396.00
8-9	1NO	Basic	CR385X800A	\$198.00
8-9	1NC	Basic	CR385X800B	\$198.00
8-9	1NO-1NC	Basic	CR385X800C	\$396.00

### Auxiliary Contact Kits - Adder Blocks

NEMA Size	Contact Configuration	Block Design	Product Number	List Price GO-10G
0-9	1NO	Adder	CR305X100D <sup>1</sup>	\$36.00
0-9	1NC	Adder	CR305X100E <sup>1</sup>	\$36.00

### Logic Reed Switch Auxiliary Contacts<sup>2</sup>

NEMA Size	Contact Configuration	Product Number	List Price GO-10G
00, 0, 1	1NO-ONC	CR305X100RA	\$45.00
00, 0, 1	ON0-1NC	CR305X100RB	\$45.00
00, 0, 1	1NO-1NC	CR305X100RC	\$72.00
2	1NO-ONC	CR305X200RA	\$45.00
2	ON0-1NC	CR305X200RB	\$45.00
2	1NO-1NC	CR305X200RC	\$72.00
3,4	1NO-ONC	CR305X300RA	\$45.00
3,4	ON0-1NC	CR305X300RB	\$45.00
3,4	1NO-1NC	CR305X300RC	\$72.00
5,6	1NO-ONC	CR305X500RA	\$45.00
5,6	ON0-1NC	CR305X500RB	\$45.00
5,6	1NO-1NC	CR305X500RC	\$72.00

### Contact Ratings - Basic Blocks

#### High Fidelity Contact Basic Block

120 VAC maximum .15 A maximum, 8 VA maximum resistive.

30 VDC maximum .15 A maximum, 4.5 VA maximum resistive.

#### Standard Block

AC Volts	Continuous Current Amperes	Inrush Current Amperes	DC Volts	Continuous Current Amperes	Inrush Current Amperes
115	6.0	60	125	1.1	—
230	3.0	30	250	0.5	—
460	1.5	15	—	—	—
575	1.2	12	—	—	—

<sup>1</sup>First adder block must be mounted to a basic block. A second adder block can be added to the first adder block on size 2 through size 9 starters.

Four extra auxiliary contacts (not blocks) is the maximum that can be added to either a NEMA size 0 or 1 starter while five is the maximum extra auxiliary contacts that can be added to NEMA Size 2 through 6 devices.

<sup>2</sup>CR305X logic reed switch auxiliary contacts may be ordered as a factory-installed modification. Order by description. For factory-installed modification, add \$75.00, GO-10G, per circuit to price of starter.

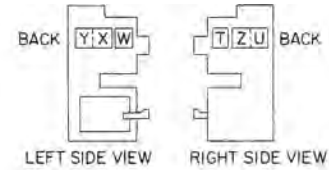


# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Contactors CR305X Auxiliary Contact Kits

For Field Installation on Magnetic Contactors (300-Line)  
Selection and Installation Guides

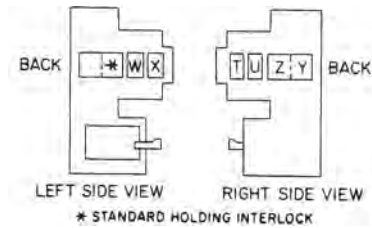
## Section 1

Extra Auxiliary Contact Table Contact Location 5 Contacts Maximum						Kits for Field Modification Order in Quantities Shown Product Number CR305				
W	X	Y	T	Z	U	X100A	X100B	X100C <sup>1</sup>	X100D	X100E
						Basic Blocks			Adder Blocks	
+	+					1				
	+	+					1			
		+						1		
+	+					1			1	
+		+					1			1
+	+	+						1	1	
+	+			+		2			1	
+	+			+	+	2	2		2	1
+		+		+	+		2			2
+	+			+	+	1		2	1	
+	+	+		+	+		1	1		1



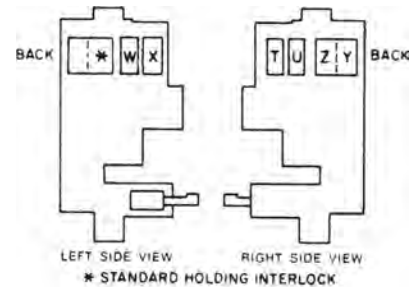
NEMA Sizes 0 and 1, Single-Speed,  
Nonreversing, 2- and 3-Pole (side views)

Extra Auxiliary Contact Table Contact Location 5 Contacts Maximum						Kits for Field Modification Order in Quantities Shown Product Number CR305				
W	X	Y	Z	T	U	X200A	X200B	X200C <sup>1</sup>	X100D	X100E
						For Size 2			For Sizes 3, 4	
						Basic Blocks			Adder Blocks	
+									1	
+										1
+	+							1	2	
+		+						1	1	2
+		+				1		1	2	1
+	+					1	1		3	2
+	+	+					1		3	3
+	+	+						1	1	1
+	+	+						1	2	1
+	+	+						1	2	2
+	+	+						1	2	1
+	+	+						1	1	2
+	+	+						1	3	1
+	+	+						1	3	3
+	+	+				1			4	
+	+	+					1			4



NEMA Sizes 2, 3 and 4, Single-Speed,  
Nonreversing (side views)

Extra Auxiliary Contact Table Contact Location 5 Contacts Maximum						Kits for Field Modification Order in Quantities Shown Product Number CR305				
W	X	Y	Z	T	U	X500A	X500B	X500C <sup>1</sup>	X100D	X100E
						Basic Blocks			Adder Blocks	
+									1	
+										1
+	+							1	2	
+		+						1	1	2
+		+				1		1	2	1
+	+					1	1		3	2
+	+	+					1		3	3
+	+	+						1	1	1
+	+	+						1	2	1
+	+	+						1	2	2
+	+	+						1	2	1
+	+	+						1	1	2
+	+	+						1	3	1
+	+	+						1	3	3
+	+	+				1			4	
+	+	+					1			4



NEMA Sizes 5 and 6 Single-Speed,  
Nonreversing (side views)

<sup>1</sup>Both NO and NC contacts must be wired for same polarity



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Contactors Field-Installed Modification Kits

For 300-Line Contactors  
NEMA Sizes 00-6

## Section 1

### Pilot Device Modification Kits

The push button and selector switch kits listed here are supplied complete with the necessary components, hardware and written instructions for easy field installation on Type 1 enclosed contactors—CR305.

Kit Type	NEMA Size	Product Number	List Price GO-10G
Momentary Contact Start-Stop Push Button Kits	00, 0, 1	CR305X120N	\$48.00
Momentary Contact Start-Stop Push Button Kits	2	CR305X220N	\$48.00
Momentary Contact Start-Stop Push Button Kits	3, 4	CR305X320B	\$48.00
Momentary Contact Start-Stop Push Button Kits	5	CR305X520B	\$48.00
Hand-Off-Auto Selector Switch Kits	00, 0, 1	CR305X130N	\$48.00
Hand-Off-Auto Selector Switch Kits	2	CR305X230N	\$48.00
Hand-Off-Auto Selector Switch Kits	3, 4	CR305X330B	\$48.00
Hand-Off-Auto Selector Switch Kits	5	CR305X530B	\$48.00
Off-On Selector Switch Kits	00, 0, 1	CR305X130P	\$48.00
Off-On Selector Switch Kits	2	CR305X230D	\$48.00
Off-On Selector Switch Kits	3, 4	CR305X330D	\$48.00
Off-On Selector Switch Kits	5	CR305X530D	\$48.00



Selector Switch Kits

### Fifth-Pole Kits

To be installed on NEMA Size 0, 1, and 2 magnetic four-pole contactors. Permits the addition of a fifth pole with the same rating as the main poles.

NEMA Size	Mounting Position	Product Number	List Price GO-10G
0, 1	Right	CR305X111B	\$66.00
2 (add to 4-pole form)	Left	CR305X211B	\$120.00



START-STOP Push Button Kits

### Adapter Mounting Plate

For mounting a 300-line magnetic starter in place of a competitive unit.

Adapter plate good for mounting in place of the following:

A-B 709. Size 1: W B200. Sizes 00-2: Furnas Sizes 00-1: GTE TM.

Sizes 00-2: Sq. D 8536, Sizes 00-2.

Not needed for C-H—same as GE.

**Note:** GTE now known as Joslyn Clark.

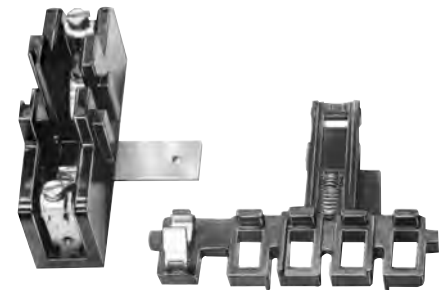
NEMA Size	Product Number	List Price GO-10G
00-1	CR306X191A	\$9.00

### Indicating Light Kits (Red)

To be installed on contactor and extend through knockout in cover of CR305 devices in Type 1 enclosures. Each kit has three resistors allowing light to be used with all voltages of 110 through 600. Uses NE-45 bulb. Can be used with push button or selector switch kit.

NEMA Size	Product Number	List Price GO-10G
00, 0, 1	CR305X150N	\$90.00
2	CR305X250N	\$90.00
3, 4	CR305X350B	\$90.00
5	CR305X550B	\$90.00
NE-45 Bulb	CR2940U200BL	\$9.24 <sup>1</sup>

<sup>1</sup>NE-45 bulb is GO-10P8.



Fifth-Pole Kit



# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Contactors Field-Installed Modification Kits

For 300-Line Contactors  
NEMA Sizes 00-6

## Section 1

### Surge Suppression Kit

To be connected in parallel with operating coil where the demands of solid-state circuitry necessitate prevention of undesirable reactions in logic circuits. For use on 120 Volt ac only.

NEMA Size	Product Number	List Price GO-10G
0-6	CR305X146C	\$33.90



Surge Suppression Kit

### Control Circuit Fuse Kits

Control circuit fuse kits are designed for installation on NEMA Size 00-5 across-the-line contactors. They install on the side of the contactor and provide fuse protection for control circuit wiring.

These kits incorporate one or two 10 Ampere 600 Volt fuse holders for use with KTK or KTK-R fuses (or equivalent). The fuses are easily accessible with the enclosure covers open, and each kit contains instructions and hardware for easy installation. Instructions: GEH-4822.

NEMA Size	No. of Fuses	Fuse Type	Product Number	List Price GO-10G
00-1	1	KTK	CR305X141A	\$24.00
00-1	2	KTK	CR305X141B	\$36.00
2	1	KTK	CR305X241A	\$24.00
2	2	KTK	CR305X241B	\$36.00
3, 4	1	KTK	CR305X341A	\$24.00
3, 4	2	KTK	CR305X341B	\$36.00
5, 6	1	KTK	CR305X541A	\$24.00
5, 6	2	KTK	CR305X541B	\$36.00
00-1	1	KTK-R	CR305X141C	\$24.00
00-1	2	KTK-R	CR305X141D	\$36.00
2	1	KTK-R	CR305X241C	\$24.00
2	2	KTK-R	CR305X241D	\$36.00
3, 4	1	KTK-R	CR305X341C	\$24.00
3, 4	2	KTK-R	CR305X341D	\$36.00
5, 6	1	KTK-R	CR305X541C	\$24.00
5, 6	2	KTK-R	CR305X541D	\$36.00

### Control Amplifier

The GE CR305X control amplifier is suitable for applications with low level 24 Volt dc outputs. It allows the low level signals from a programmable control, microprocessor, or photoelectric cell to operate GE's 300-Line contactors while their control coils operate at the line voltage. The control amplifier is UL listed and CSA Certified, and forms are available for NEMA Sizes 00 through 5.

Operation Type	NEMA Size	Product Number	List Price GO-10G
Nonreversing	00, 0, & 1	CR305X112A	\$54.00
Nonreversing	2	CR305X212A	\$54.00
Nonreversing	3 & 4	CR305X312A	\$54.00
Nonreversing	00, 0, 1, 2, 3, & 4	CR305X112P <sup>1</sup>	\$54.00

<sup>1</sup>A quantity of two panel mount CR305X112P is required for use with reversing contactors and starters.



Typical Size 2 Starter with CR305X Control Amplifier Mounted on Right

### Reference Publications

Instructions, Indicating Light Kits for Type 1 Enclosure	
NEMA Size	Publication Number
00, 0, 1	GEH-4767
2	GEH-4768
3, 4	GEH-4769
5	GEH-4770

Instructions, Push Button and Selector Switch Kits for Type 1 Enclosure	
NEMA Size	Publication Number
00, 0, 1	GEH-4763
2	GEH-4764
3, 4	GEH-4765
5	GEH-4766



Product Number Selection Instructions: See page 1-202

# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Contactors Field-Installed Modification Kits

For 300-Line Contactors  
NEMA Sizes 00-6

## Section 1

### Space Heater Kits

CR305X701 and CR305X702 space heater kits (50 Watts, except size 5 and 6 at 100 Watts) come complete with one NC auxiliary contact, necessary hardware and ready for installation on any NEMA Size 0 through 6 enclosed contactor CR305, or equivalent 200-Line devices.

NEMA Size	Operating Voltage	Product Number	List Price GO-10G
0-1	115	CR305X701D <sup>1</sup>	\$120.00
0-1	230	CR305X701A	\$120.00
0-1	460	CR305X701B	\$120.00
0-1	600	CR305X701C	\$120.00
2, 3, 4	115	CR305X702D	\$120.00
2, 3, 4	230	CR305X702A	\$120.00
2, 3, 4	460	CR305X702B	\$120.00
2, 3, 4	600	CR305X702C	\$120.00
5, 6	115	CR305X705D <sup>1</sup>	\$120.00
5, 6	230	CR305X705A	\$120.00
5, 6	460	CR305X705B	\$120.00
5, 6	600	CR305X705C	\$120.00



Space Heater Installed on Typical NEMA Size 1 Starter

### Mechanical Interlock Kits

To be installed on open CR305 or CR385 contactors unless otherwise noted. Kits include all parts to mechanically interlock 2 devices.

NEMA Size	Mounting Position	Baseplate	Product Number	List Price GO-10G
0-1	Horizontal	No	CR309X100B	\$42.00
2	Horizontal	No	CR309X200D	\$96.00
3-4	Horizontal	No	CR309X300B	\$180.00
5	Horizontal	Yes	CR309X501K	\$240.00
0-1	Vertical	Yes	CR309X102B <sup>2</sup>	\$96.00
2	Vertical	Yes	CR309X202B <sup>2</sup>	\$180.00
3-4	Vertical	Yes	CR309X302B <sup>2</sup>	\$240.00
5	Vertical	No	CR309X502K	\$240.00
6	Vertical	No	CR309X602B <sup>5</sup>	\$450.00
7	Vertical	No	CR389X100C	\$450.00
8-9	Vertical	No	CR389X100H	\$450.00

<sup>1</sup>If connected to control circuit transformer, 115-Volt heater requires an extra-capacity transformer.

Contact nearest GE Representative for additional information.

<sup>2</sup>For contactors top and bottom or contractor on top.

<sup>3</sup>For contactors top and bottom only.

### Reference Publications

#### Instructions:

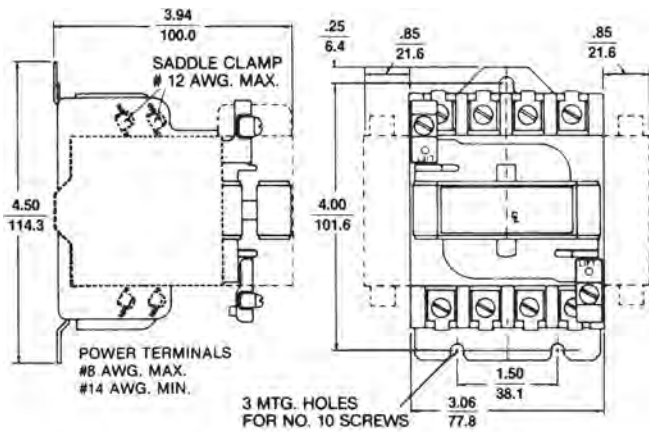
Space heater kits	GEH-4772
Control transformer kits	GEH-4842



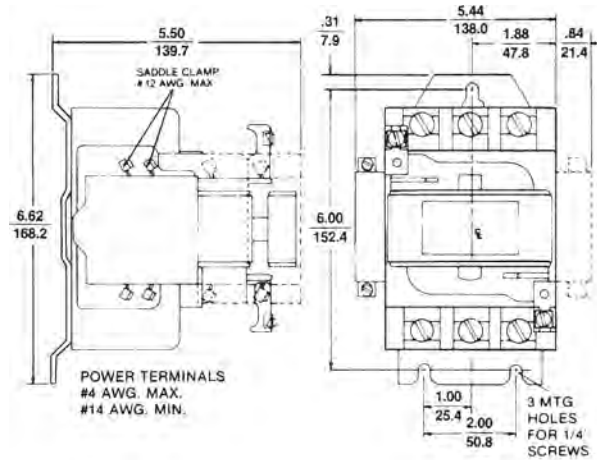
# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Contactors CR305

Outlines, Dimensions (in/mm), and Weights (For Estimating Only)

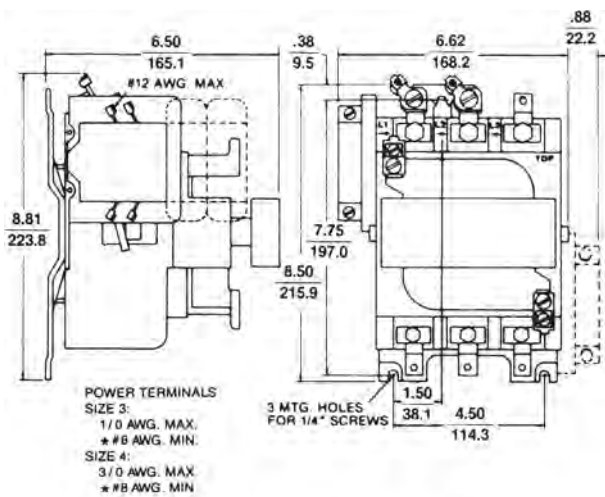
## Section 1



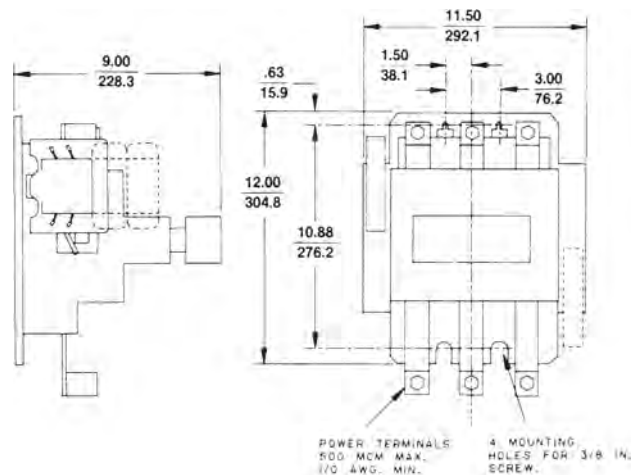
Open Type, NEMA Sizes 00-1, (auxiliary interlocks not provided on size 00); 2 3/4 lbs.



Open Type, NEMA Size 2, 7 lbs.



Open Type, NEMA Sizes 3 and 4; 17 1/2 lbs.



Open Type, NEMA Size 5, 50 lbs.



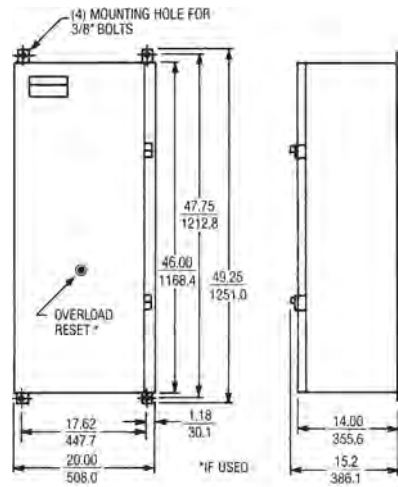
Product Number Selection Instructions: See page 1-202



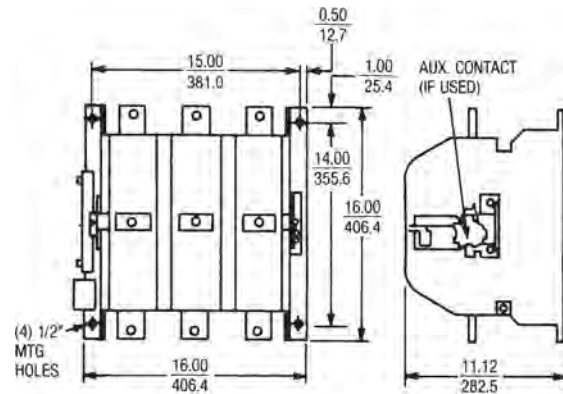
# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Contactors CR305, CR385

Outlines, Dimensions (in/mm), and Weights (For Estimating Only)

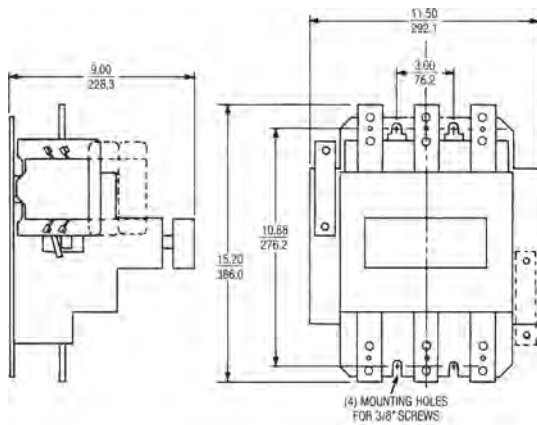
## Section 1



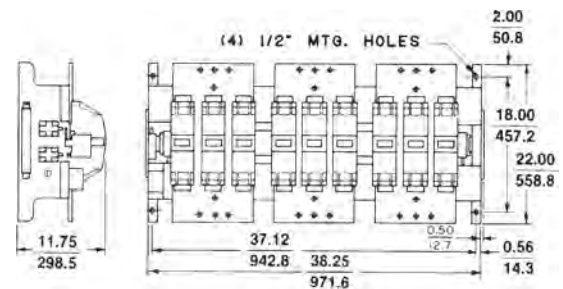
CR305, NEMA Size 6, Type 1 and Type 12



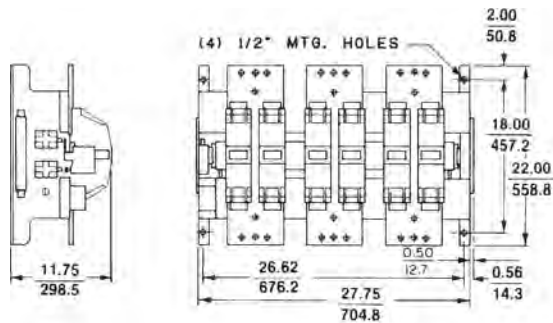
CR385, Open Type, NEMA Size 7, 82 lbs.



CR305, Open Type, NEMA Size 6; 50 lbs.



CR385, Open Type, NEMA Size 9, 310 lbs.



CR385, Open Type, NEMA Size 8, 205 lbs.



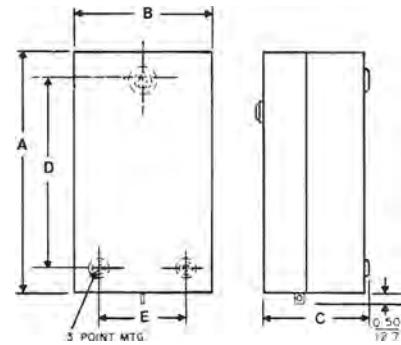
# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Contactors CR305

Outlines, Dimensions in. (mm), and Weights (For Estimating Only)

## Section 1

### CR305 NEMA Type 1 NEMA Sizes 00-4

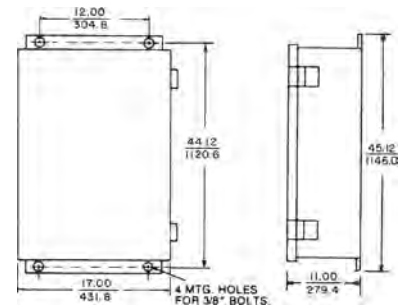
NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Mounting Screw Size	Approx. Shipping Wt. (Lbs)
00	10.00 (254.0)	6.00 (152.4)	4.63 (117.6)	8.00 (203.2)	4.00 (101.6)	1.00 (25.4)	#10	5.5
0	10.00 (254.0)	6.00 (152.4)	4.63 (117.6)	8.00 (203.2)	4.00 (101.6)	1.00 (25.4)	#10	5.5
1	10.00 (254.0)	6.00 (152.4)	4.63 (117.6)	8.00 (203.2)	4.00 (101.6)	1.00 (25.4)	#10	5.5
2	13.25 (336.6)	7.38 (187.4)	6.13 (155.7)	11.00 (279.4)	5.00 (127.0)	1.13 (28.7)	1/4"	13
3	20.25 (514.4)	8.75 (222.2)	7.31 (185.7)	17.00 (431.8)	5.75 (146.0)	1.88 (47.8)	1/4"	35
4	25.00 (635.0)	8.75 (222.2)	7.31 (185.7)	22.00 (558.8)	5.75 (146.0)	1.50 (38.1)	1/4"	38



Type 1, NEMA Sizes 00-4

### CR305 NEMA Type 1 NEMA Size 5

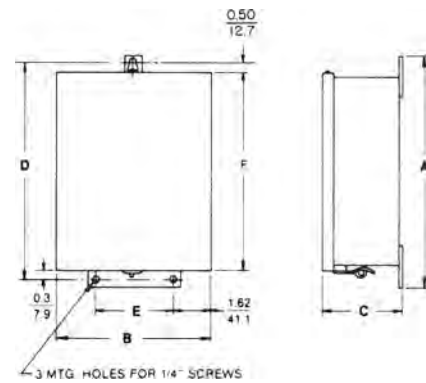
See Diagram



Type 1, NEMA Size 5, 134 lbs.

### CR305 NEMA Type 12 NEMA Sizes 0-2

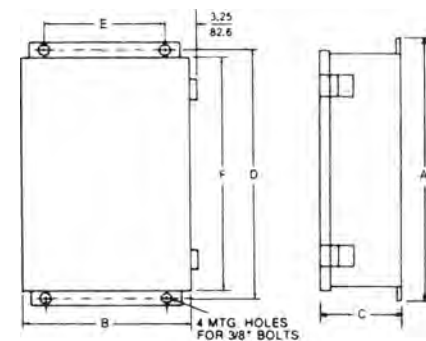
NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Approx. Shipping Wt. (Lbs)
0	11.63 (295.4)	6.25 (158.8)	4.75 (120.6)	11.00 (279.4)	3.00 (76.2)	10.25 (260.4)	6
1	11.63 (295.4)	6.25 (158.8)	4.75 (120.6)	11.00 (279.4)	3.00 (76.2)	10.25 (260.4)	6
2	14.63 (371.6)	7.63 (193.8)	6.25 (158.8)	14.00 (355.6)	4.38 (111.2)	13.25 (366.6)	14



Type 12, NEMA Sizes 0-2

### CR305 NEMA Type 12 NEMA Sizes 3-5

NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Approx. Shipping Wt. (Lbs)
3	24.00 (609.6)	10.00 (254.0)	7.25 (184.2)	23.00 (584.2)	5.00 (127.0)	21.25 (539.8)	40
4	30.00 (762.0)	10.00 (254.0)	7.25 (184.2)	29.00 (736.6)	5.00 (127.0)	24.25 (616.0)	43
5	45.50 (1155.7)	17.00 (431.8)	10.25 (260.4)	44.50 (1130.3)	12.00 (304.8)	42.75 (1085.9)	154



Type 12, NEMA Sizes 3-5



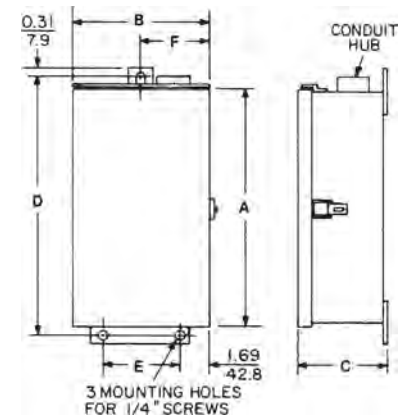
# NEMA Full Voltage Power Devices NEMA Rated Full Voltage Contactors CR305

## Section 1

Outlines, Dimensions in. (mm), and Weights (For Estimating Only)

### CR305 NEMA Type 3R NEMA Sizes 0-2

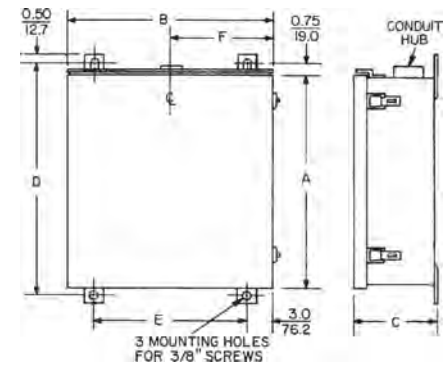
NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Approx. Shipping Wt. (Lbs)
0	14.50 (368.3)	6.38 (161.9)	4.75 (120.6)	15.00 (381.0)	3.00 (76.2)	3.19 (80.9)	6
1	14.50 (368.3)	6.38 (161.9)	4.75 (120.6)	15.00 (381.0)	3.00 (76.2)	3.19 (80.9)	6
2	16.50 (419.1)	7.75 (196.8)	6.50 (165.1)	17.00 (431.8)	4.38 (111.2)	3.88 (98.4)	14



Type 3R, NEMA Sizes 0-2

### CR305 NEMA Type 3R NEMA Sizes 3-5

NEMA Size	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E	Dimension F	Approx. Shipping Wt. (Lbs)
3	22.00 (558.8)	17.19 (436.6)	7.25 (184.2)	23.50 (596.9)	11.00 (279.4)	8.6 (217.9)	43
4	26.00 (660.4)	17.19 (436.6)	7.25 (184.2)	27.50 (698.5)	11.00 (279.4)	8.6 (217.9)	43
5	42.00 (1066.8)	22.00 (558.8)	10.25 (260.4)	43.50 (1104.9)	16.00 (406.0)	11.0 (279.4)	135
6	46.00 (1168.4)	20.00 (508.0)	14.00 (355.6)	47.75 (1212.8)	17.62 (447.7)	—	260



Type 3R, NEMA Sizes 3-5

### CR305 NEMA Type 4/4X NEMA Sizes 0-6

NEMA Size	Height	Depth	Width	Approx. Shipping Wt. (Lbs)
0	15.62 (396.7)	4.75 (120.6)	6.38 (162.0)	6
1	15.62 (396.7)	4.75 (120.6)	6.38 (162.0)	6
2	17.62 (447.5)	6.50 (165.1)	7.75 (196.8)	14
3	25.40 (622.3)	7.25 (184.2)	17.00 (431.8)	40
4	28.50 (723.9)	7.25 (184.2)	17.00 (431.8)	43
5	44.50 (1130.3)	10.25 (260.4)	22.00 (558.8)	154
6	Contact nearest GE Representative			



NOTES:

Lined area for notes, consisting of numerous horizontal lines for writing.

