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## IEC Manual Motor Starters Overview

GE's Surion IEC motor starters are compact and reliable. They are flexible, quick in installation and available in 45mm and 55mm widths. The GPS1 line spans current ranges from 0.1A to 32A for use with motors up to 30hp at 600V. The GPS2 series extends this current range to 63A for use with motors up to and including 50 hp.

Surion GPS1 starters are available in two versions. The GPS1BS\_\_ series, with a toggle operator, is suitable for individual and group installations. Short circuit interruption capacity ranges up to 100kA @ 240V, 50kA @ 480V and 10kA @ 600V for individual installations and 100 kA @ 240V, 65kA @ 480V and 25kA @ 600V for group installations. The GPS1BH\_\_ series, with a rotary operator, carries equivalent or higher short circuit ratings and is also suitable for combination installations with a short circuit interruption rating of 50kA for 277/480V and below. The GPS2BH\_\_ series also features a rotary operator and is suitable for all three types of installations. Complete short circuit ratings are listed on page 6-44.

All Surion IEC motor starters include the following features:

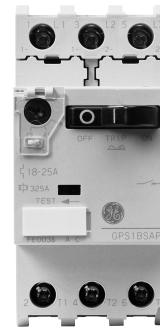
- 45mm width up to 32 amps, 55mm width rated to 63 amps
- Three position operator: OFF-TRIP-ON
- Padlockable in the OFF position
- Class 10 overload trip characteristics
- Ambient compensated -20°C to +60°C
- Single-phase sensitivity
- Anti tamper cover over current adjustment dial
- Trip test
- Complete range of common accessories
- Finger-safe terminals
- Pz 2 slotted/combination screws
- 35mm DIN rail mounting

Surion is global. It is available around the world in the same form, with the same product number, with both IEC and US markings, making international applications simple and sure.

Surion starters are flexible in application. They not only comply with the IEC installation requirements, such as Disconnects, Main Switch, Emergency Off and Maintenance Service Switch, they may also be used in a wide variety of US applications. Surion starters may be used as

- Manual starters
- Group installed starters
- Combination starter - manual self-protected (Type E)  
GPS1BH\* and GPS2BH\* versions
- Combination starter - with C-2000 contactor or mini-contactor

A complete range of accessories extends the application flexibility of the line. Front and side mounted auxiliary contacts, alarm contacts, short circuit reset/indicator alarm, shunt trip and undervoltage release (with or without early make auxiliary contacts) allow Surion to easily adapt to your specific needs. Input busbars further speed and simplify group installations. Enclosures and accessories extend flexibility. Bases, links and other components allow you to assemble integrated starters.



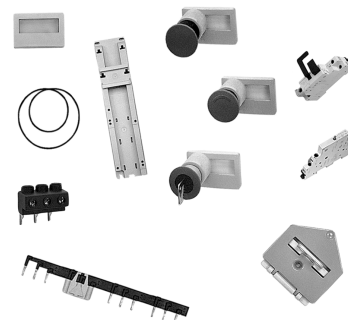
45 mm Standard Interruption Capacity



55 mm High Interruption Capacity



Integrated With Contactor



Accessories



# IEC Manual Motor Starters Overview

## Individual Installation

Manual motor starters (UL-508, Part III) are devices that provide a means of controlling (switching on and off) a motor. UL-508 allows a manual motor starter to be applied in individual installations between a branch short circuit protection device (circuit breaker or fuse) and a motor (see Figure 1A).

The UL, cUL listing allows Surion starters to be utilized in installations up to 600 volts. Short circuit ratings are listed in the tables on page 6-44. GE's type MC or CL contactors may be used in series with the motor starter for remote motor operation as shown in Figure 1B. Contactors must not be applied at ratings above their nameplate HP/current ratings.

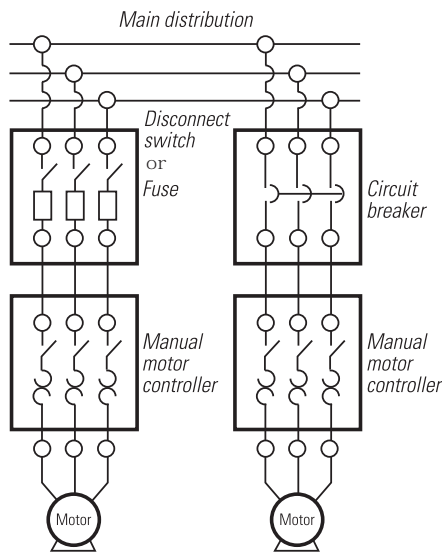


Figure 1A

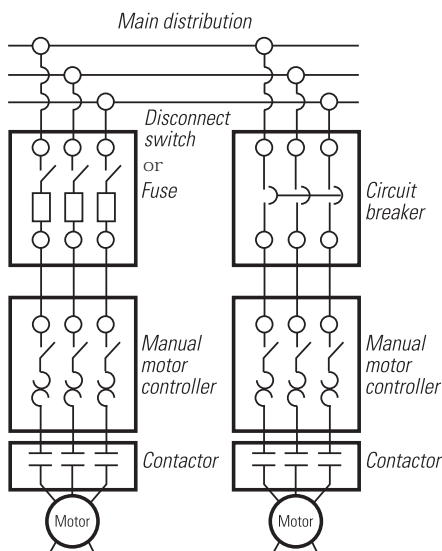


Figure 1B

## Group Installation

Manual motor starters may be applied in group applications per Article 430-53 of the National Electrical Code. Refer to the NEC for specific requirements. Group installations are used when multiple loads are tapped off of a single branch short circuit protective device (circuit breaker or fuse). A manual motor starter is placed between the branch disconnect and each motor (see Figure 2A).

The UL, cUL listing allows starters to be utilized in installations up to 600 volts. Short circuit ratings are listed in the tables on page 6-44. GE's type MC or CL contactors may be used in series with the motor starter for remote motor operation (see Figure 2B). Contactors must not be applied at ratings above their nameplate HP/current ratings.

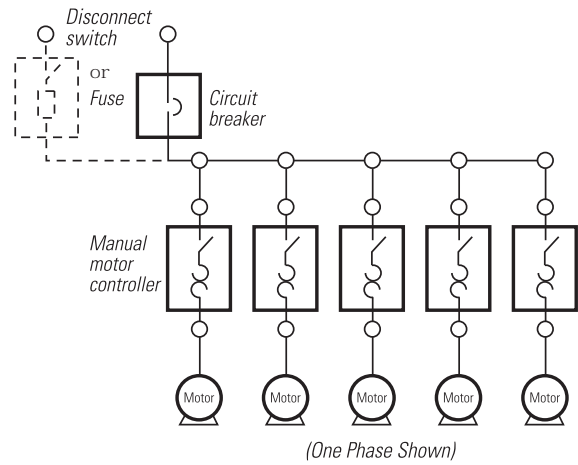


Figure 2A

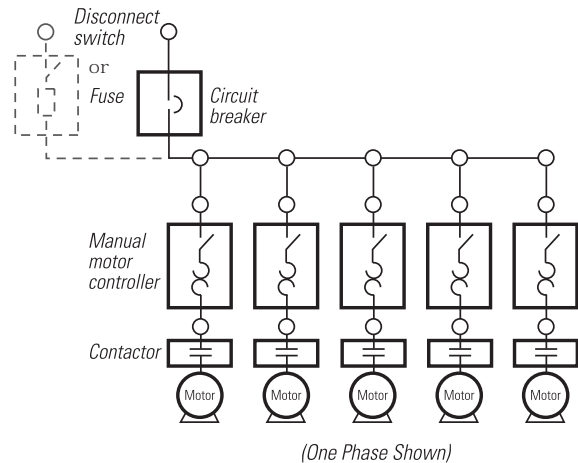


Figure 2B



# IEC Manual Motor Starters Overview

## Combination Starters

Surion GPS1BH\* and GPS2BH\* Manual Motor Starters may be used as combination starters (UL508 Part IV) and have been evaluated by UL as manual self-protected combination motor starters (Type E) for applications 277/480 and below. They provide coordinated branch circuit short circuit protection consistent with Section 430-52(c) (6) of the NEC; a disconnecting means consistent with Section 430-109 (a) (5); a motor starter and coordinated motor overload protection (see Figure 3A). These starters may be used for controlling motors without additional upstream branch circuit protection. They may be used in place of branch devices in motor circuits only. When used in panels with multiple motor circuits, a main circuit disconnect is required in sight and within 50 feet for the protection of service personnel.

Surion GPS1BH\* and GPS2BH\* Manual Self Protected Combination Starters may also be used with a contactor when a high number of operations are required or remote switching is desired. A combination motor starter (see Figure 3B) is created by linking the self-protected manual motor starter with an evaluated contactor that has been tested for the combination. All C-2000 contactors and mini-contactors are suitable for use with Surion starters which, when used in this configuration, are suitable as combination motor starters. Using bases and links (see page 6-12) combination motor starters may be easily assembled by distributors, OEM's or end users. This integrated starter approach allows the user to service or replace the load switching means (contactor) and/or the interrupting/disconnecting means (Surion starter) should the need arise.

For combination starter installations, the standards require a means to differentiate between a short circuit and overload trip conditions. Surion delivers this means through the use of the Short Circuit Alarm Accessory GPAAE11LLA (sold separately - see page 6-7). This accessory provides specific indication of a short circuit trip condition and includes a manual reset. Add GPAPT1E terminal cover to GPS1BH\* for Type E and combination starter applications.

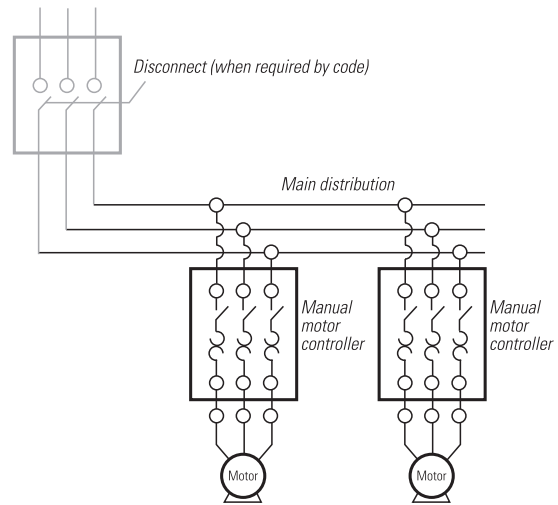


Figure 3A

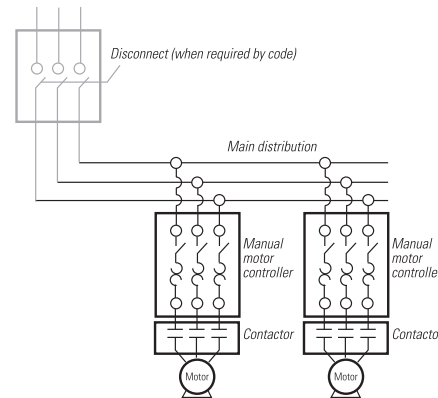


Figure 3B



# IEC Manual Motor Starters Selection Guide

### Selection and Pricing

Surion comprises a complete range of compact, reliable motor starters, rated from 0.1A to 63A, in 45mm and 55mm frame widths. It represents a motor protection system for switching and protecting three-phase induction motors to 50hp at 600 volts.

Surion starters are available worldwide. They are specifically designed to deliver total connectivity with GE's other IEC motor starters and controls, and they can be combined with our MC and CL contactors to form integrated solutions.

A full complement of accessories create solutions for all types of applications. You can choose from frontal auxiliary and alarm contacts, lateral auxiliary contacts, alarm/auxiliary and short circuit trip indicators, shunt trip, undervoltage release (with or without early make auxiliary contacts), enclosures, group bus bars and more. You can also select assembled versions.

### Product Number Selection Instructions

Selection of the starter depends on the actual motor full load current and service factor. For motors with service factor of 1.15 or greater, use motor full load current to select the appropriate current range. For motors with a service factor less than 1.15, multiply the normal full load current by .9 for the current setting. Single phase applications require all three overload legs to be energized for proper operation. Use separate conductor to connect terminal T2 to L3. Connect power to L1 and L2 and apply load between T1 and T3.

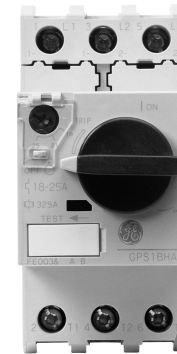
### Reference Publications

Instructions:

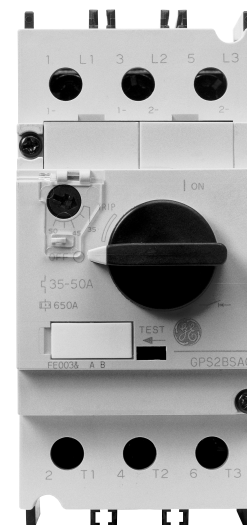
DEH-40111



45 mm Standard Interruption Capacity (Toggle)



45 mm High Interruption Capacity (Rotary)



55 mm High Interruption Capacity (Rotary)



# IEC Manual Motor Starters Selection Guide

## Section 6

### 45 mm Standard Interruption Capacity (Toggle Operator)

#### Individual or Group Installation, with or without C-2000 contactors or mini-contactors

FLA Adjustment Range	Three Phase Horsepower @ 200-208V	Three Phase Horsepower @ 220-240V	Three Phase Horsepower @ 440-480V	Three Phase Horsepower @ 575-600V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Instantaneous Short Circuit Release Amps	Product Number	List Price GO-10A2C
0.1-0.16							2.1	GPS1BSAA	\$88.00
0.16-0.25							3.3	GPS1BSAB	\$88.00
0.25-0.4							5.2	GPS1BSAC	\$88.00
0.4-0.63							8.2	GPS1BSAD	\$88.00
0.63-1.0			1/2	1/2			13	GPS1BSAE	\$100.00
1-1.6	1/4	1/3	3/4	3/4		1/10	20.8	GPS1BSAF	\$100.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	32.5	GPS1BSAG	\$100.00
2.5-4	3/4	3/4	2	3	1/8	1/3	52	GPS1BSAH	\$100.00
4-6.3	1	1 1/2	3	5	1/4	1/2	81.9	GPS1BSAJ	\$100.00
6.3-10	2	3	5	7 1/2	1/2	1 1/2	130	GPS1BSAK	\$100.00
9-13	3	3	7 1/2	10	1/2	2	169	GPS1BSAL	\$120.00
11-16	3	5	10	10	1	2	208	GPS1BSAM	\$120.00
14-20	5	5	10	15	1 1/2	3	260	GPS1BSAN	\$120.00
19-25	7 1/2	7 1/2	15	20	2	3	325	GPS1BSAP	\$135.00
24-32	10	10	20	30	2	5	416	GPS1BSAR	\$135.00

### 45 mm High Interruption Capacity (Rotary Operator)

#### Individual, Group or Combination<sup>1, 2</sup> Installation, with or without C-2000 contactors or mini-contactors

FLA Adjustment Range	Three Phase Horsepower @ 200-208V	Three Phase Horsepower @ 220-240V	Three Phase Horsepower @ 440-480V	Three Phase Horsepower @ 575-600V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Instantaneous Short Circuit Release Amps	Product Number	List Price GO-10A2C
0.1-0.16							2.1	GPS1BHAA	\$110.00
0.16-0.25							3.3	GPS1BHAB	\$110.00
0.25-0.4							5.2	GPS1BHAC	\$110.00
0.4-0.63							8.2	GPS1BHAD	\$110.00
0.63-1.0			1/2	1/2			13	GPS1BHA E	\$125.00
1-1.6	1/4	1/3	3/4	3/4		1/10	20.8	GPS1BHAF	\$125.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	32.5	GPS1BHAG	\$125.00
2.5-4	3/4	3/4	2	3	1/8	1/3	52	GPS1BHAH	\$125.00
4-6.3	1	1 1/2	3	5	1/4	1/2	81.9	GPS1BH AJ	\$125.00
6.3-10	2	3	5	7 1/2	1/2	1 1/2	130	GPS1BHAK	\$125.00
9-13	3	3	7 1/2	10	1/2	2	169	GPS1BH AL	\$150.00
11-16	3	5	10	10	1	2	208	GPS1BH AM	\$150.00
14-20	5	5	10	15	1 1/2	3	260	GPS1BH AN	\$150.00
19-25	7 1/2	7 1/2	15	20	2	3	325	GPS1BH AP	\$165.00
24-32	10	10	20	30	2	5	416	GPS1BH AR	\$165.00

### 55 mm High Interruption Capacity (Rotary Operator)

#### Individual, Group or Combination<sup>2</sup> Installation, with or without C-2000 contactors or mini-contactors

FLA Adjustment Range	Three Phase Horsepower @ 200-208V	Three Phase Horsepower @ 220-240V	Three Phase Horsepower @ 440-480V	Three Phase Horsepower @ 575-600V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Instantaneous Short Circuit Release Amps	Product Number	List Price GO-10A2C
6.3-10	2	3	5	7 1/2	1/2	1 1/2	130	GPS2BHAK	\$245.00
9-13	3	3	7 1/2	10	1/2	2	169	GPS2BH AL	\$245.00
11-16	3	5	7 1/2	10	1	2	208	GPS2BH AM	\$245.00
14-20	5	5	10	15	1 1/2	2	260	GPS2BH AN	\$245.00
19-25	7 1/2	7 1/2	15	20	2	3	325	GPS2BH AP	\$245.00
24-32	10	10	20	25	2	5	416	GPS2BH AR	\$245.00
28-40	10	10	25	30	3	7 1/2	520	GPS2BH AS	\$275.00
35-50	15	15	30	40	3	10	650	GPS2BH AT	\$275.00
45-63	15	20	40	50	5	10	819	GPS2BH AU	\$302.00

<sup>1</sup>When using manual starters in combination starter applications, use short circuit reset/indicator accessory. For GPS1BH\_ starters add GPAPT1E terminal accessory.

<sup>2</sup>Maximum voltage for combination control is 277/480.

#### Product Number Selection Instructions

Selection of the starter depends on the actual motor full load current and service factor. For motors with service factor of 1.15 or greater, use motor full load current to select the appropriate current range. For motors with a service factor less than 1.15, multiply the normal full load current by .9 for the current setting. Single phase applications require all three overload legs to be energized for proper operation. Use separate conductor to connect terminal T2 to L3. Connect power to L1 and L2 and apply load between T1 and T3.



# IEC Manual Motor Starters

## Accessories

## Section 6

### Front Mounted (Internal) Accessories—Auxiliary and Alarm Contacts

Snap away the dust cover(s) and up to two front mounted accessories slide into the starter, increasing application flexibility without increasing width.

Accessory Type	For Use With	Mounting Position	Contact Configuration	Product Number	List Price GO-10A2C
Auxiliary Contact (Front Mount)	GPS1*/GPS2*	Left or right front	1NC	GPAC01FBA	\$12.00
Auxiliary Contact (Front Mount)	GPS1*/GPS2*	Left or right front	1NO	GPAC10FBA	\$12.00
Alarm Contact (Front Mount)	GPS1*/GPS2*	Right front	1NC	GPAL01FRA	\$14.00
Alarm Contact (Front Mount)	GPS1*/GPS2*	Right front	1NO	GPAL10FRA	\$14.00
Front Aux. Position Cover (Package of 10)	GPS1*/GPS2*	Left or right front	N/A	GPAC0VF1A	\$0.50

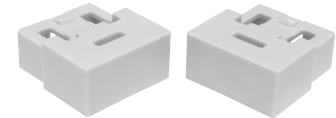


**GPAC\_ \_FBA**  
Front Mounted Auxiliary Contacts

### Side Mounted Accessories—Auxiliary and Alarm Contacts

Snap on accessories - maximum of [(2) auxiliary contact blocks] or [(1) auxiliary contact block plus (1) alarm/aux. block or (1) short circuit indicator] or [(1) alarm/auxiliary plus (1) short circuit indicator] left and (2) auxiliary contact blocks or (1) shunt trip or (1) under-voltage release right.

Accessory Type	For Use With	Mounting Position	Contact Configuration	Product Number	List Price GO-10A2C
Auxiliary Contact (Side Mount)	GPS1*/GPS2*	Left	2NC	GPAC02LLA <sup>1</sup>	\$18.00
Auxiliary Contact (Side Mount)	GPS1*/GPS2*	Left	1NO + 1NC	GPAC11LLA <sup>1</sup>	\$18.00
Auxiliary Contact (Side Mount)	GPS1*/GPS2*	Left	2NO	GPAC20LLA <sup>1</sup>	\$18.00
Auxiliary Contact (Side Mount)	GPS1*/GPS2*	Right	2NC	GPAC02LRA <sup>1</sup>	\$18.00
Auxiliary Contact (Side Mount)	GPS1*/GPS2*	Right	1NO + 1NC	GPAC11LRA <sup>1</sup>	\$18.00
Auxiliary Contact (Side Mount)	GPS1*/GPS2*	Right	2NO	GPAC20LRA <sup>1</sup>	\$18.00
Alarm/Auxiliary Contact (Side Mount)	GPS1*/GPS2*	Left	1NC Alarm + 1NC Aux.	GPAD0101LLA	\$24.00
Alarm/Auxiliary Contact (Side Mount)	GPS1*/GPS2*	Left	1NC Alarm + 1NO Aux.	GPAD0110LLA	\$24.00
Alarm/Auxiliary Contact (Side Mount)	GPS1*/GPS2*	Left	1NO Alarm + 1NC Aux.	GPAD1001LLA	\$24.00
Alarm/Auxiliary Contact (Side Mount)	GPS1*/GPS2*	Left	1NO Alarm + 1NO Aux.	GPAD1010LLA	\$24.00
Short Circuit Alarm (Side Mount)	GPS1*/GPS2*	Left	1NO + 1NC	GPAE11LLA <sup>2</sup>	\$15.00



**GPAC\_ \_FRA**  
Front Mounted Alarm Contacts

<sup>1</sup>GPS1BSAR and GPS1BHAR (24-32 FLA starters) can accept all accessory combinations noted above except that only one lateral auxiliary contact block may be used on this size.

<sup>2</sup>GPAE11LLA short circuit alarm may not be used with non-metallic enclosures due to reset button interference.



**GPAC\_ \_LLA/GPAC\_ \_LRA**  
Side Mounted Auxiliary Contacts



**GPAD\_ \_ \_LLA**  
Side Mounted Alarm/Auxiliary Contact



**GPAE11LLA**  
Side Mounted Short Circuit Alarm



# IEC Manual Motor Starters

## Accessories

## Section 6

### Side Mounted Accessories—Shunt Trip

Snap on accessories - maximum of (2) auxiliary contact blocks or (1) shunt trip or (1) undervoltage release right side.

Accessory Type	For Use With	Mounting Position	Coil Voltage	Product Number	List Price GO-10A2C
Shunt Trip	GPS1*/GPS2*	Right	24V 60/50 Hz	GPASLRAA1	\$48.00
Shunt Trip	GPS1*/GPS2*	Right	48V 60 Hz	GPASLRAAF	\$48.00
Shunt Trip	GPS1*/GPS2*	Right	60V 60 Hz, 48V 50 Hz	GPASLRAAG	\$48.00
Shunt Trip	GPS1*/GPS2*	Right	120V 60 Hz, 110-127V 50 Hz	GPASLRAAJ	\$48.00
Shunt Trip	GPS1*/GPS2*	Right	208V 60 Hz	GPASLRAAM	\$48.00
Shunt Trip	GPS1*/GPS2*	Right	240V 60 Hz, 220V 50 Hz	GPASLRAAN	\$48.00
Shunt Trip	GPS1*/GPS2*	Right	277V 60 Hz, 240V 50 Hz	GPASLRAAR	\$48.00
Shunt Trip	GPS1*/GPS2*	Right	380/400V 50 Hz	GPASLRAAU	\$48.00
Shunt Trip	GPS1*/GPS2*	Right	460-480V 60 Hz, 415-440V 50 Hz	GPASLRAAW	\$48.00
Shunt Trip	GPS1*/GPS2*	Right	600V 60 Hz, 500V 50 Hz	GPASLRAAY	\$48.00
Shunt Trip	GPS1*/GPS2*	Right	24-60V DC	GPASLRADD	\$48.00
Shunt Trip	GPS1*/GPS2*	Right	110-240V DC	GPASLRADJ	\$48.00

De-energizes the controller when external signal is applied to shunt coil.



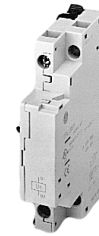
GPASLRA\_\_Shunt Trip

### Side Mounted Accessories—Undervoltage Release

Snap on accessories - maximum of (2) auxiliary contact blocks or (1) shunt trip or (1) undervoltage release right side.

Accessory Type	For Use With	Mounting Position	Coil Voltage	Product Number	List Price GO-10A2C
Undervoltage Release	GPS1*/GPS2*	Right	24V 60 Hz	GPAULRAAC	\$48.00
Undervoltage Release	GPS1*/GPS2*	Right	24V 50 Hz	GPAULRAAD	\$48.00
Undervoltage Release	GPS1*/GPS2*	Right	48V 60 Hz	GPAULRAAF	\$48.00
Undervoltage Release	GPS1*/GPS2*	Right	48V 50 Hz	GPAULRAAG	\$48.00
Undervoltage Release	GPS1*/GPS2*	Right	120V 60Hz, 110-127V 50 Hz	GPAULRAAJ	\$48.00
Undervoltage Release	GPS1*/GPS2*	Right	208V 60 Hz	GPAULRAAM	\$48.00
Undervoltage Release	GPS1*/GPS2*	Right	240-260V 60 Hz, 220/230V 50 Hz	GPAULRAAN	\$48.00
Undervoltage Release	GPS1*/GPS2*	Right	277V 60 Hz, 240V 50 Hz	GPAULRAAR	\$48.00
Undervoltage Release	GPS1*/GPS2*	Right	380/400V 50 Hz	GPAULRAAU	\$48.00
Undervoltage Release	GPS1*/GPS2*	Right	460-480V 60 Hz, 415-440V 50 Hz	GPAULRAAW	\$48.00
Undervoltage Release	GPS1*/GPS2*	Right	600V 60 Hz, 500V 50 Hz	GPAULRAAY	\$48.00

Provides protection from low voltage conditions; requires 85-110% voltage across D1 and D2 prior to starting motor; requires reset of starter upon undervoltage condition or loss of voltage.



GPAULRAA\_Undervoltage Release

### Side Mounted Accessories—Undervoltage Release

Snap on accessories - maximum of (2) auxiliary contact blocks or (1) shunt trip or (1) undervoltage release right side.

Accessory Type	For Use With	Mounting Position	Coil Voltage	Product Number	List Price GO-10A2C
Undervoltage Release	GPS1B5*	Right	24V 60 Hz	GPAU20LTAAAC	\$66.00
Undervoltage Release	GPS1B5*	Right	24V 50 Hz	GPAU20LTAAD	\$66.00
Undervoltage Release	GPS1B5*	Right	48V 60 Hz	GPAU20LTAAF	\$66.00
Undervoltage Release	GPS1B5*	Right	48V 50 Hz	GPAU20LTAAG	\$66.00
Undervoltage Release	GPS1B5*	Right	120V 60 Hz, 110-127V 50 Hz	GPAU20LTAAJ	\$66.00
Undervoltage Release	GPS1B5*	Right	208V 60 Hz	GPAU20LTAAM	\$66.00
Undervoltage Release	GPS1B5*	Right	240-260V 60 Hz, 220/230V 50 Hz	GPAU20LTAAN	\$66.00
Undervoltage Release	GPS1B5*	Right	277V 60 Hz, 240V 50 Hz	GPAU20LTAAR	\$66.00
Undervoltage Release	GPS1B5*	Right	380/400V 50 Hz	GPAU20LTAAU	\$66.00
Undervoltage Release	GPS1B5*	Right	460-480V 60 Hz, 415-440V 50 Hz	GPAU20LTAAW	\$66.00
Undervoltage Release	GPS1B5*	Right	600V 60 Hz, 500V 50 Hz	GPAU20LTAAY	\$66.00

With 2NO early make contacts (provides protection from low voltage conditions; early make contacts energize release coil when operator is turned to ON position and voltage is 85-110% Ve; requires reset of starter upon undervoltage condition or loss of voltage)



GPAU20LTAA\_Undervoltage Release with 2NO early make contacts

### Side Mounted Accessories—Undervoltage Release

Snap on accessories - maximum of (2) auxiliary contact blocks] or (1) shunt trip or (1) undervoltage release right side.

Accessory Type	For Use With	Mounting Position	Coil Voltage	Product Number	List Price GO-10A2C
Undervoltage Release	GPS1BH*/GPS2BH*	Right	24V 60 Hz	GPAU20LCAAC	\$66.00
Undervoltage Release	GPS1BH*/GPS2BH*	Right	24V 50 Hz	GPAU20LCAAD	\$66.00
Undervoltage Release	GPS1BH*/GPS2BH*	Right	48V 60 Hz	GPAU20LCAAF	\$66.00
Undervoltage Release	GPS1BH*/GPS2BH*	Right	48V 50 Hz	GPAU20LCAAG	\$66.00
Undervoltage Release	GPS1BH*/GPS2BH*	Right	120V 60 Hz, 110-127V 50 Hz	GPAU20LCAAJ	\$66.00
Undervoltage Release	GPS1BH*/GPS2BH*	Right	208V 60 Hz	GPAU20LCAAM	\$66.00
Undervoltage Release	GPS1BH*/GPS2BH*	Right	240-260V 60 Hz, 220/230V 50 Hz	GPAU20LCAAN	\$66.00
Undervoltage Release	GPS1BH*/GPS2BH*	Right	277V 60 Hz, 240V 50 Hz	GPAU20LCAAR	\$66.00
Undervoltage Release	GPS1BH*/GPS2BH*	Right	380/400V 50 Hz	GPAU20LCAAU	\$66.00
Undervoltage Release	GPS1BH*/GPS2BH*	Right	460-480V 60 Hz, 415-440V 50 Hz	GPAU20LCAAW	\$66.00
Undervoltage Release	GPS1BH*/GPS2BH*	Right	600V 60 Hz, 500V 50 Hz	GPAU20LCAAY	\$66.00

With 2NO early make contacts (provides protection from low voltage conditions; early make contacts energize release coil when operator is turned to ON position and voltage is 85-110% Ve; requires reset of starter upon undervoltage condition or loss of voltage)



GPAU20LCAA\_Undervoltage Release with 2NO early make contacts





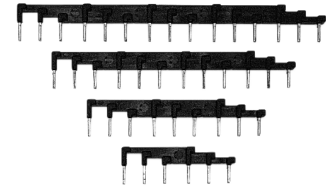
# IEC Manual Motor Starters Accessories

## Section 6

### Group Mounted Starter Accessories

Accessory Type	For Use With	Maximum Amps	Spacing	Product Description	Terminal Type	No. of Controllers	Product Number	List Price GO-10A2C
Input Busbar	GPS1*	63A max.	45mm	Used with no auxiliaries	Pin	2	GPB1B02A	\$12.00
Input Busbar	GPS1*	63A max.	45mm	Used with no auxiliaries	Pin	3	GPB1B03A	\$16.00
Input Busbar	GPS1*	63A max.	45mm	Used with no auxiliaries	Pin	4	GPB1B04A	\$20.00
Input Busbar	GPS1*	63A max.	45mm	Used with no auxiliaries	Pin	5	GPB1B05A	\$25.00
Input Busbar	GPS1*	63A max.	54mm	Used with 1 aux or 1 aux alarm (one 9mm auxiliary)	Pin	2	GPB1B12A	\$14.00
Input Busbar	GPS1*	63A max.	54mm	Used with 1 aux or 1 aux alarm (one 9mm auxiliary)	Pin	3	GPB1B13A	\$18.00
Input Busbar	GPS1*	63A max.	54mm	Used with 1 aux or 1 aux alarm (one 9mm auxiliary)	Pin	4	GPB1B14A	\$22.00
Input Busbar	GPS1*	63A max.	54mm	Used with 1 aux or 1 aux alarm (one 9mm auxiliary)	Pin	5	GPB1B15A	\$27.00
Input Busbar	GPS1*	63A max.	63mm	Used with 2 aux or 1 aux+1 aux/alarm or shunt or UV (two 9mm auxiliaries or one 18mm auxiliary)	Fork	2	GPB1B22A	\$22.00
Input Busbar	GPS1*	63A max.	63mm	Used with 2 aux or 1 aux+1 aux/alarm or shunt or UV (two 9mm auxiliaries or one 18mm auxiliary)	Fork	4	GPB1B24A	\$27.00
Input Busbar	GPS2*	120A max.	55mm	Used with no auxiliaries	Pin	2	GPB2B02A	\$32.00
Input Busbar	GPS2*	120A max.	55mm	Used with no auxiliaries	Pin	3	GPB2B03A	\$40.00
Input Busbar	GPS2*	120A max.	55mm	Used with no auxiliaries	Pin	4	GPB2B04A	\$48.00
Input Busbar	GPS2*	120A max.	64mm	Used with 1 aux or 1 aux alarm (one 9mm auxiliary)	Pin	2	GPB2B12A	\$34.00
Input Busbar	GPS2*	120A max.	64mm	Used with 1 aux or 1 aux alarm (one 9mm auxiliary)	Pin	3	GPB2B13A	\$42.00
Input Busbar	GPS2*	120A max.	64mm	Used with 1 aux or 1 aux alarm (one 9mm auxiliary)	Pin	4	GPB2B14A	\$50.00
Input Busbar	GPS2*	120A max.	73mm	Used with 2 aux or 1 aux + aux/alarm or shunt or UV (two 9mm auxiliaries or one 18mm auxiliary)	Pin	2	GPB2B22A	\$34.00
Input Busbar	GPS2*	120A max.	73mm	Used with 2 aux or 1 aux + aux/alarm or shunt or UV (two 9mm auxiliaries or one 18mm auxiliary)	Pin	4	GPB2B24A	\$50.00
Power Input Busbar Terminal	GPS1*	63A max.		Used with GP1B busbars above Wire size - AWG 10-4 Torque - 38 lbs.-in.	Pozidrive		GPB1FA	\$16.00
Power Input Busbar Terminal	GPS2*	120A max.		Used with GPB2 busbars above Wire Size - AWG 8 - 1/0 Torque - 54 lbs. in.	Allen Screw		GPB2FA	\$28.00
Terminal Covers	GPS1*			Slips over unused GPB1B0__ (45mm) or GPB1B1__ (54mm) pin type input busbar terminals to provide touch protection			GPB1GA	\$2.50
Terminal Covers	GPS2*			Snaps over unused GPB2B0__ (55mm) or GPB2B1__ (64mm) pin type busbar terminals to provide touch protection			GPB2GA	\$3.00

Input Busbar simplifies group installations; different forms accommodate different accessories.



GPB\_B\_\_\_Input Busbar



GPB\_FA Power Input Busbar Terminal



GPB\_GA Terminal Cover



# IEC Manual Motor Starters Accessories

## Section 6

### External Handle Operators

Allows operation of GPS1BH\_\_ and GPS2BH\_\_ starters through a panel door. Shaft mounting depth inside the panel can range from 5.5" - 11.4" (139.8 - 289.8 mm) for GPS1BH\_\_ and 6.3" - 12.25" (161 - 311 mm) for GPS2BH\_\_.

For Use With	Handle Type	Product Number	List Price GO-10A2C
GPS1*	Black	GPA1HAB	\$35.00
GPS1*	Red/Yellow	GPA1HAR	\$35.00
GPS2*	Black	GPA2HAB	\$40.00
GPS2*	Red/Yellow	GPA2HAR	\$40.00



GPA\_HA\_Handle Operator

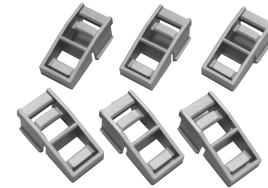
### Other Accessories

Accessory Type	For Use With	Description	Product Number	List Price GO-10A2C
Snap-in Tabs	GPS1*	For Screw Mounting GPS1 to panel <sup>1</sup>	GPAKS1A	\$15 ea.
Terminal Covers	GPS2*	IP20 (package of 6)	GPAPT2A	\$1.00
Terminal Covers	GPS1BH*	Additional protective cover required for combination control. Easily suited for field installation. May not use front mounted internal accessories with cover in place. Cannot use GPB1 busbars with protective cover.	GPAPT1E	\$12.00

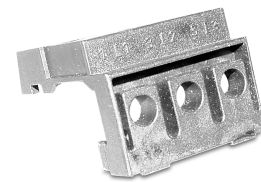
<sup>1</sup>Packaged in quantities of 10.



GPAKS1A Snap-in Tabs



GPAPT2A Terminal Covers for GPS2\*



GPAPT1E Terminal Covers for GPS1BH\*

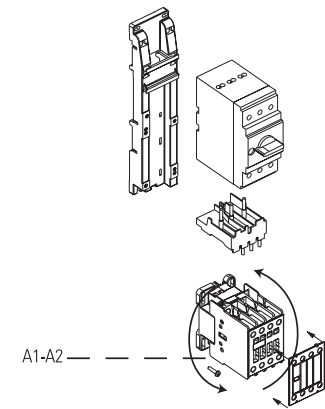


# IEC Manual Motor Starters Accessories

## Section 6

### Integrated Starter Components

Accessory Type	For Use With	Contactors Prefix	Coil Volts	Product Number	List Price GO-10A2C
Bases	GPS1*	MC0/MC1 (optional), CL00, 01, 02, 25 (optional), CL00, 01, 02, 25	AC or DC AC DC	GPF1B1A	\$20.00
Bases	GPS1*	CL04	AC or DC	GPF1B4A	\$23.00
Bases	GPS2*	CL04, CL45	AC or DC	GPF2B2A	\$25.00
Bases	GPS2*	CL06, CL07	AC	GPF2B3A	\$30.00
Links	GPS1*	MC0/MC1	AC & DC	GPF1LMCBA	\$8.00
Links	GPS1*	CL00, CL01, CL02	AC	GPF1L02AA	\$9.00
Links	GPS1*	CL00, CL01, CL02	DC	GPF1L02DA	\$12.00
Links	GPS1*	CL25	AC	GPF1L25AA	\$9.00
Links	GPS1*	CL25	DC	GPF1L25DA	\$12.00
Links	GPS1*	CL04	AC	GPF1L04AA	\$14.00
Links	GPS1*	CL04	DC	GPF1L04DA	\$18.00
Links	GPS2*	CL04	AC	GPF2L04AA	\$14.00
Links	GPS2*	CL04	DC	GPF2L04DA	\$18.00
Links	GPS2*	CL45	AC	GPF2L45AA	\$14.00
Links	GPS2*	CL45	DC	GPF2L45DA	\$18.00
Links	GPS2*	CL06, CL07	AC	GPF2L07AA	\$25.00



Integrated Starter Components

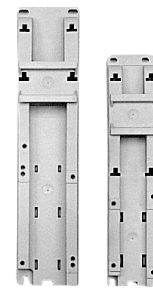
### Integrated Starter Components

For integrated starter applications, rotate CL contactors 180°, coil terminals down. This permits direct access to the A1-A2 coil terminals when contactors are assembled to the manual motor starter. Then attach the plastic cover to the front of the contactor so that terminal numbering is in the correct position. Note: After 180° rotation, the built-in auxiliary contact on CL00 \_\_, CL01 \_\_, CL02 \_\_ and CL04 \_\_ will be located on the first terminal on the left side.

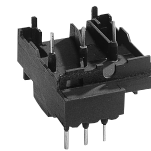
Accessory Type	Contactors Prefix	Built-In Aux Contacts	Product Number	List Price GO-10A2C
Covers	CL00, CL01, CL02	1NO	GPF10C02 <sup>1</sup>	\$3.00
Covers	CL00, CL01, CL02	1NC	GPF01C02 <sup>1</sup>	\$3.00
Covers	CL25	None	GPF00C25 <sup>1</sup>	\$3.00
Covers	CL04	1NO	GPF10C04 <sup>2</sup>	\$3.00
Covers	CL04	1NC	GPF01C04 <sup>2</sup>	\$3.00
Covers	CL45	None	GPF00C45 <sup>2</sup>	\$3.00
Covers	CL06, CL07 (AC Only)	None	GPF00C08 <sup>2</sup>	\$4.00

<sup>1</sup>Covers accommodate a maximum of 2 front auxiliary contact blocks.

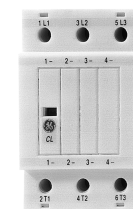
<sup>2</sup>Covers accommodate a maximum of 4 front auxiliary contact blocks.



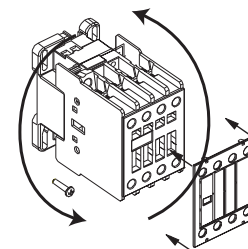
GPF\_B\_A Bases



GPF1L\_\_\_/GPF2L\_\_\_ Links



Cover



Rotate CL contactors 180 degrees



# IEC Manual Motor Starters Accessories

## Integrated Starter Components

Accessory Type	For Use With	Contactors Prefix	Coil Volts	Product Number	List Price GO-10A2C
Wiring Kits for Reversing Starters	GPS1*	MC0/MC1	AC or DC	WKMIU	\$16.00
Wiring Kits for Reversing Starters	GPS1*	CL00, CL01, CL02	AC or DC	WKLI02P	\$18.00
Wiring Kits for Reversing Starters	GPS1*	CL25	AC or DC	WKLI25P	\$20.00
Wiring Kits for Reversing Starters	GPS1*/GPS2*	CL04	AC or DC	WKLI04P	\$30.00
Wiring Kits for Reversing Starters	GPS2*	CL45	AC or DC	WKLI45P	\$32.00
Wiring Kits for Reversing Starters	GPS2*	CL06, CL07	AC	CLXC41	\$48.00

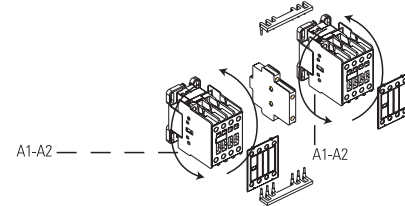
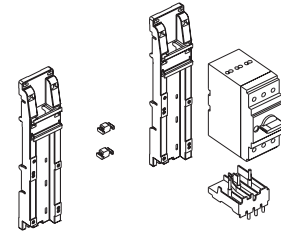
## Integrated Starter Components

Bases and base links are required for reversers using CL contactors, optional for reversers using MC contactors. Two base links are required for each pair of reverser bases.

Accessory Type	For Use With	Product Number	List Price GO-10A2C
Base Links for Reversers	GPS1*	GPF1CBA	\$0.80 per package

Product number represents package of 2.

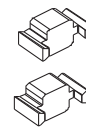
## Section 6



Integrated Starter Components



WKLI\_Wiring Kits for Reversing Starters



Base Links for Reversers



# IEC Manual Motor Starters Enclosures and Enclosure Accessories

## Section 6

### Enclosures (Non-metallic)

#### For Surion Toggle Operated (GPS1BSAA-GPS1BSAP) Starters to 25 Amps

Enclosures will accommodate starters with 1 auxiliary or alarm contact on the left side and 1 auxiliary contact, shunt trip or undervoltage release (with or without early make contacts) on the right side. UL Listed for use with 1/2" NPT fittings.

For Use With	Mounting	Enclosure Type	Product Number	List Price GO-10A2C
GPS1BSAA-AP	Flush Panel	NEMA Type 1/IP41	GPEF41A	\$35.00
GPS1BSAA-AP	Flush Panel	NEMA Type 3R/12/IP55	GPEF55A	\$50.00
GPS1BSAA-AP	Surface	NEMA Type 1/IP41	GPES41A	\$30.00
GPS1BSAA-AP	Surface	NEMA Type 3R/12/IP55	GPES55A	\$45.00



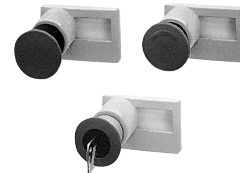
GPEF\_\_A/GPES\_\_A Non-Metallic Enclosure

### Enclosure Accessories (Non-metallic)

For Use With	Enclosure Accessory Type	Product Description	Product Number	List Price GO-10A2C
GPS1BSAA-GPS1BSAP	Padlocking Device	Accepts up to 3 padlocks with hasps of .15-.31 inches (4-8 mm)	GPEPA	\$18.00
GPS1BSAA-GPS1BSAP	External Mushroom Head Push Button	Momentary	GPEPMA	\$24.00
GPS1BSAA-GPS1BSAP	External Mushroom Head Push Button	Push-to-stop/Turn-to-release	GPEPLA	\$35.00
GPS1BSAA-GPS1BSAP	External Mushroom Head Push Button	Push-to-stop/Key-to-release	GPEPKA	\$85.00
GPS1BSAA-GPS1BSAP	Conversion Kit	Converts Type 1 to 3R/12 (IP44 to IP55)	GPECA	\$12.00
GPS1BSAA-GPS1BSAP	Neutral Kit	—	GPENA	\$5.00
GPS1BSAA-GPS1BSAP	Adapter	Adapts enclosure to Type 3R/12 (IP55) to accommodate starter with undervoltage release with early make contacts	GPEUTA	\$6.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Green 110-220V	GPELGAJ	\$18.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Green 220-240V	GPELGAN	\$18.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Green 380-440V	GPELGAU	\$18.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Green 480-500V	GPELGAX	\$18.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Green 600V	GPELGAY	\$18.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Red 110-220V	GPELRAJ	\$18.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Red 220-240V	GPELRAN	\$18.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Red 380-440V	GPELRAU	\$18.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Red 480-500V	GPELRAX	\$18.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Red 600V	GPELRAY	\$18.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Transparent 110-220V	GPELCAJ	\$18.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Transparent 220-240V	GPELCAU	\$18.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Transparent 380-440V	GPELCAU	\$18.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Transparent 480-500V	GPELCAX	\$18.00
GPS1BSAA-GPS1BSAP	Indicating Lights	Transparent 600V	GPELCAY	\$18.00



GPEPA Padlocking Device



GPEP\_\_Mushroom Head Push Button



GPECA Conversion Kit

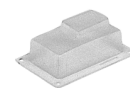
### Reference Publications

Instructions for non-metallic enclosures:

DEH-40283



GPENA Neutral Kit



GPEUTA Adapter



GPEL\_A Indicating Lights



# IEC Manual Motor Starters Enclosures and Enclosure Accessories

## Section 6

### Enclosures (Metallic)

Application	For Use With	Contactors Prefix	Enclosure Type	Product Number	List Price GO-10A2C
Manual Motor Starters	GPS1BH__	--	NEMA Type 1	GPEM1NA	\$60.00
Manual Motor Starters	GPS2BH__	--	NEMA Type 1	GPEM1NB	\$75.00
Manual Motor Starters	GPS1BH__/GPS2BH__	--	NEMA Type 3R/12	GPEM2NC	\$115.00
Combination Starters	GPS1BH__/GPS2BH__	All except CL04	NEMA Type 1	GPEM1CC <sup>1</sup>	\$95.00
Combination Starters	GPS1BH__	CL04	NEMA Type 1	GPEM1CD <sup>1</sup>	\$95.00
Combination Starters	GPS1BH__/GPS2BH__	All except CL04	NEMA Type 3R/12	GPEM2CC <sup>1</sup>	\$140.00
Combination Starters	GPS1BH__	CL04	NEMA Type 3R/12	GPEM2CD <sup>1</sup>	\$140.00
Reversing Combination <sup>2</sup> Starters and Combination <sup>2</sup> Starters with CPT	GPS1BH__	CL00-CL04	NEMA Type 1	GPEM1XA <sup>1</sup>	\$165.00
Reversing Combination <sup>2</sup> Starters and Combination Starters with CPT	GPS1BH__	CL00-CL04	NEMA Type 3R/12	GPEM2XA <sup>1</sup>	\$210.00
Reversing Combination <sup>2</sup> Starters and Combination <sup>2</sup> Starters with CPT	GPS2BH__	CL04-CL07	NEMA Type 1	GPEM1XB <sup>1</sup>	\$165.00
Reversing Combination <sup>2</sup> Starters and Combination <sup>2</sup> Starters with CPT	GPS2BH__	CL04-CL07	NEMA Type 3R/12	GPEM2XB <sup>1</sup>	\$210.00

<sup>1</sup>Bases are required for enclosed combination starters.

<sup>2</sup>Maximum voltage 277/480



GPEM\_\_ Metallic Enclosure



CLXP3NL\_Pilot Light, Red & Green Lenses

### Enclosure Pilot Devices (Metallic)

For Use With	Applications	Product Description	Product Number	List Price GO-10C2
GPS1BH__/GPS2BH__	All Starters	Pilot Light, Red & Green Lenses 115V	CLXP3NL1	\$65.00
GPS1BH__/GPS2BH__	All Starters	Pilot Light, Red & Green Lenses 240V	CLXP3NL3	\$65.00
GPS1BH__/GPS2BH__	All Starters	Pilot Light, Red & Green Lenses 277V	CLXP3NL7	\$65.00
GPS1BH__/GPS2BH__	All Starters	Pilot Light, Red & Green Lenses 480V	CLXP3NL4	\$65.00
GPS1BH__/GPS2BH__	All Starters	Pilot Light, Red & Green Lenses 600V	CLXP3NL5	\$65.00
GPS1BH__/GPS2BH__	All Starters	Pilot Light, Red & Green Lenses 24V	CLXP3NL2	\$65.00
GPS1BH__/GPS2BH__	All Starters	White Lens	P9ASGLDB <sup>1</sup>	\$1.00 <sup>1</sup>
GPS1BH__/GPS2BH__	Non-reversing Combination Starters	START-STOP Push Buttons	CLXP1NC	\$65.00
GPS1BH__/GPS2BH__	Non-reversing Combination Starters	START-STOP Mushroom Head Push Button	CLXP4NC	\$65.00
GPS1BH__/GPS2BH__	Non-reversing Combination Starters	H-O-A Selector Switch	CLXP2NC	\$50.00
GPS1BH__/GPS2BH__	Reversing Combination	FORWARD-OFF-REVERSE Selector Switch	CLXP1RC	\$50.00
GPS1BH__/GPS2BH__	Reversing Combination	FORWARD-OFF-REVERSE Push Buttons	CLXP3RC	\$75.00

<sup>1</sup>List Price GO-10GC

### Reference Publications

Instructions for metallic enclosures:

Manual motor starters:

DEH-40389

Combination starters:

DEH-40387

Reversing combination starters or combination starters with CPT:

DEH-40388



CLXP1NC START-STOP Push Buttons



CLXP4NC START-STOP Mushroom  
Head Push Buttons



CLXP2NC H-O-A Selector Switch



CLXP1RC FORWARD-OFF-REVERSE  
Selector Switch



CLXP3RC FORWARD-OFF-REVERSE  
Push Buttons



# IEC Manual Motor Starters Integrated with Contactor Open, AC Operated Contactors Standard Interruption Capacity

### Product Number Structure for Modifications

Select product from table below. See page 6-19 for starter and contactor modifications.

Product Number Digits									
1	2	3	4	5	6	7	8	9	10
G	P	2	3	N	A	2	5	*	A
Starter Modifications								(Coil)	Contactor Modifications

### Product Number Selection Instructions

Selection of the starter depends on the actual motor full load current and service factor. For motors with service factor of 1.15 or greater, use motor full load current to select the appropriate current range. For motors with a service factor less than 1.15, multiply the normal full load current by .9 for the current setting. Single phase applications require all three overload legs to be energized for proper operation. Use separate conductor to connect terminal T2 to L3. Connect power to L1 and L2 and apply load between T1 and T3.



45 mm Standard Interruption Capacity (Toggle Operator)  
Integrated with Mini Contactor

### 45 mm (Toggle Operator)

#### Individual or Group Installation Manual Starter Type GPS1BS\_

FLA Adjustment Range	Three Phase Horsepower @ 200V	Three Phase Horsepower @ 230V	Three Phase Horsepower @ 460V	Three Phase Horsepower @ 575V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Contactor Size	Contactor Max Amps	Contactor Base Included	Product Number <sup>1</sup>	List Price GO-10A2A
0.1-0.16							MC1	9	No	GP23AAM1*A	\$198.00
0.16-0.25							MC1	9	No	GP23BAM1*A	\$198.00
0.25-0.4							MC1	9	No	GP23CAM1*A	\$198.00
0.4-0.63							MC1	9	No	GP23DAM1*A	\$198.00
0.63-1.0			1/2	1/2			MC1	9	No	GP23EAM1*A	\$210.00
1-1.6	1/4	1/3	3/4	3/4		1/10	MC1	9	No	GP23FAM1*A	\$210.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	MC1	9	No	GP23GAM1*A	\$210.00
2.5-4	3/4	3/4	2	3	1/8	1/3	MC1	9	No	GP23HAM1*A	\$210.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	MC1	9	No	GP23JAM1*A	\$210.00
6.3-10	2	3	5	5	1/2	1 1/2	MC1	9	No	GP23KAM1*A	\$210.00
0.1-0.16							CL00	10	No	GP23AA00*A	\$240.00
0.16-0.25							CL00	10	No	GP23BA00*A	\$240.00
0.25-0.4							CL00	10	No	GP23CA00*A	\$240.00
0.4-0.63							CL00	10	No	GP23DA00*A	\$240.00
0.63-1.0			1/2	1/2			CL00	10	No	GP23EA00*A	\$252.00
1-1.6	1/4	1/3	3/4	3/4		1/10	CL00	10	No	GP23FA00*A	\$252.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	CL00	10	No	GP23GA00*A	\$252.00
2.5-4	3/4	3/4	2	3	1/8	1/3	CL00	10	No	GP23HA00*A	\$252.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	CL00	10	No	GP23JA00*A	\$252.00
6.3-10	2	3	5	7 1/2	1/2	1 1/2	CL00	10	No	GP23KA00*A	\$252.00
9-13	3	3	7 1/2	10	1/2	2	CL01	13.8	No	GP23LA01*A	\$295.00
11-16	3	5	10	10	1	2	CL02	17.5	No	GP23MA02*A	\$310.00
14-20	5	5	10	15	1 1/2	3	CL25	22	No	GP23NA25*A <sup>2</sup>	\$324.00
19-25	7 1/2	7 1/2	15	20	1 1/2	3	CL04	32	Yes	GP23PA04*A	\$394.00
24-32	0	10	20	25	2	5	CL04	32	Yes	GP23RA04*A	\$394.00

<sup>1</sup>Complete product number by replacing asterisk (\*) with appropriate coil digit from table below.

<sup>2</sup>1NO aux contact front mounted.

Includes 1NO auxiliary contact integrated into MC\* and CL\* unless noted. Integrated contact is on left side on CL\* contactors.

Replace asterisk (\*) in product number with coil digit.

### Coil Selection

	AC Voltage										
	24	24	120	208	240	240-277	277	480	480	600	
60Hz	24	24	120	208	240	240-277	277	480	480	600	
50Hz	—	24	110	—	—	—	220-230	380	380/400	415	
Coil Digit * for MC Contactors	C	—	J	M	—	N	—	U	—	W	
Coil Digit * for CL Contactors	—	1	J	L	S	—	N	—	U	W	



# IEC Manual Motor Starters Integrated with Contactor Open, DC Operated Contactors Standard Interruption Capacity

## Section 6

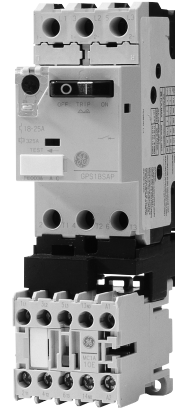
### Product Number Structure for Modifications

Select product from table below. See page 6-19 for starter and contactor modifications.

Product Number Digits									
1	2	3	4	5	6	7	8	9	10
G	P	3	3	N	A	2	5	#	A
Starter Modifications				(Coil)		Contactor Modifications			

### Product Number Selection Instructions

Selection of the starter depends on the actual motor full load current and service factor. For motors with service factor of 1.15 or greater, use motor full load current to select the appropriate current range. For motors with a service factor less than 1.15, multiply the normal full load current by .9 for the current setting. Single phase applications require all three overload legs to be energized for proper operation. Use separate conductor to connect terminal T2 to L3. Connect power to L1 and L2 and apply load between T1 and T3.



45 mm Standard Interruption Capacity (Toggle Operator)  
Integrated with DC Mini Contactor

### 45 mm (Toggle Operator)

#### Individual or Group Installation Manual Motor Starter Type GPS1BH

FLA Adjustment Range	Three Phase Horsepower @ 200V	Three Phase Horsepower @ 230V	Three Phase Horsepower @ 460V	Three Phase Horsepower @ 575V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Contactor Size	Contactor Max Amps	Base Included	Product Number <sup>1</sup>	List Price GO-10A2A
0.1-0.16							MC1	9	No	GP33AAM1#A	\$208.00
0.16-0.25							MC1	9	No	GP33BAM1#A	\$208.00
0.25-0.4							MC1	9	No	GP33CAM1#A	\$208.00
0.4-0.63							MC1	9	No	GP33DAM1#A	\$208.00
0.63-1.0			1/2	1/2			MC1	9	No	GP33EAM1#A	\$220.00
1-1.6	1/4	1/3	3/4	3/4		1/10	MC1	9	No	GP33FAM1#A	\$220.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	MC1	9	No	GP33GAM1#A	\$220.00
2.5-4	3/4	3/4	2	3	1/8	1/3	MC1	9	No	GP33HAM1#A	\$220.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	MC1	9	No	GP33JAM1#A	\$220.00
6.3-10	2	3	5	5	1/2	1 1/2	MC1	9	No	GP33KAM1#A	\$220.00
0.1-0.16							CL00	10	Yes	GP33AA00#A	\$293.00
0.16-0.25							CL00	10	Yes	GP33BA00#A	\$293.00
0.25-0.4							CL00	10	Yes	GP33CA00#A	\$293.00
0.4-0.63							CL00	10	Yes	GP33DA00#A	\$293.00
0.63-1.0			1/2	1/2			CL00	10	Yes	GP33EA00#A	\$305.00
1-1.6	1/4	1/3	3/4	3/4		1/10	CL00	10	Yes	GP33FA00#A	\$305.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	CL00	10	Yes	GP33GA00#A	\$305.00
2.5-4	3/4	3/4	2	3	1/8	1/3	CL00	10	Yes	GP33HA00#A	\$305.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	CL00	10	Yes	GP33JA00#A	\$305.00
6.3-10	2	3	5	7 1/2	1/2	1 1/2	CL00	10	Yes	GP33KA00#A	\$305.00
9-13	3	3	7 1/2	10	1/2	2	CL01	13.8	Yes	GP33LA01#A	\$349.00
11-16	3	5	10	10	1	2	CL02	17.5	Yes	GP33MA02#A	\$363.00
14-20	5	5	10	15	1 1/2	3	CL25	22	Yes	GP33NA25#A <sup>2</sup>	\$382.00
19-25	7 1/2	7 1/2	15	20	1 1/2	3	CL04	32	Yes	GP33PA04#A	\$437.00
24-32	0	10	20	25	2	5	CL04	32	Yes	GP33RA04#A	\$437.00

<sup>1</sup>Complete product number by replacing crosshatch (#) with appropriate coil digit from table below.

<sup>2</sup>1NO aux contact front mounted.

Includes 1NO auxiliary contact integrated into MC\* and CL\* unless noted. Integrated contact is on left side on CL\* contactors.

Replace crosshatch (#) in product number with coil digit.

### Coil Selection

	DC Voltage				
	12	24	48	125	250
Coil Digit # for MC Contactors	B	D	G	L	S
Coil Digit # for CL Contactors	B	D	G	K	T





# IEC Manual Motor Starters Integrated with Contactor Open, AC Operated Contactors High Interruption Capacity

## Section 6

### Product Number Structure for Modifications

Select product from table below. See page 6-19 for starter and contactor modifications.

Product Number Digits									
1	2	3	4	5	6	7	8	9	10
G	P	2	1	N	A	2	5	*	A
								(Coil)	Contactor
								Modifications	Modifications

### Product Number Selection Instructions

Selection of the starter depends on the actual motor full load current and service factor. For motors with service factor of 1.15 or greater, use motor full load current to select the appropriate current range. For motors with a service factor less than 1.15, multiply the normal full load current by .9 for the current setting. Single phase applications require all three overload legs to be energized for proper operation. Use separate conductor to connect terminal T2 to L3. Connect power to L1 and L2 and apply load between T1 and T3.

### 45 mm (Rotary Operator)

#### Individual, Group and Combination<sup>2</sup> Installations Manual Motor Starter Type GPS1BH\_\_

FLA Adjustment Range	Three Phase Horsepower @ 200V	Three Phase Horsepower @ 230V	Three Phase Horsepower @ 460V	Three Phase Horsepower @ 575V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Contactor Size	Max Amps	Base Included	Product Number <sup>1</sup>	List Price GO-10A2A
0.1-0.16							MC1	9	No	GP21AAM1*A	\$220.00
0.16-0.25							MC1	9	No	GP21BAM1*A	\$220.00
0.25-0.4							MC1	9	No	GP21CAM1*A	\$220.00
0.4-0.63							MC1	9	No	GP21DAM1*A	\$220.00
0.63-1.0			1/2	1/2			MC1	9	No	GP21EAM1*A	\$235.00
1-1.6	1/4	1/3	3/4	3/4		1/10	MC1	9	No	GP21FAM1*A	\$235.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	MC1	9	No	GP21GAM1*A	\$235.00
2.5-4	3/4	3/4	2	3	1/8	1/3	MC1	9	No	GP21HAM1*A	\$235.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	MC1	9	No	GP21JAM1*A	\$235.00
6.3-10	2	3	5	5	1/2	1 1/2	MC1	9	No	GP21KAM1*A	\$235.00
0.1-0.16							CL00	10	No	GP21AA00*A	\$262.00
0.16-0.25							CL00	10	No	GP21BA00*A	\$262.00
0.25-0.4							CL00	10	No	GP21CA00*A	\$262.00
0.4-0.63							CL00	10	No	GP21DA00*A	\$262.00
0.63-1.0			1/2	1/2			CL00	10	No	GP21EA00*A	\$262.00
1-1.6	1/4	1/3	3/4	3/4		1/10	CL00	10	No	GP21FA00*A	\$277.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	CL00	10	No	GP21GA00*A	\$277.00
2.5-4	3/4	3/4	2	3	1/8	1/3	CL00	10	No	GP21HA00*A	\$277.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	CL00	10	No	GP21JA00*A	\$277.00
6.3-10	2	3	5	7 1/2	1/2	1 1/2	CL00	10	No	GP21KA00*A	\$277.00
9-13	3	3	7 1/2	10	1/2	2	CL01	13.8	No	GP21LA01*A	\$325.00
11-16	3	5	10	10	1	2	CL02	17.5	No	GP21MA02*A	\$340.00
14-20	5	5	10	15	1 1/2	3	CL25	22	No	GP21NA25*A <sup>3</sup>	\$354.00
19-25	7 1/2	7 1/2	15	20	1 1/2	3	CL04	32	Yes	GP21PA04*A <sup>4</sup>	\$424.00
24-32	10	10	20	25	2	5	CL04	32	Yes	GP21RA04*A	\$424.00

### 55 mm (Rotary Operator)

#### Individual, Group and Combination<sup>2</sup> Installations Manual Motor Starter Type GPS2BH\_\_

FLA Adjustment Range	Three Phase Horsepower @ 200V	Three Phase Horsepower @ 230V	Three Phase Horsepower @ 460V	Three Phase Horsepower @ 575V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Contactor Size	Max Amps	Base Included	Product Number <sup>1</sup>	List Price GO-10A2A
11-16	3	5	10	10	1	2	CL04	32	Yes	GP22MA04*A	\$516.00
14-20	5	5	10	15	1 1/2	3	CL04	32	Yes	GP22NA04*A	\$516.00
19-25	7 1/2	7 1/2	15	20	2	3	CL04	32	Yes	GP22PA04*A	\$516.00
24-32	10	10	20	25	2	5	CL04	32	Yes	GP22RA04*A	\$516.00
28-40	10	10	25	25	3	5	CL45	34	Yes	GP22SA45*A <sup>3</sup>	\$562.00
35-50	15	15	30	40	3	7 1/2	CL06	48	Yes	GP22TA06*A <sup>4</sup>	\$611.00
45-63	15	20	40	50	5	10	CL07	62	Yes	GP22UA07*A <sup>4</sup>	\$678.00

<sup>1</sup>Complete product number by replacing asterisk (\*) with appropriate coil digit from table below. For combination installation add short circuit alarm GPAE11LLA.

<sup>2</sup>For combination installation using GPS1BH\_\_ starters add GPAPT1E terminal protector. See page 6-10 for field installation kits. For factory modified starters select t-z for GPS2BH\_ <None>\_ starters or x-z for GPS1BH starters on page 6-19. Maximum voltage for combination control is 277/480.

<sup>3</sup>NO aux contact front mounted.

<sup>4</sup>NO-1NC aux contact front mounted.

Includes 1N0 auxiliary contact integrated into MC\* and CL\* unless noted. Integrated contact is on left side on CL\* contactors.

Replace asterisk (\*) in product number with coil digit.

### Coil Selection

	AC Voltage												
	60Hz	24	24	120	208	240	240-277	277	—	480	—	480	600
Coil Digit * for MC Contactors	—	24	110	—	—	—	—	220-230	380	380/400	415	415	500
Coil Digit * for CL Contactors	C	—	J	M	—	N	—	U	—	—	—	W	Y
	—	1	J	L	S	—	N	—	U	W	—	—	Y



# IEC Manual Motor Starters Integrated with Contactor Open, DC Operated Contactors High Interruption Capacity

## Section 6



45 mm High Interruption Capacity (Rotary Operator)  
Integrated with C2000 Contactor

### Product Number Structure for Modifications

Select product from table below. See page 6-19 for starter and contactor modifications.

Product Number Digits									
1	2	3	4	5	6	7	8	9	10
G	P	3	1	N	A	2	5	*	A
Starter Modifications				(Coil)	Contactor Modifications				

### Product Number Selection Instructions

Selection of the starter depends on the actual motor full load current and service factor. For motors with service factor of 1.15 or greater, use motor full load current to select the appropriate current range. For motors with a service factor less than 1.15, multiply the normal full load current by .9 for the current setting. Single phase applications require all three overload legs to be energized for proper operation. Use separate conductor to connect terminal T2 to L3. Connect power to L1 and L2 and apply load between T1 and T3.

### 45 mm (Rotary Operator)

#### Individual, Group or Combination<sup>2</sup> Installation Manual Motor Starter Type GPS1BH\_\_

FLA Adjustment Range	Three Phase Horsepower @ 200V	Three Phase Horsepower @ 230V	Three Phase Horsepower @ 460V	Three Phase Horsepower @ 575V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Contactor Size	Contactor Max Amps	Base Included	Product Number <sup>1</sup>	List Price GO-10A2A
0.1-0.16							MC1	9	No	GP31AAM1#A	\$230.00
0.16-0.25							MC1	9	No	GP31BAM1#A	\$230.00
0.25-0.4							MC1	9	No	GP31CAM1#A	\$230.00
0.4-0.63							MC1	9	No	GP31DAM1#A	\$230.00
0.63-1.0			1/2	1/2			MC1	9	No	GP31EAM1#A	\$245.00
1-1.6	1/4	1/3	3/4	3/4		1/10	MC1	9	No	GP31FAM1#A	\$245.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	MC1	9	No	GP31GAM1#A	\$245.00
2.5-4	3/4	3/4	2	3	1/8	1/3	MC1	9	No	GP31HAM1#A	\$245.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	MC1	9	No	GP31JAM1#A	\$245.00
6.3-10	2	3	5	5	1/2	1 1/2	MC1	9	No	GP31KAM1#A	\$245.00
0.1-0.16							CL00	10	Yes	GP31AA00#A	\$315.00
0.16-0.25							CL00	10	Yes	GP31BA00#A	\$315.00
0.25-0.4							CL00	10	Yes	GP31CA00#A	\$315.00
0.4-0.63							CL00	10	Yes	GP31DA00#A	\$315.00
0.63-1.0			1/2	1/2			CL00	10	Yes	GP31EA00#A	\$330.00
1-1.6	1/4	1/3	3/4	3/4		1/10	CL00	10	Yes	GP31FA00#A	\$330.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	CL00	10	Yes	GP31GA00#A	\$330.00
2.5-4	3/4	3/4	2	3	1/8	1/3	CL00	10	Yes	GP31HA00#A	\$330.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	CL00	10	Yes	GP31JA00#A	\$330.00
6.3-10	2	3	5	7 1/2	1/2	1 1/2	CL00	10	Yes	GP31KA00#A	\$330.00
9-13	3	3	7 1/2	10	1/2	2	CL01	13.8	Yes	GP31LA01#A	\$379.00
11-16	3	5	10	10	1	2	CL02	17.5	Yes	GP31MA02#A	\$393.00
14-20	5	5	10	15	1 1/2	3	CL25	22	Yes	GP31NA25#A <sup>3</sup>	\$412.00
19-25	7 1/2	7 1/2	15	20	1 1/2	3	CL04	32	Yes	GP31PA04#A	\$467.00
24-32	10	10	20	25	2	5	CL04	32	Yes	GP31RA04#A	\$467.00

### 55 mm (Rotary Operator)

#### Individual, Group or Combination<sup>2</sup> Installation Manual Motor Starter Type GPS2BH\_\_

FLA Adjustment Range	Three Phase Horsepower @ 200V	Three Phase Horsepower @ 230V	Three Phase Horsepower @ 460V	Three Phase Horsepower @ 575V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Contactor Size	Contactor Max Amps	Base Included	Product Number <sup>1</sup>	List Price GO-10A2A
11-16	3	5	10	10	1	2	CL04	32	Yes	GP32MA04#A	\$559.00
14-20	5	5	10	15	1 1/2	3	CL04	32	Yes	GP32NA04#A	\$559.00
19-25	7 1/2	7 1/2	15	20	2	3	CL04	32	Yes	GP32PA04#A	\$559.00
24-32	10	10	20	25	2	5	CL04	2	Yes	GP32RA04#A	\$559.00
28-40	10	10	25	25	3	5	CL45	34	Yes	GP32SA45#A <sup>3</sup>	\$646.00

<sup>1</sup>Complete product number by replacing crosshatch (#) with appropriate coil digit from table below. For combination installation add short circuit alarm GP31EA11LA.

<sup>2</sup>For combination installation using GPS1BH\_\_ starters, add GPAPT1E terminal protector. See page 6-10 for field installation kits. For factory modified starters select t-z for GPS2BH\_\_ starters or x-z for GPS1BH\_\_ starters on page 6-19. Maximum voltage for combination control is 277/480.

<sup>3</sup>1NO aux contact front mounted.

Includes 1NO auxiliary contact integrated into MC\* and CL\* unless noted. Integrated contact is on left side on CL\* contactors.

Replace asterisk (#) in product number with coil digit.

### Coil Selection

	DC Voltage				
	12	24	48	125	250
Coil Digit # for MC Contactors	B	D	G	L	S
Coil Digit # for CL Contactors	B	D	G	K	T



# IEC Manual Motor Starters Integrated with Contactor Factory Installed Accessories

## Section 6

### Open Starter Modifications

To specify modifications to your open starter, use the tables below to determine product number digit substitutions and list price adders.

### Open Starter Modification Product Number Structure

Select product from tables on pages 6-15 to 6-18. Select starter and contactor modifications from tables below.

Product Number Digits									
1	2	3	4	5	6	7	8	9	10
G	P	2	3	N	A	2	5	*	A
					Starter Modifications			(Coil) Contactor Modifications	

### Starter Modifications

Replace product number Digit 6 with appropriate digit and add price adder to list price.

Accessories	Contacts	Mounting	Product No. Digit 6	List Price Adder, GO-10A2A
Aux. Contact	1NO	Front	B	\$18.00
Aux. Contact	1NC	Front	C	\$18.00
Alarm Contact	1NO	Front	G	\$21.00
Aux. Contact	1NO-1NC	Left	P	\$27.00
Short Circuit Alarm	1NO-1NC	Left	T	\$20.00
Aux. Contact + (Short Circuit Alarm)	1NO + (1NO-1NC)	Front (Left)	U	\$40.00
Aux. Contact + (Short Circuit Alarm) + (Alarm Contact)	1NO-1NC + (1NO-1NC) + (1NO)	Front (Left) (Front)	W	\$61.00
Short Circuit Alarm + Terminal Cover*	1NO + 1NC	Lateral Left	X	\$32.00
Short Circuit Alarm + Terminal Cover*	1NO + 1NC	Lateral Left	Y	\$32.00
Short Circuit Alarm + Terminal Cover*	1NO + 1NC	Lateral Left	Z	\$32.00
Short Circuit Alarm + (Aux. Contact)	1NO + (1NO)	Left	1	\$36.00
Short Circuit Alarm + (Aux. Contact)	1NC + (1NO)	Left	3	\$36.00

\*for GPS1BH\_ \_ units only

### Contactor Modifications

Replace product number Digit 10 with appropriate digit and add price adder to list price.

Additional Auxiliary Contacts and Coil Surge Suppressors	Contacts	Mounting by Contactor Type		Product No. Digit 10			List Price Adder, GO-10A2A
		CL	MC	MC, CL00, CL01 CL02, CL04	CL25, CL45	CL06, CL07	
Standard	—	—	—	A <sup>2</sup>	A <sup>3</sup>	A <sup>4</sup>	\$0.00
Coil Surge Suppressor <sup>1</sup>	—	—	—	B	B	B	\$27.00
Auxiliary Contact	1NO	Front	Left	C	C	C	\$18.00
Auxiliary Contact + Coil Surge Suppressor <sup>1</sup>	1NO	Front	Left	D	D	D	\$45.00
Auxiliary Contact	1NC	Front	Left	E	E	E	\$18.00
Auxiliary Contact + Coil Surge Suppressor <sup>1</sup>	1NC	Front	Left	F	F	F	\$45.00
Auxiliary Contact	1NO-1NC	Front	Front	G	G <sup>5</sup>	G	\$27.00
Auxiliary Contact + Coil Surge Suppressor <sup>1</sup>	1NO-1NC	Front	Front	H	H <sup>5</sup>	H	\$54.00

<sup>1</sup>RC suppressor AC coil to 230V; diode suppressor for DC coil

<sup>2</sup>Includes internal 1NO holding interlock

<sup>3</sup>Includes 1NO front mounted auxiliary for holding interlock

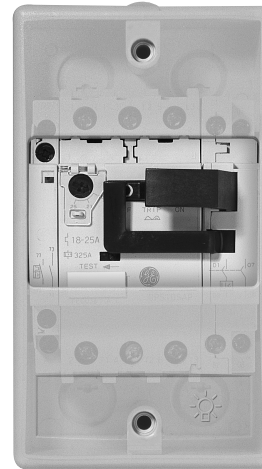
<sup>4</sup>Includes 1NO front mounted auxiliary for holding interlock and 1NC auxiliary for general use

<sup>5</sup>Not available for CL25



**IEC Manual Motor Starters  
Enclosed  
Non-metal Enclosures  
Standard Interruption Capacity**

**Section 6**



**45 mm Standard Interruption (Toggle Operator)  
Non-Metal Enclosure**

**45 mm (Toggle Operator)**

**Individual Manual Motor Starter Type GPS1BS**

FLA Adjustment Range	Three Phase Horsepower @ 200V	Three Phase Horsepower @ 230V	Three Phase Horsepower @ 460V	Three Phase Horsepower @ 575V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Enclosure Type	Product Number	List Price GO-10A2A
0.1-0.16							Non-Metal (Type 1)	GP13AAAA1BA	\$143.00
0.16-.25							Non-Metal (Type 1)	GP13BAAAA1BA	\$143.00
0.25-0.4							Non-Metal (Type 1)	GP13CAAAA1BA	\$143.00
0.4-0.63							Non-Metal (Type 1)	GP13DAAAA1BA	\$143.00
0.63-1.0			1/2	1/2			Non-Metal (Type 1)	GP13EAAAA1BA	\$155.00
1-1.6	1/4	1/3	3/4	3/4		1/10	Non-Metal (Type 1)	GP13FAAAA1BA	\$155.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	Non-Metal (Type 1)	GP13GAAAA1BA	\$155.00
2.5-4	3/4	3/4	2	3	1/8	1/3	Non-Metal (Type 1)	GP13HAAAA1BA	\$155.00
4.0-6.3	1	1 1/2	3	3	1/4	1/2	Non-Metal (Type 1)	GP13JAAAA1BA	\$155.00
6.3-10	2	3	5	5	1/2	1 1/2	Non-Metal (Type 1)	GP13KAAAA1BA	\$155.00
9-13	3	3	7 1/2	10	1/2	2	Non-Metal (Type 1)	GP13LAAAA1BA	\$175.00
11-16	3	3	7 1/2	10	3/4	2	Non-Metal (Type 1)	GP13MAAAA1BA	\$175.00
14-20	5	5	10	15	1	3	Non-Metal (Type 1)	GP13NAAAA1BA	\$175.00
19-25	7 1/2	7 1/2	15	20	1 1/2	3	Non-Metal (Type 1)	GP13PAAAA1BA	\$190.00
0.1-0.16							Non-Metal (Type 3R/12)	GP13AAAA3BA	\$161.00
0.16-.25							Non-Metal (Type 3R/12)	GP13BAAA3BA	\$161.00
0.25-0.4							Non-Metal (Type 3R/12)	GP13CAAAA3BA	\$161.00
0.4-0.63							Non-Metal (Type 3R/12)	GP13DAAA3BA	\$161.00
0.63-1.0			1/2	1/2			Non-Metal (Type 3R/12)	GP13EAAA3BA	\$173.00
1-1.6	1/4	1/3	3/4	3/4		1/10	Non-Metal (Type 3R/12)	GP13FAAAA3BA	\$173.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	Non-Metal (Type 3R/12)	GP13GAAA3BA	\$173.00
2.5-4	3/4	3/4	2	3	1/8	1/3	Non-Metal (Type 3R/12)	GP13HAAA3BA	\$173.00
4.0-6.3	1	1 1/2	3	3	1/4	1/2	Non-Metal (Type 3R/12)	GP13JAAA3BA	\$173.00
6.3-10	2	3	5	5	1/2	1 1/2	Non-Metal (Type 3R/12)	GP13KAAA3BA	\$173.00
9-13	3	3	7 1/2	10	1/2	2	Non-Metal (Type 3R/12)	GP13LAAA3BA	\$193.00
11-16	3	3	7 1/2	10	3/4	2	Non-Metal (Type 3R/12)	GP13MAAAA3BA	\$193.00
14-20	5	5	10	15	1	3	Non-Metal (Type 3R/12)	GP13NAAA3BA	\$193.00
19-25	7 1/2	7 1/2	15	20	1 1/2	3	Non-Metal (Type 3R/12)	GP13PAAA3BA	\$208.00



# IEC Manual Motor Starters Enclosed Factory Installed Accessories

## Section 6

### Enclosed Starter Accessories Product Number Structure

Select product from table on page 6-20. Select starter and enclosure accessories from tables below.

Product Number Digits											
1	2	3	4	5	6	7	8	9	10	11	12
G	P	1	3	A	A	A	A	A	1	B	A
Starter Auxiliary Contacts and Alarms										Pilot Lights	Pilot Lights

### Starter Auxiliary Contacts and Alarms

Replace Digit 6 in product number with digit corresponding to appropriate accessory.

Accessory	Contacts	Product No. Digit 6	List Price Adder, GO-10A2A
Auxiliary Contact	1NO-1NC	P	\$27.00
Alarm + (Auxiliary Contact)	1NO + (1NO)	1	\$36.00
Alarm + (Auxiliary Contact)	1NC + (1NO)	3	\$36.00

### Pilot Lights

Leads unwired for field configuration.

Replace Digits 11 & 12 in product number with digits corresponding to lens color and voltage.

Lens Color	Voltage (50/60Hz)					List Price Adder, GO-10A2A
	110/220	220/240	380/440	480/500	600	
Red	RJ	RN	RU	RX	RY	\$27.00
Green	GJ	GN	GU	GX	GY	\$27.00
Clear	TJ	TN	TU	TX	TY	\$27.00

### Modification Example

Motor FLA is 1.9 amps. Requirement is for a Type 1 enclosed starter for 1 HP at 460V modified with a 1NO-NC aux contact and a red pilot light also at 460V.

Step	Digit No.												List Price GO-10A2A
	1	2	3	4	5	6	7	8	9	10	11	12	
1. Enclosed Starter	G	P	1	3	G	A	A	A	A	1	B	A	\$155.00
2. 1NO-1NC Aux. Contact	G	P	1	3	G	P	A	A	A	1	B	A	\$27.00
3. Red Pilot Light (460V)	G	P	1	3	G	P	A	A	A	1	R	X	\$27.00
4. Final Product No. & List Price	G	P	1	3	G	P	A	A	A	1	R	X	\$209.00

Product selection from table on page 6-20

Digit #6: Starter Auxiliary Contacts and Alarms

Digits #11 and #12: Pilot Lights



# IEC Manual Motor Starters Enclosed Metal Enclosures High Interruption Capacity

## Section 6

### Product Number Selection Instructions

Selection of the starter depends on the actual motor full load current and service factor. For motors with service factor of 1.15 or greater, use motor full load current to select the appropriate current range. For motors with a service factor less than 1.15, multiply the normal full load current by .9 for the current setting. Single phase applications require all three overload legs to be energized for proper operation. Use separate conductor to connect terminal T2 to L3. Connect power to L1 and L2 and apply load between T1 and T3.

### 45 mm (Rotary Operator)

#### Individual or Type E Combination<sup>1</sup> Installation Manual Motor Starter Type GPS1BH\_\_

FLA Adjustment Range	Three Phase Horsepower @ 200V	Three Phase Horsepower @ 230V	Three Phase Horsepower @ 460V	Three Phase Horsepower @ 575V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Enclosure Type	Product Number	List Price GO-10A2A
0.1-0.16							Metal (Type 1)	GP11AAAA5BA	\$190.00
0.16-.25							Metal (Type 1)	GP11BAAA5BA	\$190.00
0.25-0.4							Metal (Type 1)	GP11CAAAA5BA	\$190.00
0.4-0.63							Metal (Type 1)	GP11DAAA5BA	\$190.00
0.63-1.0			1/2	1/2			Metal (Type 1)	GP11EAAA5BA	\$205.00
1-1.6	1/4	1/3	3/4	3/4		1/10	Metal (Type 1)	GP11FAAAA5BA	\$205.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	Metal (Type 1)	GP11GAAA5BA	\$205.00
2.5-4	3/4	3/4	2	3	1/8	1/3	Metal (Type 1)	GP11HAAA5BA	\$205.00
4.0-6.3	1	1 1/2	3	3	1/4	1/2	Metal (Type 1)	GP11JAAA5BA	\$205.00
6.3-10	2	3	5	5	1/2	1 1/2	Metal (Type 1)	GP11KAAA5BA	\$205.00
9-13	3	3	7 1/2	10	1/2	2	Metal (Type 1)	GP11LAAA5BA	\$230.00
11-16	3	3	7 1/2	10	3/4	2	Metal (Type 1)	GP11MAAAA5BA	\$230.00
14-20	5	5	10	15	1	3	Metal (Type 1)	GP11NAAA5BA	\$230.00
19-25	7 1/2	7 1/2	15	20	1 1/2	3	Metal (Type 1)	GP11PAAA5BA	\$245.00
24-32	10	10	20	25	2	5	Metal (Type 1)	GP11RAAAA5BA	\$245.00
0.1-0.16							Metal (Type 3R/12)	GP11AAAA7BA	\$295.00
0.16-.25							Metal (Type 3R/12)	GP11BAAA7BA	\$295.00
0.25-0.4							Metal (Type 3R/12)	GP11CAAAA7BA	\$295.00
0.4-0.63							Metal (Type 3R/12)	GP11DAAA7BA	\$295.00
0.63-1.0			1/2	1/2			Metal (Type 3R/12)	GP11EAAA7BA	\$310.00
1-1.6	1/4	1/3	3/4	3/4		1/10	Metal (Type 3R/12)	GP11FAAAA7BA	\$310.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	Metal (Type 3R/12)	GP11GAAA7BA	\$310.00
2.5-4	3/4	3/4	2	3	1/8	1/3	Metal (Type 3R/12)	GP11HAAA7BA	\$310.00
4.0-6.3	1	1 1/2	3	3	1/4	1/2	Metal (Type 3R/12)	GP11JAAA7BA	\$310.00
6.3-10	2	3	5	5	1/2	1 1/2	Metal (Type 3R/12)	GP11KAAA7BA	\$310.00
9-13	3	3	7 1/2	10	1/2	2	Metal (Type 3R/12)	GP11LAAA7BA	\$335.00
11-16	3	3	7 1/2	10	3/4	2	Metal (Type 3R/12)	GP11MAAAA7BA	\$335.00
14-20	5	5	10	15	1	3	Metal (Type 3R/12)	GP11NAAA7BA	\$335.00
19-25	7 1/2	7 1/2	15	20	1 1/2	3	Metal (Type 3R/12)	GP11PAAA7BA	\$350.00
24-32	10	10	20	25	2	5	Metal (Type 3R/12)	GP11RAAAA7BA	\$350.00

### 55 mm (Rotary Operator)

#### Individual or Type E Combination<sup>1</sup> Installation Manual Motor Starter Type GPS2BH\_\_

FLA Adjustment Range	Three Phase Horsepower @ 200V	Three Phase Horsepower @ 230V	Three Phase Horsepower @ 460V	Three Phase Horsepower @ 575V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Enclosure Type	Product Number	List Price GO-10A2A
6.3-10	1	1 1/2	3	5	1/4	1/2	Metal (Type 1)	GP12KAAA5BA	\$390.00
9-13	2	3	5	7 1/2	1/2	1 1/2	Metal (Type 1)	GP12LAAA5BA	\$390.00
11-16	3	5	10	10	1	2	Metal (Type 1)	GP12MAAAA5BA	\$390.00
14-20	5	5	10	15	1 1/2	3	Metal (Type 1)	GP12NAAA5BA	\$390.00
19-25	7 1/2	7 1/2	15	20	2	3	Metal (Type 1)	GP12PAAA5BA	\$390.00
24-32	10	10	20	25	2	5	Metal (Type 1)	GP12RAAAA5BA	\$390.00
28-40	10	10	25	25	3	5	Metal (Type 1)	GP12SAAA5BA	\$420.00
35-50	15	15	30	40	3	7 1/2	Metal (Type 1)	GP12TAAA5BA	\$420.00
45-63	15	20	40	50	5	10	Metal (Type 1)	GP12UAAA5BA	\$447.00
6.3-10	1	1 1/2	3	5	1/4	1/2	Metal (Type 3R/12)	GP12KAAA7BA	\$430.00
9-13	2	3	5	7 1/2	1/2	1 1/2	Metal (Type 3R/12)	GP12LAAA7BA	\$430.00
11-16	3	5	10	10	1	2	Metal (Type 3R/12)	GP12MAAAA7BA	\$430.00
14-20	5	5	10	15	1 1/2	3	Metal (Type 3R/12)	GP12NAAA7BA	\$430.00
19-25	7 1/2	7 1/2	15	20	2	3	Metal (Type 3R/12)	GP12PAAA7BA	\$430.00
24-32	10	10	20	25	2	5	Metal (Type 3R/12)	GP12RAAAA7BA	\$430.00
28-40	10	10	25	25	3	5	Metal (Type 3R/12)	GP12SAAA7BA	\$460.00
35-50	15	15	30	40	3	7 1/2	Metal (Type 3R/12)	GP12TAAA7BA	\$460.00
45-63	15	20	40	50	5	10	Metal (Type 3R/12)	GP12UAAA7BA	\$487.00

<sup>1</sup>For combination installation add short circuit alarm GPAAE11LLA. For combination installation using GPS1BH—starters add GPAPT1E terminal protector. See page 6-10 for field installation kits. For factory modified starters select t-z for GPS2BH—starters or x-z for GPS1BH—starters on page 6-23. Maximum voltage for combination control is 277/480. Enclosed Motor Starters (Without Contactors), Metallic Enclosures, Rotary Operated (Black Operator), Individual, Non-combination or Type E Combination Installation.



# IEC Manual Motor Starters Enclosed

## Section 6

### Factory Installed Accessories

#### Modifications & Accessories for Enclosed Motor Starters, Metallic Enclosures, Rotary Operated

To specify modifications to your enclosed starter, use the tables below to determine product number digit substitutions and list price adders.

#### Enclosed Starter Modification Product Number Structure

Select product from tables on page 6-22. Select starter, handle, or enclosure accessory from tables below.

Product Number Digits											
1	2	3	4	5	6	7	8	9	10	11	12
G	P	1	1	G	A	A	A	A	7	B	A
Starter Auxiliary Contacts and Alarms									Enclosure Type/ Operator Handle Color		

#### Starter Auxiliary Contacts, Short Circuit Alarm & Alarm Contact

Replace Digit 6 in product number with digit corresponding to appropriate accessory.

Accessories	Contacts	Mounting	Product No. Digit 6	List Price Adder, GO-10A2A
Aux. Contact	1NO	Front	B	\$18.00
Aux. Contact	1NC	Front	C	\$18.00
Alarm Contact	1NO	Front	G	\$21.00
Aux. Contact	1NO-1NC	Left	P	\$27.00
Short Circuit Alarm	1NO-1NC	Left	T	\$20.00
Aux. Contact + (Short Circuit Alarm)	1NO + (1NO-1NC)	Front (Left)	U	\$40.00
Aux. Contact + (Short Circuit Alarm) + [Alarm Contact]	1NO-1NC + (1NO-1NC) + [1NO]	Front (Left) [Front]	W	\$61.00
Short Circuit Alarm + Terminal Cover*	1NO + 1NC	Lateral Left	X	\$32.00
Short Circuit Alarm + Terminal Cover*	1NO + 1NC	Lateral Left	Y	\$32.00
Short Circuit Alarm + Terminal Cover*	1NO + 1NC	Lateral Left	Z	\$32.00
Alarm + (Aux. Contact)	1NO + (1NO)	Left	1	\$36.00
Alarm + (Aux. Contact)	1NC + (1NO)	Left	3	\$36.00

\*for GPS1BH\_ \_ units only

#### Red/Yellow Rotary Operator

Replace Digit 10 in product number with digit corresponding to enclosure type.

Enclosure Type	Product No. Digit 10	List Price Adder, GO-10A2A
Type 1 <sup>1</sup>	6	\$0.00
Type 3R/12	8	\$0.00

<sup>1</sup>For use only with GPS2BH\_ \_ starters.

#### Pilot Lights

Includes both red and green lenses for field installation. Replace Digits 11 & 12 in product number with digits corresponding to voltage.

Voltage (60 Hz)	Product No. Digits 11 & 12	List Price Adder, GO-10A2A
24	GC	\$96.00
120	GJ	\$96.00
208	GL	\$96.00
277	GN	\$96.00
240	GS	\$96.00
460	GX	\$96.00
600	GY	\$96.00

#### Modification Example

Motor FLA is 1.9 amps. Requirement is for a Type 1 enclosed starter for 1 HP at 460V modified with a 1NO-NC aux contact, a red/yellow operator and a pilot light also at 460V.

Step	Digit No.												List Price GO-10A2A
	1	2	3	4	5	6	7	8	9	10	11	12	
1. Enclosed Starter	G	P	1	1	G	A	A	A	A	7	B	A	\$310.00
2. 1NO-1NC Aux. Contact	G	P	1	1	G	P	A	A	A	7	B	A	\$27.00
3. Red/Yellow Operator	G	P	1	1	G	P	A	A	A	8	B	A	\$0.00
4. Red Pilot Light (460V)	G	P	1	1	G	P	A	A	A	8	G	X	\$96.00
5. Final Product No. & List Price	G	P	1	1	G	P	A	A	A	8	G	X	\$433.00

Product selection from table on page 6-22

Digit #6: Starter Auxiliary Contacts and Alarms

Digit #10: Red/Yellow Rotary Operator/Enclosure Type

Digit #11 and #12: Pilot Light



# IEC Manual Motor Starters Integrated with Contactor Enclosed, AC Operated Contactors High Interruption Capacity

## Section 6

### Product Number Selection Instructions

Selection of the starter depends on the actual motor full load current and service factor. For motors with service factor of 1.15 or greater, use motor full load current to select the appropriate current range. For motors with a service factor less than 1.15, multiply the normal full load current by .9 for the current setting. Single phase applications require all three overload legs to be energized for proper operation. Use separate conductor to connect terminal T2 to L3. Connect power to L1 and L2 and apply load between T1 and T3. Select product from tables. See pages 6-28 and 6-29 for starter, contactor or enclosure modifications.

### 45 mm (Rotary Operator)

### Individual, Non-Combination or Combination<sup>2</sup> Installation Manual Motor Starter Type GPS1BH\_\_

FLA Adjustment Range	Three Phase Horsepower @ 200V	Three Phase Horsepower @ 230V	Three Phase Horsepower @ 460V	Three Phase Horsepower @ 575V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Contactor Size	Contactor Max Amps	Enclosure Type	Product Number <sup>1</sup>	List Price GO-10A2A
0.1-0.16							MC1	9	Metal (Type 1)	GP26AAM1*A1AA	\$411.00
0.16-25							MC1	9	Metal (Type 1)	GP26BAM1*A1AA	\$411.00
0.25-0.4							MC1	9	Metal (Type 1)	GP26CAM1*A1AA	\$411.00
0.4-0.63							MC1	9	Metal (Type 1)	GP26DAM1*A1AA	\$411.00
0.63-1.0				1/2	1/2		MC1	9	Metal (Type 1)	GP26EAM1*A1AA	\$426.00
1-1.6	1/4	1/3	3/4	1		1/10	MC1	9	Metal (Type 1)	GP26FAM1*A1AA	\$426.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	MC1	9	Metal (Type 1)	GP26GAM1*A1AA	\$426.00
2.5-4	3/4	3/4	2	3	1/8	1/3	MC1	9	Metal (Type 1)	GP26HAM1*A1AA	\$426.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	MC1	9	Metal (Type 1)	GP26JAM1*A1AA	\$426.00
6.3-10	2	3	5	7 1/2	1/2	1 1/2	MC1	9	Metal (Type 1)	GP26KAM1*A1AA	\$426.00
0.1-0.16							CL00	10	Metal (Type 1)	GP26AA00*A1AA	\$453.00
0.16-25							CL00	10	Metal (Type 1)	GP26BA00*A1AA	\$453.00
0.25-0.4							CL00	10	Metal (Type 1)	GP26CA00*A1AA	\$453.00
0.4-0.63							CL00	10	Metal (Type 1)	GP26DA00*A1AA	\$453.00
0.63-1.0			1/2	1/2			CL00	10	Metal (Type 1)	GP26EA00*A1AA	\$468.00
1-1.6	1/4	1/3	3/4	3/4		1/10	CL00	10	Metal (Type 1)	GP26FA00*A1AA	\$468.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	CL00	10	Metal (Type 1)	GP26GA00*A1AA	\$468.00
2.5-4	3/4	3/4	2	3	1/8	1/3	CL00	10	Metal (Type 1)	GP26HA00*A1AA	\$468.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	CL00	10	Metal (Type 1)	GP26JA00*A1AA	\$468.00
6.3-10	2	3	5	7 1/2	1/2	1 1/2	CL00	10	Metal (Type 1)	GP26KA00*A1AA	\$468.00
9-13	3	3	7 1/2	10	1/2	2	CL01	13.8	Metal (Type 1)	GP26LA01*A1AA	\$516.00
11-16	3	5	10	10	1	2	CL02	17.5	Metal (Type 1)	GP26MA02*A1AA	\$531.00
14-20	5	5	10	15	1 1/2	3	CL25	22	Metal (Type 1)	GP26NA25*A1AA <sup>3</sup>	\$545.00
19-25	7 1/2	7 1/2	15	20	1 1/2	3	CL04	32	Metal (Type 1)	GP26PA04*A1AA	\$589.00
24-32	10	10	20	25	2	5	CL04	32	Metal (Type 1)	GP26RA04*A1AA	\$589.00
0.1-0.16							MC1	9	Metal (Type 3R/12)	GP26AAM1*A3AA	\$456.00
0.16-25							MC1	9	Metal (Type 3R/12)	GP26BAM1*A3AA	\$456.00
0.25-0.4							MC1	9	Metal (Type 3R/12)	GP26CAM1*A3AA	\$456.00
0.4-0.63							MC1	9	Metal (Type 3R/12)	GP26DAM1*A3AA	\$456.00
0.63-1.0			1/2	1/2			MC1	9	Metal (Type 3R/12)	GP26EAM1*A3AA	\$471.00
1-1.6	1/4	1/3	3/4	3/4		1/10	MC1	9	Metal (Type 3R/12)	GP26FAM1*A3AA	\$471.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	MC1	9	Metal (Type 3R/12)	GP26GAM1*A3AA	\$471.00
2.5-4	3/4	3/4	2	3	1/8	1/3	MC1	9	Metal (Type 3R/12)	GP26HAM1*A3AA	\$471.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	MC1	9	Metal (Type 3R/12)	GP26JAM1*A3AA	\$471.00
6.3-10	2	3	5	7 1/2	1/2	1 1/2	MC1	9	Metal (Type 3R/12)	GP26KAM1*A3AA	\$471.00
0.1-0.16							CL00	10	Metal (Type 3R/12)	GP26AA00*A3AA	\$498.00
0.16-25							CL00	10	Metal (Type 3R/12)	GP26BA00*A3AA	\$498.00
0.25-0.4							CL00	10	Metal (Type 3R/12)	GP26CA00*A3AA	\$498.00
0.4-0.63							CL00	10	Metal (Type 3R/12)	GP26DA00*A3AA	\$498.00
0.63-1.0			1/2	1/2			CL00	10	Metal (Type 3R/12)	GP26EA00*A3AA	\$513.00
1-1.6	1/4	1/3	3/4	3/4		1/10	CL00	10	Metal (Type 3R/12)	GP26FA00*A3AA	\$513.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	CL00	10	Metal (Type 3R/12)	GP26GA00*A3AA	\$513.00
2.5-4	3/4	3/4	2	3	1/8	1/3	CL00	10	Metal (Type 3R/12)	GP26HA00*A3AA	\$513.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	CL00	10	Metal (Type 3R/12)	GP26JA00*A3AA	\$513.00
6.3-10	2	3	5	7 1/2	1/2	1 1/2	CL00	10	Metal (Type 3R/12)	GP26KA00*A3AA	\$513.00
9-13	3	3	7 1/2	10	1/2	2	CL01	13.8	Metal (Type 3R/12)	GP26LA01*A3AA	\$561.00
11-16	3	5	10	10	1	2	CL02	17.5	Metal (Type 3R/12)	GP26MA02*A3AA	\$576.00
14-20	5	5	10	15	1 1/2	3	CL25	22	Metal (Type 3R/12)	GP26NA25*A3AA <sup>3</sup>	\$590.00
19-25	7 1/2	7 1/2	15	20	1 1/2	3	CL04	32	Metal (Type 3R/12)	GP26PA04*A3AA	\$634.00
24-32	10	10	20	25	2	5	CL04	32	Metal (Type 3R/12)	GP26RA04*A3AA	\$634.00

<sup>1</sup>Complete product number by replacing asterisk (\*) with appropriate coil digit from table below.

<sup>2</sup>For combination installation add short circuit alarm GPAAE11LLA. For combination installation using GPS1BH—starters add GPAPT1E terminal protector. See page 6-10 for field installation kits. For factory modified starters select t-z for GPS2BH—starters or x-z for GPS1BH—starters on page 6-28. Maximum voltage for combination control is 277/480.

<sup>3</sup>1NO aux contact front mounted.

Enclosed Assembled Motor Starters with AC Contactors, Rotary Operated (Black Operator), Individual Non-Combination or Combination Installation. Includes 1NO auxiliary contact integrated into MC\* and CL\* unless noted. Integrated contact is on left side of CL\* contactors.

Replace asterisk (\*) in product number with coil digit.

### Coil Selection

	AC Voltage												
	60Hz	24	24	120	208	240	240-277	277	—	480	—	480	600
Coil Digit* for MC Contactors	—	—	24	110	—	—	—	220-230	380	380/400	415	415	500
Coil Digit* for CL Contactors	C	—	J	M	—	N	—	U	—	—	W	—	Y
	—	1	J	L	S	—	N	—	—	U	W	—	Y





# IEC Manual Motor Starters Integrated with Contactor Enclosed, AC Operated Contactors High Interruption Capacity

## Section 6



High Interruption Capacity (Rotary Operator), Metal Enclosure,  
Integrated with AC Contactor

### 55 mm (Rotary Operator)

#### Individual, Non-Combination or Combination<sup>2</sup> Installation Manual Motor Starter Type GPS2BH\_\_

FLA Adjustment Range	Three Phase Horsepower @ 200V	Three Phase Horsepower @ 230V	Three Phase Horsepower @ 460V	Three Phase Horsepower @ 575V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Contactors Size	Contactors Max Amps	Enclosure Type	Product Number <sup>1</sup>	List Price GO-10A2A
11-16	3	5	10	10	1	2	CL04	32	Metal (Type 1)	GP22MA04*A1AA	\$681.00
14-20	5	5	10	15	1 1/2	3	CL04	32	Metal (Type 1)	GP22NA04*A1AA	\$681.00
19-25	7 1/2	7 1/2	15	20	2	3	CL04	32	Metal (Type 1)	GP22PA04*A1AA	\$681.00
24-32	10	10	20	25	2	5	CL04	32	Metal (Type 1)	GP22RA04*A1AA	\$681.00
28-40	10	10	25	25	3	5	CL45	34	Metal (Type 1)	GP22SA45*A1AA <sup>3</sup>	\$727.00
35-50	15	15	30	40	3	7 1/2	CL06	48	Metal (Type 1)	GP22TA06*A1AA <sup>4</sup>	\$776.00
45-63	15	20	40	50	5	10	CL07	62	Metal (Type 1)	GP22UA07*A1AA <sup>4</sup>	\$796.00
11-16	3	5	10	10	1	2	CL04	32	Metal (Type 3R/12)	GP22MA04*A3AA	\$726.00
14-20	5	5	10	15	1 1/2	3	CL04	32	Metal (Type 3R/12)	GP22NA04*A3AA	\$726.00
19-25	7 1/2	7 1/2	15	20	2	3	CL04	32	Metal (Type 3R/12)	GP22PA04*A3AA	\$726.00
24-32	10	10	20	25	2	5	CL04	32	Metal (Type 3R/12)	GP22RA04*A3AA	\$726.00
28-40	10	10	25	25	3	5	CL45	34	Metal (Type 3R/12)	GP22SA45*A3AA <sup>3</sup>	\$772.00
35-50	15	15	30	40	3	7 1/2	CL06	48	Metal (Type 3R/12)	GP22TA06*A3AA <sup>3</sup>	\$821.00
45-63	15	20	40	50	5	10	CL07	62	Metal (Type 3R/12)	GP22UA07*A3AA <sup>3</sup>	\$888.00

<sup>1</sup>Complete product number by replacing asterisk (\*) with appropriate coil digit from table below.

<sup>2</sup>For combination installation add short circuit alarm GP22MA04\*A1AA. For combination installation using GPS1BH—starters add GPAPT1E terminal protector. See page 6-10 for field installation kits. For factory modified starters select t-z for GPS2BH—starters or x-z for GPS1BH—starters on page 6-28. Maximum voltage for combination control is 277/480.

<sup>3</sup>1NO aux contact front mounted.

<sup>4</sup>1NO-1NC aux contact front mounted.

Enclosed Assembled Motor Starters with AC Contactors, Rotary Operated (Black Operator), Individual Non-Combination or Combination Installation Includes 1NO auxiliary contact integrated into MC\* and CL\* unless noted. Integrated contact is on left side of CL\* contactors.

Replace asterisk (\*) in product number with coil digit.

#### Coil Selection

	AC Voltage											
	24	24	120	208	240	240-277	277	—	480	—	480	600
60Hz	—	24	110	—	—	—	220-230	380	380/400	415	415	500
50Hz	—	24	110	—	—	—	220-230	380	380/400	415	415	500
Coil Digit* for MC Contactors	C	—	J	M	—	N	—	U	—	—	W	Y
Coil Digit* for CL Contactors	—	1	J	L	S	—	N	—	U	W	—	Y



# IEC Manual Motor Starters Integrated with Contactor Enclosed, DC Operated Contactors High Interruption Capacity

## Section 6

### Product Number Selection Instructions

Selection of the starter depends on the actual motor full load current and service factor. For motors with service factor of 1.15 or greater, use motor full load current to select the appropriate current range. For motors with a service factor less than 1.15, multiply the normal full load current by .9 for the current setting. Single phase applications require all three overload legs to be energized for proper operation. Use separate conductor to connect terminal T2 to L3. Connect power to L1 and L2 and apply load between T1 and T3. Select product from tables. See pages 6-28 and 6-29 for starter, contactor or enclosure modifications.

### 45 mm (Rotary Operator)

### Individual, Non-Combination or Combination<sup>2</sup> Installation Manual Motor Starter Type GPS1BH\_\_

FLA Adjustment Range	Three Phase Horsepower @ 200V	Three Phase Horsepower @ 230V	Three Phase Horsepower @ 460V	Three Phase Horsepower @ 575V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Contactor Size	Contactor Max Amps	Enclosure Type	Product Number <sup>1</sup>	List Price GO-10A2A
0.1-0.16							MC1	9	Metal (Type 1)	GP36AAM1#A1AA	\$421.00
0.16-25							MC1	9	Metal (Type 1)	GP36BAM1#A1AA	\$421.00
0.25-0.4							MC1	9	Metal (Type 1)	GP36CAM1#A1AA	\$421.00
0.4-0.63							MC1	9	Metal (Type 1)	GP36DAM1#A1AA	\$421.00
0.63-1.0			1/2	1/2			MC1	9	Metal (Type 1)	GP36EAM1#A1AA	\$436.00
1-1.6	1/4	1/3	3/4	3/4		1/10	MC1	9	Metal (Type 1)	GP36FAM1#A1AA	\$436.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	MC1	9	Metal (Type 1)	GP36GAM1#A1AA	\$436.00
2.5-4	3/4	3/4	2	3	1/8	1/3	MC1	9	Metal (Type 1)	GP36HAM1#A1AA	\$436.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	MC1	9	Metal (Type 1)	GP36JAM1#A1AA	\$436.00
6.3-10	2	3	5	5	1/2	1 1/2	MC1	9	Metal (Type 1)	GP36KAM1#A1AA	\$480.00
0.1-0.16							CL00	10	Metal (Type 1)	GP36AA00#A1AA	\$480.00
0.16-25							CL00	10	Metal (Type 1)	GP36BA00#A1AA	\$480.00
0.25-0.4							CL00	10	Metal (Type 1)	GP36CA00#A1AA	\$480.00
0.4-0.63							CL00	10	Metal (Type 1)	GP36DA00#A1AA	\$480.00
0.63-1.0			1/2	1/2			CL00	10	Metal (Type 1)	GP36EA00#A1AA	\$495.00
1-1.6	1/4	1/3	3/4	3/4		1/10	CL00	10	Metal (Type 1)	GP36FA00#A1AA	\$495.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	CL00	10	Metal (Type 1)	GP36GA00#A1AA	\$495.00
2.5-4	3/4	3/4	2	3	1/8	1/3	CL00	10	Metal (Type 1)	GP36HA00#A1AA	\$495.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	CL00	10	Metal (Type 1)	GP36JA00#A1AA	\$495.00
6.3-10	2	3	5	7 1/2	1/2	1 1/2	CL00	10	Metal (Type 1)	GP36KA00#A1AA	\$495.00
9-13	3	3	7 1/2	10	1/2	2	CL01	13.8	Metal (Type 1)	GP36LA01#A1AA	\$544.00
11-16	3	5	10	10	1	2	CL02	17.5	Metal (Type 1)	GP36MA02#A1AA	\$558.00
14-20	5	5	10	15	1 1/2	3	CL25	22	Metal (Type 1)	GP36NA25#A1AA <sup>3</sup>	\$577.00
19-25	7 1/2	7 1/2	15	20	1 1/2	3	CL04	32	Metal (Type 1)	GP36PA04#A1AA	\$632.00
24-32	10	10	20	25	2	5	CL04	32	Metal (Type 1)	GP36RA04#A1AA	\$632.00
0.1-0.16							MC1	9	Metal (Type 3R/12)	GP36AAM1#A3AA	\$466.00
0.16-25							MC1	9	Metal (Type 3R/12)	GP36BAM1#A3AA	\$466.00
0.25-0.4							MC1	9	Metal (Type 3R/12)	GP36CAM1#A3AA	\$466.00
0.4-0.63							MC1	9	Metal (Type 3R/12)	GP36DAM1#A3AA	\$466.00
0.63-1.0			1/2	1/2			MC1	9	Metal (Type 3R/12)	GP36EAM1#A3AA	\$481.00
1-1.6	1/4	1/3	3/4	3/4		1/10	MC1	9	Metal (Type 3R/12)	GP36FAM1#A3AA	\$481.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	MC1	9	Metal (Type 3R/12)	GP36GAM1#A3AA	\$481.00
2.5-4	3/4	3/4	2	3	1/8	1/3	MC1	9	Metal (Type 3R/12)	GP36HAM1#A3AA	\$481.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	MC1	9	Metal (Type 3R/12)	GP36JAM1#A3AA	\$481.00
6.3-10	2	3	5	5	1/2	1 1/2	MC1	9	Metal (Type 3R/12)	GP36KAM1#A3AA	\$525.00
0.1-0.16							CL00	10	Metal (Type 3R/12)	GP36AA00#A3AA	\$525.00
0.16-25							CL00	10	Metal (Type 3R/12)	GP36BA00#A3AA	\$525.00
0.25-0.4							CL00	10	Metal (Type 3R/12)	GP36CA00#A3AA	\$525.00
0.4-0.63							CL00	10	Metal (Type 3R/12)	GP36DA00#A3AA	\$525.00
0.63-1.0			1/2	1/2			CL00	10	Metal (Type 3R/12)	GP36EA00#A3AA	\$540.00
1-1.6	1/4	1/3	3/4	3/4		1/10	CL00	10	Metal (Type 3R/12)	GP36FA00#A3AA	\$540.00
1.6-2.5	1/2	1/2	1	1 1/2		1/6	CL00	10	Metal (Type 3R/12)	GP36GA00#A3AA	\$540.00
2.5-4	3/4	3/4	2	3	1/8	1/3	CL00	10	Metal (Type 3R/12)	GP36HA00#A3AA	\$540.00
4.0-6.3	1	1 1/2	3	5	1/4	1/2	CL00	10	Metal (Type 3R/12)	GP36JA00#A3AA	\$540.00
6.3-10	2	3	5	7 1/2	1/2	1 1/2	CL00	10	Metal (Type 3R/12)	GP36KA00#A3AA	\$540.00
9-13	3	3	7 1/2	10	1/2	2	CL01	13.8	Metal (Type 3R/12)	GP36LA01#A3AA	\$589.00
11-16	3	5	10	10	1	2	CL02	17.5	Metal (Type 3R/12)	GP36MA02#A3AA	\$603.00
14-20	5	5	10	15	1 1/2	3	CL25	22	Metal (Type 3R/12)	GP36NA25#A3AA <sup>3</sup>	\$622.00
19-25	7 1/2	7 1/2	15	20	1 1/2	3	CL04	32	Metal (Type 3R/12)	GP36PA04#A3AA	\$677.00
24-32	10	10	20	25	2	5	CL04	32	Metal (Type 3R/12)	GP36RA04#A3AA	\$677.00

<sup>1</sup>Complete product number by replacing crosshatch (#) with appropriate coil digit from table below.

<sup>2</sup>For combination installation add short circuit alarm GPAAE11LLA. For combination installation using GPS1BH—starters add GPAPT1E terminal protector. See page 6-10 for field installation kits. For factory modified starters select t-z for GPS2BH—starters or x-z for GPS1BH—starters on page 6-28. Maximum voltage for combination control is 277/480.

<sup>3</sup>1NO aux contact front mounted.

Includes 1NO auxiliary contact integrated into MC\* and CL\* unless noted. Integrated contact is on left side on CL\* contactors.

Replace crosshatch (#) in product number with coil digit.

### Coil Selection

	DC Voltage				
	12	24	48	125	250
Coil Digit # for MC Contactors	B	D	G	L	S
Coil Digit # for CL Contactors	B	D	G	K	T



# IEC Manual Motor Starters Integrated with Contactor Enclosed, DC Operated Contactors High Interruption Capacity

## Section 6



High Interruption Capacity (Rotary Operator), Metal Enclosure,  
Integrated with DC Contactor

### 55 mm (Rotary Operator)

#### Individual, Non-Combination or Combination<sup>2</sup> Installation Manual Motor Starter Type GPS2BH\_

FLA Adjustment Range	Three Phase Horsepower @ 200V	Three Phase Horsepower @ 230V	Three Phase Horsepower @ 460V	Three Phase Horsepower @ 575V	Single Phase Horsepower @ 115V	Single Phase Horsepower @ 230V	Contactator Size	Contactator Max Amps	Enclosure Type	Product Number <sup>1</sup>	List Price
11-16	3	5	10	10	1	2	CL04	32	Metal (Type 1)	GP32MA04#A1AA	\$724.00
14-20	5	5	10	15	1 1/2	3	CL04	32	Metal (Type 1)	GP32NA04#A1AA	\$724.00
19-25	7 1/2	7 1/2	15	20	2	3	CL04	32	Metal (Type 1)	GP32PA04#A1AA	\$724.00
24-32	10	10	20	25	2	5	CL04	32	Metal (Type 1)	GP32RA04#A1AA	\$724.00
28-40	10	10	25	25	3	5	CL45	34	Metal (Type 1)	GP32SA45#A1AA <sup>3</sup>	\$811.00
11-16	3	5	10	10	1	2	CL04	32	Metal (Type 3R/12)	GP32MA04#A3AA	\$769.00
14-20	5	5	10	15	1 1/2	3	CL04	32	Metal (Type 3R/12)	GP32NA04#A3AA	\$769.00
19-25	7 1/2	7 1/2	15	20	2	3	CL04	32	Metal (Type 3R/12)	GP32PA04#A3AA	\$769.00
24-32	10	10	20	25	2	5	CL04	32	Metal (Type 3R/12)	GP32RA04#A3AA	\$769.00
28-40	10	10	25	25	3	5	CL45	34	Metal (Type 3R/12)	GP32SA45#A3AA <sup>3</sup>	\$856.00

<sup>1</sup>Complete product number by replacing crosshatch (#) with appropriate coil digit from table below.

<sup>2</sup>For combination installation add short circuit alarm GPAAE11LLA. For combination installation using GPS1BH—starters add GPAPT1E terminal protector. See page 6-10 for field installation kits. For factory modified starters select t-z for GPS2BH—starters or x-z for GPS1BH—starters on page 6-28. Maximum voltage for combination control is 277/480.

<sup>3</sup>1NO aux contact front mounted.

Includes 1NO auxiliary contact integrated into MC\* and CL\* unless noted. Integrated contact is on left side on CL\* contactors.

Replace crosshatch (#) in product number with coil digit.

#### Coil Selection

	DC Voltage				
	12	24	48	125	250
Coil Digit # for MC Contactors	B	D	G	L	S
Coil Digit # for CL Contactors	B	D	G	K	T



# IEC Manual Motor Starters Integrated with Contactor

## Factory Installed Accessories

## Section 6

### Enclosed Assembled Starters, Metallic Enclosures, Rotary Operated

To specify modifications to your enclosed starter, use the tables below to determine product number digit substitutions and list price adders.

#### Enclosed Starter Modification Product Number Structure

Select product from tables on pages 6-24 through 6-27. Select starter, contactor, or enclosure modifications from table below.

Product Number Digits												
1	2	3	4	5	6	7	8	9	10	11	12	13
G	P	2	6	G		0	0	*	A			
Starter Auxiliary Contact and Alarm						(Coil)	Contactor Auxiliary Contact and Surge Suppressor		Enclosure Type/ Operator Handle Color	CPT	Pilot Devices	

#### Starter Auxiliary Contact and Alarm

Replace product number Digit 6 with appropriate digit and add price adder to list price.

Accessories	Contacts	Mounting	Product No. Digit 6	List Price Adder, GO-10A2A
Aux. Contact	1NO	Front	B	\$18.00
Aux. Contact	1NC	Front	C	\$18.00
Alarm Contact	1NO	Front	G	\$21.00
Aux. Contact	1NO-1NC	Left	P	\$27.00
Short Circuit Alarm	1NO-1NC	Left	T	\$20.00
Aux. Contact + (Short Circuit Alarm)	1NO + (1NO-1NC)	Front (Left)	U	\$40.00
Aux. Contact + (Short Circuit Alarm) + [Alarm Contact]	1NO-1NC + (1NO-1NC) + [1NO]	Front (Left) [Front]	W	\$61.00
Short Circuit Alarm + Terminal Cover	1NO + 1NC	Lateral Left	X	\$32.00
Short Circuit Alarm + Terminal Cover	1NO + 1NC	Lateral Left	Y	\$32.00
Short Circuit Alarm + Terminal Cover	1NO + 1NC	Lateral Left	Z	\$32.00
Alarm + (Aux. Contact)	1NO + (1NO)	Left	1	\$36.00
Alarm + (Aux. Contact)	1NC + (1NO)	Left	3	\$36.00

Replace asterisk (\*) in product number with coil digit.

#### Coil Selection – AC Voltage

	AC Voltage												
	60Hz	24	24	120	208	240	240-277	277	—	480	—	480	600
50Hz	—	24	110	—	—	—	—	220-230	380	380/400	415	415	500
Coil Digit* for MC Contactors	C	—	J	M	—	N	—	U	—	—	—	W	Y
Coil Digit* for CL Contactors	—	1	J	L	S	—	N	—	U	W	—	Y	—

#### Coil Selection – DC Voltage

	DC Voltage				
	12	24	48	125	250
Coil Digit * for MC Contactors	B	D	G	L	S
Coil Digit * for CL Contactors	B	D	G	K	T

#### Contactor Auxiliary Contact and Surge Suppressor

Replace product number Digit 10 with appropriate digit and add price adder to list price.

Additional Auxiliary Contacts and Coil Surge Suppressors	Contacts	Mounting by Contactor Type		Product No. Digit 10			List Price Adder, GO-10A2A
		CL	MC	MC,CL00, CL01 CL02, CL04	CL25, CL45	CL06, CL07	
Standard	—	—	—	A <sup>2</sup>	A <sup>3</sup>	A <sup>4</sup>	\$0.00
Coil Surge Suppressor <sup>1</sup>	—	—	—	B	B	B	\$27.00
Auxiliary Contact	1NO	Front	Left	C	C	C	\$18.00
Auxiliary Contact + Coil Surge Suppressor <sup>1</sup>	1NO	Front	Left	D	D	D	\$45.00
Auxiliary Contact	1NC	Front	Left	E	E	E	\$18.00
Auxiliary Contact + Coil Surge Suppressor <sup>1</sup>	1NC	Front	Left	F	F	F	\$45.00
Auxiliary Contact	1NO-1NC	Front	Front	G	G <sup>5</sup>	G	\$27.00
Auxiliary Contact + Coil Surge Suppressor <sup>1</sup>	1NO-1NC	Front	Front	H	H <sup>5</sup>	H	\$54.00

<sup>1</sup>RC suppressor AC coil to 230V; diode suppressor for DC coil

<sup>2</sup>Includes internal 1NO holding interlock

<sup>3</sup>Includes 1NO front mounted auxiliary for holding interlock

<sup>4</sup>Includes 1NO front mounted auxiliary for holding interlock and 1NC auxiliary for general use

<sup>5</sup>Not available for CL25



# IEC Manual Motor Starters Integrated with Contactor Factory Installed Accessories

## Section 6

Enclosed Assembled Starters, Metallic Enclosures, Rotary Operated

### Red/Yellow Rotary Operator

Replace Digit 11 in product number with digit corresponding to enclosure type.

Oversize enclosure is required for CPT and reversing control or optional if more space is desired. Replace product number Digit 11 with appropriate digit and add price adder to list price. If selecting CPT (below), oversize enclosure is included and this modification is not required. See CPT table.

Enclosure Type	Standard Enclosure		Oversize Enclosure		
	Product No. Digit 11	List Price Adder, GO-10A2A	Black Operator - Product No. Digit 11	Yellow/Red Operator - Product No. Digit 11	List Price Adder, GO-10A2A
Type 1	2	\$0.00	5	6	\$70.00
Type 3R/12	4	\$0.00	7	8	\$70.00

### Control Power Transformer

Includes oversized enclosure (required for CPT).

Replace product number Digits 11 and 12 with appropriate digits and add price adder to list price.

Voltage			50VA			150VA		
Primary	Secondary	Operator Color	Product No. Digits 11 & 12		List Price Adder, GO-10A2A	Product No. Digits 11 & 12		List Price Adder, GO-10A2A
			Type 1	Type 3R/12		Type 1T	Type 3R/12	
480/240V	120V	Black	5B	7B	\$230.00	5F	7F	\$275.00
208V	120V	Black	5C	7C	\$230.00	5G	7G	\$275.00
277V	120V	Black	5D	7D	\$230.00	5H	7H	\$275.00
575V	120V	Black	5E	7E	\$230.00	5J	7J	\$275.00
480/240V	24V	Black	5K	7K	\$230.00	5P	7P	\$275.00
208V	24V	Black	5L	7L	\$230.00	5Q	7Q	\$275.00
277V	24V	Black	5M	7M	\$230.00	5R	7R	\$275.00
575V	24V	Black	5N	7N	\$230.00	5S	7S	\$275.00

For red/yellow operator, replace 5 with 6, or 7 with 8 in Digit 11 above.

### Pilot Devices

Replace product number Digit 13 with appropriate digit and add price adder to list price.

Pilot Device	Product No. Digit 13	List Price Adder, GO-10A2A
START/STOP Push Button	B	\$144.00
START/STOP Mushroom Head Push Button	C	\$144.00
START/STOP Push Button with Red/Green ON Pilot Light <sup>1</sup>	D	\$288.00
START/STOP Push Button with Red/Green OFF Pilot Light thru Aux. <sup>1</sup>	E	\$315.00
ON/OFF Selector Switch	F	\$72.00
ON/OFF Selector Switch with Red/Green ON Pilot Light <sup>1</sup>	G	\$216.00
ON/OFF Selector Switch with Red/Green OFF Pilot Light thru Aux. <sup>1</sup>	H	\$243.00
H-O-A Selector Switch	J	\$72.00
H-O-A Selector Switch with Red/Green ON Pilot Light <sup>1</sup>	K	\$216.00
H-O-A Selector Switch with Red/Green OFF Pilot Light thru Aux. <sup>1</sup>	L	\$243.00
Red/Green OFF Pilot Light thru Aux. <sup>1</sup>	M	\$171.00
H-O-A Selector Switch with START Push Button	N	\$144.00

<sup>1</sup>Pilot lights comes with both red and green lenses for field installation.

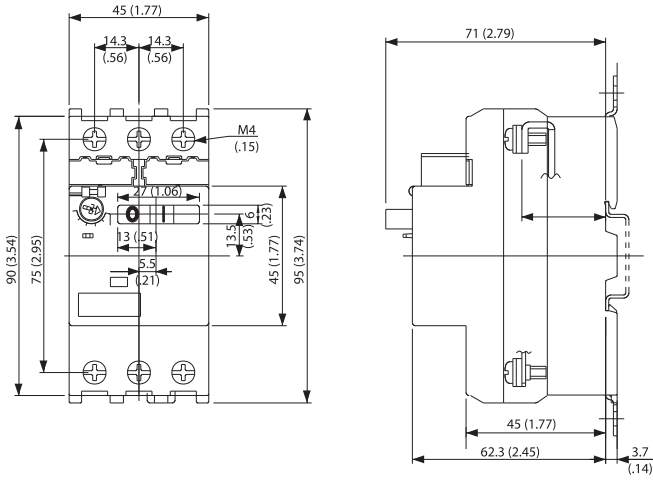


# IEC Manual Motor Starters

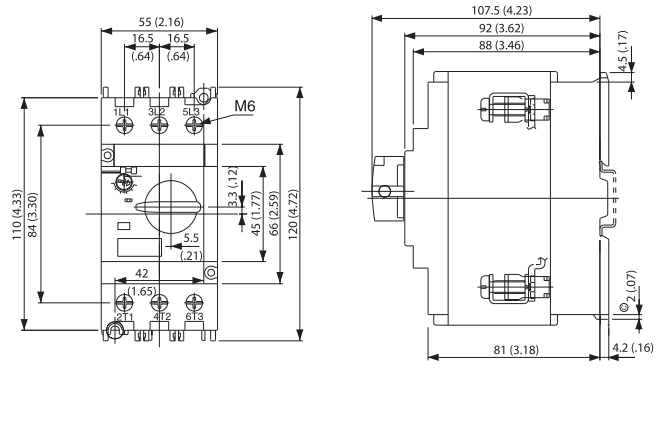
## Outline Drawings

Outlines and Dimensions mm (in.) For Estimating Only

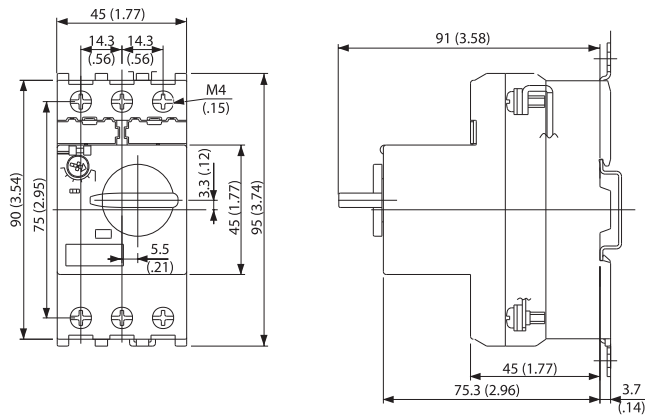
## Section 6



Manual Motor Starter - GPS1BS\_ (toggle)



Manual Motor Starter - GPS2BH\_ (rotary)



Manual Motor Starter - GPS1BH\_ (rotary)

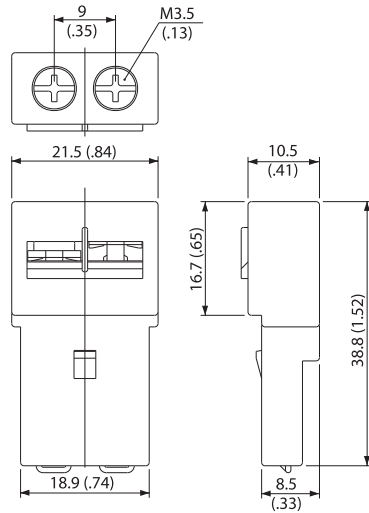


# IEC Manual Motor Starters

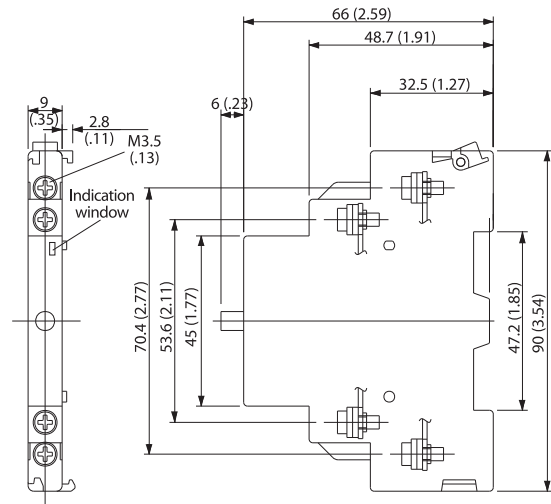
## Outline Drawings

### Outlines and Dimensions mm (in.) For Estimating Only

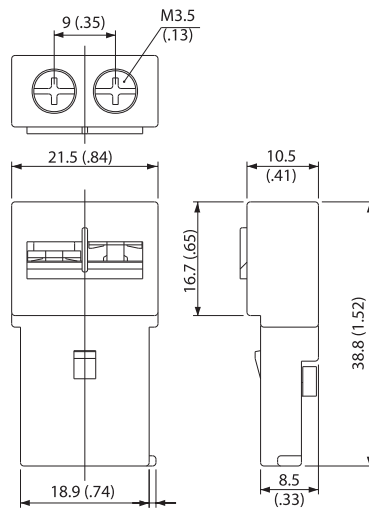
## Section 6



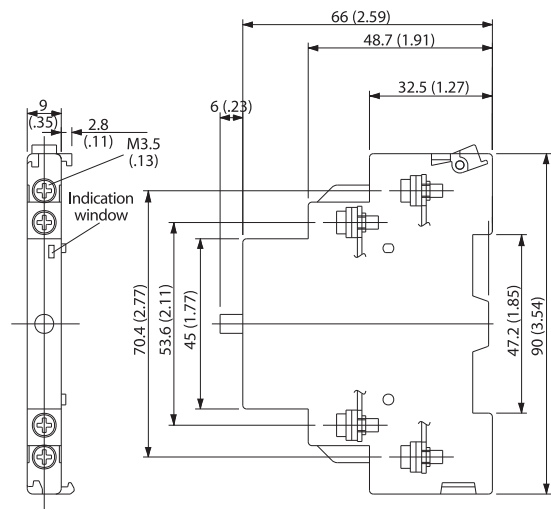
GPAC\_FBA Auxiliary Contact Blocks - Frontal



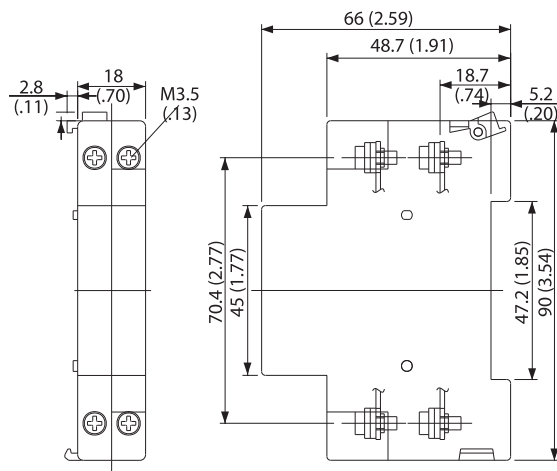
GPAC\_LLA Auxiliary Contact Blocks - Lateral Left



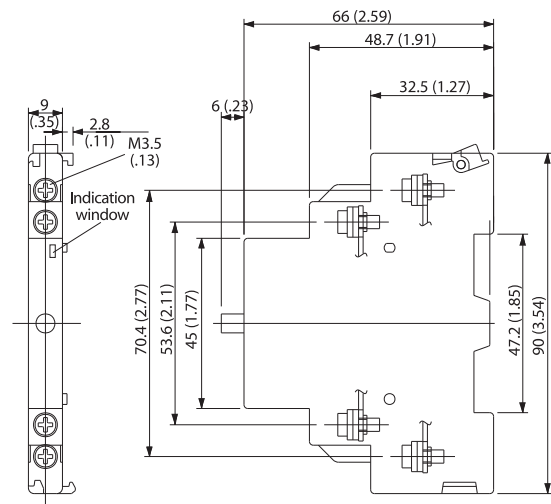
GPAL\_FRA Alarm Contact Blocks - Frontal



GPAD\_LLA Alarm Contact Blocks - Lateral



GPASLR\_/GPAULR\_ Shunt and Undervoltage - Trip Devices



GPAE11LLA Short Circuit Contact Block

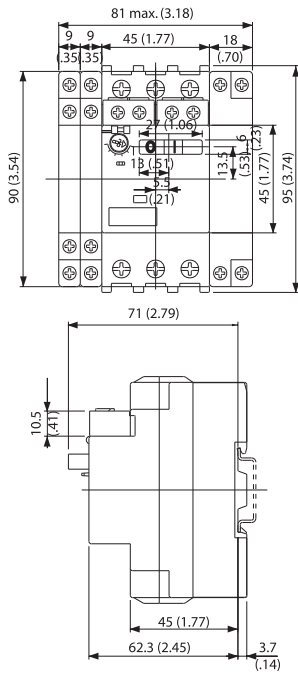


# IEC Manual Motor Starters

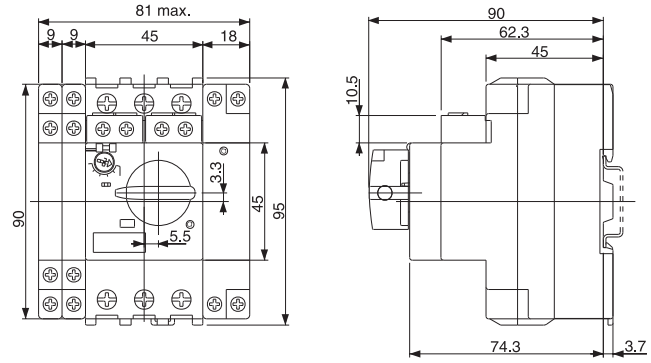
## Outline Drawings

### Outlines and Dimensions mm (in.) For Estimating Only

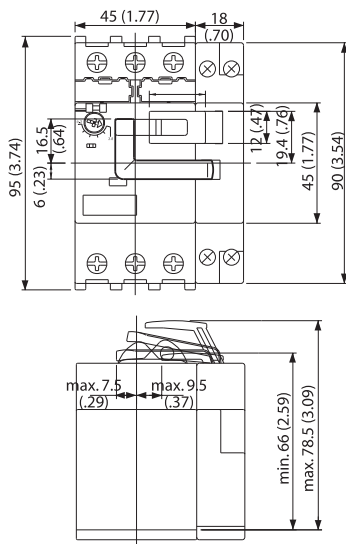
## Section 6



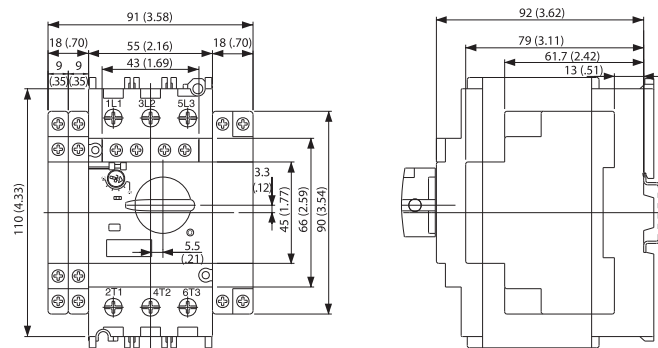
GPS1BS\_ (toggle) + Auxiliaries



GPS1BH\_ (rotary) + Auxiliaries



GPS1BS\_ (toggle) + Undervoltage Trip Device w/2NO Contacts



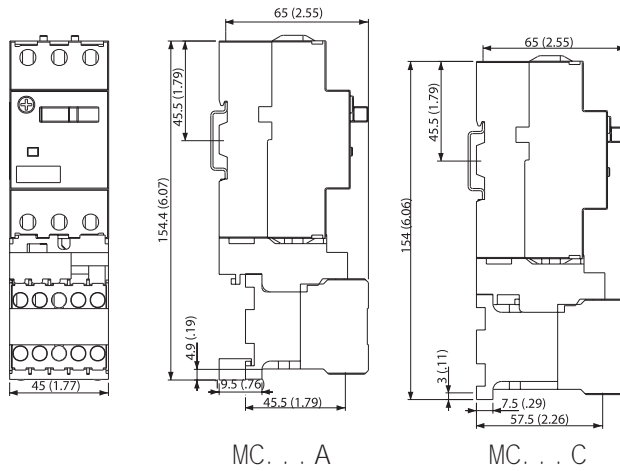
GPS2\* + Auxiliaries



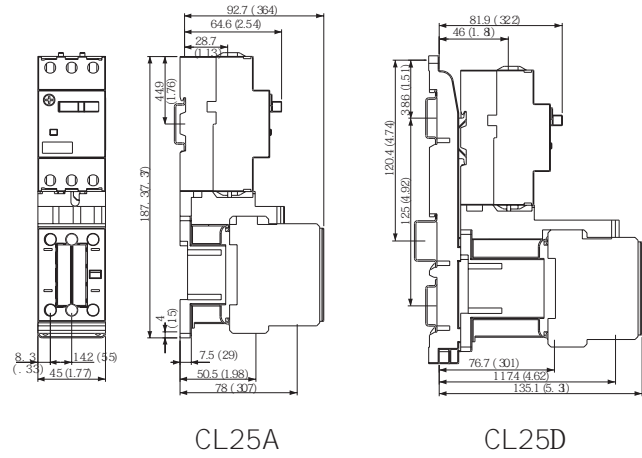


# IEC Manual Motor Starters Outline Drawings Outlines and Dimensions mm (in.) For Estimating Only

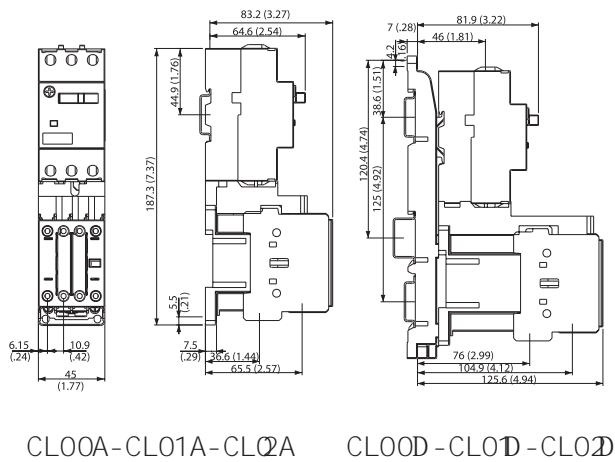
## Section 6



Assembled Starter - GPS1\_ (toggle) + Minicontactor MC



Assembled Starter - GPS1BS\_ (toggle) + Contactor CL25



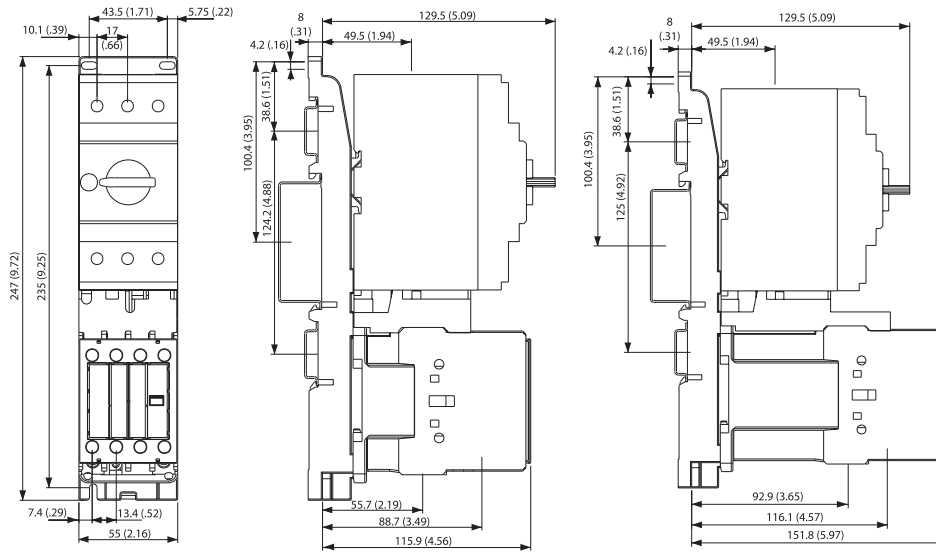
Assembled Starter - GPS1BS\_ (toggle) +  
Contactor CL00-CL01-CL02



# IEC Manual Motor Starters Outline Drawings

# Section 6

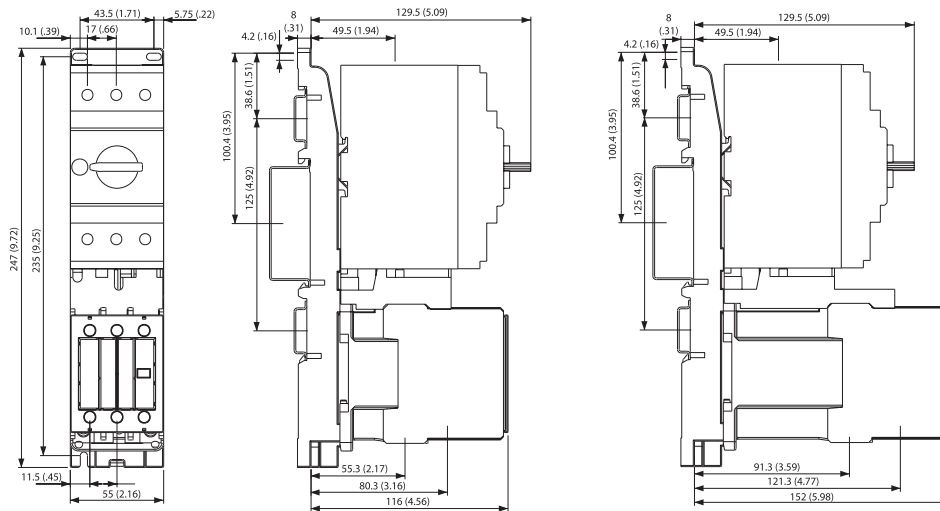
## Outlines and Dimensions mm (in.) For Estimating Only



CL03A-CL04A

CL03D-CL04D

Assembled Starter GPS2\* + Contactor CL03-CL04



CL45A

CL45D

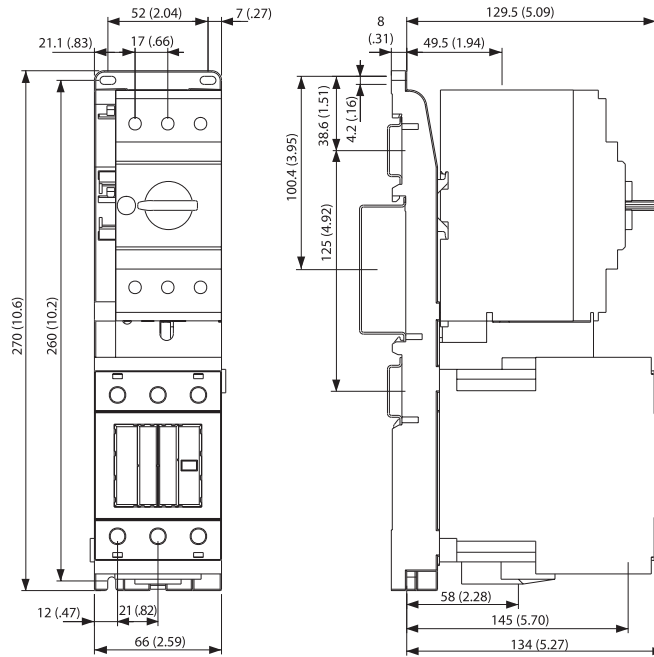
Assembled Starter GPS2\* + Contactor CL45



# IEC Manual Motor Starters Outline Drawings

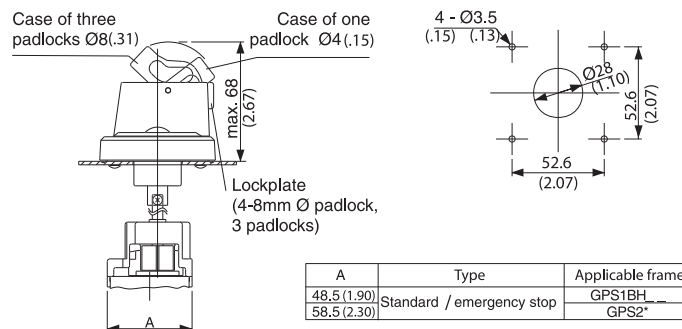
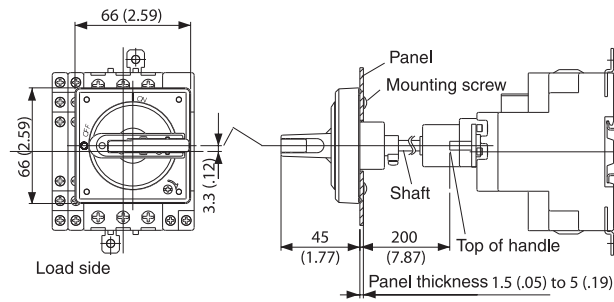
# Section 6

## Outlines and Dimensions mm (in.) For Estimating Only



CL06A-CL07A-CL08A

Assembled Starter GPS2\* + Contactor CL06-CL08

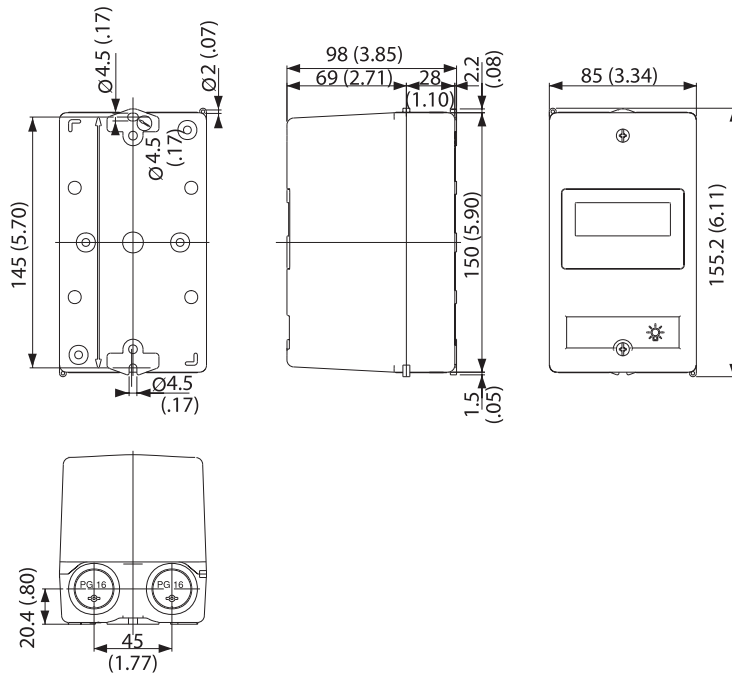


External Handle Operator

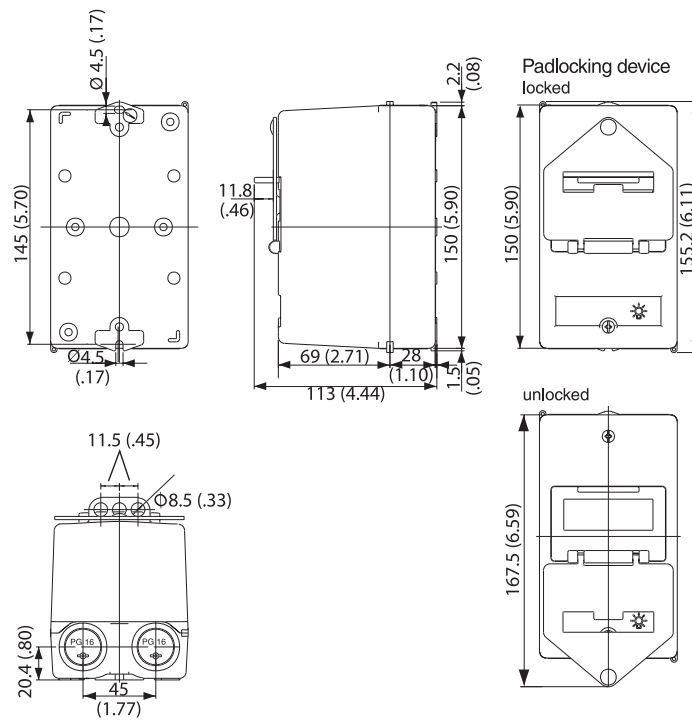


IEC Manual Motor Starters  
 Outline Drawings  
 Outlines and Dimensions mm (in.) For Estimating Only

Section 6



Non-metal Enclosure for GPS1BSAA-GPS1BSAP Surface Mounting



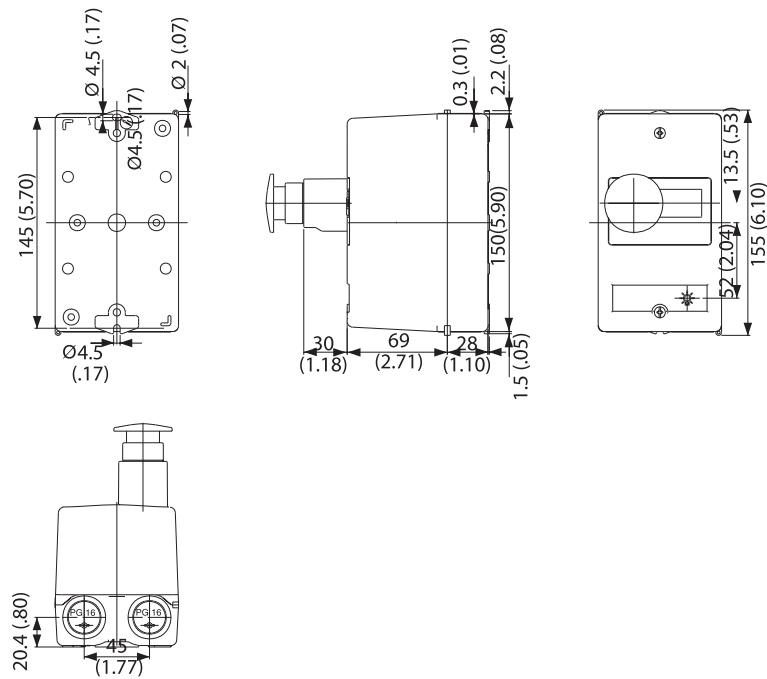
Non-metal Enclosure for GPS1BSAA-GPS1BSAP Surface Mounting with Padlocking Device



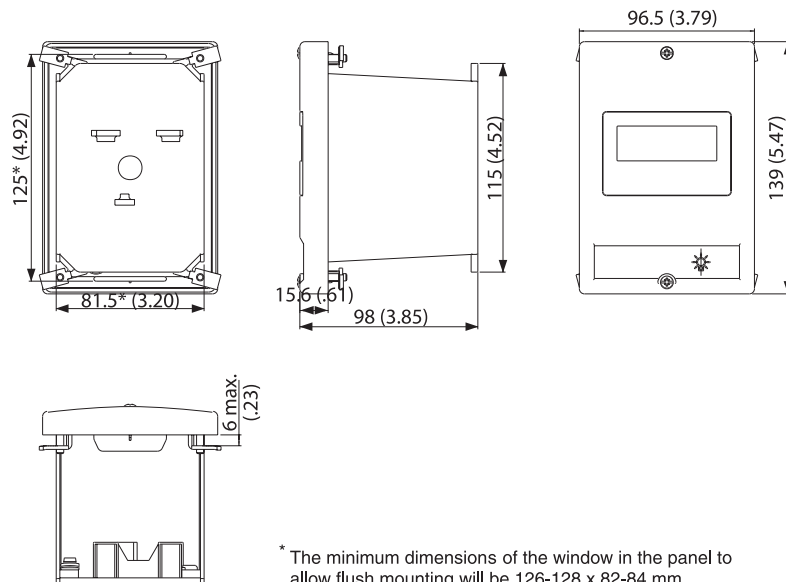
# IEC Manual Motor Starters Outline Drawings

## Section 6

### Outlines and Dimensions mm (in.) For Estimating Only



Non-metal Enclosure for GPS1BSAA-GPS1BSAP Surface Mounting with Emergency Push Button



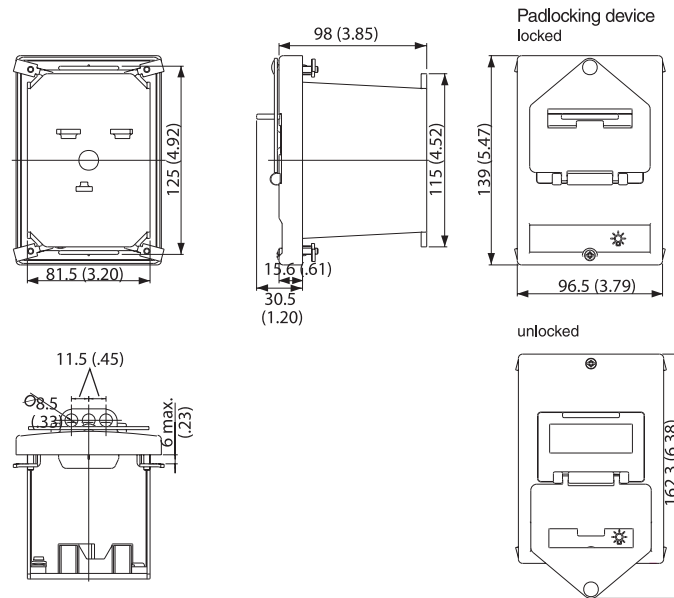
Non-metal Enclosure for GPS1BSAA-GPS1BSAP Flush Mounting



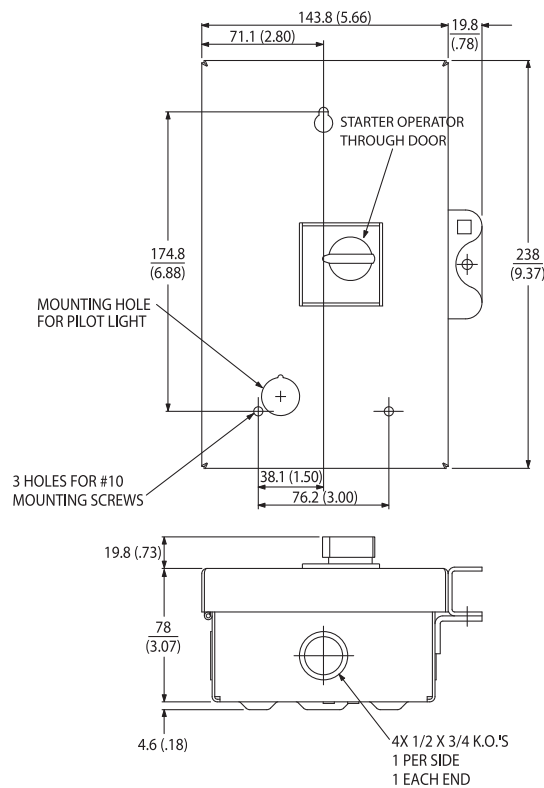
# IEC Manual Motor Starters Outline Drawings

## Section 6

### Outlines and Dimensions mm (in.) For Estimating Only



Non-metal Enclosure for GPS1BSAA-GPS1BSAP Flush Mounting with Padlocking Device



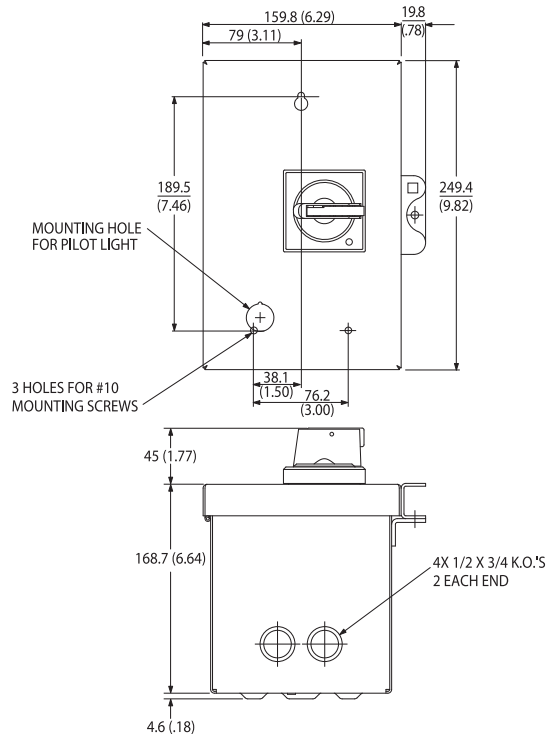
Metal Enclosure for GPS1BH\_ Starter, NEMA Type 1 (Drawing 55-216916)



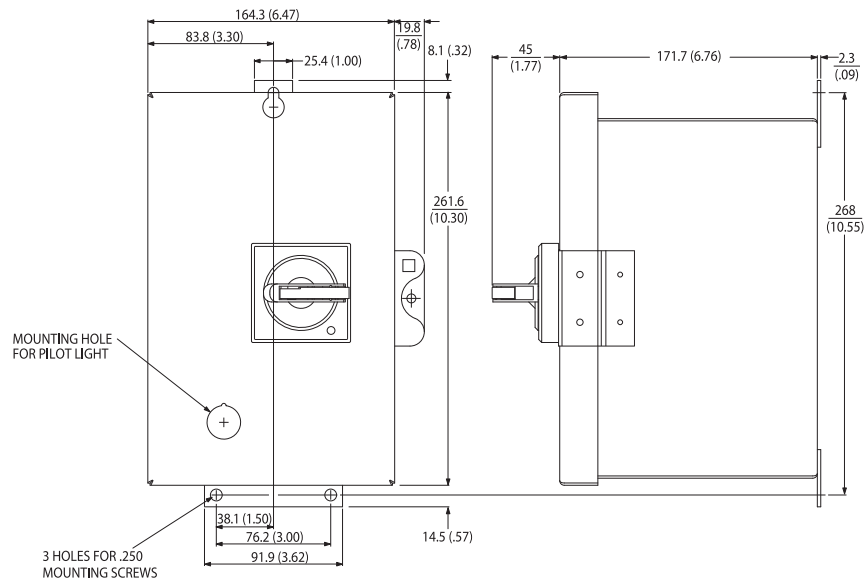
# IEC Manual Motor Starters Outline Drawings

# Section 6

## Outlines and Dimensions mm (in.) For Estimating Only



Metal Enclosure for GPS2BH\_ Starter, NEMA Type 1 (Drawing 55-216917)



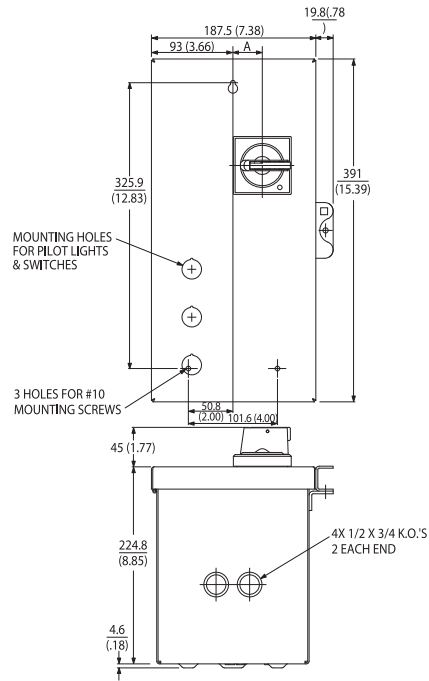
Metal Enclosure for GPS1BH\_/GPS2BH\_ Starter, NEMA Type 3R/12 (Drawing 55-216918)



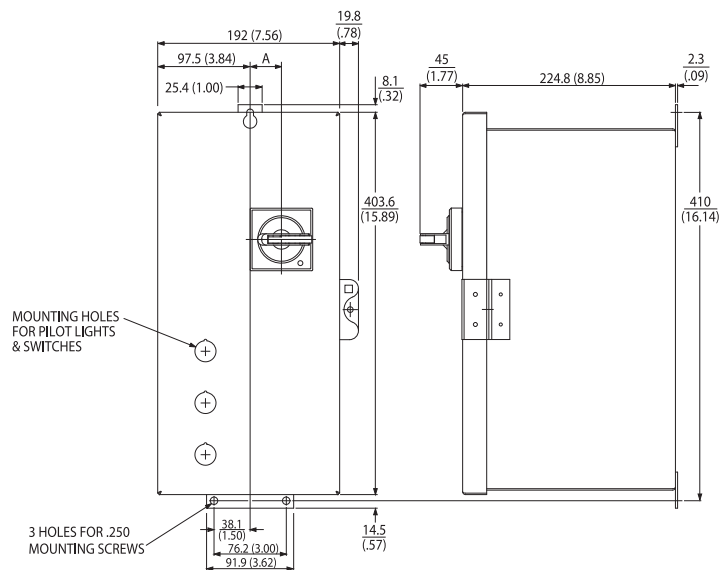
# IEC Manual Motor Starters Outline Drawings

## Section 6

### Outlines and Dimensions mm (in.) For Estimating Only



Metal Enclosure for GPS1BH\_/GPS2BH\_ Combination Starter, NEMA Type 1 (Drawing 55-216919)



Metal Enclosure for GPS1BH\_/GPS2BH\_ Combination Starter, NEMA Type 3R/12 (Drawing 55-216920)

Controller	Contactor	"A"
GPS1BH_/GPS2BH_	All except CL04	33.5 (1.32)
GPS1BH_	CL04	38.4 (1.51)

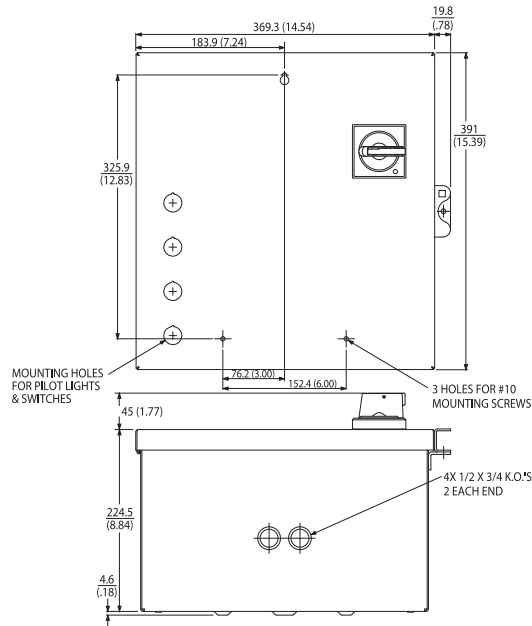




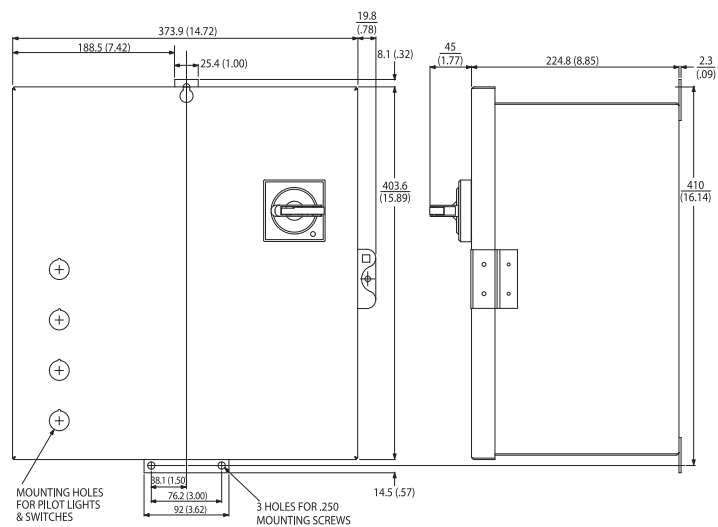
# IEC Manual Motor Starters Outline Drawings

# Section 6

## Outlines and Dimensions mm (in.) For Estimating Only

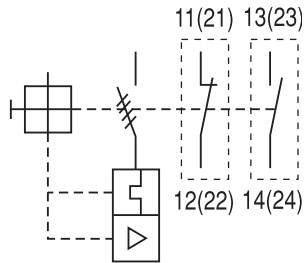


Metal Enclosure for GPS1BH\_/GPS2BH\_ Reversing Combination Starter or Combination Starter with CPT, NEMA Type 1 (Drawing 55-216921)

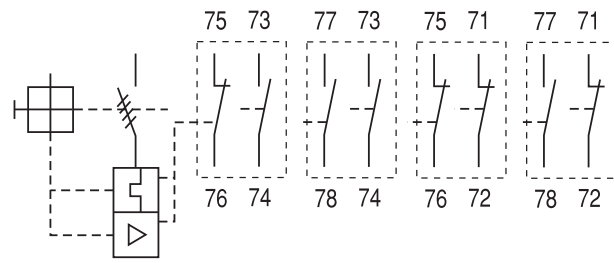


Metal Enclosure for GPS1BH\_/GPS2BH\_ Reversing Combination Starter or Combination Starter with CPT, NEMA Type 3R/12 (Drawing 55-216922)

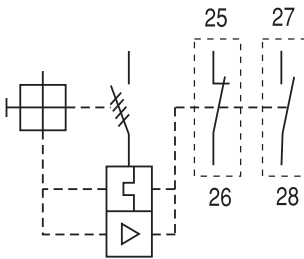




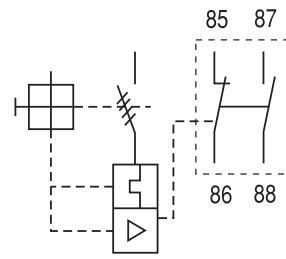
GPAC\_FBA Front Mount Auxiliary Contact



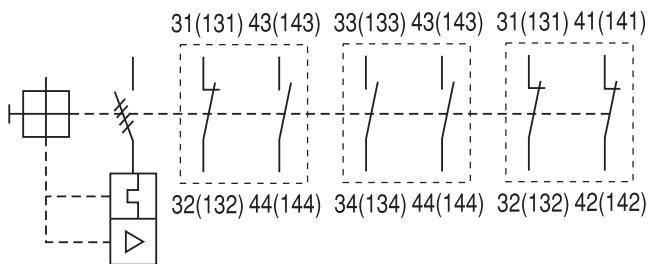
GPAC\_LRA Side Mount Alarm/Auxiliary Contact



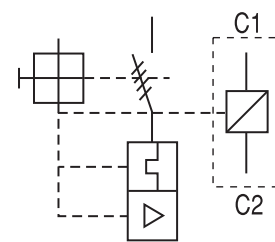
GPAC\_FRA Front Mount Alarm Contact



GPAC\_E11LLA Side Mount Short Circuit Alarm

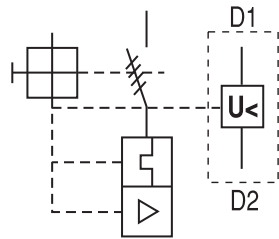


GPAC\_LLA Side Mount Auxiliary Contact

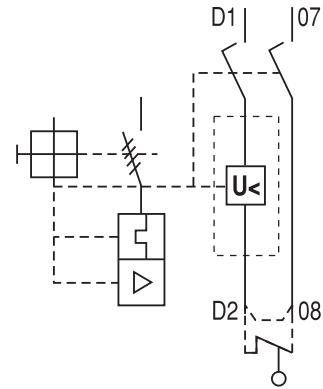


GPASLRA\_Side Mount Shunt Trip





GPAULRAA\_Side Mount Undervoltage Release



GPAU20L\_AA\_Side Mount Undervoltage Release  
with 2 NO early make contacts



# IEC Manual Motor Starters

## Short Circuit Current Rating

### Rated Breaking Capacity

## Section 6

### Toggle Operation, Standard Interruption

Product Number	FLA Adjustment Range	kAIC @ 240V	kAIC @ 480V	kAIC @ 600V	Max. Fuse Size (A)	Max. C.B. Size (A)	kAIC @ 240V-Group Installation	kAIC @ 480V-Group Installation	kAIC @ 600V-Group Installation	Max Fuse or C.B.-Size (A) Group Installation	Minimum Contactor Size
GPS1BSAA	0.1-0.16	100	50	10	0.75	15	100	65	25	500	CL00 or MCO
GPS1BSAB	0.16-0.25	100	50	10	1	15	100	65	25	500	CL00 or MCO
GPS1BSAC	0.25-0.4	100	50	10	1.5	15	100	65	25	500	CL00 or MCO
GPS1BSAD	0.4-0.63	100	50	10	2.5	15	100	65	25	500	CL00 or MCO
GPS1BSAE	0.63-1.0	100	50	10	4	15	100	65	25	500	CL00 or MCO
GPS1BSAF	1-1.6	100	50	10	6	15	100	65	25	500	CL00 or MCO
GPS1BSAG	1.6-2.5	100	50	10	10	15	100	65	25	500	CL00 or MCO
GPS1BSAH	2.5-4	100	50	10	16	15	100	65	25	500	CL00 or MCO
GPS1BSAJ	4-6.3	100	22	10	25	25	100	65	25	500	CL00 or MCO
GPS1BSAK	6.3-10	100	22	10	40	40	100	65	25	500	CL00 or MCO
GPS1BSAL	9-13	100	22	10	50	50	100	65	25	500	CL00
GPS1BSAM	11-16	65	22	10	60	60	65	50	18	500	CL01
GPS1BSAN	14-20	65	22	10	80	80	65	50	18	500	CL02
GPS1BSAP	19-25	65	22	10	100	100	65	50	18	500	CL25
GPS1BSAR	24-32	65	22	10	125	125	65	50	10	500	CL04

Manual motor starters are suitable for use with C-2000 contactors in series with the starter, but contactor rating must not be exceeded.

### Rotary Operation, High Interruption

Product Number	FLA Adjustment Range	kAIC @ 240V	kAIC @ 480V	kAIC @ 600V	Max. Fuse Size (A)	Max. C.B. Size (A)	kAIC @ 240V-Group Installation	kAIC @ 480V-Group Installation	kAIC @ 600V-Group Installation	Max Fuse or C.B. Size(A)-Group Installation	kAIC @ 277Y/480V-Combination Starter	Minimum Contactor Size
GPS1BHAA	0.1-0.16	100	50	10	0.75	15	100	65	25	500	50	CL00 or MCO
GPS1BHAB	0.16-0.25	100	50	10	1	15	100	65	25	500	50	CL00 or MCO
GPS1BHAC	0.25-0.4	100	50	10	1.5	15	100	65	25	500	50	CL00 or MCO
GPS1BHAD	0.4-0.63	100	50	10	2.5	15	100	65	25	500	50	CL00 or MCO
GPS1BHAE	0.63-1.0	100	50	10	4	15	100	65	25	500	50	CL00 or MCO
GPS1BHAF	1-1.6	100	50	10	6	15	100	65	25	500	50	CL00 or MCO
GPS1BHAG	1.6-2.5	100	50	10	10	15	100	65	25	500	50	CL00 or MCO
GPS1BHAH	2.5-4	100	50	10	16	15	100	65	25	500	50	CL00 or MCO
GPS1BHAJ	4-6.3	100	50	10	25	25	100	65	25	500	50	CL00 or MCO
GPS1BHAK	6.3-10	100	50	10	40	40	100	65	25	500	50	CL00 or MC1
GPS1BHAL	9-13	100	50	10	50	50	100	65	25	500	50	CL00
GPS1BHAM	11-16	65	50	10	60	60	65	65	25	500	50	CL01
GPS1BHAN	14-20	65	50	10	80	80	65	65	25	500	50	CL02
GPS1BHAP	19-25	65	50	10	100	100	65	65	25	500	50	CL25
GPS1BHAR	24-32	65	50	10	125	125	65	65	10	500	50	CL04
GPS2BHAK	6.3-10	65	50	10	40	40	100	65	25	1500	50	CL00
GPS2BHAL	9-13	65	50	10	50	50	100	65	25	1500	50	CL00
GPS2BHAM	11-16	65	50	10	60	60	100	65	25	1500	50	CL01
GPS2BHAN	14-20	65	50	10	80	80	100	65	25	1500	50	CL02
GPS2BHAP	19-25	65	50	10	100	100	100	65	25	1500	50	CL02
GPS2BHAR	24-32	65	50	10	125	125	100	65	25	1500	50	CL04
GPS2BHAS	28-40	65	50	10	150	150	100	65	10	1500	50	CL06
GPS2BHAT	35-50	65	50	10	200	200	100	65	10	1500	50	CL06
GPS2BHAU	45-63	65	50	10	250	250	100	35	10	1500	50	CL07

When using manual starters in combination with starter applications, use short circuit reset/indicator accessory. For GPS1BH\_ starters add GPAPTIE terminal accessory.

Maximum voltage for combination control is 277/480.

Manual motor starters are suitable for use with C-2000 contactors in series with the starter; contactor rating must not be exceeded. When used in a combination installation, the contactor is not self-protected.

Link available for GPS2\* for CL04 and larger contactors only.



# IEC Manual Motor Starters Type 2 Short Circuit Rating Individual Group and Combination Starters

### Type 2 Coordination

Under short circuit conditions, the starter must not result in danger to persons or the installation. After short circuit, the starter shall be capable of further use. No damage to the overload relay or other parts shall occur, except that welding of the contactor contacts is permitted when they are easily separated (as by a screwdriver) without significant deformation. Minimum front electrical clearance is 1" with CL06 and CL07 contactors, 0.8" with all other contactors.

### 100kA@240V UL508E Investigation (Individual Group or Combination)\*

Starter Type	FLA		Minimum Contactor Size	
	Adjustment Range	Product Number	@ 100kA @ 240V Interrupt Level	Link @ 100kA @ 240V Interrupt Level
GPS1	0.1-0.16	GPS1BHAA	CL00	GPF1L02*
GPS1	0.16-0.25	GPS1BHAB	CL00	GPF1L02*
GPS1	0.25-0.4	GPS1BHAC	CL00	GPF1L02*
GPS1	0.4-0.63	GPS1BHAD	CL00	GPF1L02*
GPS1	0.63-1.0	GPS1BHAE	CL00	GPF1L02*
GPS1	1-1.6	GPS1BHAF	CL00	GPF1L02*
GPS1	1.6-2.5	GPS1BHAG	CL00	GPF1L02*
GPS1	2.5-4	GPS1BHAH	CL00	GPF1L02*
GPS1	4-6.3	GPS1BHAJ	CL00	GPF1L02*
GPS1	6.3-10	GPS1BHAK	CL00	GPF1L02*
GPS1	9-13	GPS1BHAL	CL01	GPF1L02*
GPS1	11-16	GPS1BHAM	CL02	GPF1L02*
GPS1	14-20	GPS1BHAN	CL04	GPF1L04*
GPS1	19-25	GPS1BHAP	CL04	GPF1L04*
GPS1	24-32	GPS1BHAR	CL04	GPF1L04*
GPS2	6.3-10	GPS2BHAK	CL04	GPF2L04*
GPS2	9-13	GPS2BHAL	CL04	GPF2L04*
GPS2	11-16	GPS2BHAM	CL04	GPF2L04*
GPS2	14-20	GPS2BHAN	CL04	GPF2L04*
GPS2	19-25	GPS2BHAP	CL04	GPF2L04*
GPS2	24-32	GPS2BHAR	CL45	GPF2L45*
GPS2	28-40	GPS2BHAS	CL06	GPF2L07*
GPS2	35-50	GPS2BHAT	CL06	GPF2L07*
GPS2	45-63	GPS2BHAU	CL07	GPF2L07*

### 50kA@380/400V per IEC947 (Individual Group or Combination)\*

Starter Type	FLA		Minimum Contactor Size	
	Adjustment Range	Product Number	@ 50kA @ 380/400V Interrupt Level	Link @ 50kA @ 380/400V Interrupt Level
GPS1	0.1-0.16	GPS1BHAA	CL00	GPF1L02*
GPS1	0.16-0.25	GPS1BHAB	CL00	GPF1L02*
GPS1	0.25-0.4	GPS1BHAC	CL00	GPF1L02*
GPS1	0.4-0.63	GPS1BHAD	LC00	GPF1L02*
GPS1	0.63-1.0	GPS1BHAE	CL00	GPF1L02*
GPS1	1-1.6	GPS1BHAF	CL00	GPF1L02*
GPS1	1.6-2.5	GPS1BHAG	CL01	GPF1L04*
GPS1	2.5-4	GPS1BHAH	CL01	GPF1L04*
GPS1	4-6.3	GPS1BHAJ	CL02	GPF1L04*
GPS1	6.3-10	GPS1BHAK	CL25	GPF1L25*
GPS1	9-13	GPS1BHAL	CL25	GPF1L25*
GPS1	11-16	GPS1BHAM	CL25	GPF1L25*
GPS1	14-20	GPS1BHAN	CL25	GPF1L25*
GPS1	19-25	GPS1BHAP	CL25	GPF1L25*
GPS1	24-32	GPS1BHAR	CL25	GPF1L25*
GPS2	6.3-10	GPS2BHAK	CL04	GPF2L04*
GPS2	9-13	GPS2BHAL	CL04	GPF2L04*
GPS2	11-16	GPS2BHAM	CL04	GPF2L04*
GPS2	14-20	GPS2BHAN	CL04	GPF2L04*
GPS2	19-25	GPS2BHAP	CL04	GPF2L04*
GPS2	24-32	GPS2BHAR	CL04	GPF2L04*
GPS2	28-40	GPS2BHAS	CL45	GPF2L45*
GPS2	35-50	GPS2BHAT	CL06	GPF2L07*
GPS2	45-63	GPS2BHAU	CL07	GPF2L07*

### 50kA@480V UL508E Investigation (Individual Group or Combination)\*

Starter Type	FLA		Minimum Contactor Size	
	Adjustment Range	Product Number	@ 50kA @ 480V Interrupt Level	Link @ 50kA @ 480V Interrupt Level
GPS1	0.1-0.16	GPS1BHAA	CL01	GPF1L02*
GPS1	0.16-0.25	GPS1BHAB	CL01	GPF1L02*
GPS1	0.25-0.4	GPS1BHAC	CL01	GPF1L02*
GPS1	0.4-0.63	GPS1BHAD	CL01	GPF1L02*
GPS1	0.63-1.0	GPS1BHAE	CL01	GPF1L02*
GPS1	1-1.6	GPS1BHAF	CL01	GPF1L02*
GPS1	1.6-2.5	GPS1BHAG	CL25	GPF1L25*
GPS1	2.5-4	GPS1BHAH	CL25	GPF1L25*
GPS1	4-6.3	GPS1BHAJ	CL25	GPF1L25*
GPS1	6.3-10	GPS1BHAK	CL25	GPF1L25*
GPS1	9-13	GPS1BHAL	CL25	GPF1L25*
GPS1	11-16	GPS1BHAM	CL25	GPF1L25*
GPS1	14-20	GPS1BHAN	CL25	GPF1L25*
GPS1	19-25	GPS1BHAP	CL04	GPF1L04*
GPS1	24-32	GPS1BHAR	CL04 (35kA)	GPF1L04*
GPS2	6.3-10	GPS2BHAK	CL04	GPF2L04*
GPS2	9-13	GPS2BHAL	CL04	GPF2L04*
GPS2	11-16	GPS2BHAM	CL04	GPF2L04*
GPS2	14-20	GPS2BHAN	CL04	GPF2L04*
GPS2	19-25	GPS2BHAP	CL04	GPF2L04*
GPS2	24-32	GPS2BHAR	CL45	GPF2L45*
GPS2	28-40	GPS2BHAS	CL06	GPF2L07*
GPS2	35-50	GPS2BHAT	CL06	GPF2L07*
GPS2	45-63	GPS2BHAU	CL07	GPF2L07*

### 25kA (or as noted) @600V UL508E Investigation (Individual Group or Combination)\*

Starter Type	FLA		Minimum Contactor Size	
	Adjustment Range	Product Number	@ 25kA @ 600V Interrupt Level	Link @ 25kA @ 600V Interrupt Level
GPS1	0.1-0.16	GPS1BHAA	CL00	GPF1L02*
GPS1	0.16-0.25	GPS1BHAB	CL00	GPF1L02*
GPS1	0.25-0.4	GPS1BHAC	CL00	GPF1L02*
GPS1	0.4-0.63	GPS1BHAD	CL00	GPF1L02*
GPS1	0.63-1.0	GPS1BHAE	CL00	GPF1L02*
GPS1	1-1.6	GPS1BHAF	CL00	GPF1L02*
GPS1	1.6-2.5	GPS1BHAG	CL04	GPF1L04*
GPS1	2.5-4	GPS1BHAH	CL04	GPF1L04*
GPS1	4-6.3	GPS1BHAJ	CL04	GPF1L04*
GPS1	6.3-10	GPS1BHAK	CL04	GPF1L04*
GPS1	9-13	GPS1BHAL	CL04	GPF1L04*
GPS1	11-16	GPS1BHAM	CL04	GPF1L04*
GPS1	14-20	GPS1BHAN	CL04	GPF1L04*
GPS1	19-25	GPS1BHAP	CL04	GPF1L04*
GPS1	24-32	GPS1BHAR	CL04	GPF1L04*
GPS2	6.3-10	GPS2BHAK	CL45 (5kA)	GPF2L45*
GPS2	9-13	GPS2BHAL	CL45 (5kA)	GPF2L45*
GPS2	11-16	GPS2BHAM	CL45 (5kA)	GPF2L45*
GPS2	14-20	GPS2BHAN	CL45 (5kA)	GPF2L45*
GPS2	19-25	GPS2BHAP	CL45 (5kA)	GPF2L45*
GPS2	24-32	GPS2BHAR	CL45 (5kA)	GPF2L45*
GPS2	28-40	GPS2BHAS	CL06 (10kA)	GPF2L07*
GPS2	35-50	GPS2BHAT	CL06 (10kA)	GPF2L07*
GPS2	45-63	GPS2BHAU	CL07 (10kA)	GPF2L07*

\*Maximum voltage for combination control 277/480. Minimum front electrical clearance is 1" with CL06 and CL07 contactors, and 0.8" with all other contactors.



## Starters

	GPS1	GPS2
Protection	Thermal and Magnetic	Thermal and Magnetic
Maximum Rated Current I <sub>max</sub>	32A	63A
Maximum Rated Operational Current I <sub>e</sub>	32A	63A
Maximum Rated HP @ 460V	20 Hp	40 hp
Maximum Rated kW @ 400V	15 kW	30kW
Power Loss	0.16-25A: 7 W 32A: 8.5 W	6.3-32A: 11W 40-50A: 15W 63A: 17W
Width	45 mm	55 mm
Height	90 mm	120 mm
Depth	75 mm (GPS1BS*)/ 92.5 mm (GPS1BH*)	107.5 mm
No. of Poles	3	3
Operation	Toggle (GPS1BS*)/ Rotary (GPS1BH*)	Rotary
Mounting Position Turning to Front	30°	30°
Mounting Position Turning to Back	90°	90°
Mounting Position Turning to Side	180°	180°
DIN Rail Mounting	Yes	Yes
Mounting Screws	2 M4 (#6 screws) with Optional Mounting Tab	Yes
Operation Altitude	Up to 2000 Meters (6500 Feet)	Up to 2000m (6500 ft)
Storage Temperature	-40 to +80° C (-40 to 176° F)	-40 to +80° C (-40 to 176° F)
Operation Temperature	-20 to +60° C (-4 to 140° F)	-20 to +60° C (-4 to 140° F)
Temperature Compensation	-20 to +60° C (-4 to 140° F)	-20 to +60° C (-4 to 140° F)
Rated Insulation Voltage U <sub>i</sub>	690V	690V
Rated Operation Voltage U <sub>e</sub>	690V	690V
Rated Voltage U <sub>L</sub> , cUL	600V	600V
Rated Frequency	50/60	50/60
Rated Impulse Withstand Strength U <sub>imp</sub>	8KV	8KV
Utilization Category IEC 60947-4-1	AC3	AC3
Overload Trip Class IEC 60947-4-1	10	10
Number of Current Ranges	15	9
Magnetic Release I <sub>e</sub> Max Setting	13X	13X
Shock Resistance to IEC60068-2-25	30 g (width 20 ms)	30 g (width 20 ms)
Vibration Resist., 50-150 Hz (X,Y,Z axis)	5G	Contact factory
Std DIN Rail Mtg		
Vib. Res., 50-150 Hz (X,Y,Z axis)	8G	Contact factory
DIN Rail Vib. Clamps		
Protection Degree (per IEC529)	IP20 Safe from Finger Touch	IP20 Safe from Finger Touch
Mechanical Performance	100,000 ops (70,000 for 32 Amp)	50,000 ops
Electrical Performance	100,000 ops (70,000 for 32 Amp)	25,000 ops
Max. Operation per Hour (Motor Start Up)	25	25
Phase Failure Protection	Yes	Yes
Trip Test Function	Yes	Yes
Trip Indication	Yes	Yes
Terminal Type	Pozidrive 2/Slotted Comb.	Pozidrive 2/Slotted Comb.
Max. Size Wire		
1 Conductor w/o End Sleeve, solid or stranded	1-10 mm <sup>2</sup> /18-8 AWG	1-25 mm <sup>2</sup> /18-2 AWG stranded
2 Conductor w/o End Sleeve, solid or stranded	1-6 mm <sup>2</sup> /18-10 AWG	1-25 mm <sup>2</sup> /18-4 AWG stranded
1 Conductor w/ End Sleeve, stranded	1-6 mm <sup>2</sup> stranded	1-16 mm <sup>2</sup>
2 Conductor w/ End Sleeve, stranded	1-6 mm <sup>2</sup> stranded	1-16 mm <sup>2</sup>
Torque	2.0 Nm/18 lb. in.	4.0 Nm/36 lb. in.
Standards		
IEC 60947-1, 60947-2, 60947-4	Yes	Yes
Din VDE660T 100/101/102	Yes	Yes
UL 508/CSA 22.2	Yes	Yes
Marking		
CE	Yes	Yes
Approvals		
UL, cUL listed	Yes	Yes
Shipping Approvals	On Request	On Request
PTB Test	On Request	On Request

## Frontal Auxiliary Blocks

UL Contact Rating per NEMA ICS3-125	B300, Q300
Continuous Ampere Rating	5
Rated Operation AC Voltage U <sub>e</sub>	115V, 230V
Rated Operational AC Current I <sub>e</sub>	1.5A
AC Utilization Category	AC15
Rated Operation DC Voltage U <sub>e</sub>	48V, 110V, 220V
Rated Operational DC Current I <sub>e</sub>	1.38A, 0.55A, 0.27A
DC Utilization Category	DC13
Terminal Type	Pozidrive2/Slotted Comb.
Max. Size Wire (75°C Cu wire only) 2 conductor	0.5-2.5 mm <sup>2</sup> /18-14 AWG
Torque	0.8Nm/7 lb. in.

Frontal Mount with 1NO or 1NC Contact; Frontal Mount Alarm with 1NO or 1NC Contact.

## Lateral Auxiliary Blocks

UL Contact Rating per NEMA ICS3-125	A600, P300
Rated Operation AC Voltage U <sub>e</sub>	125V, 230V, 400V, 500V, 690V
Rated Operational AC Current I <sub>e</sub>	4A, 4A, 2.2A, 0.5A, 0.6A
AC Utilization Category	AC15
Rated Operation DC Voltage U <sub>e</sub>	48V, 110V, 220V
Rated Operational DC Current I <sub>e</sub>	5A, 1.3A, 0.5A
DC Utilization Category	DC13
Terminal Type	Pozidrive2/Slotted Comb.
Max. Size Wire (75°C Cu wire only) 2 conductor	0.5-2.5 mm <sup>2</sup> /18-14 AWG
Torque	0.8Nm/7 lb. in.
Width	Adds 9 mm

Lateral Mount Auxiliary with 2NO, 1NO+1NC or 2NC contacts; Lateral Mount Alarm/Auxiliary with 1NO+1NO, 1NO+1NC, 1NC+1NO, 1NC+1NC; Short Circuit Signal Contact 1NO+1NC (SPDT)

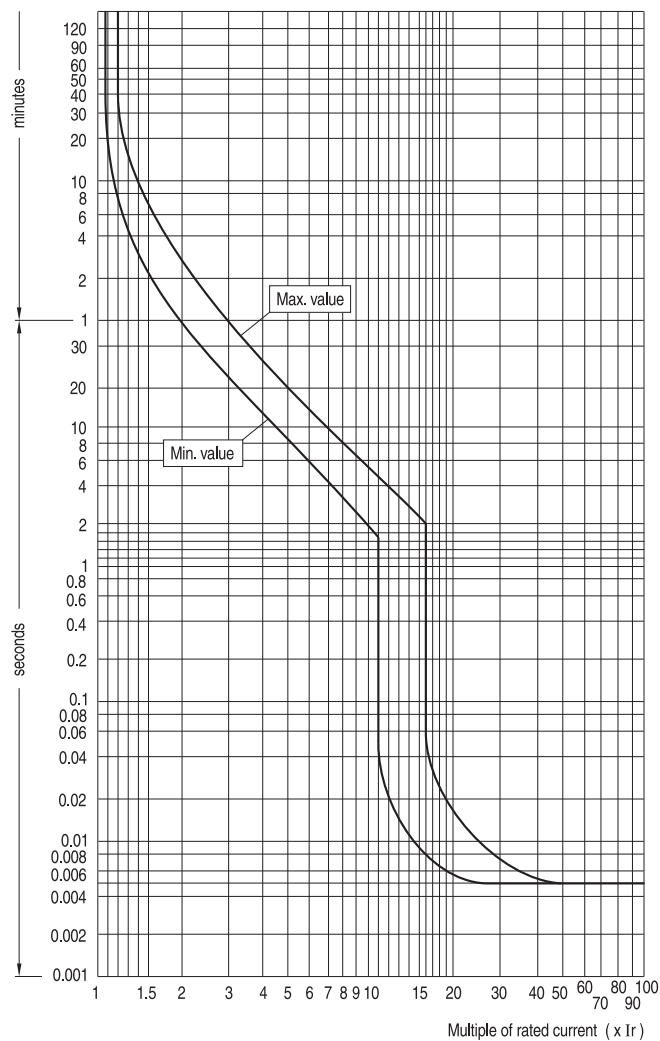
## Shunt Trip

Power Consumption Pick-up (va/watts)	21/12
Power Consumption Tripping Voltage	0.7-1.1 V <sub>e</sub>
Max. Operation Supply	5 ms for DC coil
Power Consumption Pick-Up Voltage	0.85 - 1.1 V <sub>e</sub>
Max. Size Wire (75°C Cu wire only) 2 conductor	0.5-2.5 mm <sup>2</sup> /18-14 AWG
Torque	0.8Nm/7 lb. in.
Width	Adds 18 mm

## Undervoltage Release

Power Consumption Pick-up (va/watts)	21/12
Power Consumption Holding (va/watts)	8/1.2
Power Consumption Tripping Voltage	0.35-0.7 V <sub>e</sub>
Power Consumption Pick-Up Voltage	0.85-1.1 V <sub>e</sub>
Torque	0.8Nm/7 lb. in.
Max. Size Wire (75°C Cu wire only) 2 conductor	0.5-2.5 mm <sup>2</sup> /18-14 AWG
Width	Adds 18 mm

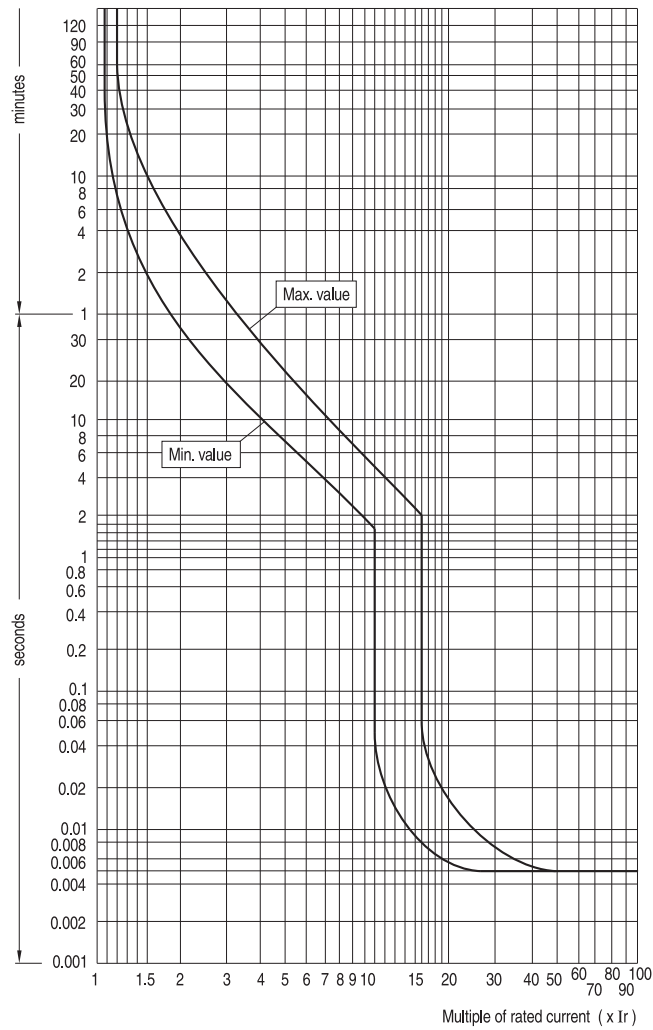




### GPS1

The thermal release trip current curve applies to cold state. For single phase and DC loads the three phase must be connected in series. The magnetic release is based on the rated current  $I_n$ , which is the maximum value of the setting range of the manual motor starter. If the current is set to a lower value, the tripping current is increased by a corresponding factor. The short circuit release is set at the factory to a value equivalent to 13 times the rated current of the manual motor starter.





GPS2

The thermal release trip current curve applies to cold state. For single phase and DC loads the three phase must be connected in series. The magnetic release is based on the rated current  $I_n$ , which is the maximum value of the setting range of the manual motor starter. If the current is set to a lower value, the tripping current is increased by a corresponding factor. The short circuit release is set at the factory to a value equivalent to 13 times the rated current of the manual motor starter.

