

IEC Manual Motor Starters

Section 6



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IEC Manual Motor Starters

Overview

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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/combo screws
- 35mm DIN rail mounting

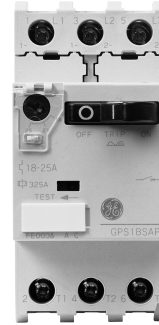
Surion is global. It is available around the world in the same form, with the same product number, with both IEC and US markings, making international applications simple and sure.

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.



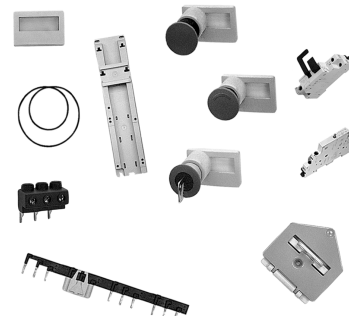
45 mm Standard Interruption Capacity



55 mm High Interruption Capacity



Integrated With Contactor



Accessories



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.

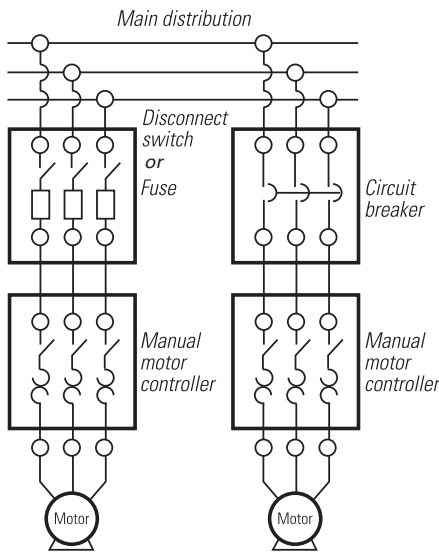


Figure 1A

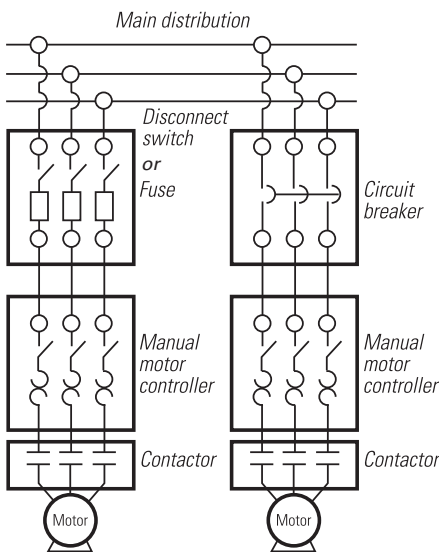


Figure 1B

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.

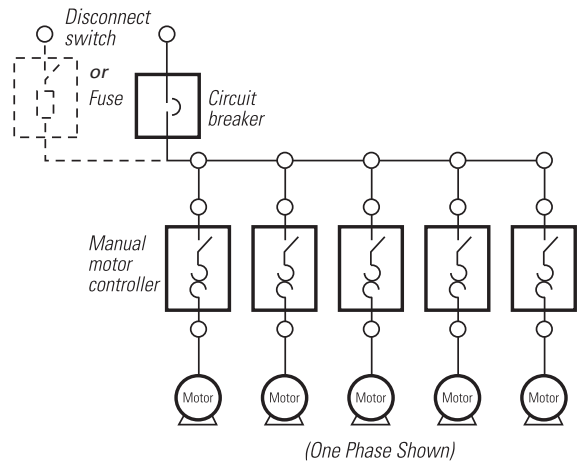


Figure 2A

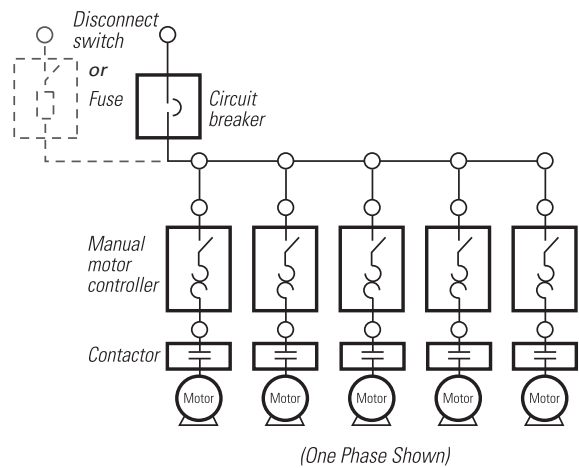


Figure 2B



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 GPAP1E (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.

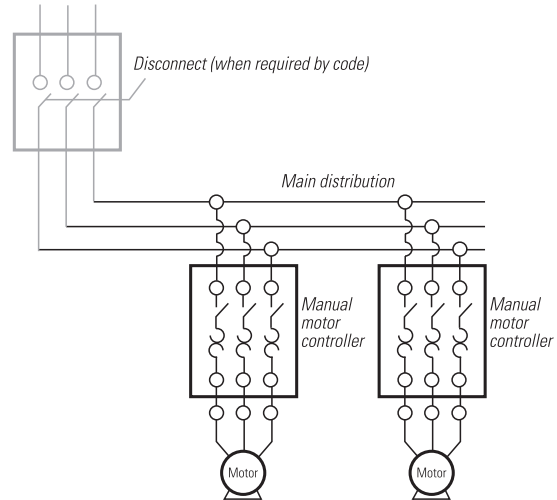


Figure 3A

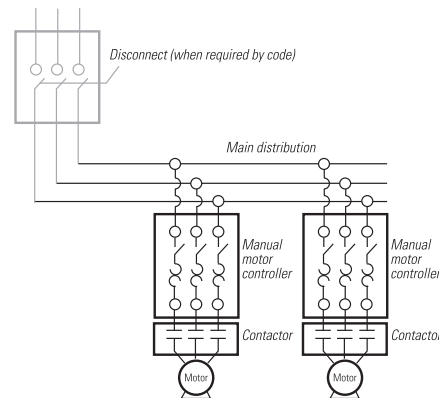


Figure 3B



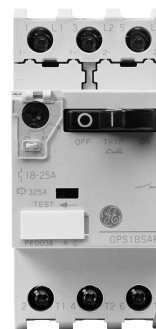
IEC Manual Motor Starters Selection Guide

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.



45 mm Standard Interruption Capacity (Toggle)

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.

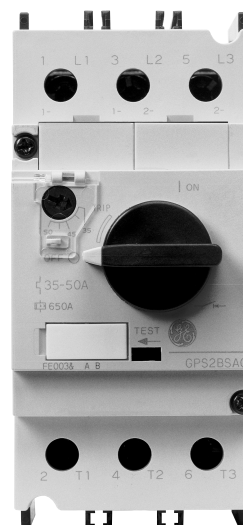


45 mm High Interruption Capacity (Rotary)

Reference Publications

Instructions:

DEH-40111



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^{1, 2} 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 | GPS1BHAE | \$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 | GPS1BHAI | \$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 | GPS1BHAL | \$150.00 |
| 11-16 | 3 | 5 | 10 | 10 | 1 | 2 | 208 | GPS1BHAM | \$150.00 |
| 14-20 | 5 | 5 | 10 | 15 | 1 1/2 | 3 | 260 | GPS1BHAN | \$150.00 |
| 19-25 | 7 1/2 | 7 1/2 | 15 | 20 | 2 | 3 | 325 | GPS1BHAP | \$165.00 |
| 24-32 | 10 | 10 | 20 | 30 | 2 | 5 | 416 | GPS1BHAR | \$165.00 |

55 mm High Interruption Capacity (Rotary Operator)

Individual, Group or Combination² 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 | GPS2BHAL | \$245.00 |
| 11-16 | 3 | 5 | 7 1/2 | 10 | 1 | 2 | 208 | GPS2BHAM | \$245.00 |
| 14-20 | 5 | 5 | 10 | 15 | 1 1/2 | 2 | 260 | GPS2BHAN | \$245.00 |
| 19-25 | 7 1/2 | 7 1/2 | 15 | 20 | 2 | 3 | 325 | GPS2BHAP | \$245.00 |
| 24-32 | 10 | 10 | 20 | 25 | 2 | 5 | 416 | GPS2BHAR | \$245.00 |
| 28-40 | 10 | 10 | 25 | 30 | 3 | 7 1/2 | 520 | GPS2BHAS | \$275.00 |
| 35-50 | 15 | 15 | 30 | 40 | 3 | 10 | 650 | GPS2BHAT | \$275.00 |
| 45-63 | 15 | 20 | 40 | 50 | 5 | 10 | 819 | GPS2BHAU | \$302.00 |

¹When using manual starters in combination starter applications, use short circuit reset/indicator accessory. For GPS1BH_ starters add GPAPT1E terminal accessory.

²Maximum 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

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 |

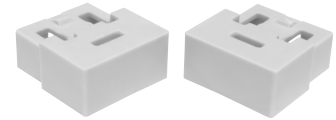


GPAC__FBA
Front Mounted Auxiliary Contacts

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 ¹ | \$18.00 |
| Auxiliary Contact (Side Mount) | GPS1*/GPS2* | Left | 1NO + 1NC | GPAC11LLA ¹ | \$18.00 |
| Auxiliary Contact (Side Mount) | GPS1*/GPS2* | Left | 2NO | GPAC20LLA ¹ | \$18.00 |
| Auxiliary Contact (Side Mount) | GPS1*/GPS2* | Right | 2NC | GPAC02LRA ¹ | \$18.00 |
| Auxiliary Contact (Side Mount) | GPS1*/GPS2* | Right | 1NO + 1NC | GPAC11LRA ¹ | \$18.00 |
| Auxiliary Contact (Side Mount) | GPS1*/GPS2* | Right | 2NO | GPAC20LRA ¹ | \$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 ² | \$15.00 |



GPAC__FRA
Front Mounted Alarm Contacts

¹GPS1BSAR 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.

²GPAE11LLA 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

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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.



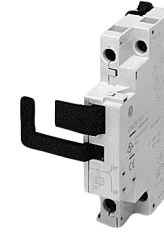
GPAULRAA_Undervoltage Release

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 | GPAU20LTAAC | \$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



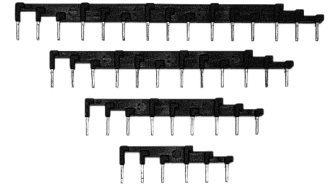
IEC Manual Motor Starters

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 |



GPB_B___Input Busbar



GPB_FA Power Input Busbar Terminal



GPB_GA Terminal Cover

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



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

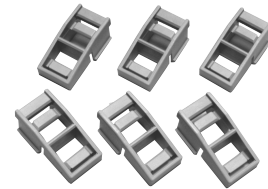
Other Accessories

| Accessory Type | For Use With | Description | Product Number | List Price GO-10A2C |
|-----------------|--------------|--|----------------|------------------------|
| Snap-in Tabs | GPS1* | For Screw Mounting GPS1 to panel ¹ | 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 |

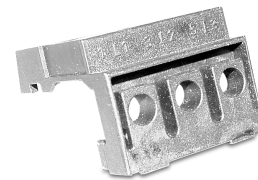
¹Packaged in quantities of 10.



GPAKS1A Snap-in Tabs



GPAPT2A Terminal Covers for GPS2*



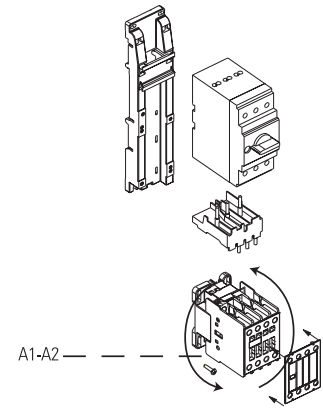
GPAPT1E Terminal Covers for GPS1BH*



IEC Manual Motor Starters Accessories

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

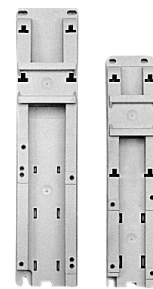
Integrated Starter Components

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.

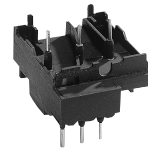
| Accessory Type | Contactors Prefix | Built-In Aux Contacts | Product Number | List Price GO-10A2C |
|----------------|----------------------|-----------------------|-----------------------|------------------------|
| Covers | CL00, CL01, CL02 | 1NO | GPF10C02 ¹ | \$3.00 |
| Covers | CL00, CL01, CL02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

¹Covers accommodate a maximum of 2 front auxiliary contact blocks.

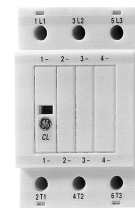
²Covers accommodate a maximum of 4 front auxiliary contact blocks.



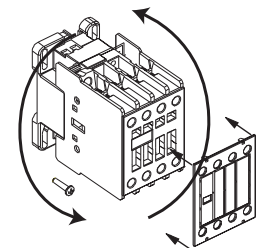
GPF_B_A Bases



GPF1L_____/GPF2L_____/Links



Cover



Rotate CL contactors 180 degrees

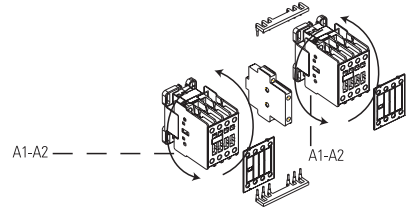
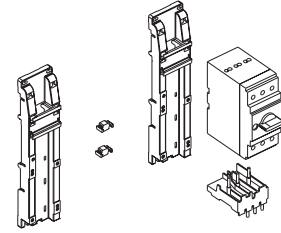


IEC Manual Motor Starters Accessories

Section 6

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

Integrated Starter Components

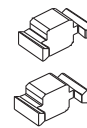
Bases and base links are required for reversers using CL contactors, optional for reversers using MC contactors. Two base links are required for each pair of reverser bases.

| 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.



WKLI_ _Wiring Kits for Reversing Starters



Base Links for Reversers



IEC Manual Motor Starters Enclosures and Enclosure Accessories

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 |



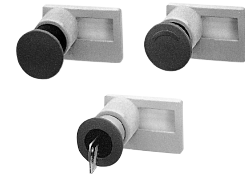
GPEF__A/GPES__A Non-Metallic Enclosure

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 | GPELCAN | \$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

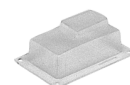
Reference Publications

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 | Contactora 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 ¹ | \$95.00 |
| Combination Starters | GPS1BH | CL04 | NEMA Type 1 | GPEM1CD ¹ | \$95.00 |
| Combination Starters | GPS1BH /GPS2BH | All except CL04 | NEMA Type 3R/12 | GPEM2CC ¹ | \$140.00 |
| Combination Starters | GPS1BH | CL04 | NEMA Type 3R/12 | GPEM2CD ¹ | \$140.00 |
| Reversing Combination ² Starters and Combination ² Starters with CPT | GPS1BH | CL00-CL04 | NEMA Type 1 | GPEM1XA ¹ | \$165.00 |
| Reversing Combination ² Starters and Combination Starters with CPT | GPS1BH | CL00-CL04 | NEMA Type 3R/12 | GPEM2XA ¹ | \$210.00 |
| Reversing Combination ² Starters and Combination ² Starters with CPT | GPS2BH | CL04-CL07 | NEMA Type 1 | GPEM1XB ¹ | \$165.00 |
| Reversing Combination ² Starters and Combination ² Starters with CPT | GPS2BH | CL04-CL07 | NEMA Type 3R/12 | GPEM2XB ¹ | \$210.00 |

¹Bases are required for enclosed combination starters.

²Maximum 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 ¹ | \$1.00 ¹ |
| 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 |

¹List Price GO-10GC



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

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 |



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 | Max Amps | Base Included | Product Number ¹ | 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 ² | \$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 |

¹Complete product number by replacing asterisk (*) with appropriate coil digit from table below.

²1NO 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 | | | | | | | | | | | | |
|--------------------------------|------------|----|----|-----|-----|-----|---------|---------|-----|---------|-----|-----|-----|
| | 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 | — | — | — | U | — | — | W | Y |
| Coil Digit * for CL Contactors | — | — | 1 | J | L | S | — | N | — | U | W | — | Y |



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

Section 6

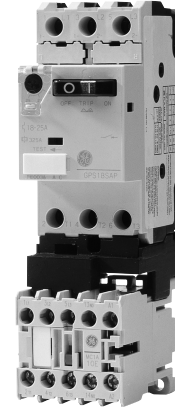
Product Number Structure for Modifications

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) Modifications | | 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 | | | Product Number ¹ | List Price GO-10A2A |
|----------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|----------------|----------|---------------|-----------------------------|---------------------|
| | | | | | | | Contactor Size | Max Amps | Base Included | | |
| 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 | 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 ² | \$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 |

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

²1NO 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

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 |
| 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 and Combination² 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 | | | | List Price GO-10A2A |
|----------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|----------------|----------|---------------|-----------------------------|---------------------|
| | | | | | | | Contactor Size | Max Amps | Base Included | Product Number ¹ | |
| 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 ³ | \$354.00 |
| 19-25 | 7 1/2 | 7 1/2 | 15 | 20 | 1 1/2 | 3 | CL04 | 32 | Yes | GP21PA04*A | \$424.00 |
| 24-32 | 10 | 10 | 20 | 25 | 2 | 5 | CL04 | 32 | Yes | GP21RA04*A | \$424.00 |

55 mm (Rotary Operator)

Individual, Group and Combination² 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 | | | | List Price GO-10A2A |
|----------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|----------------|----------|---------------|-----------------------------|---------------------|
| | | | | | | | Contactor Size | Max Amps | Base Included | Product Number ¹ | |
| 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 ³ | \$562.00 |
| 35-50 | 15 | 15 | 30 | 40 | 3 | 7 1/2 | CL06 | 48 | Yes | GP22TA06*A ⁴ | \$611.00 |
| 45-63 | 15 | 20 | 40 | 50 | 5 | 10 | CL07 | 62 | Yes | GP22UA07*A ⁴ | \$678.00 |

¹Complete product number by replacing asterisk (*) with appropriate coil digit from table below. For combination installation add short circuit alarm GPAAE11LLA.

²For 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.

³NO aux contact front mounted.

⁴NO-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 | |
| 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 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 Combination² 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 ¹ | 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 ³ | \$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 Combination² 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 ¹ | 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 ³ | \$646.00 |

¹Complete product number by replacing crosshatch (#) with appropriate coil digit from table below. For combination installation add short circuit alarm GPAA11LA.

²For 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.

³1NO 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

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 ² | A ³ | A ⁴ | \$0.00 |
| Coil Surge Suppressor ¹ | — | — | — | B | B | B | \$27.00 |
| Auxiliary Contact | 1NO | Front | Left | C | C | C | \$18.00 |
| Auxiliary Contact + Coil Surge Suppressor ¹ | 1NO | Front | Left | D | D | D | \$45.00 |
| Auxiliary Contact | 1NC | Front | Left | E | E | E | \$18.00 |
| Auxiliary Contact + Coil Surge Suppressor ¹ | 1NC | Front | Left | F | F | F | \$45.00 |
| Auxiliary Contact | 1NO-1NC | Front | Front | G | G ⁵ | G | \$27.00 |
| Auxiliary Contact + Coil Surge Suppressor ¹ | 1NO-1NC | Front | Front | H | H ⁵ | H | \$54.00 |

¹RC suppressor AC coil to 230V; diode suppressor for DC coil

²Includes internal 1NO holding interlock

³Includes 1NO front mounted auxiliary for holding interlock

⁴Includes 1NO front mounted auxiliary for holding interlock and 1NC auxiliary for general use

⁵Not 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 |
|----------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|------------------------|----------------|------------|
| 0.1-0.16 | | | | | | | Non-Metal (Type 1) | GP13AAAA1BA | \$143.00 |
| 0.16-.25 | | | | | | | Non-Metal (Type 1) | GP13BAAA1BA | \$143.00 |
| 0.25-0.4 | | | | | | | Non-Metal (Type 1) | GP13CAAAA1BA | \$143.00 |
| 0.4-0.63 | | | | | | | Non-Metal (Type 1) | GP13DAAA1BA | \$143.00 |
| 0.63-1.0 | | | 1/2 | 1/2 | | | Non-Metal (Type 1) | GP13EAAA1BA | \$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) | GP13GAAA1BA | \$155.00 |
| 2.5-4 | 3/4 | 3/4 | 2 | 3 | 1/8 | 1/3 | Non-Metal (Type 1) | GP13HAAA1BA | \$155.00 |
| 4.0-6.3 | 1 | 1 1/2 | 3 | 3 | 1/4 | 1/2 | Non-Metal (Type 1) | GP13JAAA1BA | \$155.00 |
| 6.3-10 | 2 | 3 | 5 | 5 | 1/2 | 1 1/2 | Non-Metal (Type 1) | GP13KAAA1BA | \$155.00 |
| 9-13 | 3 | 3 | 7 1/2 | 10 | 1/2 | 2 | Non-Metal (Type 1) | GP13LAAA1BA | \$175.00 |
| 11-16 | 3 | 3 | 7 1/2 | 10 | 3/4 | 2 | Non-Metal (Type 1) | GP13MAAA1BA | \$175.00 |
| 14-20 | 5 | 5 | 10 | 15 | 1 | 3 | Non-Metal (Type 1) | GP13NAAA1BA | \$175.00 |
| 19-25 | 7 1/2 | 7 1/2 | 15 | 20 | 1 1/2 | 3 | Non-Metal (Type 1) | GP13PAAA1BA | \$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) | GP13MAAA3BA | \$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 Combination¹ 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 Combination¹ 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 |

¹For combination installation add short circuit alarm GPAE11LLA. 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

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 | | | Pilot Light Pilot Light | | |

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 ¹ | 6 | \$0.00 |
| Type 3R/12 | 8 | \$0.00 |

¹For 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 Combination² 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 ¹ | 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 | 3/4 | | 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 ³ | \$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 ³ | \$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 |

¹Complete product number by replacing asterisk (*) with appropriate coil digit from table below.

²For 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.

³1NO 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 |
| 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, AC Operated Contactors High Interruption Capacity



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

55 mm (Rotary Operator)

Individual, Non-Combination or Combination² 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 | Enclosure Type | Product Number ¹ | 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 ³ | \$727.00 |
| 35-50 | 15 | 15 | 30 | 40 | 3 | 7 1/2 | CL06 | 48 | Metal (Type 1) | GP22TA06*A1AA ⁴ | \$776.00 |
| 45-63 | 15 | 20 | 40 | 50 | 5 | 10 | CL07 | 62 | Metal (Type 1) | GP22UA07*A1AA ⁴ | \$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 ³ | \$772.00 |
| 35-50 | 15 | 15 | 30 | 40 | 3 | 7 1/2 | CL06 | 48 | Metal (Type 3R/12) | GP22TA06*A3AA ³ | \$821.00 |
| 45-63 | 15 | 20 | 40 | 50 | 5 | 10 | CL07 | 62 | Metal (Type 3R/12) | GP22UA07*A3AA ³ | \$888.00 |

¹Complete product number by replacing asterisk (*) with appropriate coil digit from table below.

²For 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.

³1NO aux contact front mounted.

⁴1NO-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 | | | | | | | | | | | | |
|-------------------------------|------------|----|-----|-----|-----|-----|---------|-----|---------|-----|-----|-----|-----|
| | 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 | — |



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 Combination² 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 ¹ | 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 ³ | \$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 ³ | \$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 |

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

²For combination installation add short circuit alarm GPAE11LLA. 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.

³1NO 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



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

55 mm (Rotary Operator)

Individual, Non-Combination or Combination² 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 | Enclosure Type | Product Number ¹ | List Price GO-10A2A |
|----------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|----------------|--------------------|--------------------|-----------------------------|---------------------|
| 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 ³ | \$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 ³ | \$856.00 |

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

²For combination installation add short circuit alarm GPAE11LLA. 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.

³NO 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

Section 6

Factory Installed Accessories

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 ² | A ³ | A ⁴ | \$0.00 |
| Coil Surge Suppressor ¹ | — | — | — | B | B | B | \$27.00 |
| Auxiliary Contact | 1NO | Front | Left | C | C | C | \$18.00 |
| Auxiliary Contact + Coil Surge Suppressor ¹ | 1NO | Front | Left | D | D | D | \$45.00 |
| Auxiliary Contact | 1NC | Front | Left | E | E | E | \$18.00 |
| Auxiliary Contact + Coil Surge Suppressor ¹ | 1NC | Front | Left | F | F | F | \$45.00 |
| Auxiliary Contact | 1NO-1NC | Front | Front | G | G ⁵ | G | \$27.00 |
| Auxiliary Contact + Coil Surge Suppressor ¹ | 1NO-1NC | Front | Front | H | H ⁵ | H | \$54.00 |

¹RC suppressor AC coil to 230V; diode suppressor for DC coil

²Includes internal 1NO holding interlock

³Includes 1NO front mounted auxiliary for holding interlock

⁴Includes 1NO front mounted auxiliary for holding interlock and 1NC auxiliary for general use

⁵Not available for CL25



IEC Manual Motor Starters Integrated with Contactor Factory Installed Accessories

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, | Product No. Digits 11 & 12 | | List Price Adder, |
| | | | Type 1 | Type 3R/12 | GO-10A2A | Type 1T | Type 3R/12 | GO-10A2A |
| 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 ¹ | D | \$288.00 |
| START/STOP Push Button with Red/Green OFF Pilot Light thru Aux. ¹ | E | \$315.00 |
| ON/OFF Selector Switch | F | \$72.00 |
| ON/OFF Selector Switch with Red/Green ON Pilot Light ¹ | G | \$216.00 |
| ON/OFF Selector Switch with Red/Green OFF Pilot Light thru Aux. ¹ | H | \$243.00 |
| H-O-A Selector Switch | J | \$72.00 |
| H-O-A Selector Switch with Red/Green ON Pilot Light ¹ | K | \$216.00 |
| H-O-A Selector Switch with Red/Green OFF Pilot Light thru Aux. ¹ | L | \$243.00 |
| Red/Green OFF Pilot Light thru Aux. ¹ | M | \$171.00 |
| H-O-A Selector Switch with START Push Button | N | \$144.00 |

¹Pilot lights comes with both red and green lenses for field installation.

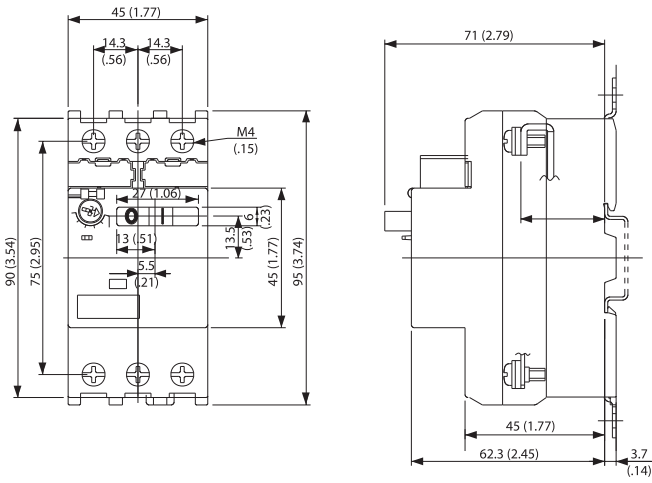


IEC Manual Motor Starters

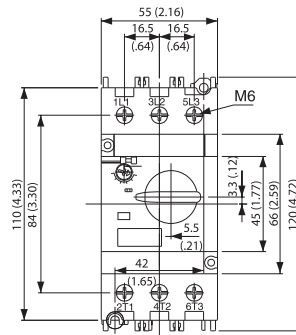
Outline Drawings

Section 6

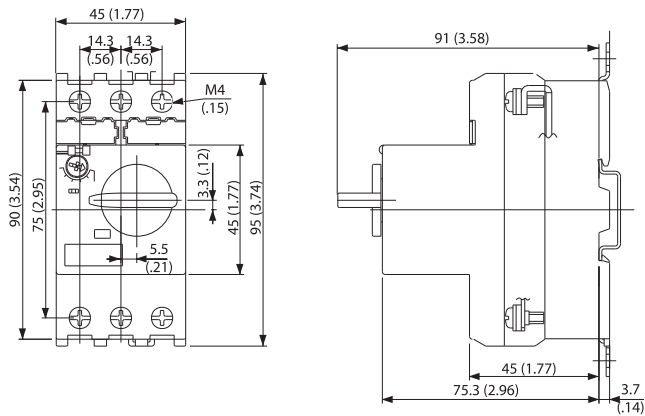
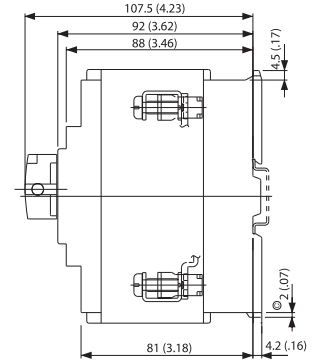
Outlines and Dimensions mm (in.) For Estimating Only



Manual Motor Starter - GPS1BS_ (toggle)



Manual Motor Starter - GPS2BH_ (rotary)

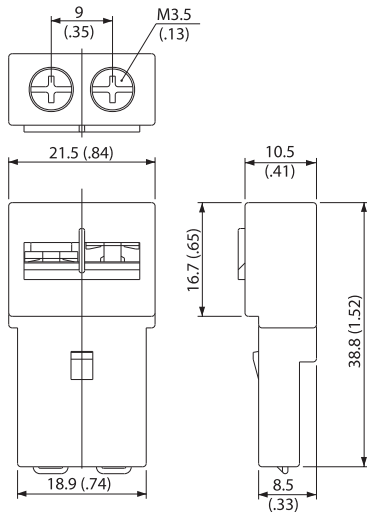


Manual Motor Starter - GPS1BH_ (rotary)

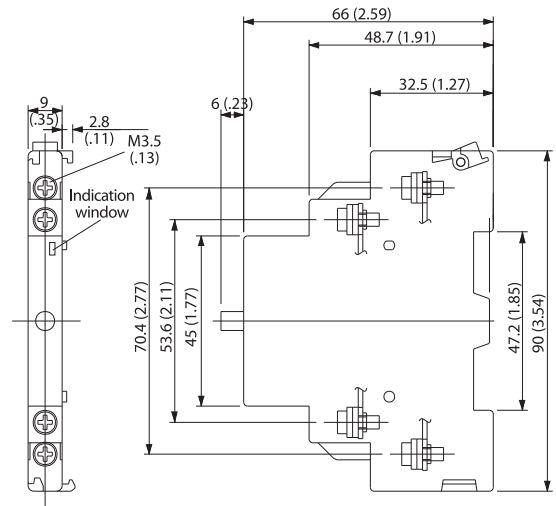


IEC Manual Motor Starters Outline Drawings Outlines and Dimensions mm (in.) For Estimating Only

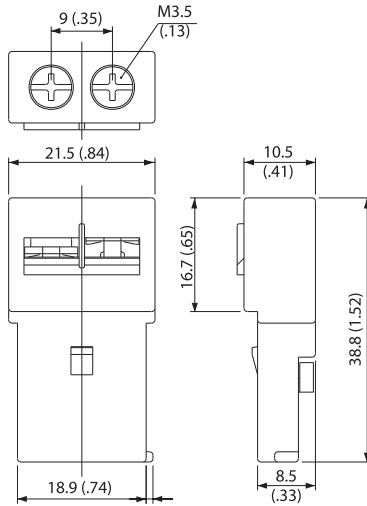
Section 6



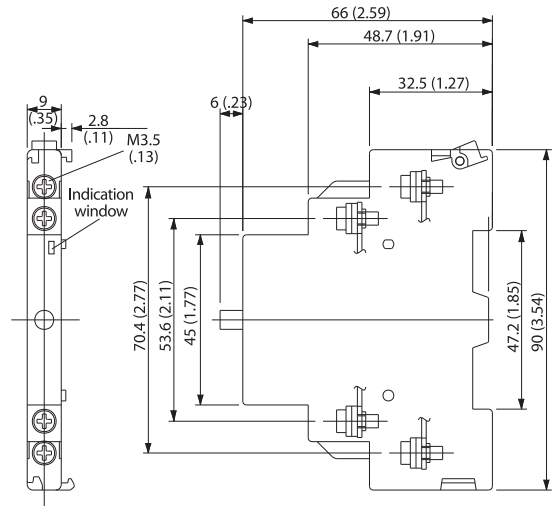
GPAC__FBA Auxiliary Contact Blocks - Frontal



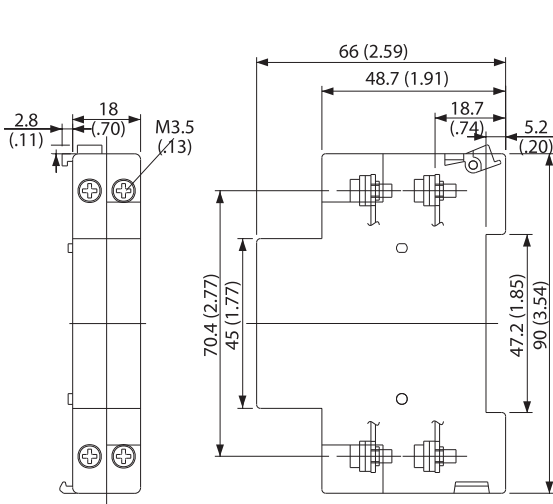
GPAC__LLA Auxiliary Contact Blocks - Lateral Left



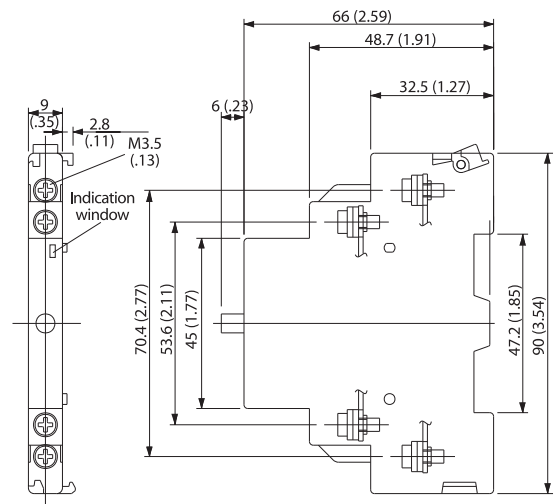
GPAL__FRA Alarm Contact Blocks - Frontal



GPAD__LLA Alarm Contact Blocks - Lateral



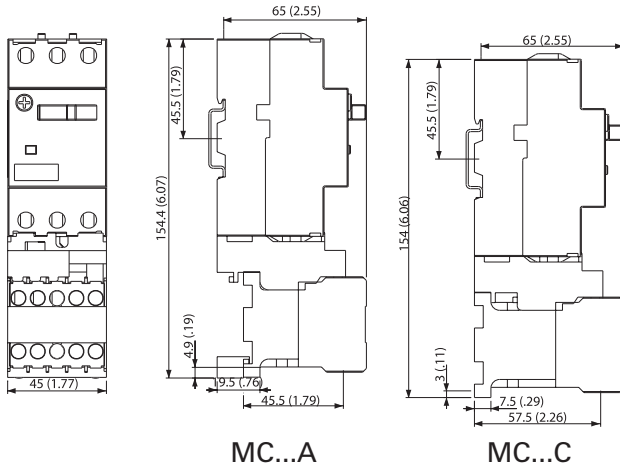
GPASLR__/_GPAULR__ Shunt and Undervoltage - Trip Devices



GPAE11LLA Short Circuit Contact Block



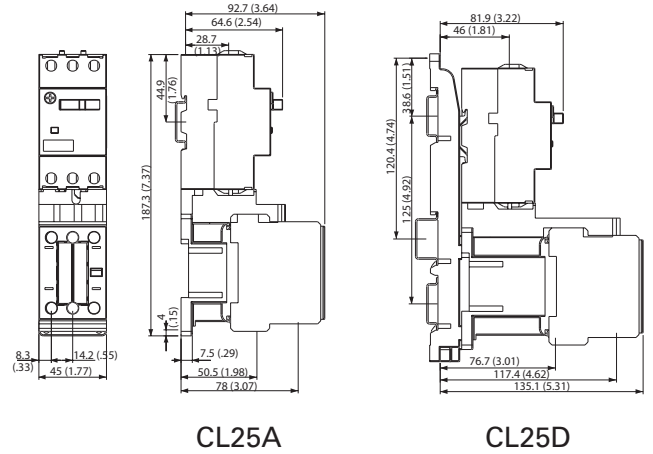
IEC Manual Motor Starters Outline Drawings Outlines and Dimensions mm (in.) For Estimating Only



MC...A

MC...C

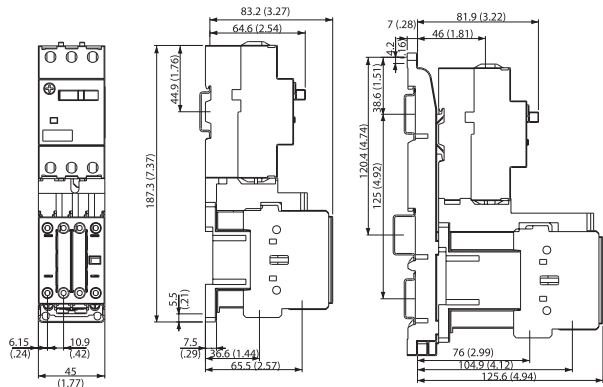
Assembled Starter - GPS1_ (toggle) + Minicontactor MC



CL25A

CL25D

Assembled Starter - GPS1BS_ (toggle) + Contactor CL25



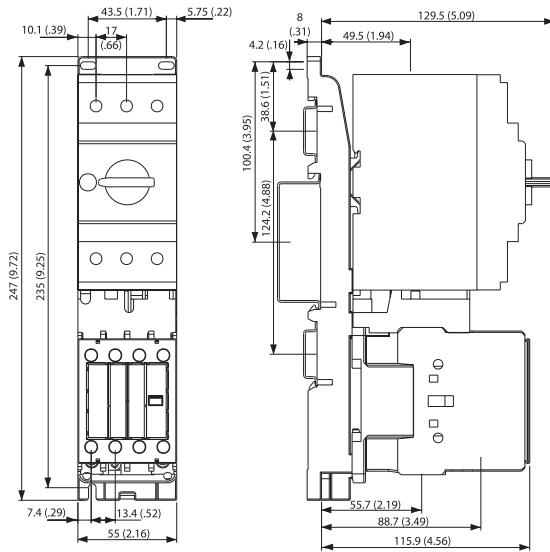
CL00A-CL01A-CL02A

CL00D-CL01D-CL02D

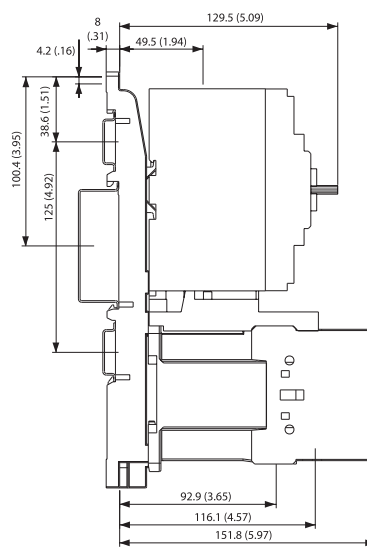
Assembled Starter - GPS1BS_ (toggle) +
Contactor CL00-CL01-CL02



Outlines and Dimensions mm (in.) For Estimating Only

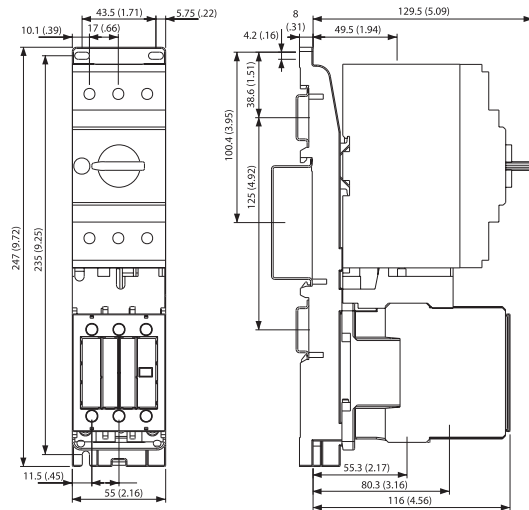


CL03A-CL04A

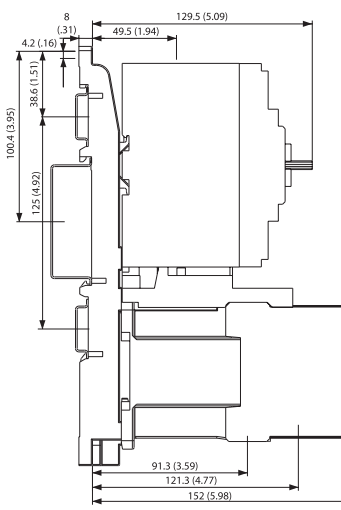


CL03D-CL04D

Assembled Starter GPS2* + Contactor CL03-CL04



CL45A



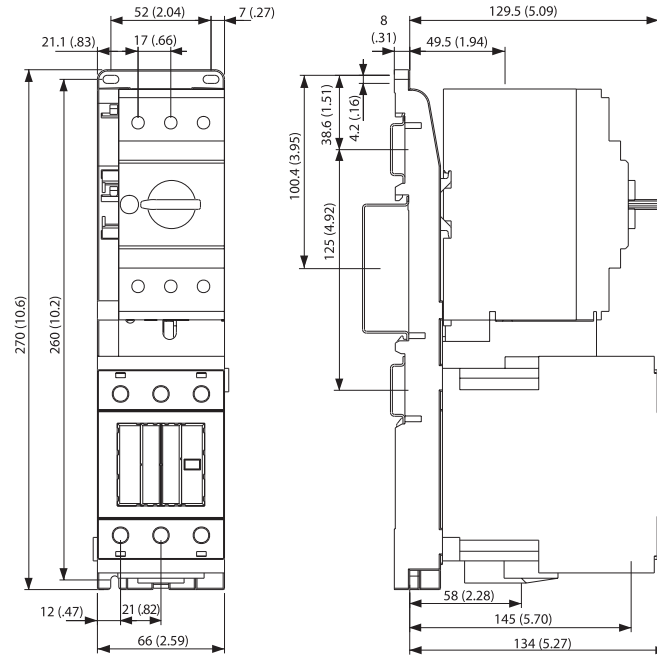
CL45D

Assembled Starter GPS2* + Contactor CL45



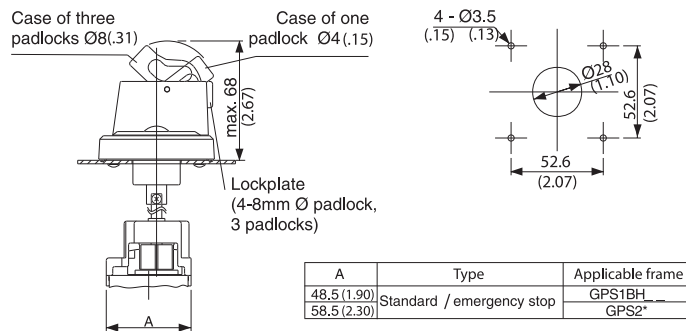
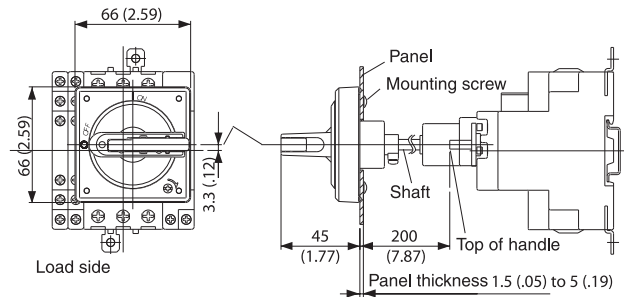
IEC Manual Motor Starters Outline Drawings

Outlines and Dimensions mm (in.) For Estimating Only



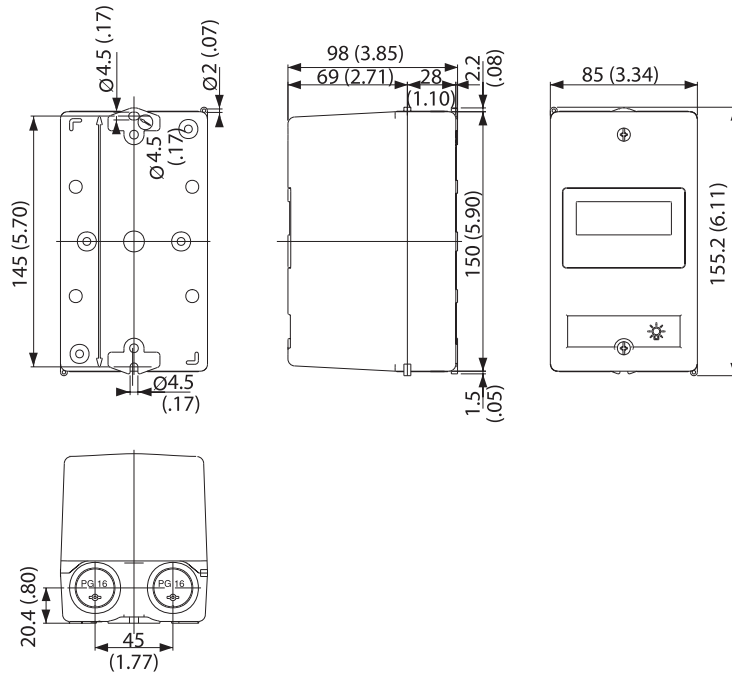
CL06A-CL07A-CL08A

Assembled Starter GPS2* + Contactor CL06-CL08

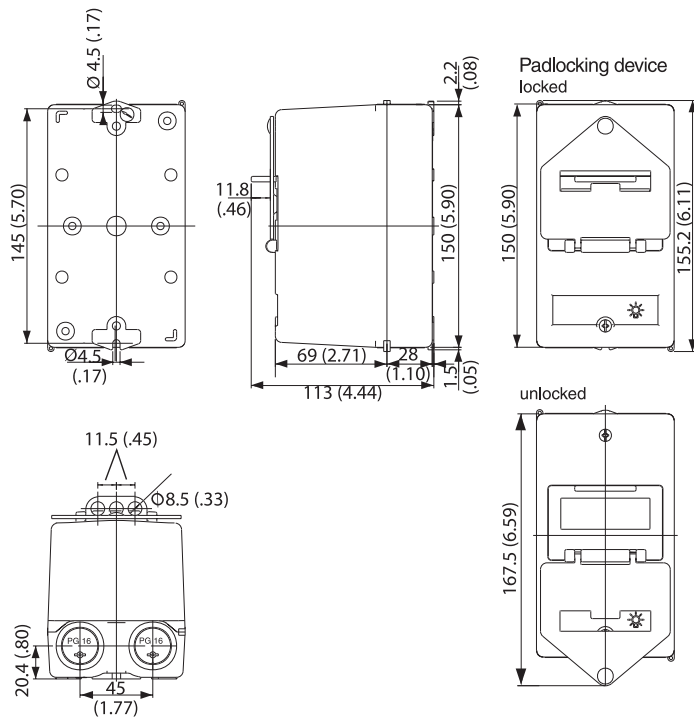


External Handle Operator





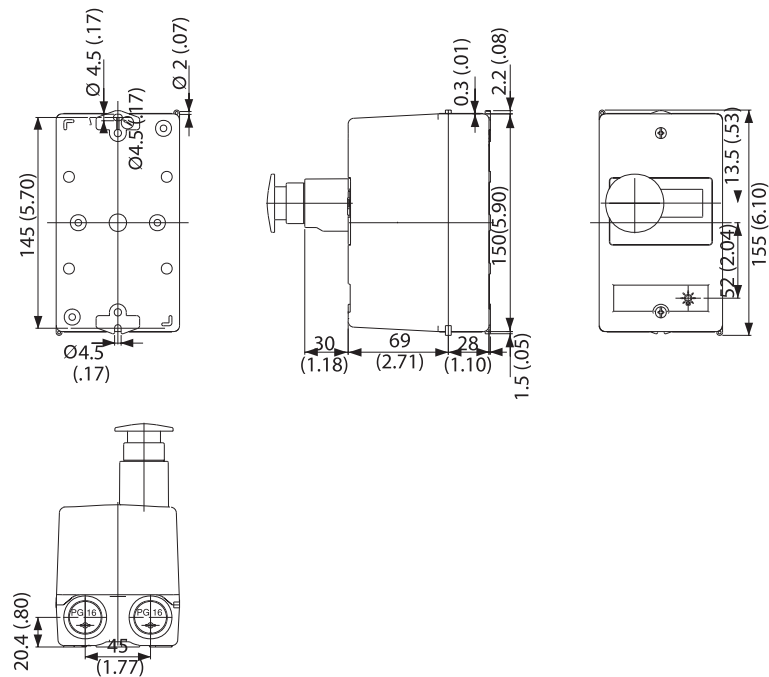
Non-metal Enclosure for GPS1BSAA-GPS1BSAP Surface Mounting



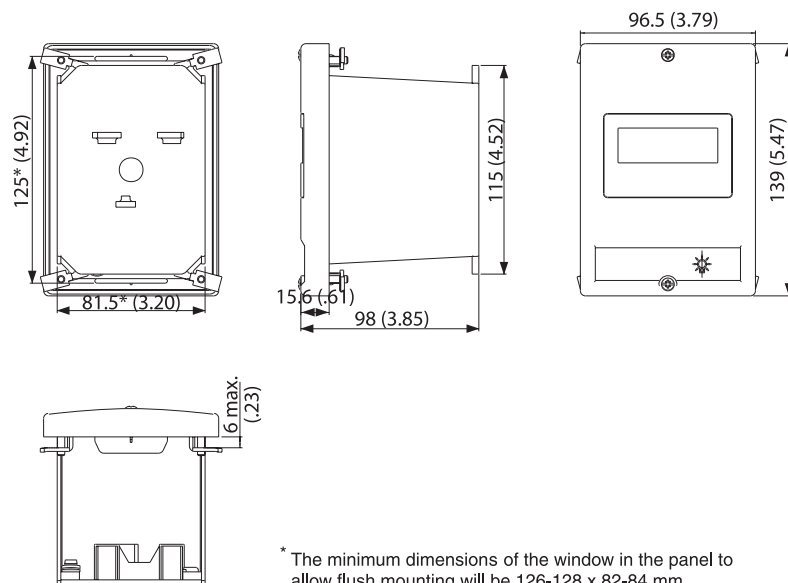
Non-metal Enclosure for GPS1BSAA-GPS1BSAP Surface Mounting with Padlocking Device



Outlines and Dimensions mm (in.) For Estimating Only



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



* The minimum dimensions of the window in the panel to allow flush mounting will be 126-128 x 82-84 mm.

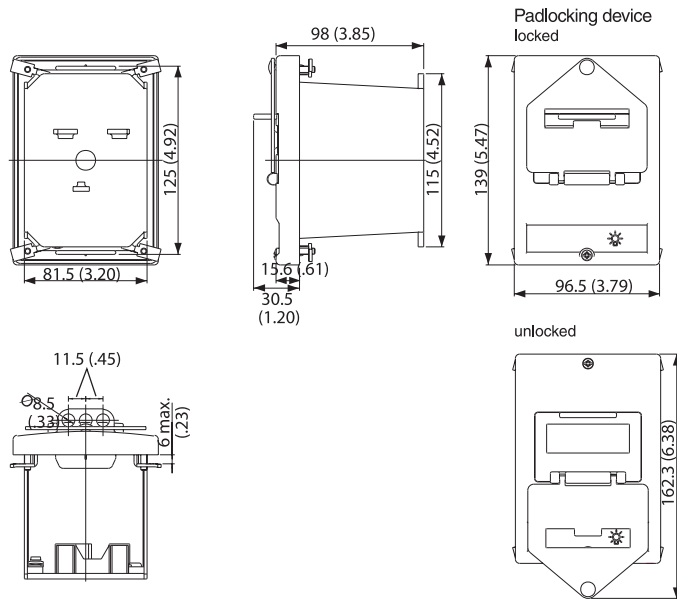
Non-metal Enclosure for GPS1BSAA-GPS1BSAP Flush Mounting



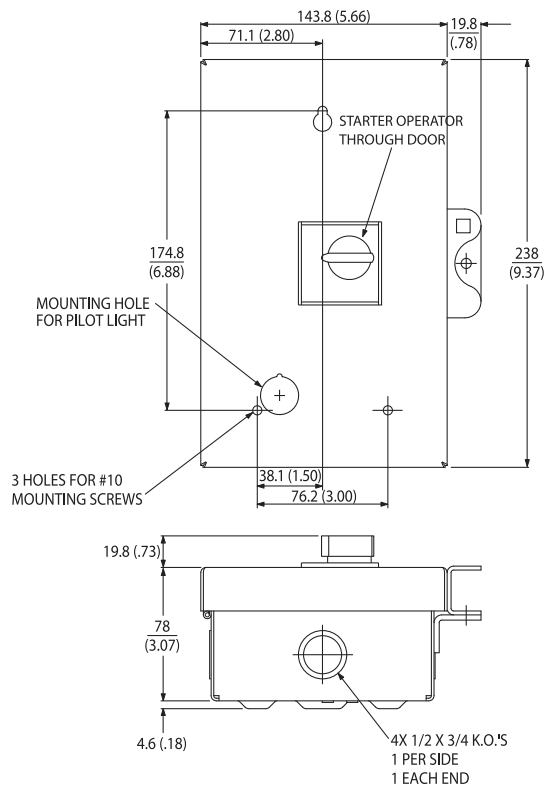
IEC Manual Motor Starters Outline Drawings

Section 6

Outlines and Dimensions mm (in.) For Estimating Only



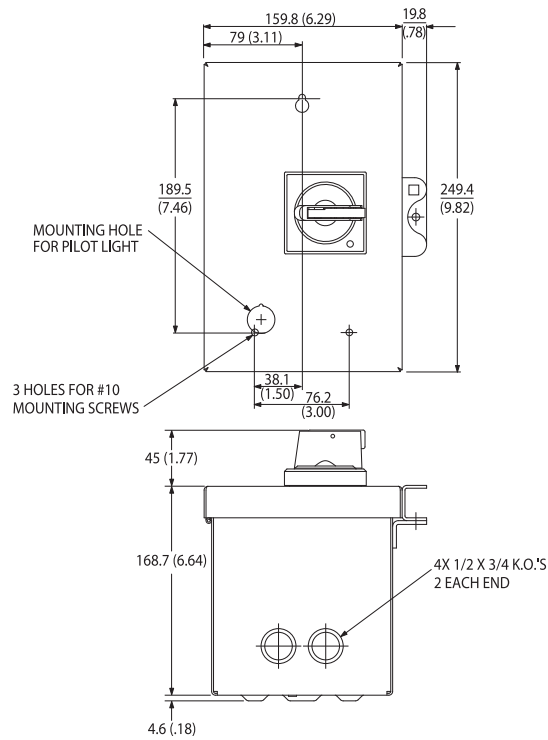
Non-metal Enclosure for GPS1BSAA-GPS1BSAP Flush Mounting with Padlocking Device



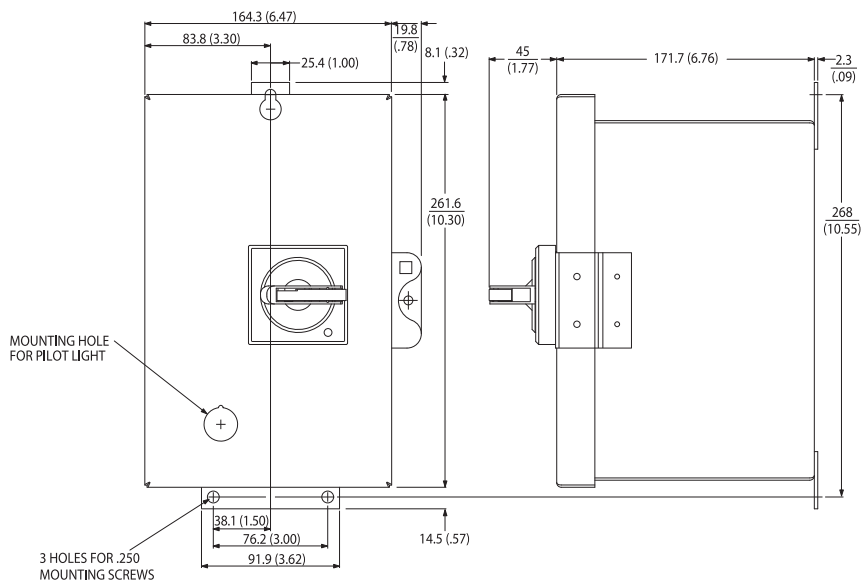
Metal Enclosure for GPS1BH_ Starter, NEMA Type 1 (Drawing 55-216916)



Outlines and Dimensions mm (in.) For Estimating Only



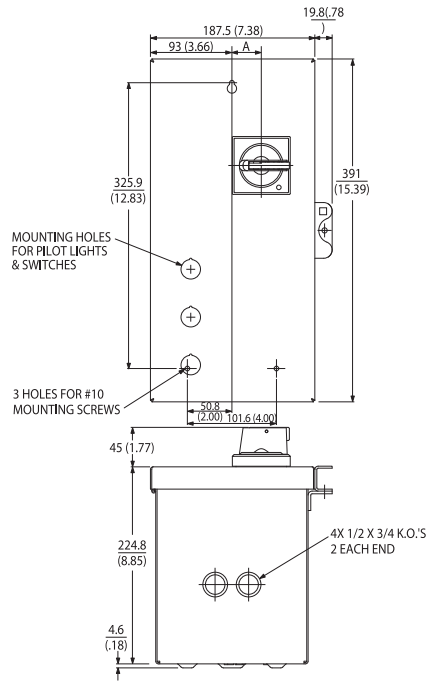
Metal Enclosure for GPS2BH_ Starter, NEMA Type 1 (Drawing 55-216917)



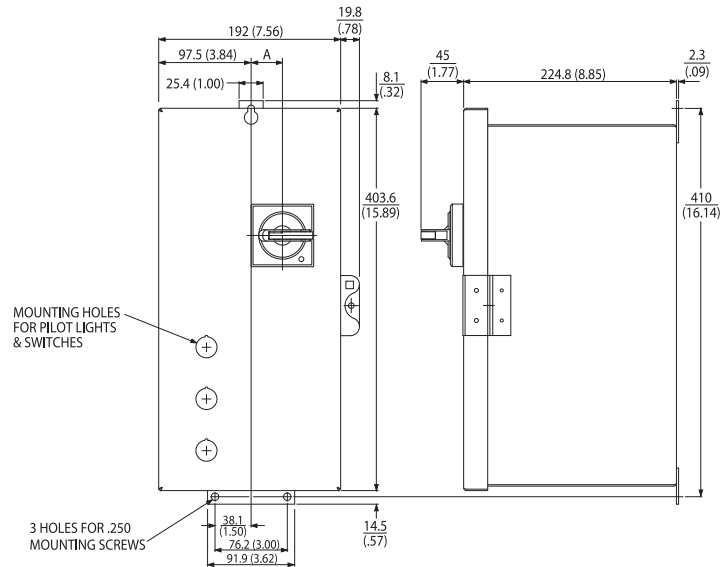
Metal Enclosure for GPS1BH_/GPS2BH_ Starter, NEMA Type 3R/12 (Drawing 55-216918)



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) |

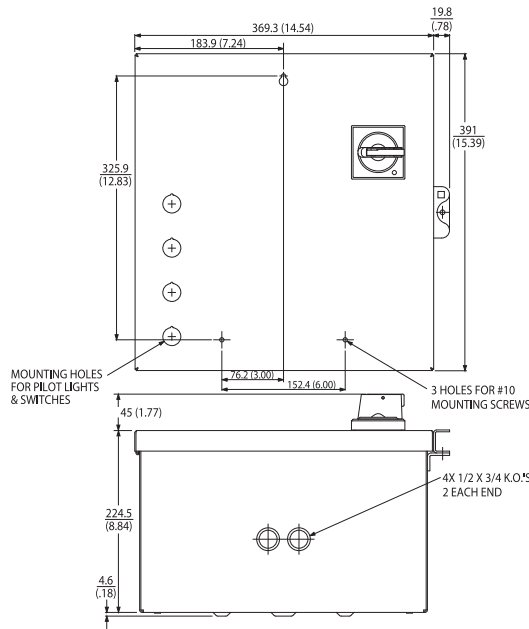


IEC Manual Motor Starters

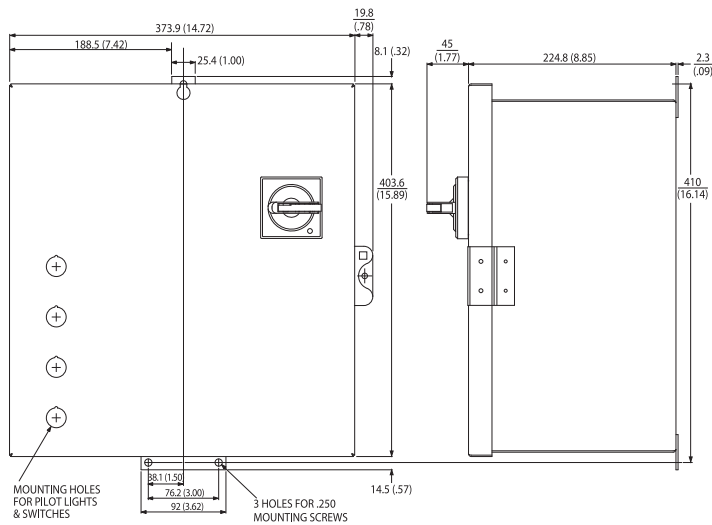
Outline Drawings

Section 6

Outlines and Dimensions mm (in.) For Estimating Only

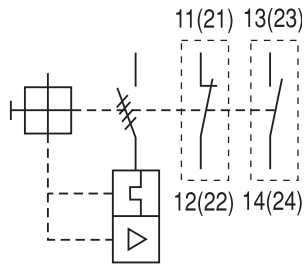


Metal Enclosure for GPS1BH_/GPS2BH_ Reversing Combination Starter with CPT, NEMA Type 1 (Drawing 55-216921)

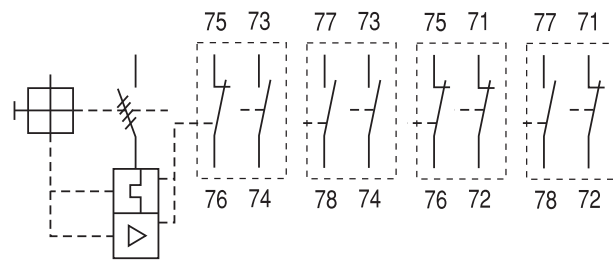


Metal Enclosure for GPS1BH_/GPS2BH_ Reversing Combination Starter with CPT, NEMA Type 3R/12 (Drawing 55-216922)

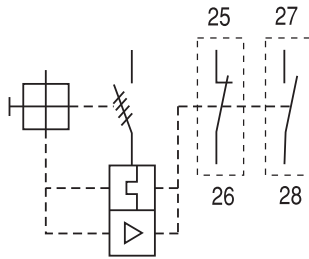




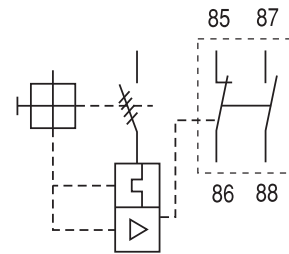
GPAC_FBA Front Mount Auxiliary Contact



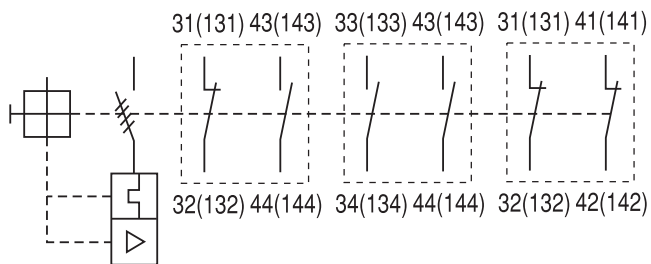
GPAC_LRA Side Mount Alarm/Auxiliary Contact



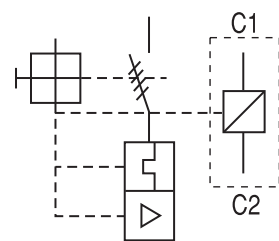
GPAC_FRA Front Mount Alarm Contact



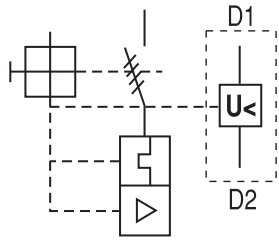
GPAE11LLA Side Mount Short Circuit Alarm



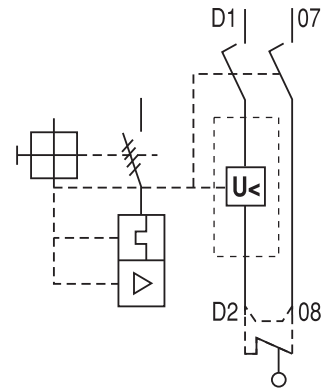
GPAC_LLA Side Mount Auxiliary Contact



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_{max} | 32A | 63A |
| Maximum Rated Operational Current I_e | 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_i | 690V | 690V |
| Rated Operation Voltage U_e | 690V | 690V |
| Rated Voltage U_L, cUL | 600V | 600V |
| Rated Frequency | 50/60 | 50/60 |
| Rated Impulse Withstand Strength U_{imp} | 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_e 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 ² /18-8 AWG | 1-25 mm ² /18-2 AWG stranded |
| 2 Conductor w/o End Sleeve, solid or stranded | 1-6 mm ² /18-10 AWG | 1-25 mm ² /18-4 AWG stranded |
| 1 Conductor w/ End Sleeve, stranded | 1-6 mm ² stranded | 1-16 mm ² |
| 2 Conductor w/ End Sleeve, stranded | 1-6 mm ² stranded | 1-16 mm ² |
| 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_e | 115V, 230V |
| Rated Operational AC Current I_e | 1.5A |
| AC Utilization Category | AC15 |
| Rated Operation DC Voltage U_e | 48V, 110V, 220V |
| Rated Operational DC Current I_e | 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 ² /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_e | 125V, 230V, 400V, 500V, 690V |
| Rated Operational AC Current I_e | 4A, 4A, 2.2A, 0.5A, 0.6A |
| AC Utilization Category | AC15 |
| Rated Operation DC Voltage U_e | 48V, 110V, 220V |
| Rated Operational DC Current I_e | 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 ² /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)

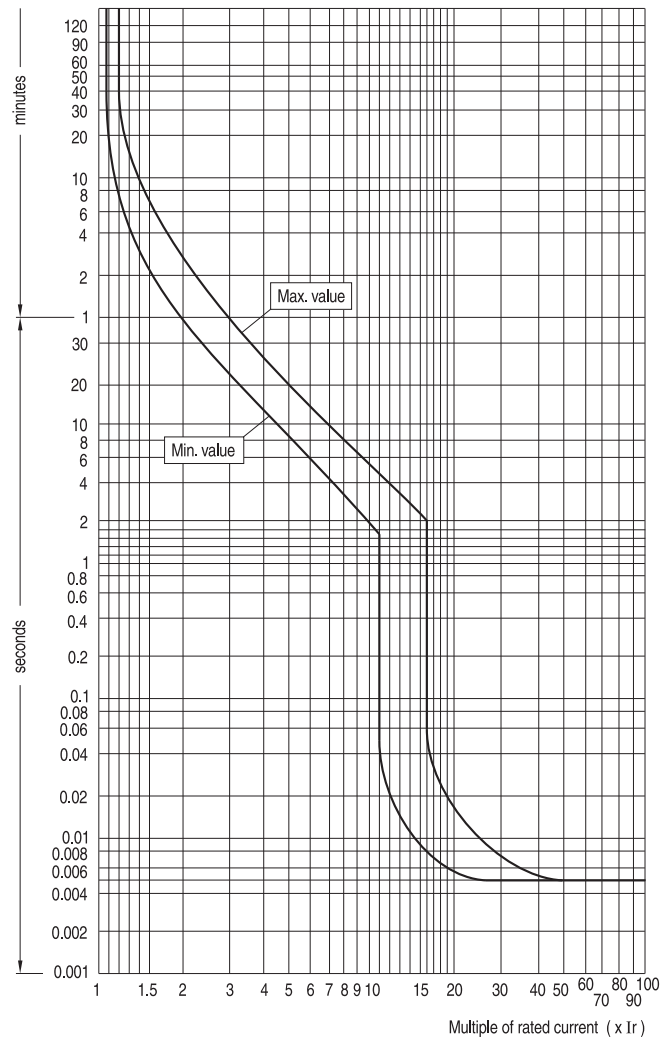
Shunt Trip

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

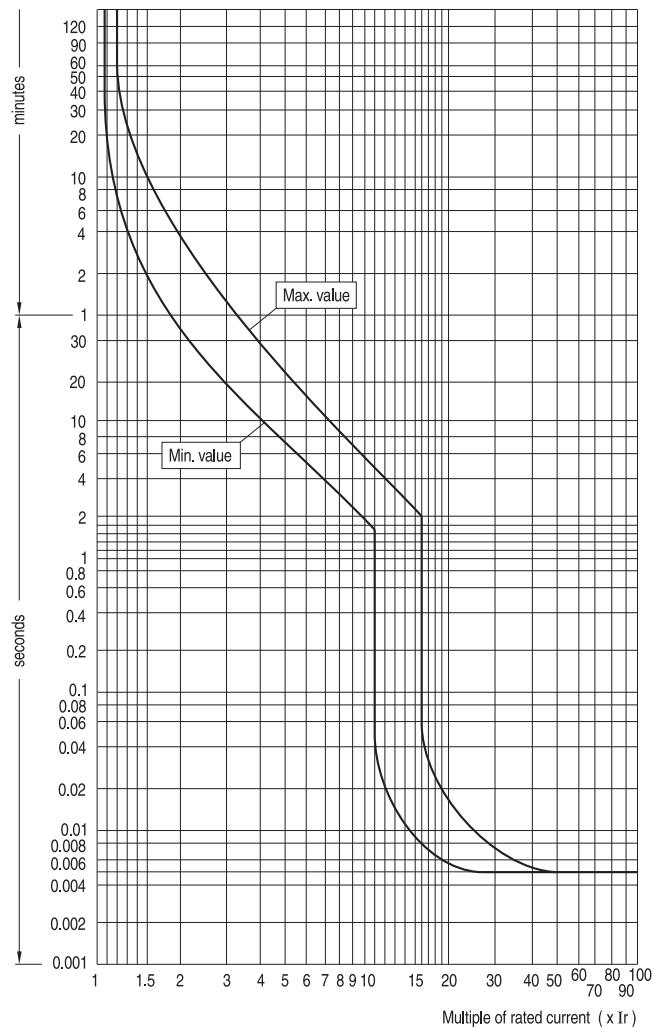




GPS1

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.

