

# *Contactors, Overloads and Manual Motor Starters*

## *Mini-Contactors and Overloads*

- Up to 20 Amps or 7.5HP

## *Midi-Contactors and Overloads*

- Up to 160 Amps or 75HP

## *Power-Contactors and Overloads*

- Up to 900 Amps or 600HP

## *Manual Motor Starters*

- 32, 63 and 100 Amp Frame Sizes



**Switch**

## Introduction

CARLO GAVAZZI is proud to present our expanded range of contactors and overloads, as well as our comprehensive offering of manual motor starters.

The product offering starts with Mini-Contactors in a compact 12 amp frame size, followed by Midi-Contactors in up to 100 amp frame sizes, and topped off with the Power-Contactors which offer up to 800 amp frame sizes.

To complement the contactors, Thermal Overloads are offered for each frame size, available in several setting ranges. Additionally, the Manual Motor Starters are available in 32, 63 and 100 amp frame sizes.

Definite purpose contactors, electronic overloads, enclosed manual motor starters and other contactor accessories are also available. For these and more of our motor control products, such as push buttons, soft starts, variable frequency drives, see the back cover. Please contact us or visit our website for more details.

To specify our contactor products, we have also set up an easy-to-use **Product Selection Guide** at:

**[www.GavazziOnline.com/Contactors](http://www.GavazziOnline.com/Contactors)**



User  
Friendly



Diagnostic  
Warning



Long Term  
Reliability



Cost  
Saving



**CGM Mini-Contactors** for use with  
Overloads or Manual Motor Starters  
(Up to 20 Amps or 7.5HP)

**CC Midi-Contactors** for use with  
Overloads or Manual Motor Starters  
(Up to 160 Amps 75HP)

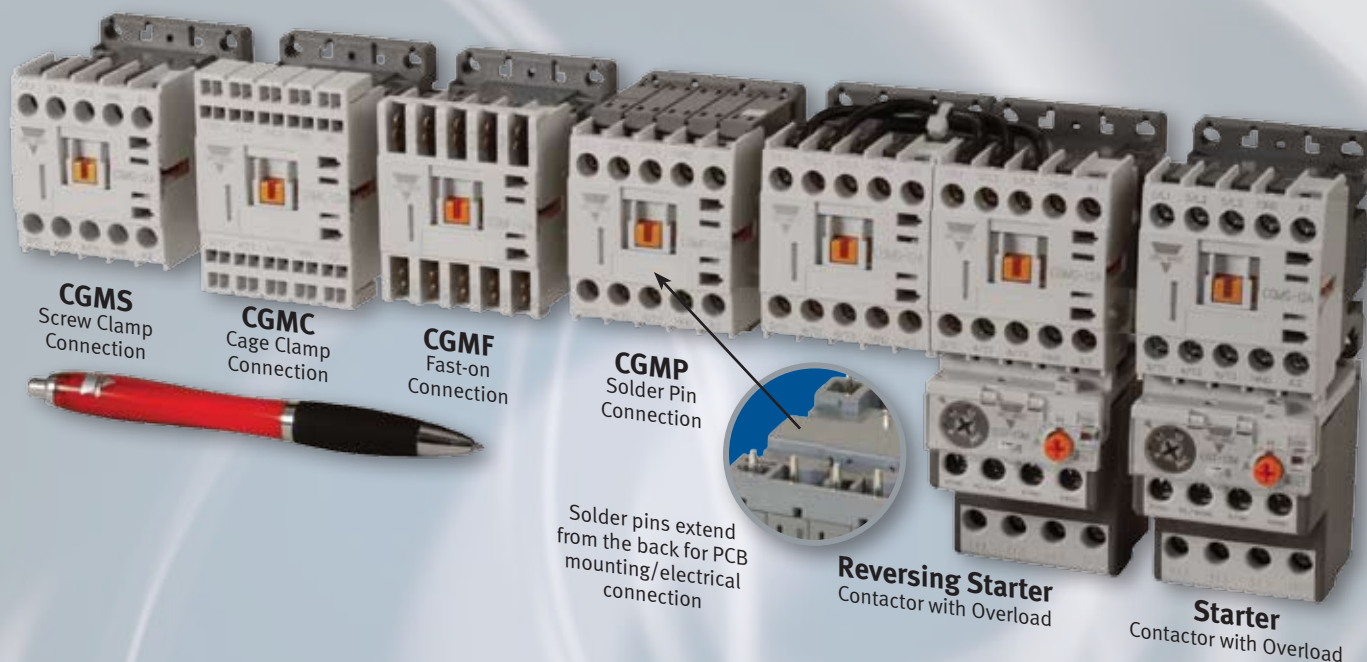
**CC Power-Contactors**  
for use with Overloads  
(Up to 900 Amps or 600HP)

## *Mini-Contactors and Overloads*

Compact in size,  
yet powerful in  
performance...



# Mini-Contactors and Overloads



## General

- Compact size with powerful performance
- Approx. 2 1/4 cubic inches (55 cubic mm)
- One frame size for three current ratings
- Up to 7.5HP motor rating
- Up to 20A resistive rating
- AC or DC control voltage
- Four connection types (shown in the picture above)

## Standards

- cUL, CE and RoHS

## Convenience

- Cost effective solution
- One NO or NC auxiliary contact (standard)
- DIN rail, back panel or PCB mounting
- Light in weight and requires minimal panel space
- Captive screw clamp terminals (on **CGMS** type)

## Accessories

- Bimetallic overloads
- Manual motor starters
- Side or top mounted auxiliary contact(s)
- Reversing interlock kit (with wires)
- Surge absorber unit
- Separate mounting unit for overloads
- Direct adaptor bridge for manual motor starter and mini-contactor
- Mounting unit for manual motor starter, direct adaptor bridge and mini-contactor

## Ordering Guide

### Mini-Contactor

| CGM                            | S                              | 9             | A           | 120          | 10                                     |
|--------------------------------|--------------------------------|---------------|-------------|--------------|----------------------------------------|
| Magnetic 3-Pole Mini-Contactor | Application and Terminal Style | Amperage Size | Coil Type   | Coil Voltage | Built-in Auxiliary Contact Combination |
|                                | <u>Non-Reversing</u>           | 6 - 6A        | A - AC Coil | 24 - 24V     | 10 - 1 NO                              |
|                                | S - Screw (std.)               | 9 - 9A        | D - DC Coil | 120 - 120V   | 01 - 1 NC                              |
|                                | F - Fast On                    | 12 - 12A      |             | 480 - 480V   |                                        |
|                                | C - Cage Clamp                 |               |             |              |                                        |
|                                | P - Solder Pin                 |               |             |              |                                        |
|                                | <u>Reversing Type</u>          |               |             |              |                                        |
|                                | U - Screw (standard)           |               |             |              |                                        |
|                                | CU - Cage Clamp                |               |             |              |                                        |
|                                | FU - Fast On                   |               |             |              |                                        |
|                                | PU - Solder Pin                |               |             |              |                                        |

### Overload

| CGT                      | 12             | M        | 0.16A                                           |
|--------------------------|----------------|----------|-------------------------------------------------|
| Bimetallic Mini-Overload | Amperage Size  | Type     | Setting Ranges (Use upper limit in part number) |
|                          | 12 - Up to 12A | M - Mini | 0.1 ~ 0.16A                                     |
|                          |                |          | 0.16 ~ 0.25A                                    |
|                          |                |          | 0.25 ~ 0.4A                                     |
|                          |                |          | 0.4 ~ 0.63A                                     |
|                          |                |          | 0.63 ~ 1A                                       |
|                          |                |          | 1 ~ 1.6A                                        |
|                          |                |          | 1.6 ~ 2.5A                                      |
|                          |                |          | 2.5 ~ 4A                                        |
|                          |                |          | 4 ~ 6A                                          |
|                          |                |          | 5 ~ 8A                                          |
|                          |                |          | 6 ~ 9A                                          |
|                          |                |          | 7 ~ 10A                                         |
|                          |                |          | 9 ~ 13A                                         |

# Mini-Contactors and Overloads



Standard Version with Screw Clamp Connection  
**CGMS**



Fast-on  
**CGMF**

Optional Connection Types



Cage Clamp  
**CGMC**



Solder Pin  
**CGMP**

## Frame Size Type

### UL Ratings



|          |              |                        |  |
|----------|--------------|------------------------|--|
| Motor AC | Single Phase | Continuous Current Ith |  |
|          |              | 115V                   |  |
|          |              | 230V                   |  |
|          | Three Phase  | 230V                   |  |
|          |              | 460V                   |  |
|          |              | 575V                   |  |

### IEC Ratings



|          |           |          |  |
|----------|-----------|----------|--|
| Motor AC | NEMA Size |          |  |
|          | AC1       |          |  |
|          | AC3       | 200~240V |  |
|          |           | 380~440V |  |
|          |           | 690V     |  |

### Coil Voltages

|         |                                |
|---------|--------------------------------|
| AC Coil | VAC 50/60Hz                    |
|         | DC Coil (std. consumption) VDC |
|         | (low consumption) VDC          |

### Basic Dimensions

(W x H x D) mm

### Accessories

|                    |          |
|--------------------|----------|
| Auxiliary Contacts | Standard |
|                    | Optional |

|                       |
|-----------------------|
| Mechanical Interlocks |
| Surge Units           |

## Thermal Overload Relays

### Manual Motor Starters

Type

Rated Operational current, Ie  
Rated Breaking Capacity, Icu

### Connecting Module

|                                          |
|------------------------------------------|
| <b>GMS-32H</b> to <b>CGMS</b> w/ AC coil |
| <b>GMS-32H</b> to <b>CGMS</b> w/ DC coil |
| <b>GMS-32S</b> to <b>CGMS</b> w/ AC coil |
| <b>GMS-32S</b> to <b>CGMS</b> w/ DC coil |

\* Maximum Ratings for CGMC-12 Cage Clamp Type: 10A Continuous Ith, 0.5HP 1-Phase 115VAC, 1.5HP 1-Phase 230VAC, and 5HP 3-Phase 460VAC

| CGMS-6                                                                                                                                                     | CGMS-9<br>3-Pole | CGMS-12    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------|
| 20A                                                                                                                                                        | 20A              | 20A *      |
| 0.5HP                                                                                                                                                      | 0.5HP            | 1HP *      |
| 1HP                                                                                                                                                        | 1.5HP            | 2HP *      |
| 1.5HP                                                                                                                                                      | 3HP              | 3HP        |
| 3HP                                                                                                                                                        | 5HP              | 7.5HP *    |
| 3HP                                                                                                                                                        | 5HP              | 7.5HP      |
| 00                                                                                                                                                         | 00               | 00         |
| 20A                                                                                                                                                        | 20A              | 20A        |
| 1.5 kW 7A                                                                                                                                                  | 2.2 kW 9A        | 3 kW 12A   |
| 2.5 kW 6A                                                                                                                                                  | 4 kW 9A          | 5.5 kW 12A |
| 3 kW 4A                                                                                                                                                    | 4 kW 5A          | 4 kW 5A    |
| 24, 36, 42, 48, 110, 115, 120, 127, 200/208, 220, 220/230<br>230/240, 256, 277, 380/400, 400, 440, 480, 500, 550                                           |                  |            |
| 12, 20, 24, 36, 42, 48, 60, 72, 110, 120, 125, 200, 240, 250                                                                                               |                  |            |
| 12, 20, 24, 48, 72, 100, 110                                                                                                                               |                  |            |
| AC coil version: 45 x 58 x 57, DC coil version: 45 x 58 x 69                                                                                               |                  |            |
| 1NO or 1NC                                                                                                                                                 |                  |            |
| Side Mount <b>AX-1M</b> (1NO or 1NC),<br>Top Mount <b>AX-2M</b> (2NO, 1NC/1NO or 2NC) or<br>Top Mount <b>AX-4M</b> (4NO, 3NO/1NC, 2NO/2NC, 1NO/3NC or 4NC) |                  |            |
| <b>AR-12MW</b>                                                                                                                                             |                  |            |
| <b>AS-12M</b>                                                                                                                                              |                  |            |



### Available Ranges

0.1 – 0.16A



9 – 13A

See page 4 for all ranges

### Separate Mounting for DIN Rail AZ-12H



### GMS-32S and GMS-32H

0.1 ~ 32A

Max. 100kA

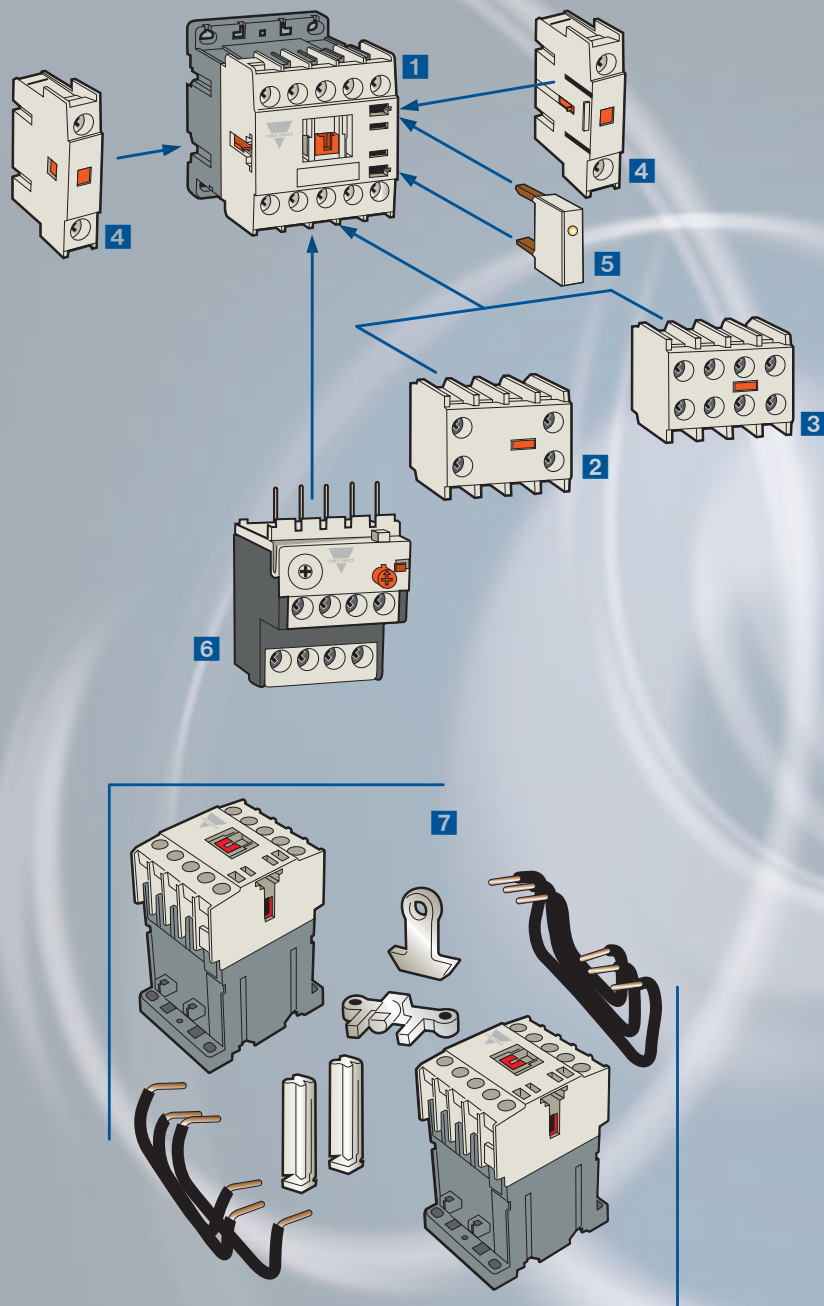
**GDA16HA**

**GDA16HD**

**GDA16SA**

**GDA16SD**

# Mini-Contactors and Overloads



## Accessories

- 1 **CGMS** Mini-Contactor
- 2 **AX-2MS** 2-pole Front Mount Auxiliary Contact Unit
- 3 **AX-4MS** 4-pole Front Mount Auxiliary Contact Unit
- 4 **AX-1MS** 1-pole Side Mount Auxiliary Contact Unit
- 5 **AS-12M** Surge Absorber Unit
- 6 **CGT-12M** Overload Relay
- 7 **AR-12MW** Reversing Interlock Kit  
(Contactors not included)



## *Midi-Contactors and Overloads*



**The Complete Solution  
for Applications  
up to 140 Amps...**



# Midi-Contactors and Overloads



## General

- Four frame sizes
- Motor ratings of each frame size:  
Up to 20, 30, 60 or 75HP
- Resistive rating  
Up to 40, 60, 100, 160A
- AC or DC coil voltage
- Two connection types:  
Screw terminal connections are available on all frame sizes  
Lug terminals connections are available on 63 and 100 amp sizes

## Standards

- cUL, CSA with special elevator ratings, CE and RoHS

## Convenience

- Four terminals for coil connection
- Easily interchangeable coils (in the event another coil voltage is required)
- Each contactor comes standard with a minimum of one auxiliary contact. (See pages 10 and 11 for more details, as some of the larger contactors come standard with more auxiliary contacts)
- DIN rail or back panel mounting

## Accessories

- Bimetallic overloads
- Electronic overloads
- Manual motor starters
- Side or top mounted auxiliary contact(s)
- Auxiliary safety cover
- Interlock unit
- Reversing interlock kit
- Surge absorber unit
- Separate mounting unit for overloads
- Remote reset unit for overloads
- Direct adaptor bridge for manual motor starter and midi-contactor
- Mounting unit for manual motor starter, direct adaptor bridge and midi-contactor
- Capacitor unit



# Ordering Guide

## Midi-Contactor

| CC                                | 9                                                                                                                                |                                  | S                           | A                          | 120                                       | -                                                          |                                                                           |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------------|----------------------------|-------------------------------------------|------------------------------------------------------------|---------------------------------------------------------------------------|
| Magnetic 3-pole<br>Midi-Contactor | Amperage Size                                                                                                                    | Type                             | Terminal Type               | Coil Type                  | Coil Voltage                              | AC Coil<br>Frequency                                       | Auxiliary<br>Contact s                                                    |
|                                   | 9 - 9A<br>12 - 12A<br>18 - 18A<br>22 - 22A<br>32 - 32A<br>40 - 40A<br>50 - 50A<br>65 - 65A<br>75 - 75A<br>85 - 85A<br>100 - 100A | BLANK -<br>3-pole<br>/4 - 4-pole | S - Screw<br>L - Lug (>50A) | A - AC type<br>D - DC type | 24 - 24V<br>120 - 120V<br>&<br>600 - 600V | BLANK<br>-50/60 Hz<br>50Hz - 50Hz only<br>60Hz - 60Hz only | BLANK<br>-Standard<br>arrangement<br>NOAUX<br>-No Aux.<br>Contact (>=32A) |

## Overload

| GT                          | 32                                                                  |                      | S                                                    | 0.16A                                                                                                                                                                                                                                                                                                             |
|-----------------------------|---------------------------------------------------------------------|----------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bimetallic<br>Midi-Overload | Frame Size                                                          | Class                | Terminal Type<br>(Must match<br>contactor<br>number) | Setting Ranges<br>(Use upper<br>limit in part.)                                                                                                                                                                                                                                                                   |
|                             | 32 - 9, 12, 18A<br>22, 32, 40A<br>65 - 50, 65A<br>75 - 75, 85, 100A | BLANK - 10<br>L - 20 | S - Screw<br>L - Lug (>=35A)                         | 0.1 ~ 0.16A<br>0.16 ~ 0.25A<br>0.25 ~ 0.4A<br>0.4 ~ 0.63A<br>0.63 ~ 1A<br>1 ~ 1.6A<br>1.6 ~ 2.5A<br>2.5 ~ 4A<br>4 ~ 6A<br>5 ~ 8A<br>6 ~ 9A<br>7 ~ 10A<br>9 ~ 13A<br>12 ~ 18A<br>16 ~ 22A<br>18 ~ 25A<br>22 ~ 32A<br>24 ~ 36A<br>28 ~ 40A<br>34 ~ 50A<br>45 ~ 65A<br>54 ~ 75A<br>63 ~ 85A<br>70 ~ 95A<br>80 ~ 100A |

## Preliminary Data

| CGE                         | 22                                                          | - | 3P                                                                                                                                                                                                                                              | - | 22AN                                                                                                                                                   |
|-----------------------------|-------------------------------------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electronic<br>Midi Overload | Frame Size                                                  |   | Protection                                                                                                                                                                                                                                      |   | Setting Range<br>(Use upper<br>limit in part.)                                                                                                         |
|                             | 22 - 9, 12, 18, 22A<br>40 - 32, 40A<br>80 - 50, 65, 75, 85A |   | Direct Mount<br>22 and 40AF<br>2P - 2-Pole<br>3P - 3-Pole<br>3PR - 3-pole<br><br>Separate Mount<br>All CGE sizes<br>2S - 2-Pole<br>3S - 3-Pole<br>3SR - 3-Pole<br><br>Through-Hole<br>22 and 40AF<br>2T - 2-Pole<br>3T - 3-Pole<br>3TR - 3-Pole |   | CGE22<br>0.3 ~ 1.5AN<br>1 ~ 5AN<br>4.4 ~ 22AN<br><br>CGE40<br>4 ~ 20AN<br>8 ~ 40AN<br><br>CGE80<br>16 ~ 80AN                                           |
|                             |                                                             |   |                                                                                                                                                                                                                                                 |   | CGE22<br>12 ~ 18A<br>16 ~ 22A<br>18 ~ 25A<br>22 ~ 32A<br>24 ~ 36A<br>28 ~ 40A<br>34 ~ 50A<br>45 ~ 65A<br>54 ~ 75A<br>63 ~ 85A<br>70 ~ 95A<br>80 ~ 100A |
|                             |                                                             |   |                                                                                                                                                                                                                                                 |   | (Setting Range Guide)                                                                                                                                  |
|                             |                                                             |   |                                                                                                                                                                                                                                                 |   | GT32<br>GT65<br>GT95                                                                                                                                   |

# Midi-Contactors and Overloads



| Frame Size<br>Type<br>Available Output Terminal                                                           |                                                                                                  |                                                                         |
|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| UL Rating<br>50/60Hz<br> | Motor AC Single Phase                                                                            | Continuous Current<br>110~120VAC<br>220~240VAC                          |
|                                                                                                           | Motor AC Three Phase                                                                             | 220~240VAC<br>440~480VAC<br>550~600VAC                                  |
|                                                                                                           | NEMA Size                                                                                        |                                                                         |
|                                                                                                           | CSA Elevator Rating                                                                              |                                                                         |
|                                                                                                           | IEC Rating<br> | Resistive AC1                                                           |
| Motor AC3                                                                                                 |                                                                                                  | 200~240VAC<br>380~440VAC<br>500~550VAC<br>690VAC max                    |
| Coil Voltages                                                                                             |                                                                                                  | AC Coil<br>VAC 50/60Hz<br>VAC 60Hz<br>VAC 50Hz<br>DC Coil<br>VDC        |
| Basic Dimensions                                                                                          |                                                                                                  | W x H x D mm<br>AC Coil<br>(with standard set of aux. contacts) DC Coil |
| Accessories                                                                                               |                                                                                                  | Auxiliary Contacts                                                      |
|                                                                                                           | Power Connector for Reversing Contactors                                                         |                                                                         |
|                                                                                                           | Coil Surge Unit                                                                                  | Varistor                                                                |
|                                                                                                           | RC+Varistor                                                                                      |                                                                         |
|                                                                                                           | RC                                                                                               |                                                                         |

| 22AF                                                                                     |            |           |            |
|------------------------------------------------------------------------------------------|------------|-----------|------------|
| CC9                                                                                      | CC12       | CC18      | CC22       |
| Screw Clamp Only                                                                         |            |           |            |
| 25A                                                                                      | 25A        | 40A       | 40A        |
| 0.5HP                                                                                    | 0.75HP     | 1HP       | 2HP        |
| 1.5HP                                                                                    | 2HP        | 3HP       | 3HP        |
| 3HP                                                                                      | 5HP        | 7.5HP     | 10HP       |
| 5HP                                                                                      | 7.5HP      | 10HP      | 15HP       |
| 7.5HP                                                                                    | 10HP       | 15HP      | 20HP       |
| 00                                                                                       | 00         | 0         | 1          |
| Pending                                                                                  | Pending    | Pending   | Pending    |
| 25A                                                                                      | 25A        | 32A       | 40A        |
| 2.5 kW 11A                                                                               | 3.5 kW 13A | 4.5kW 18A | 5.5 kW 22A |
| 4kW 9A                                                                                   | 5.5kW 12A  | 7.5kW 18A | 11kW 22A   |
| 4kW 7A                                                                                   | 7.5kW 12A  | 7.5kW 12A | 15kW 20A   |
| 4kW 6A                                                                                   | 7.5kW 9A   | 7.5kW 9A  | 15kW 18A   |
| <b>24, 48, 100, 110, 120, 200, 220, 230, 240, 277, 380, 440, 480, 600 VAC</b>            |            |           |            |
| <b>24, 32, 36, 42, 48, 80, 100, 110, 220, 230, 240, 380, 400, 415, 440, 500, 550 VAC</b> |            |           |            |
| <b>12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250 VDC</b>                          |            |           |            |
| 45 x 73.5 x 86                                                                           |            |           |            |
| 45 x 73.5 x 118                                                                          |            |           |            |
| 1NO1NC                                                                                   |            |           |            |
| Side mount <b>GUA1</b> or Top Mount                                                      |            |           |            |
| <b>GUR02</b>                                                                             |            |           |            |
| <b>GUW22</b>                                                                             |            |           |            |
| <b>GUS11</b> (for 24~48 VAC or VDC)                                                      |            |           |            |
| <b>GUS1</b> (for 24~48VAC coils), <b>GUS2</b> (for 100~110VAC coils)                     |            |           |            |



|                                      |                                 |                   |
|--------------------------------------|---------------------------------|-------------------|
| <b>Thermal Overloads</b>             | Bimetallic, 3-Pole Differential |                   |
|                                      |                                 | Range             |
|                                      | Electronic                      | Range             |
| <b>Matching Manual Motor Starter</b> | Available Mounting              |                   |
|                                      | Type                            |                   |
|                                      | Connecting Module               | AC Coil Contactor |
|                                      |                                 | DC Coil Contactor |

|                         |    |                |
|-------------------------|----|----------------|
| <b>GT32</b>             |    |                |
| 0.1 ~ 0.16 to 28 ~ 40A  |    |                |
| <b>CGE22</b>            |    |                |
| 0.3 ~ 1.5A to 4.4 ~ 22A |    |                |
| Direct and Separate     |    |                |
| <b>GMS-32S</b>          | or | <b>GMS-32H</b> |
| GDA22SA                 |    | GDA22HA        |
| GDA22SD                 |    | GDA22HD        |



| 32AF                                                                                                                                           |            | 65AF               |             | 100AF              |           |           |
|------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------|--------------------|-----------|-----------|
| CC32                                                                                                                                           | CC40       | CC50               | CC65        | CC75               | CC85      | CC100     |
| Screw Clamp Only                                                                                                                               |            | Screw Clamp or Lug |             | Screw Clamp or Lug |           |           |
| 50A                                                                                                                                            | 60A        | 70A                | 100A        | 110A               | 135A      | 160A      |
| 2HP                                                                                                                                            | 3HP        | 3HP                | 5HP         | 5HP                | 7.5HP     | 10HP      |
| 5HP                                                                                                                                            | 7.5HP      | 10HP               | 15HP        | 15HP               | 15HP      | 20HP      |
| 10HP                                                                                                                                           | 15HP       | 25HP               | 30HP        | 30HP               | 40HP      | 40HP      |
| 20HP                                                                                                                                           | 30HP       | 40HP               | 50HP        | 50HP               | 60HP      | 75HP      |
| 25HP                                                                                                                                           | 30HP       | 50HP               | 60HP        | 60HP               | 75HP      | 75HP      |
| 1                                                                                                                                              | 1          | 2                  | 2           | 2                  | 3         | 3         |
| Pending                                                                                                                                        | Pending    | Pending            | Pending     | Pending            | Pending   | Pending   |
| 50A                                                                                                                                            | 60A        | 70A                | 100A        | 110A               | 135A      | 160A      |
| 7.5kW 32A                                                                                                                                      | 11 kW 40A  | 15 kW 55A          | 18.5 kW 65A | 22 kW 75A          | 25 kW 75A | 30kW 105A |
| 15kW 32A                                                                                                                                       | 18.5kW 40A | 22kW 50A           | 30kW 65A    | 37kW 75A           | 45kW 85A  | 55kW 105A |
| 18.5kW 28A                                                                                                                                     | 22kW 32A   | 30kW 43A           | 33kW 60A    | 37kW 64A           | 45kW 75A  | 55kW 85A  |
| 18.5kW 20A                                                                                                                                     | 22kW 23A   | 30kW 28A           | 33kW 35A    | 37kW 42A           | 45kW 45A  | 45kW 65A  |
| 24, 48, 100, 110, 120, 200, 220, 230, 240, 380, 415, 440, 500, 550 VAC                                                                         |            |                    |             |                    |           |           |
| 24, 48, 100, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600 VAC                                                                    |            |                    |             |                    |           |           |
| 24, 32, 36, 42, 48, 80, 100, 110, 220, 230, 240, 380, 400, 415, 440, 500, 550 VAC                                                              |            |                    |             |                    |           |           |
| 12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250 VDC                                                                                       |            |                    |             |                    |           |           |
| 69 x 83 x 90                                                                                                                                   |            | 79 x 106 x 119     |             | 94 x 140 x 136     |           |           |
| 69 x 83 x 118                                                                                                                                  |            | 79 x 106 x 147     |             | 94 x 140 x 173     |           |           |
| 2NO2NC                                                                                                                                         |            | 2NO2NC             |             | 2NO2NC             |           |           |
| Top Mount                                                                                                                                      |            | Top Mount          |             | Top Mount          |           |           |
| GUR02                                                                                                                                          |            | GUR02              |             | GUR02              |           |           |
| GUW32                                                                                                                                          |            | GUW63              |             | GUW95              |           |           |
| GUS12 (for 100~125VAC or VDC), GUS13 (for 200~240VAC or VDC coils), GUS14 (for 380~440VAC or VDC coils)                                        |            |                    |             |                    |           |           |
| GUS22 (for 100~125VAC coils), GUS3 (for 200~240VAC coils), GUS4 (for 24~48VDC coils), GUS5 (for 100~125VDC coils), GUS6 (for 200~220VDC coils) |            |                    |             |                    |           |           |
| GUS22 (for 100~125VAC coils)                                                                                                                   |            |                    |             |                    |           |           |

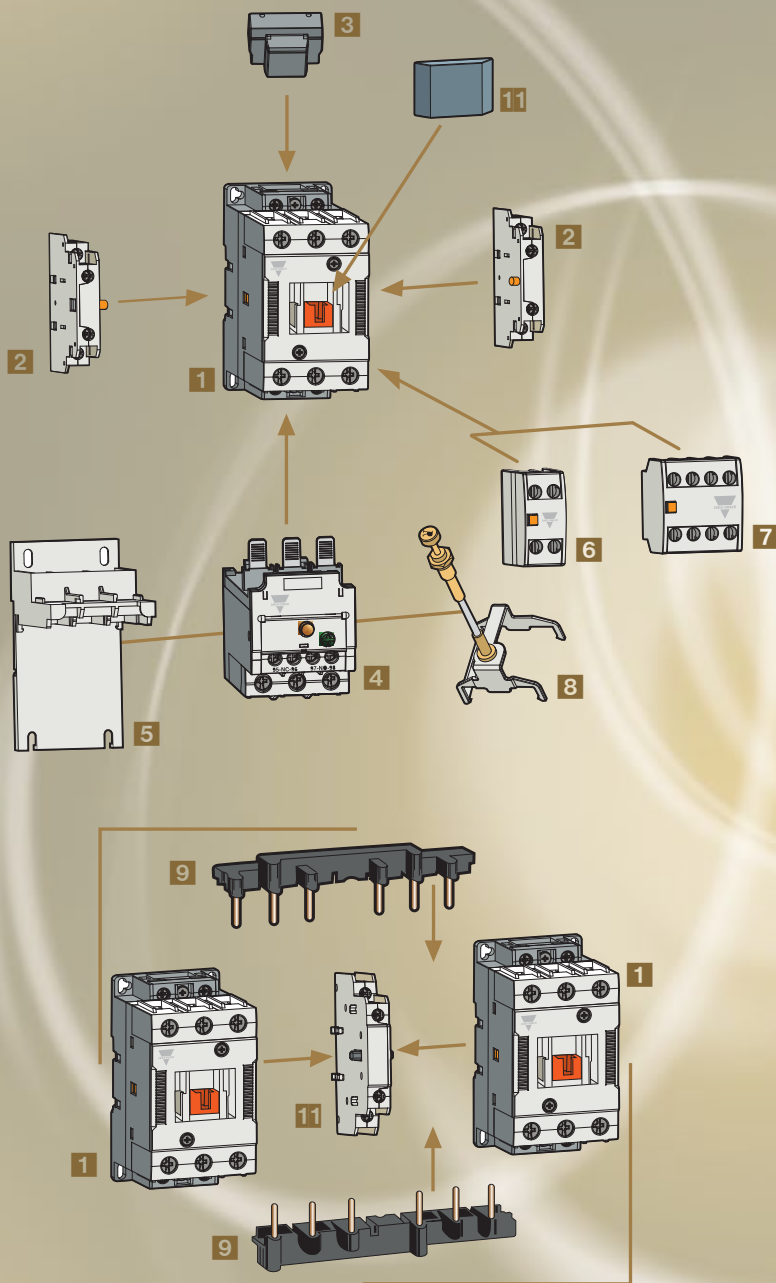


| GT32                    |    |         | GT63               |        |        | GT95                 |        |         |
|-------------------------|----|---------|--------------------|--------|--------|----------------------|--------|---------|
| 0.1 ~ 0.16A to 28 ~ 40A |    |         | 4 ~ 6A to 45 ~ 65A |        |        | 7 ~ 10A to 80 ~ 100A |        |         |
| CGE40                   |    |         | CGE80              |        |        | CGE80                |        |         |
| 4 ~ 20A to 8 ~ 40A      |    |         | 16 ~ 80A           |        |        | 16 ~ 80A             |        |         |
| Direct and Separate     |    |         | Separate           |        |        | Separate             |        |         |
| GMS-32S                 | or | GMS-32H | GMS63S             | or     | GMS63H | GMS100S              | or     | GMS100H |
| GDA22SA                 |    | GDA22HA |                    | GDA63A |        |                      | GDA95A |         |
| GDA22SD                 |    | GDA22HD |                    | GDA63D |        |                      | GDA95D |         |

# Midi-Contactors and Overloads

## Accessories

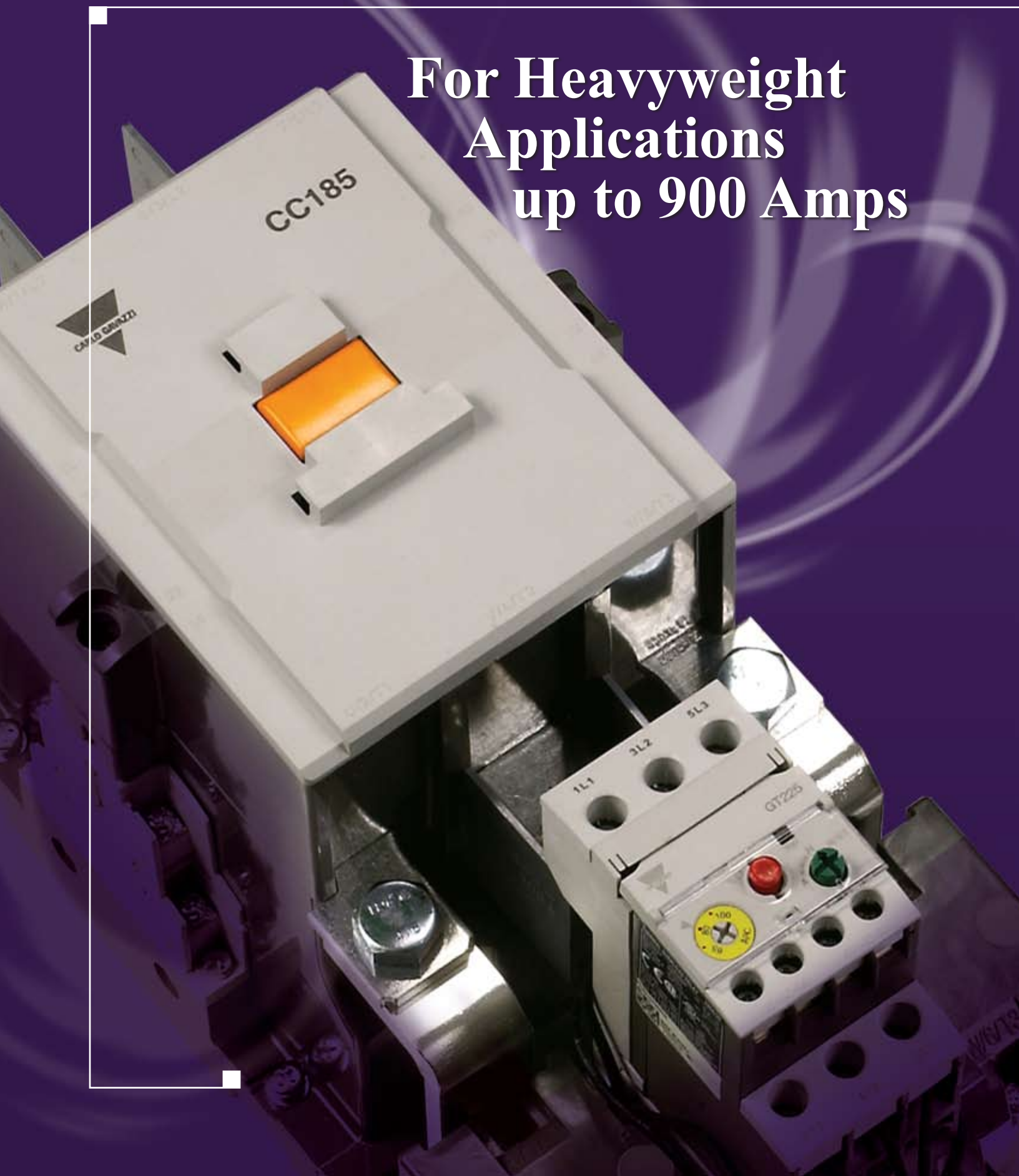
- 1 CC** Contactor
- 2 GUA1** 1-pole Side Mount Auxiliary Contact Unit  
(All types come standard with at least one auxiliary contact, see pages 10 and 11 for more details)
- 3 GUS** Surge Unit
- 4 GT** Overload Relay
- 5 GUZ** Separate Mounting Unit for Overload
- 6 GUA2** 2-pole Top Mount Auxiliary Contact Unit
- 7 GUA4** 4-pole Top Mount Auxiliary Contact Unit
- 8 GUM** Remote Reset Unit
- 9 GUW** Wire Kit for Reversing Contactor
- 10 GUR** Interlock Unit
- 11 GAP9** Auxiliary Safety Cover



## *Power-Contactors and Overloads*



**For Heavyweight  
Applications  
up to 900 Amps**

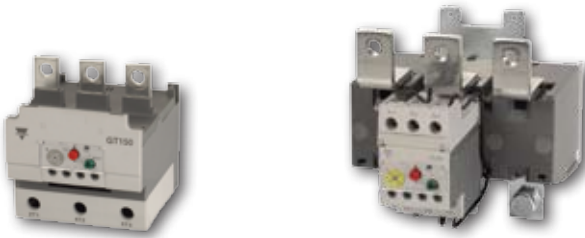


# Power-Contactors and Overloads



| Frame Size<br>Type<br>Available Output Terminal |                       |                              |
|-------------------------------------------------|-----------------------|------------------------------|
| UL Rating<br>50/60Hz                            | Motor AC Single Phase | Continuous Current           |
|                                                 |                       | 110~120VAC                   |
|                                                 |                       | 220~240VAC                   |
|                                                 |                       | 220~240VAC                   |
|                                                 |                       | 440~480VAC                   |
| NEMA Size<br>IEC Rating                         | Motor AC Three Phase  | 550~600VAC                   |
|                                                 |                       | 690VAC max                   |
|                                                 |                       | 200~240VAC                   |
|                                                 |                       | 380~440VAC                   |
|                                                 |                       | 500~550VAC                   |
| Coil Voltages                                   | AC Coil               | 690VAC max                   |
|                                                 |                       | VAC 50/60Hz                  |
|                                                 |                       | VDC                          |
| Basic Dimensions                                | DC Coil               | W x H x D mm                 |
|                                                 |                       | AC/DC Coil VAC 50/60Hz / VDC |
| Accessories                                     | Auxiliary Contacts    | Standard                     |
|                                                 |                       | Mechanical Interlock         |

| 150AF                               |           | 225AF                   |            |
|-------------------------------------|-----------|-------------------------|------------|
| CC130                               | CC150     | CC185                   | CC225      |
| Screw Clamp or Lug                  |           | Screw Clamp Only        |            |
| 160A                                | 210A      | 230A                    | 275A       |
| 10HP                                | 15HP      | 15HP                    | 15HP       |
| 20HP                                | 25HP      | 30HP                    | 40HP       |
| 40HP                                | 50HP      | 60HP                    | 75HP       |
| 75HP                                | 100HP     | 125HP                   | 150HP      |
| 75HP                                | 75HP      | 125HP                   | 150HP      |
| 3                                   | 4         | 4                       | 4          |
| 160A                                | 210A      | 230A                    | 275A       |
| 37kW 130A                           | 45kW 150A | 55kW 185A               | 75kW 225A  |
| 60kW 130A                           | 75kW 150A | 90kW 185A               | 132kW 225A |
| 60kW 90A                            | 70kW 100A | 110kW 180A              | 132kW 200A |
| 55kW 60A                            | 55kW 60A  | 110kW 120A              | 140kW 150A |
| 24, 48, 110, 220, 300, 400, 500 VAC |           | 300, 400, 500 VAC       |            |
| 24, 48, 110, 220 VDC                |           | -                       |            |
| -                                   |           | 24, 48, 100/200 VAC/VDC |            |
| 119 x 158 x 131                     |           | 162 x 203 x 185         |            |
| 2NO2NC                              |           | 2NO2NC                  |            |
| GUR02                               |           | AR-400                  |            |

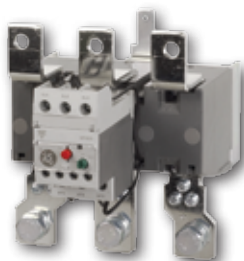


|                   |                                 |       |
|-------------------|---------------------------------|-------|
| Thermal Overloads | Bimetallic, 3-Pole Differential | Range |
|-------------------|---------------------------------|-------|

| GT150      | GT225      |
|------------|------------|
| 34 ~ 50A   | 65 ~ 100A  |
| to         | to         |
| 110 ~ 150A | 160 ~ 240A |

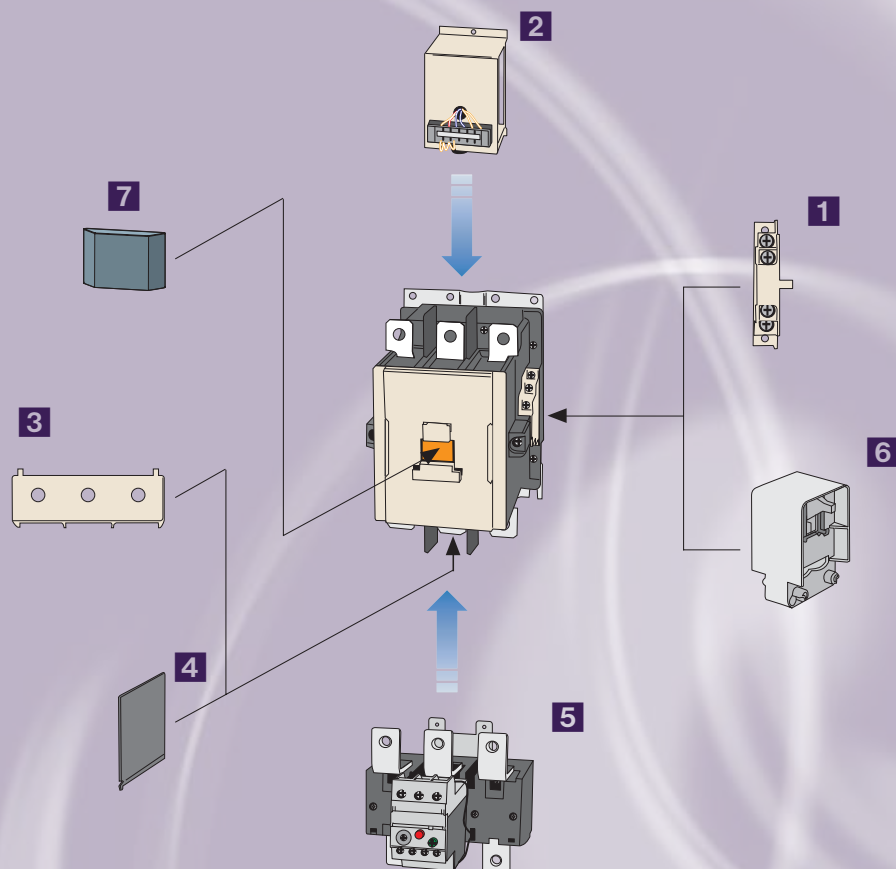


| CC265             | 400AF<br>CC330 | CC400      | CC500             | 800AF<br>CC630 | CC800      |
|-------------------|----------------|------------|-------------------|----------------|------------|
| Screw Clamp Only  |                |            | Screw Clamp Only  |                |            |
| 300A              | 350A           | 450A       | 580A              | 660A           | 900A       |
| -                 | -              | -          | -                 | -              | -          |
| -                 | -              | -          | -                 | -              | -          |
| 100HP             | 125HP          | 150HP      | 200HP             | 250HP          | 300HP      |
| 200HP             | 250HP          | 300HP      | 400HP             | 500HP          | 600HP      |
| 200HP             | 250HP          | 300HP      | 400HP             | 500HP          | 600HP      |
| 5                 | 5              | 5          | 6                 | 6              | 7          |
| 300A              | 350A           | 450A       | 580A              | 660A           | 900A       |
| 80kW 265A         | 90kW 330A      | 125kW 400A | 147kW 500A        | 190kW 630A     | 220kW 800A |
| 147kW 265A        | 160kW 330A     | 200kW 400A | 265kW 500A        | 330kW 630A     | 440kW 800A |
| 147kW 225A        | 160kW 280A     | 225kW 350A | 265kW 400A        | 330kW 500A     | 500kW 720A |
| 160kW 185A        | 200kW 225A     | 250kW 300A | 300kW 380A        | 400kW 420A     | 500kW 630A |
| 300, 400, 500 VAC |                |            | 300, 400, 500 VAC |                |            |
| -                 |                |            | -                 |                |            |
| 100/200 VAC/VDC   |                |            | 100, 200 VAC/VDC  |                |            |
| 187 x 243 x 205   |                |            | 285 x 312 x 246   |                |            |
| 2NO2NC            |                |            | 2NO2NC            |                |            |
| <b>AR-400</b>     |                |            | <b>AR-800W</b>    |                |            |



| GT400     | GT800      |
|-----------|------------|
| 85 ~ 125A | 200 ~ 300A |
| to        | to         |
| 85 ~ 400A | 520 ~ 800A |

# Power-Contactors and Overloads



## Accessories

- 1 AX-100** 2-pole Side Mount Auxiliary Contact Unit (two are included)
- 2 AD** Delay Device
- 3 AP** Terminal Cover for Contactors
- 4 AI** Insulation Barrier
- 5 GT** Thermal Overload
- 6 AR** Interlock
- 7 GAP9** Auxiliary Safety Cover

## Ordering Guide

### Power Contactor

| CC                      | 150                                                                                                                                      |                             | S                                        | A                                              | 24                       |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------------------|------------------------------------------------|--------------------------|
| Magnetic Midi-Contactor | Amperage Size                                                                                                                            | Type                        | Terminal Type                            | Coil Type                                      | Coil Voltage             |
|                         | 130 - 130A<br>150 - 150A<br>185 - 185A<br>225 - 225A<br>265 - 265A<br>330 - 330A<br>400 - 400A<br>500 - 500A<br>630 - 630A<br>800 - 800A | BLANK - 3-pole / 4 - 4-pole | S - Screw<br>L - Lug (130A) and 150 only | A - AC type<br>D - DC type<br>AD - AC/DC types | 24 - 24V &<br>500 - 500V |

### Overload

| GT                       | 150                                                                                |                   | S                                           | 50A                                                                                                                                                                                                              |
|--------------------------|------------------------------------------------------------------------------------|-------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bimetallic Midi-Overload | Frame Size                                                                         | Class             | Terminal Type (Must match contactor number) | Setting Ranges (Use upper limit in part)                                                                                                                                                                         |
|                          | 150 - 130, 150A<br>225 - 185, 225A<br>400 - 265, 330, 400A<br>800 - 500, 630, 800A | BLANK - 10 L - 20 | S - Screw<br>L - Lug (150A only)            | 34 ~ 50A<br>45 ~ 65A<br>54 ~ 75A<br>63 ~ 85A<br>65 ~ 100A<br>80 ~ 105A<br>85 ~ 125A<br>95 ~ 130A<br>110 ~ 150A<br>100 ~ 160A<br>120 ~ 185A<br>160 ~ 240A<br>200 ~ 330A<br>260 ~ 400A<br>400 ~ 600A<br>520 ~ 800A |
|                          |                                                                                    |                   |                                             | GT150<br>GT225<br>GT400<br>GT800                                                                                                                                                                                 |



# The Ideal Complement for the CGM Series Mini- and CC Series Midi-Contactors



# Manual Motor Starters



## Function

- Protection of group installation
- Protection of circuits
- Motor protection
- Starter protection
- Wide range of ambient temperature compensation
- Phase failure protection

## Standards

- cULus listed, CE and RoHS
- Complies with the specifications in accordance with IEC 60947-2 and IEC 60947-4-1, UL508 (Manual motor controller), UL508 (Combination motor controller Type E starter), CSA C22.2 NO.14, GB14048

## Features

- 45mm width up to 32 amps, 55mm width up to 63 amps and 70mm width rated to 100 amps
- 100A version features a three position operator: ON-OFF-TRIP
- Handle lock in the OFF position
- Class 10 overload trip characteristics (Class 20 is optional)
- Trip test
- Finger safe terminals
- DIN rail or back panel mounting
- Complete range of common accessories

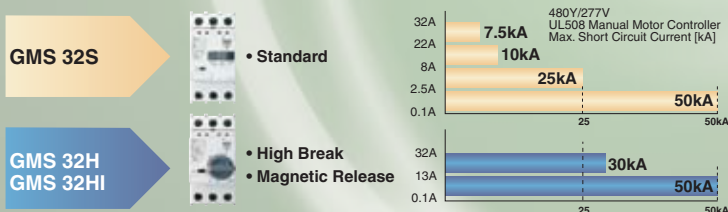
## High Performance Manual Motor Starters

This UL508 listed device features a maximum short circuit current rating of up to 50kA for all frame sizes, at 3-phase 480VAC.

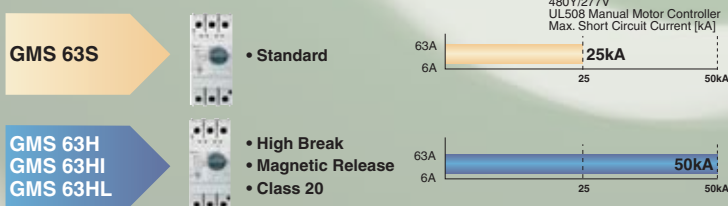
“Type E Starters” (for group installations) offer short circuit current ratings up to 65kA for all three ‘High Breaking’ type manual motor starters.

### UL508 Short Circuit Ratings

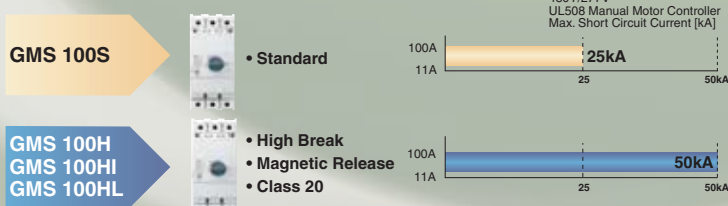
0.1~0.16...22~32A (16 steps)



6~10...45~63A (9 steps)



11~17...80~100A (10 steps)



### Ordering Guide

#### Manual Motor Starter

| GMS                  | 32         | S                                  | 0.16A                                           |
|----------------------|------------|------------------------------------|-------------------------------------------------|
| Manual Motor Starter | Frame Size | Breaking Type                      | Setting Ranges (Use upper limit in part number) |
|                      | 32 - 32AF  | S - Standard Break                 | 0.1 ~ 0.16A                                     |
|                      |            | H - High Break                     | 0.16 ~ 0.25A                                    |
|                      |            | HI - High Break, no TOR            | 0.25 ~ 0.4A                                     |
|                      |            | HL - High Break, with Class 20 TOR | 0.63 ~ 1A                                       |
|                      |            |                                    | 1 ~ 1.6A                                        |
|                      |            |                                    | 2.5 ~ 4A                                        |
|                      |            |                                    | 4 ~ 6A                                          |
|                      |            |                                    | 5 ~ 8A                                          |
|                      |            |                                    | 6 ~ 10A                                         |
|                      |            |                                    | 9 ~ 13A                                         |
|                      |            |                                    | 11 ~ 17A                                        |
|                      |            |                                    | 14 ~ 22A                                        |
|                      |            |                                    | 18 ~ 26A                                        |
|                      |            |                                    | 22 ~ 32A                                        |
|                      |            |                                    | 28 ~ 40A                                        |
|                      |            |                                    | 34 ~ 50A                                        |
|                      |            |                                    | 45 ~ 63A                                        |
|                      |            |                                    | 55 ~ 75A                                        |
|                      |            |                                    | 70 ~ 90A                                        |
|                      |            |                                    | 80 ~ 100A                                       |

(Setting Range Guide)

GMS-32  
GMS-63  
GMS-100

# Manual Motor Starters



| Frame Size                                                                                                                                                                                                           |                                      |                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------|
| Type                                                                                                                                                                                                                 | Current Adjustable Type              |                      |
|                                                                                                                                                                                                                      | Instantaneous Type                   |                      |
| Breaking Capacity                                                                                                                                                                                                    |                                      |                      |
| Handle Type                                                                                                                                                                                                          |                                      |                      |
| Number of Poles                                                                                                                                                                                                      |                                      |                      |
| Rated Operational Voltage [Ue]                                                                                                                                                                                       |                                      |                      |
| Mechanical / Electrical Endurance                                                                                                                                                                                    |                                      | [operations]         |
| Max Operating Frequency Per Hour                                                                                                                                                                                     |                                      | [operations]         |
| Temperature Compensation                                                                                                                                                                                             |                                      |                      |
| Instantaneous Short Circuit Release                                                                                                                                                                                  |                                      |                      |
| Main Functions                                                                                                                                                                                                       | Overload Protection**                |                      |
|                                                                                                                                                                                                                      | Phase Failure Protection**           |                      |
|                                                                                                                                                                                                                      | Short Circuit Protection             |                      |
| Dimensions (W x H x D) [mm]                                                                                                                                                                                          |                                      |                      |
| UL<br>Interrupting<br>Rating<br>[kA]<br><br><br> | Type of Installation                 |                      |
|                                                                                                                                                                                                                      | Thermal Current<br>Setting Range [A] | Rated<br>Current [A] |
|                                                                                                                                                                                                                      | 0.1~0.16                             | 0.16                 |
|                                                                                                                                                                                                                      | 0.16~0.25                            | 0.25                 |
|                                                                                                                                                                                                                      | 0.25~0.4                             | 0.4                  |
|                                                                                                                                                                                                                      | 0.4~0.63                             | 0.63                 |
|                                                                                                                                                                                                                      | 0.63~1                               | 1                    |
|                                                                                                                                                                                                                      | 1~1.6                                | 1.6                  |
|                                                                                                                                                                                                                      | 1.6~2.5                              | 2.5                  |
|                                                                                                                                                                                                                      | 2.5~4                                | 4                    |
|                                                                                                                                                                                                                      | 4~6                                  | 6                    |
|                                                                                                                                                                                                                      | 5~8                                  | 8                    |
|                                                                                                                                                                                                                      | 6~10                                 | 10                   |
|                                                                                                                                                                                                                      | 9~13                                 | 13                   |
|                                                                                                                                                                                                                      | 11~17                                | 17                   |
|                                                                                                                                                                                                                      | 14~22                                | 22                   |
|                                                                                                                                                                                                                      | 18~26                                | 26                   |
|                                                                                                                                                                                                                      | 22~32                                | 32                   |
|                                                                                                                                                                                                                      | 28~40                                | 40                   |
|                                                                                                                                                                                                                      | 34~50                                | 50                   |
|                                                                                                                                                                                                                      | 45~63                                | 63                   |
|                                                                                                                                                                                                                      | 55~75                                | 75                   |
| 70~90                                                                                                                                                                                                                | 90                                   |                      |
| 80~100                                                                                                                                                                                                               | 100                                  |                      |

| 32AF                                  |      |      |                            |                               |                                                     |      |      |                                             |      |      |      |                            |                                                     |      |      |      |                                             |
|---------------------------------------|------|------|----------------------------|-------------------------------|-----------------------------------------------------|------|------|---------------------------------------------|------|------|------|----------------------------|-----------------------------------------------------|------|------|------|---------------------------------------------|
| GMS-32S                               |      |      |                            |                               |                                                     |      |      | GMS-32H                                     |      |      |      |                            |                                                     |      |      |      |                                             |
| —                                     |      |      |                            |                               |                                                     |      |      | GMS-32HI                                    |      |      |      |                            |                                                     |      |      |      |                                             |
| Standard                              |      |      |                            |                               |                                                     |      |      | High Breaking                               |      |      |      |                            |                                                     |      |      |      |                                             |
| Toggle                                |      |      |                            |                               |                                                     |      |      | Rotary                                      |      |      |      |                            |                                                     |      |      |      |                                             |
| 3                                     |      |      |                            |                               |                                                     |      |      | 3                                           |      |      |      |                            |                                                     |      |      |      |                                             |
| 600V                                  |      |      |                            |                               |                                                     |      |      | 600V                                        |      |      |      |                            |                                                     |      |      |      |                                             |
| 100,000 / 100,000                     |      |      |                            |                               |                                                     |      |      | 100,000 / 100,000                           |      |      |      |                            |                                                     |      |      |      |                                             |
| 25                                    |      |      |                            |                               |                                                     |      |      | 25                                          |      |      |      |                            |                                                     |      |      |      |                                             |
| -20~+60C *                            |      |      |                            |                               |                                                     |      |      | -20~+60C *                                  |      |      |      |                            |                                                     |      |      |      |                                             |
| 13 X Ie max                           |      |      |                            |                               |                                                     |      |      | 13 X Ie max                                 |      |      |      |                            |                                                     |      |      |      |                                             |
| YES                                   |      |      |                            |                               |                                                     |      |      | YES                                         |      |      |      |                            |                                                     |      |      |      |                                             |
| YES                                   |      |      |                            |                               |                                                     |      |      | YES                                         |      |      |      |                            |                                                     |      |      |      |                                             |
| YES                                   |      |      |                            |                               |                                                     |      |      | YES                                         |      |      |      |                            |                                                     |      |      |      |                                             |
| 45 x 94 x 75                          |      |      |                            |                               |                                                     |      |      | 45 x 94 x 99.6                              |      |      |      |                            |                                                     |      |      |      |                                             |
| Manual (UL508)<br>Motor<br>Controller |      |      |                            |                               | Manual Motor<br>Controller<br>Group<br>Installation |      |      | Manual (UL508)<br>Motor<br>Controller       |      |      |      |                            | Manual Motor<br>Controller<br>Group<br>Installation |      |      |      |                                             |
| 240V                                  | 480Y | 600Y | Max<br>Fuse<br>Size<br>[A] | Max<br>Breaker<br>Size<br>[A] | 240V                                                | 480Y | 600Y | Max<br>Fuse<br>or<br>Breaker<br>Size<br>[A] | 240V | 480Y | 600Y | Max<br>Fuse<br>Size<br>[A] | Max<br>Breaker<br>Size<br>[A]                       | 240V | 480Y | 600Y | Max<br>Fuse<br>or<br>Breaker<br>Size<br>[A] |
| 277V                                  | 347V |      |                            |                               | 277V                                                | 347V |      |                                             | 277V | 347V |      |                            |                                                     | 277V | 347V |      |                                             |
| 100                                   | 50   | 10   | 1                          | 15                            | —                                                   | —    | —    | —                                           | 100  | 50   | 10   | 1                          | 15                                                  | 100  | 65   | 25   | 500                                         |
| 100                                   | 50   | 10   | 1                          | 15                            | —                                                   | —    | —    | —                                           | 100  | 50   | 10   | 1                          | 15                                                  | 100  | 65   | 25   | 500                                         |
| 100                                   | 50   | 10   | 1                          | 15                            | —                                                   | —    | —    | —                                           | 100  | 50   | 10   | 1                          | 15                                                  | 100  | 65   | 25   | 500                                         |
| 100                                   | 50   | 10   | 1                          | 15                            | —                                                   | —    | —    | —                                           | 100  | 50   | 10   | 1                          | 15                                                  | 100  | 65   | 25   | 500                                         |
| 100                                   | 50   | 10   | 3                          | 15                            | —                                                   | —    | —    | —                                           | 100  | 50   | 10   | 3                          | 15                                                  | 100  | 65   | 25   | 500                                         |
| 100                                   | 50   | 10   | 6                          | 15                            | —                                                   | —    | —    | —                                           | 100  | 50   | 10   | 6                          | 15                                                  | 100  | 65   | 25   | 500                                         |
| 100                                   | 50   | 10   | 10                         | 15                            | —                                                   | —    | —    | —                                           | 100  | 50   | 10   | 10                         | 15                                                  | 100  | 65   | 25   | 500                                         |
| 100                                   | 50   | 5    | 15                         | 15                            | —                                                   | —    | —    | —                                           | 100  | 50   | 10   | 15                         | 15                                                  | 100  | 65   | 25   | 500                                         |
| 100                                   | 25   | 5    | 20                         | 20                            | —                                                   | —    | —    | —                                           | 100  | 50   | 10   | 20                         | 20                                                  | 100  | 65   | 25   | 500                                         |
| 100                                   | 25   | 5    | 30                         | 30                            | —                                                   | —    | —    | —                                           | 100  | 50   | 10   | 30                         | 30                                                  | 100  | 65   | 25   | 500                                         |
| 50                                    | 10   | 5    | 40                         | 40                            | —                                                   | —    | —    | —                                           | 100  | 50   | 10   | 40                         | 40                                                  | 100  | 65   | 25   | 500                                         |
| 50                                    | 10   | 5    | 50                         | 50                            | —                                                   | —    | —    | —                                           | 100  | 50   | 10   | 50                         | 50                                                  | 100  | 65   | 25   | 500                                         |
| 40                                    | 10   | 5    | 60                         | 60                            | —                                                   | —    | —    | —                                           | 100  | 30   | 10   | 60                         | 60                                                  | 100  | 30   | 10   | 500                                         |
| 30                                    | 10   | 5    | 80                         | 80                            | —                                                   | —    | —    | —                                           | 100  | 30   | 10   | 80                         | 80                                                  | 100  | 30   | 10   | 500                                         |
| 30                                    | 7.5  | 5    | 100                        | 100                           | —                                                   | —    | —    | —                                           | 100  | 30   | 10   | 100                        | 100                                                 | 100  | 30   | 10   | 500                                         |
| 20                                    | 7.5  | 5    | 125                        | 125                           | —                                                   | —    | —    | —                                           | 100  | 30   | 10   | 125                        | 125                                                 | 100  | 30   | 10   | 500                                         |
| —                                     | —    | —    | —                          | —                             | —                                                   | —    | —    | —                                           | —    | —    | —    | —                          | —                                                   | —    | —    | —    | —                                           |
| —                                     | —    | —    | —                          | —                             | —                                                   | —    | —    | —                                           | —    | —    | —    | —                          | —                                                   | —    | —    | —    | —                                           |
| —                                     | —    | —    | —                          | —                             | —                                                   | —    | —    | —                                           | —    | —    | —    | —                          | —                                                   | —    | —    | —    | —                                           |
| —                                     | —    | —    | —                          | —                             | —                                                   | —    | —    | —                                           | —    | —    | —    | —                          | —                                                   | —    | —    | —    | —                                           |
| —                                     | —    | —    | —                          | —                             | —                                                   | —    | —    | —                                           | —    | —    | —    | —                          | —                                                   | —    | —    | —    | —                                           |
| —                                     | —    | —    | —                          | —                             | —                                                   | —    | —    | —                                           | —    | —    | —    | —                          | —                                                   | —    | —    | —    | —                                           |

\*Contact Carlo Gavazzi for further details.

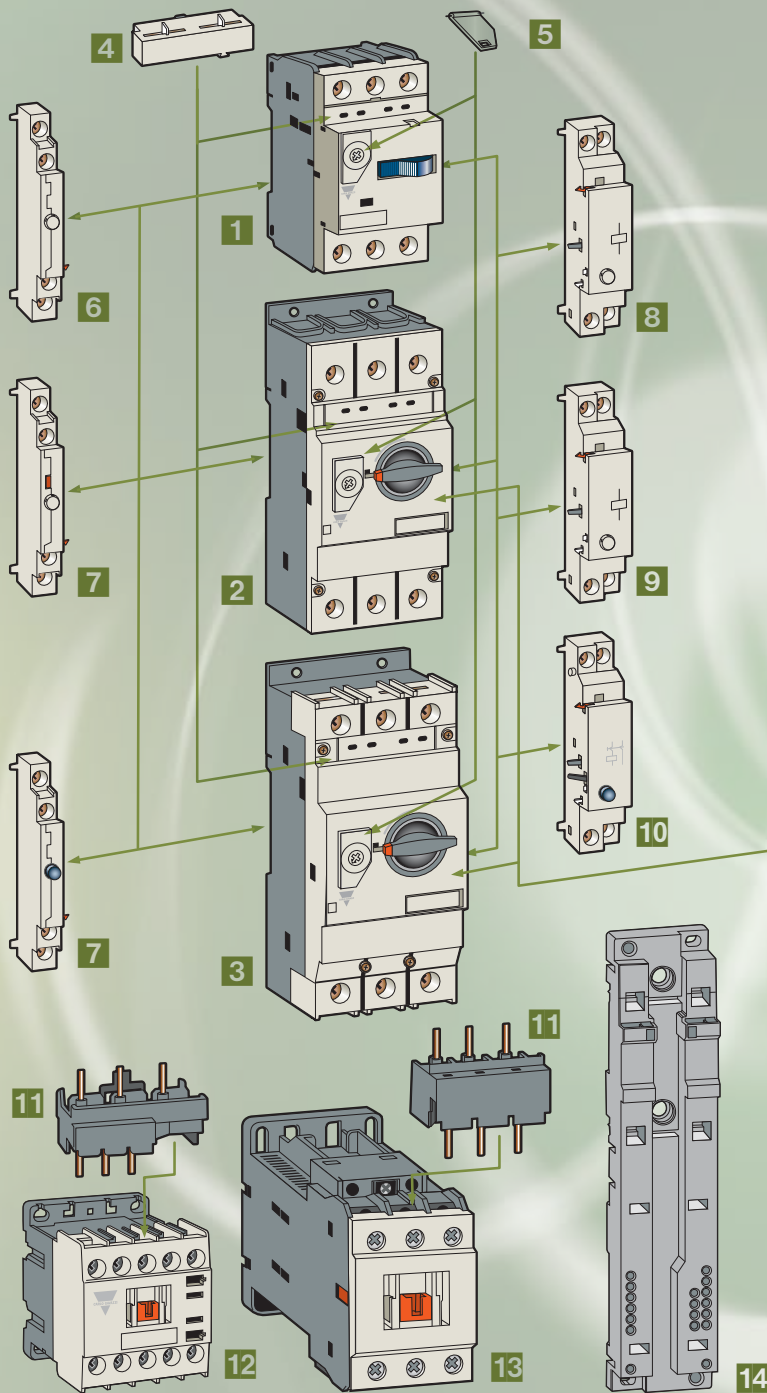
\*\*Except with instantaneous (HI) types.

To instantly view a data sheet and specify products, visit [www.GavazziOnline.com](http://www.GavazziOnline.com)



| 63AF                                  |                     |                            |                                                     |                     |                     |                                       |                                       |                     |                                                     |                            |                                       | 100AF                                 |                     |                            |                                                     |                     |                     |                                       |                                       |                     |                                                     |                            |                                       |    |      |
|---------------------------------------|---------------------|----------------------------|-----------------------------------------------------|---------------------|---------------------|---------------------------------------|---------------------------------------|---------------------|-----------------------------------------------------|----------------------------|---------------------------------------|---------------------------------------|---------------------|----------------------------|-----------------------------------------------------|---------------------|---------------------|---------------------------------------|---------------------------------------|---------------------|-----------------------------------------------------|----------------------------|---------------------------------------|----|------|
| GMS-63S                               |                     |                            |                                                     |                     |                     | GMS-63H                               |                                       |                     |                                                     |                            |                                       | GMS-100S                              |                     |                            |                                                     |                     |                     | GMS-100H                              |                                       |                     |                                                     |                            |                                       |    |      |
| —                                     |                     |                            |                                                     |                     |                     | GMS-63HI                              |                                       |                     |                                                     |                            |                                       | —                                     |                     |                            |                                                     |                     |                     | GMS-100HI                             |                                       |                     |                                                     |                            |                                       |    |      |
| Standard                              |                     |                            |                                                     |                     |                     | High Breaking                         |                                       |                     |                                                     |                            |                                       | Standard                              |                     |                            |                                                     |                     |                     | High Breaking                         |                                       |                     |                                                     |                            |                                       |    |      |
| Rotary                                |                     |                            |                                                     |                     |                     | Rotary                                |                                       |                     |                                                     |                            |                                       | Rotary                                |                     |                            |                                                     |                     |                     | Rotary                                |                                       |                     |                                                     |                            |                                       |    |      |
| 3                                     |                     |                            |                                                     |                     |                     | 3                                     |                                       |                     |                                                     |                            |                                       | 3                                     |                     |                            |                                                     |                     |                     | 3                                     |                                       |                     |                                                     |                            |                                       |    |      |
| 600V                                  |                     |                            |                                                     |                     |                     | 600V                                  |                                       |                     |                                                     |                            |                                       | 600V                                  |                     |                            |                                                     |                     |                     | 600V                                  |                                       |                     |                                                     |                            |                                       |    |      |
| 50,000 / 25,000                       |                     |                            |                                                     |                     |                     | 50,000 / 25,000                       |                                       |                     |                                                     |                            |                                       | 50,000 / 25,000                       |                     |                            |                                                     |                     |                     | 50,000 / 25,000                       |                                       |                     |                                                     |                            |                                       |    |      |
| 25                                    |                     |                            |                                                     |                     |                     | 25                                    |                                       |                     |                                                     |                            |                                       | 25                                    |                     |                            |                                                     |                     |                     | 25                                    |                                       |                     |                                                     |                            |                                       |    |      |
| -20→+60C *                            |                     |                            |                                                     |                     |                     | -20→+60C *                            |                                       |                     |                                                     |                            |                                       | -20→+60C *                            |                     |                            |                                                     |                     |                     | -20→+60C *                            |                                       |                     |                                                     |                            |                                       |    |      |
| 13 X Ie max                           |                     |                            |                                                     |                     |                     | 13 X Ie max                           |                                       |                     |                                                     |                            |                                       | 13 X Ie max                           |                     |                            |                                                     |                     |                     | 13 X Ie max                           |                                       |                     |                                                     |                            |                                       |    |      |
| YES                                   |                     |                            |                                                     |                     |                     | YES                                   |                                       |                     |                                                     |                            |                                       | YES                                   |                     |                            |                                                     |                     |                     | YES                                   |                                       |                     |                                                     |                            |                                       |    |      |
| YES                                   |                     |                            |                                                     |                     |                     | YES                                   |                                       |                     |                                                     |                            |                                       | YES                                   |                     |                            |                                                     |                     |                     | YES                                   |                                       |                     |                                                     |                            |                                       |    |      |
| YES                                   |                     |                            |                                                     |                     |                     | YES                                   |                                       |                     |                                                     |                            |                                       | YES                                   |                     |                            |                                                     |                     |                     | YES                                   |                                       |                     |                                                     |                            |                                       |    |      |
| 45 x 94 x 75                          |                     |                            |                                                     |                     |                     | 45 x 94 x 99.6                        |                                       |                     |                                                     |                            |                                       | 45 x 94 x 75                          |                     |                            |                                                     |                     |                     | 45 x 94 x 99.6                        |                                       |                     |                                                     |                            |                                       |    |      |
| Manual (UL508)<br>Motor<br>Controller |                     |                            | Manual Motor<br>Controller<br>Group<br>Installation |                     |                     | Manual (UL508)<br>Motor<br>Controller |                                       |                     | Manual Motor<br>Controller<br>Group<br>Installation |                            |                                       | Manual (UL508)<br>Motor<br>Controller |                     |                            | Manual Motor<br>Controller<br>Group<br>Installation |                     |                     | Manual (UL508)<br>Motor<br>Controller |                                       |                     | Manual Motor<br>Controller<br>Group<br>Installation |                            |                                       |    |      |
| Max<br>240V<br>277V                   | Max<br>480Y<br>347V | Max<br>600Y<br>Size<br>[A] | Max<br>Fuse<br>Breaker<br>Size<br>[A]               | Max<br>240V<br>277V | Max<br>480Y<br>347V | Max<br>600Y<br>Size<br>[A]            | Max<br>Fuse<br>Breaker<br>Size<br>[A] | Max<br>240V<br>277V | Max<br>480Y<br>347V                                 | Max<br>600Y<br>Size<br>[A] | Max<br>Fuse<br>Breaker<br>Size<br>[A] | Max<br>240V<br>277V                   | Max<br>480Y<br>347V | Max<br>600Y<br>Size<br>[A] | Max<br>Fuse<br>Breaker<br>Size<br>[A]               | Max<br>240V<br>277V | Max<br>480Y<br>347V | Max<br>600Y<br>Size<br>[A]            | Max<br>Fuse<br>Breaker<br>Size<br>[A] | Max<br>240V<br>277V | Max<br>480Y<br>347V                                 | Max<br>600Y<br>Size<br>[A] | Max<br>Fuse<br>Breaker<br>Size<br>[A] |    |      |
| —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     | —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     |    |      |
| —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     | —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     |    |      |
| —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     | —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     |    |      |
| —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     | —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     |    |      |
| —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     | —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     |    |      |
| —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     | —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     |    |      |
| —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     | —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     |    |      |
| 100                                   | 25                  | 10                         | 40                                                  | 40                  | 100                 | 50                                    | 10                                    | 600                 | 100                                                 | 50                         | 10                                    | 600                                   | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     |    |      |
| 100                                   | 25                  | 10                         | 50                                                  | 50                  | 100                 | 50                                    | 10                                    | 600                 | 100                                                 | 50                         | 10                                    | 600                                   | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     |    |      |
| 100                                   | 25                  | 10                         | 60                                                  | 60                  | 100                 | 40                                    | 10                                    | 600                 | 100                                                 | 50                         | 10                                    | 600                                   | 100                 | 25                         | 10                                                  | 60                  | 60                  | 100                                   | 50                                    | 10                  | 600                                                 | 100                        | 65                                    | 25 | 1000 |
| 100                                   | 25                  | 10                         | 80                                                  | 80                  | 100                 | 40                                    | 10                                    | 600                 | 100                                                 | 50                         | 10                                    | 600                                   | 100                 | 25                         | 10                                                  | 80                  | 80                  | 100                                   | 50                                    | 10                  | 600                                                 | 100                        | 65                                    | 20 | 1000 |
| 100                                   | 25                  | 10                         | 100                                                 | 100                 | 100                 | 40                                    | 10                                    | 600                 | 100                                                 | 50                         | 10                                    | 600                                   | 100                 | 25                         | 10                                                  | 100                 | 100                 | 100                                   | 50                                    | 10                  | 600                                                 | 100                        | 65                                    | 20 | 1000 |
| 100                                   | 25                  | 10                         | 125                                                 | 125                 | 100                 | 40                                    | 10                                    | 600                 | 100                                                 | 50                         | 10                                    | 600                                   | 100                 | 25                         | 10                                                  | 125                 | 125                 | 100                                   | 50                                    | 10                  | 600                                                 | 100                        | 65                                    | 20 | 1000 |
| 100                                   | 25                  | 10                         | 150                                                 | 150                 | 100                 | 40                                    | 10                                    | 600                 | 100                                                 | 50                         | 10                                    | 600                                   | 100                 | 25                         | 10                                                  | 150                 | 150                 | 100                                   | 50                                    | 10                  | 600                                                 | 100                        | 65                                    | 20 | 1000 |
| 100                                   | 25                  | 10                         | 200                                                 | 200                 | 100                 | 40                                    | 10                                    | 600                 | 100                                                 | 50                         | 10                                    | 600                                   | 100                 | 25                         | 10                                                  | 200                 | 200                 | 100                                   | 50                                    | 10                  | 600                                                 | 100                        | 65                                    | 20 | 1000 |
| 100                                   | 25                  | 10                         | 250                                                 | 250                 | 100                 | 40                                    | 10                                    | 600                 | 100                                                 | 50                         | 10                                    | 600                                   | 100                 | 25                         | 10                                                  | 250                 | 250                 | 100                                   | 50                                    | 10                  | 600                                                 | 100                        | 65                                    | 20 | 1000 |
| —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     | —                                     | 100                 | 25                         | 10                                                  | 300                 | 300                 | 100                                   | 40                                    | 10                  | 1000                                                | 100                        | 50                                    | 10 | 1000 |
| —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     | —                                     | 100                 | 25                         | 10                                                  | 350                 | 350                 | 100                                   | 40                                    | 10                  | 1000                                                | 100                        | 50                                    | 10 | 1000 |
| —                                     | —                   | —                          | —                                                   | —                   | —                   | —                                     | —                                     | —                   | —                                                   | —                          | —                                     | —                                     | 100                 | 25                         | 10                                                  | 400                 | 400                 | 100                                   | 40                                    | 10                  | 1000                                                | 100                        | 50                                    | 10 | 1000 |

# Manual Motor Starters



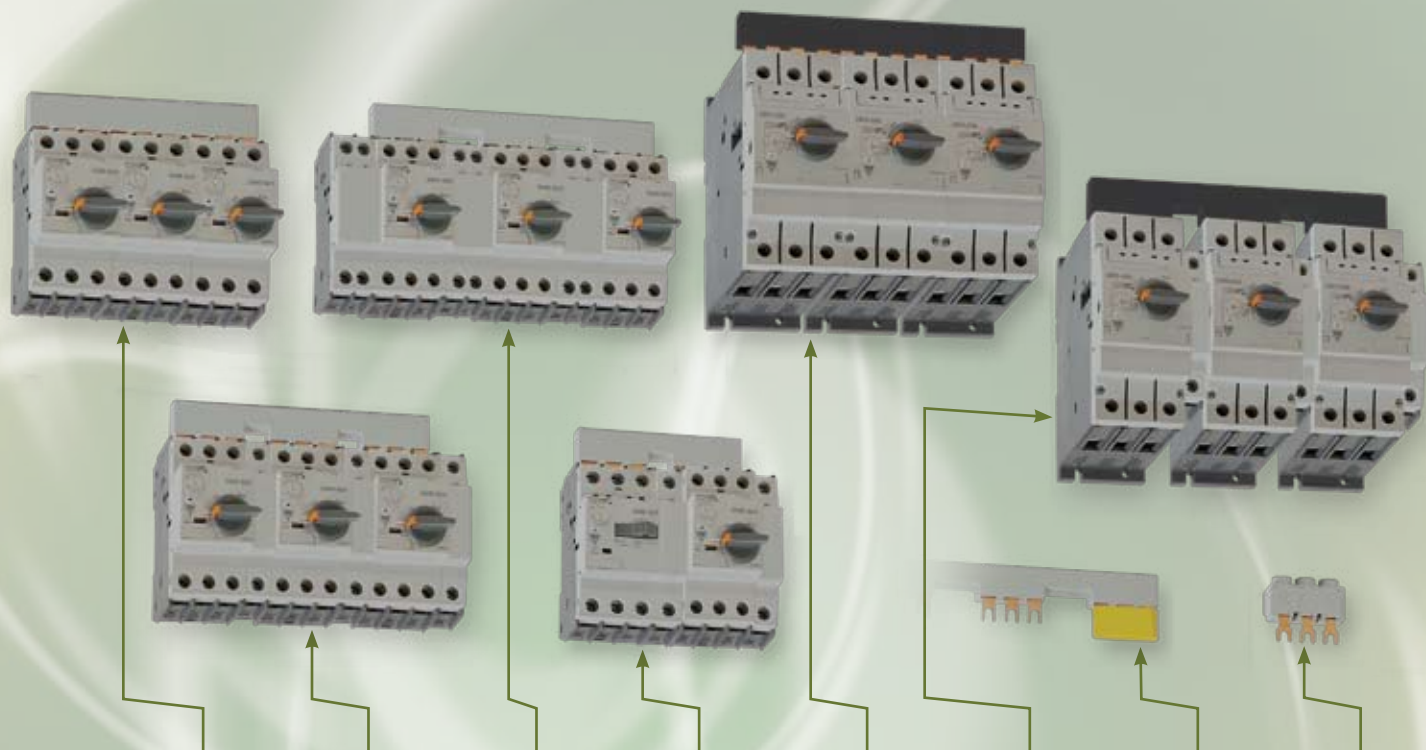
## Accessories

- 1 **GMS-32S** Manual Motor Starter  
(GMS-32H with rotary handle is also available, but not shown. It works with all the accessories shown on this page.)
- 2 **GMS-63** Manual Motor Starter
- 3 **GMS-100** Manual Motor Starter
- 4 **GFX** Front Mounting Auxiliary Switch
- 5 Dial Cover Included
- 6 **GSX** Side Mounting Switch
- 7 **GSA** Side Mounting Alarm Switch
- 8 **GSR** Side Mounting Shunt Release
- 9 **GUR** Side Mounting Undervoltage Release
- 10 **GURX** Side Mounting Undervoltage Release with Switch
- 11 **GDA** Direct Adaptor
- 12 **CGM** (9~12A) Mini-Contactor
- 13 **CC** (9~100A) Midi-Contactor
- 14 **GMU** Mounting Unit
- 15 **GEH** Extended Handle (for rotary handle types only)
- 16 **GEP32** Plastic Enclosure (for GMS-32H only)



# Manual Motor Starters

## Accessories - Busbars



45mm Spacing  
(rated 63A)

54mm Spacing  
(rated 63A)

63mm Spacing  
(rated 63A)

Jumper

54mm Spacing  
(rated 120A)

63mm Spacing  
(rated 120A)

Terminal cover

Supply connector

| Type        | MSVGV45-14-2    | MSVGV54-14-2                                           | MSVGV63-14-2                                                                    | MSVGV45-SH                              | MSVCPM25412  | MSVCP36312                                          | MSVB54                                    | MSVGE1-14                      |
|-------------|-----------------|--------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------|--------------|-----------------------------------------------------|-------------------------------------------|--------------------------------|
| Description | For 2 GMS-32S/H | For 2 GMS-32S/H<br>+ accessories<br>(side mnt aux sw)  | For 2 GMS-32S/H<br>+ accessories<br>(side mnt<br>undervoltage<br>or shunt trip) | For connecting<br>GMS-32S<br>W/ GMS-32H | For 2 GMS-63 | For 2 GMS-63<br>+ accessories<br>(side mnt aux sw)  | 3 Pole<br>protective cover<br>for MSVGV.. | 3 Phase input<br>terminal 63A  |
| Type        | MSVGV45-14-3    | MSVGV54-14-3                                           | MSVGV63-14-3                                                                    |                                         | MSVCPM35412  | MSVCP36312                                          | MSVTA120                                  | MSVBTC50E                      |
| Description | For 3 GMS-32S/H | For 3 GMS-32S/H<br>+ accessories<br>(side mnt aux. sw) | For 3 GMS-32S/H<br>+ accessories<br>(side mnt<br>undervoltage<br>or shunt trip) |                                         | For 3 GMS-63 | For 3 GMS-63<br>+ accessories<br>(side mnt aux. sw) | 3 Pole<br>protective cover<br>for MSVCP.. | 3 Phase Input<br>terminal 120A |
| Type        | MSVGV45-14-4    | MSVGV54-14-4                                           | MSVGV63-14-4                                                                    |                                         | MSVCPM45412  | MSVCP46312                                          |                                           |                                |
| Description | For 4 GMS-32S/H | For 4 GMS-32S/H<br>+ accessories<br>(side mnt aux. sw) | For 4 GMS-32S/H<br>+ accessories<br>(side mnt<br>undervoltage<br>or shunt trip) |                                         | For 4 GMS-63 | For 4 GMS-63<br>+ accessories<br>(side mnt aux. sw) |                                           |                                |
| Type        | MSVGV45-14-5    | MSVGV54-14-5                                           | MSVGV63-14-5                                                                    |                                         |              |                                                     |                                           |                                |
| Description | For 5 GMS-32S/H | For 5 GMS-32S/H<br>+ accessories<br>(side mnt aux. sw) | For 5 GMS-32S/H<br>+ accessories<br>(side mnt<br>undervoltage<br>or shunt trip) |                                         |              |                                                     |                                           |                                |

### Handle Lock



### Dial Cover



### GMS-32



### Terminals

#### GMS-63



#### GMS-100



Specifications are subject to change without notice.

# The Complete Product Package

## Sense

Inductive and Capacitive Sensors  
Photoelectric Sensors  
Ultrasonic Sensors  
Wind Sensors  
Radar Sensors  
Motion/Presence Vision Sensors  
Conductive Level Sensors  
Limit Switches  
Magnetic Switches  
Safety Interlocks and Light Curtains

## Switch

Solid State Relays  
Contactors and Overloads  
Manual Motor Starters/Protectors  
Soft Starters  
Variable Frequency Drives  
Hybrid Relays  
Electromechanical Relays  
Push Buttons and Pilot Lights

## Control

Energy Management  
Switching Power Supplies  
Digital Panel Meters  
Timers and Counters  
Monitoring Controls  
Current Transformers/Shunts  
PID Controllers  
Surge Arresters  
Safety Control Modules

## Fieldbus

Dupline® Field and Installation Bus  
Building Automation Systems  
Parking Guidance Systems  
Elevator Systems  
DuplineSafe Mining Systems  
Irrigation Systems

## EcoEnergy equipment

Solar Monitoring and Control  
Solar Battery Chargers

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