CC, CG, GD, GM, GS

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Россия (495)268-04-70
Киргизия (996)312-96-26-47
Казахстан (7172)727-132

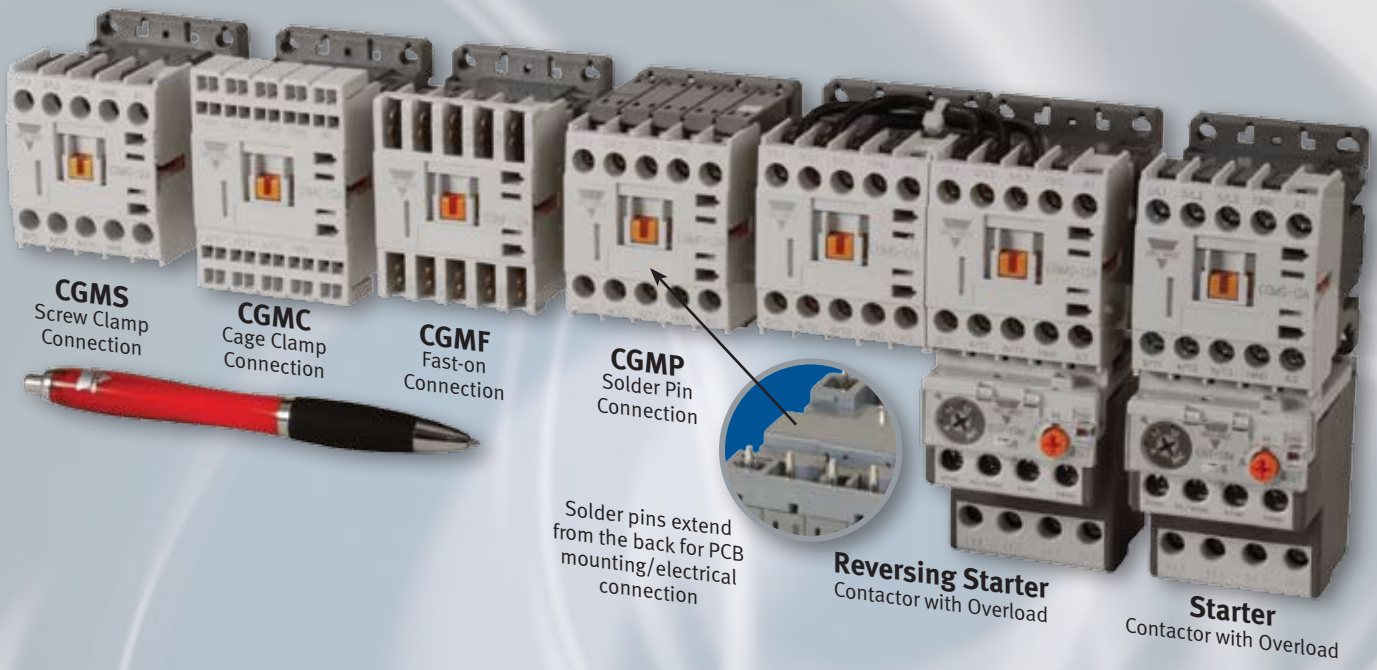
cgo@nt-rt.ru || https://gavazzi.nt-rt.ru/

Mini-Contactors and Overloads

CARLO GAVAZZI

Compact in size, yet powerful in performance...

Mini-Contactors and Overloads



General

- Compact size with powerful performance
- Approx. 2 ¼ 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
	Non-Reversing **S** - Screw (std.) **F** - Fast On **C** - Cage Clamp **P** - Solder Pin Reversing Type **U**- Screw (standard) **CU** - Cage Clamp **FU** - Fast On **PU** - Solder Pin	**6** - 6A **9** - 9A **12** - 12A	**A** - AC Coil **D** - DC Coil	**24** - 24V **120** - 120V **480** - 480V See data sheet for full offering	**10** - 1 NO **01** - 1 NC

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 **CGM*F***

Optional Connection Types

Cage Clamp **CGMC**

Solder Pin **CGM*P***

				CGMS-6	CGMS-9 3-Pole	CGMS-12
Frame Size						
Type						
UL Ratings		Continuous Current Ith		20A	20A	20A *
c UL us LISTED	Motor AC	Single Phase	115V	0.5HP	0.5HP	1HP *
			230V	1HP	1.5HP	2HP *
		Three Phase	230V	1.5HP	3HP	3HP
			460V	3HP	5HP	7.5HP *
			575V	3HP	5HP	7.5HP
		NEMA Size		00	00	00
IEC Ratings		AC1		20A	20A	20A
CE	Motor AC	AC3	200~240V	1.5 kW 7A	2.2 kW 9A	3 kW 12A
			380~440V	2.5 kW 6A	4 kW 9A	5.5 kW 12A
			690V	3 kW 4A	4 kW 5A	4 kW 5A
Coil Voltages		AC Coil	VAC 50/60Hz	24, 36, 42, 48, 110, 115, 120, 127, 200/208, 220, 220/230 230/240, 256, 277, 380/400, 400, 440, 480, 500, 550		
		DC Coil	(std. consumption) VDC	12, 20, 24, 36, 42, 48, 60, 72, 110, 120, 125, 200, 240, 250		
			(low consumption) VDC	12, 20, 24, 48, 72, 100, 110		
Basic Dimensions			(W x H x D) mm	AC coil version: 45 x 58 x 57, DC coil version: 45 x 58 x 69		
Accessories		Auxiliary Contacts	Standard	1NO or 1NC		
			Optional	Side Mount **AX-1M** (1NO or 1NC), Top Mount **AX-2M** (2NO, 1NC/1NO or 2NC) or Top Mount **AX-4M** (4NO, 3NO/1NC, 2NO/2NC, 1NO/3NC or 4NC)		
		Mechanical Interocks		**AR-12MW**		
		Surge Units		**AS-12M**		

Thermal Overload Relays

Available Ranges

0.1 – 0.16A

9 – 13A

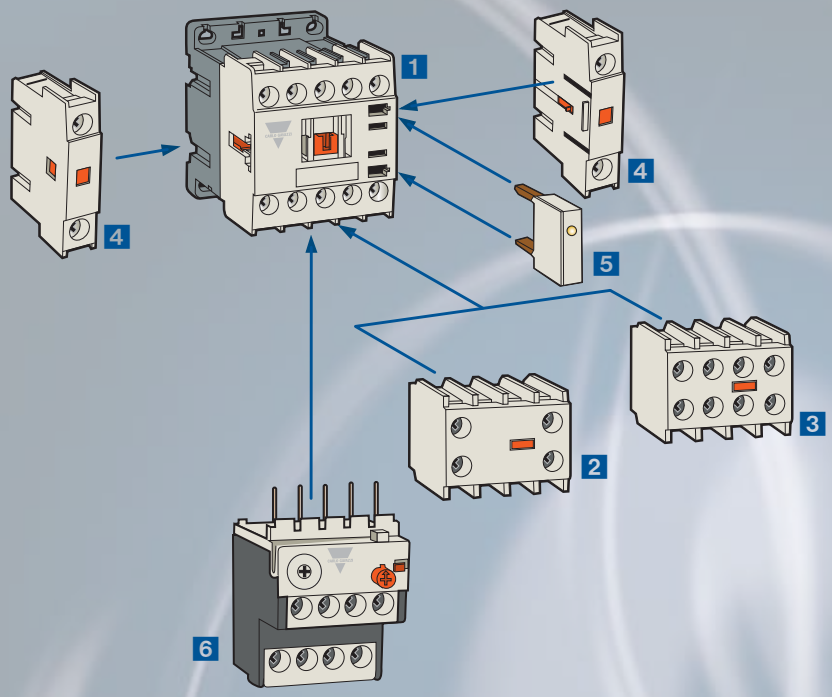
See page 4 for all ranges

Separate Mounting for DIN Rail AZ-12H

Manual Motor Starters	Type	**GMS-32S** and **GMS-32H**
	Rated Operational current, Ie	0.1 ~ 32A
	Rated Breaking Capacity, Icu	Max. 100kA
Connecting Module	**GMS-32H** to **CGMS** w/ AC coil	**GDA16HA**
	GMS-32H to **CGMS** w/ DC coil	**GDA16HD**
	GMS-32S to **CGMS** w/ AC coil	**GDA16SA**
	GMS-32S to **CGMS** w/ DC coil	**GDA16SD**

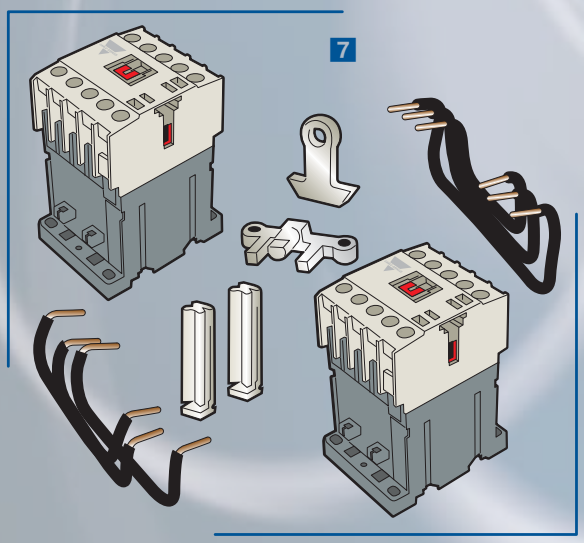
* Maximum Ratings for CGMC-12 Cage Clamp Type: 10A Continuous Ith, 0.5HP 1-Phase 115VAC, 1.5HP 1-Phase 230VAC, and 5HP 3-Phase 460VAC

Mini-Contactors and Overloads



Accessories

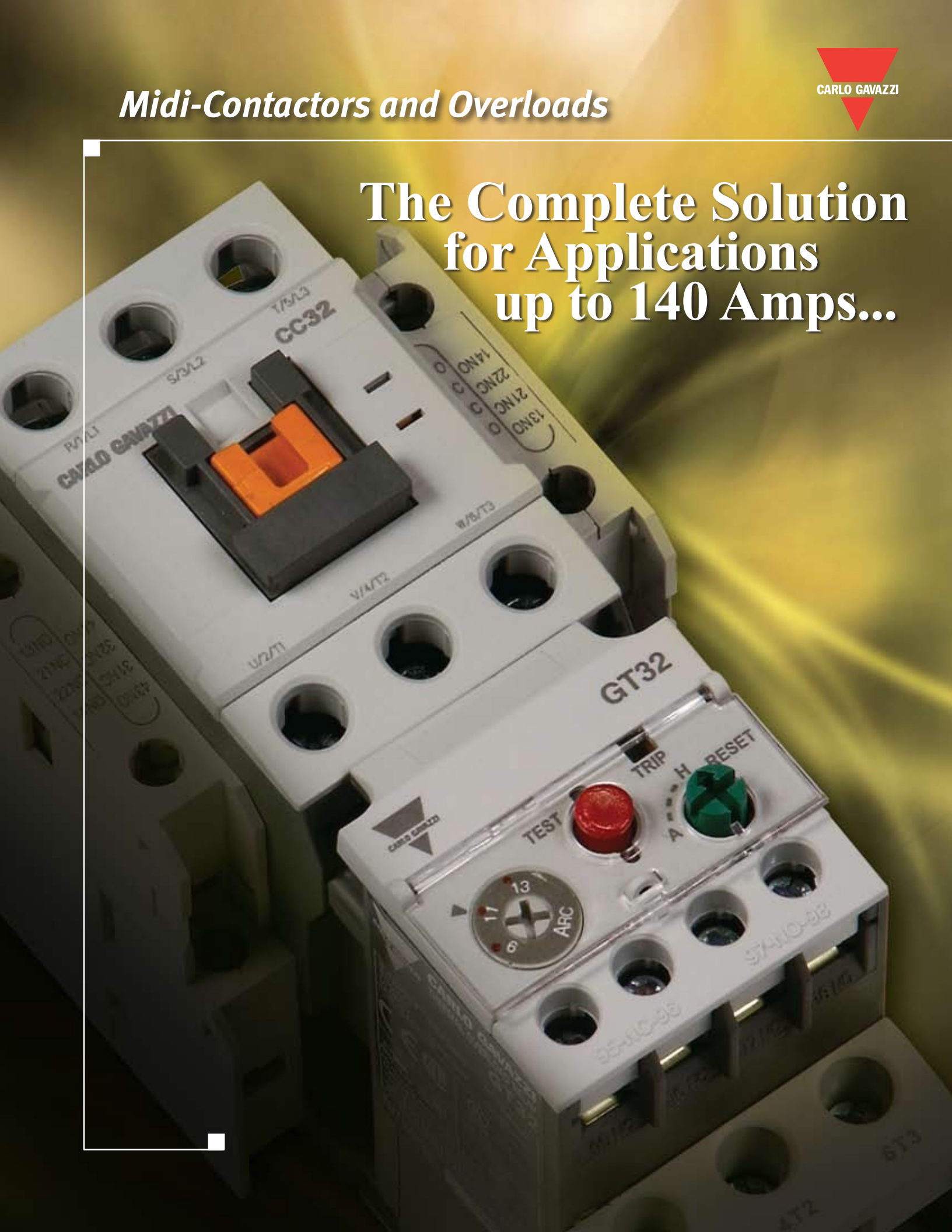
1. **CGMS** Mini-Contactor
2. **AX-2MS** 2-pole Front Mount Auxiliary Contact Unit
3. **AX-4MS** 4-pole Front Mount Auxiliary Contact Unit
4. **AX-1MS** 1-pole Side Mount Auxiliary Contact Unit
5. **AS-12M** Surge Absorber Unit
6. **CGT-12M** Overload Relay
7. **AR-12MW** Reversing Interlock Kit
   (Contactors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



Midi-Contactors and Overloads

CARLO GAVAZZI

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

Overload

GT	32		S	0.16A
Bimetallic Midi-Overload	Frame Size	Class	Terminal Type (Must match contactor number)	Setting Ranges (Use upper limit in part)
	32 - 9, 12, 18A 22, 32, 40A **65** - 50, 65A **75** - 75, 85, 100A	**BLANK - 10** **L** - 20	**S** - Screw **L** - Lug (≥35A)	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** 12 ~ **18A** 16 ~ **22A** 18 ~ **25A** 22 ~ **32A** 24 ~ **36A** 28 ~ **40A** 34 ~ **50A** 45 ~ **65A** 54 ~ **75A** 63 ~ **85A** 70 ~ **95A** 80 ~ **100A**

(Setting Range Guide)

GT32

GT65

GT95

Preliminary Data

CGE	22	–	3P	–	22AN
Electronic Midi Overload	Frame Size		Protection		Setting Range (Use upper limit in part)
	22 - 9, 12, 18, 22A **40** - 32, 40A **80** - 50, 65, 75, 85A		Direct Mount 22 and 40AF **2P** - 2-Pole **3P** - 3-Pole **3PR** -3-pole Separate Mount All CGE sizes **2S** - 2-Pole **3S** - 3-Pole **3SR** - 3-Pole Through-Hole 22 and 40AF **2T** - 2-Pole **3T** - 3-Pole **3TR** - 3-Pole		**CGE22** 0.3 ~ **1.5AN** 1 ~ **5AN** 4.4 ~ **22AN** **CGE40** 4 ~ **20AN** 8 ~ **40AN** **CGE80** 16 ~ **80AN**

Midi-Contactors and Overloads

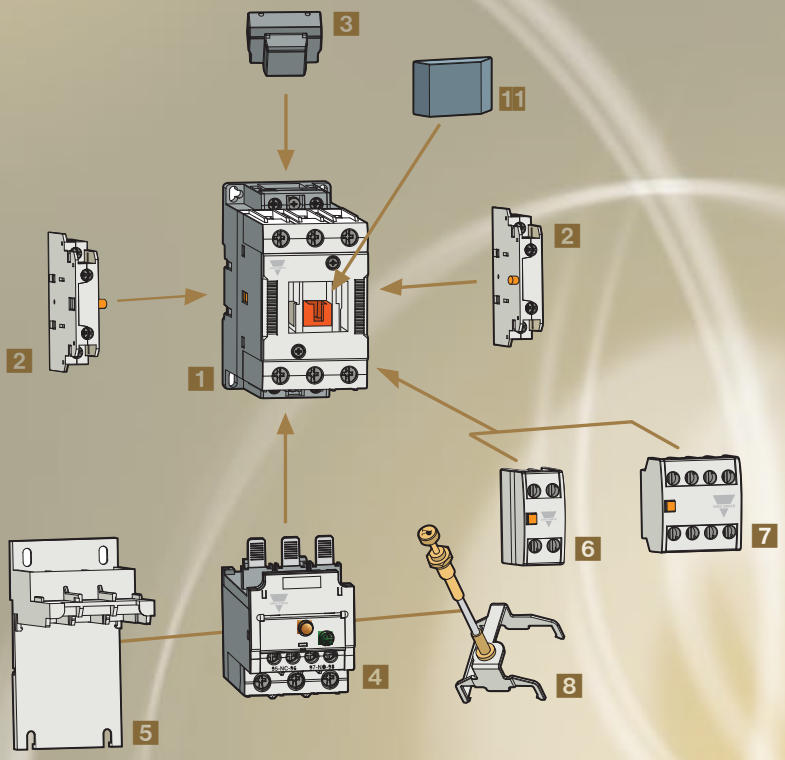
			22AF			
Frame Size			**CC9**	**CC12**	**CC18**	**CC22**
Type						
Available Output Terminal			Screw Clamp Only			
		Continuous Current	25A	25A	40A	40A
UL Rating	Motor AC Single Phase	110~120VAC	0.5HP	0.75HP	1HP	2HP
50/60Hz		220~240VAC	1.5HP	2HP	3HP	3HP
	Motor AC Three Phase	220~240VAC	3HP	5HP	7.5HP	10HP
		440~480VAC	5HP	7.5HP	10HP	15HP
		550~600VAC	7.5HP	10HP	15HP	20HP
NEMA Size			00	00	0	1
CSA Elevator Rating			Pending	Pending	Pending	Pending
IEC Rating	Resistive AC1	690VAC max	25A	25A	32A	40A
	Motor AC3	200~240VAC	2.5 kW 11A	3.5 kW 13A	4.5kW 18A	5.5 kW 22A
		380~440VAC	4kW 9A	5.5kW 12A	7.5kW 18A	11kW 22A
		500~550VAC	4kW 7A	7.5kW 12A	7.5kW 12A	15kW 20A
		690VAC max	4kW 6A	7.5kW 9A	7.5kW 9A	15kW 18A
Coil Voltages	AC Coil	VAC 50/60Hz	**24**, 48, 100, 110, **120**, 200, 220, 230, **240**, 380, 415, 440, **500**, 550 VAC			
		VAC 60Hz	24, 48, 100, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600 VAC			
		VAC 50Hz	24, 32, 36, 42, 48, 80, 100, 110, 220, 230, 240, 380, 400, 415, 440, 500, 550 VAC			
	DC Coil	VDC	12, 20, **24**, 48, 60, 80, 100, 110, 125, 200, 220, 250 VDC			
Basic Dimensions	W x H x D mm	AC Coil	45 x 73.5 x 86			
	(with standard set of aux. contacts)	DC Coil	45 x 73.5 x 118			
Accessories	Auxiliary Contacts	Standard	1NO1NC			
		Optional	Side mount **GUA1** or Top Mount			
		Mechanical Interlock	**GUR02**			
	Power Connector for Reversing Contactors		**GUW22**			
	Coil Surge Unit	Varistor	**GUS11** (for 24~48 VAC or VD			
		RC+Varistor	**GUS1** (for 24~48VAC coils), **GUS2** (for 100~1			
		RC				

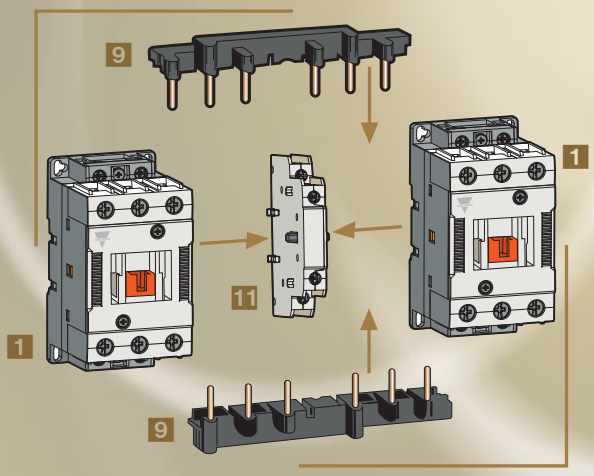
			GT32
Thermal Overloads	Bimetallic, 3-Pole Differential		
		Range	0.1 ~ 0.16 to 28 ~ 40A
	Electronic		**CGE22**
		Range	0.3 ~ 1.5A to 4.4 ~22A
		Available Mounting	Direct and Separate
Matching Manual Motor Starter		Type	**GMS-32S** **or** **GMS-32H**
	Connecting Module	AC Coil Contactor	GDA22SA GDA22HA
		DC Coil Contactor	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		
2N02NC		2NO2NC		2NO2NC		
Top Mount		Top Mount		Top Mount		
GUR02		GUR02		GUR02		
GUW32		GUW63		GUW95		
DC), **GUS12** (for 100~125VAC or VDC), **GUS13** (for 200~240VAC or VDC coils), **GUS14** (for 380~440VAC or VDC coils)						
25VAC 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





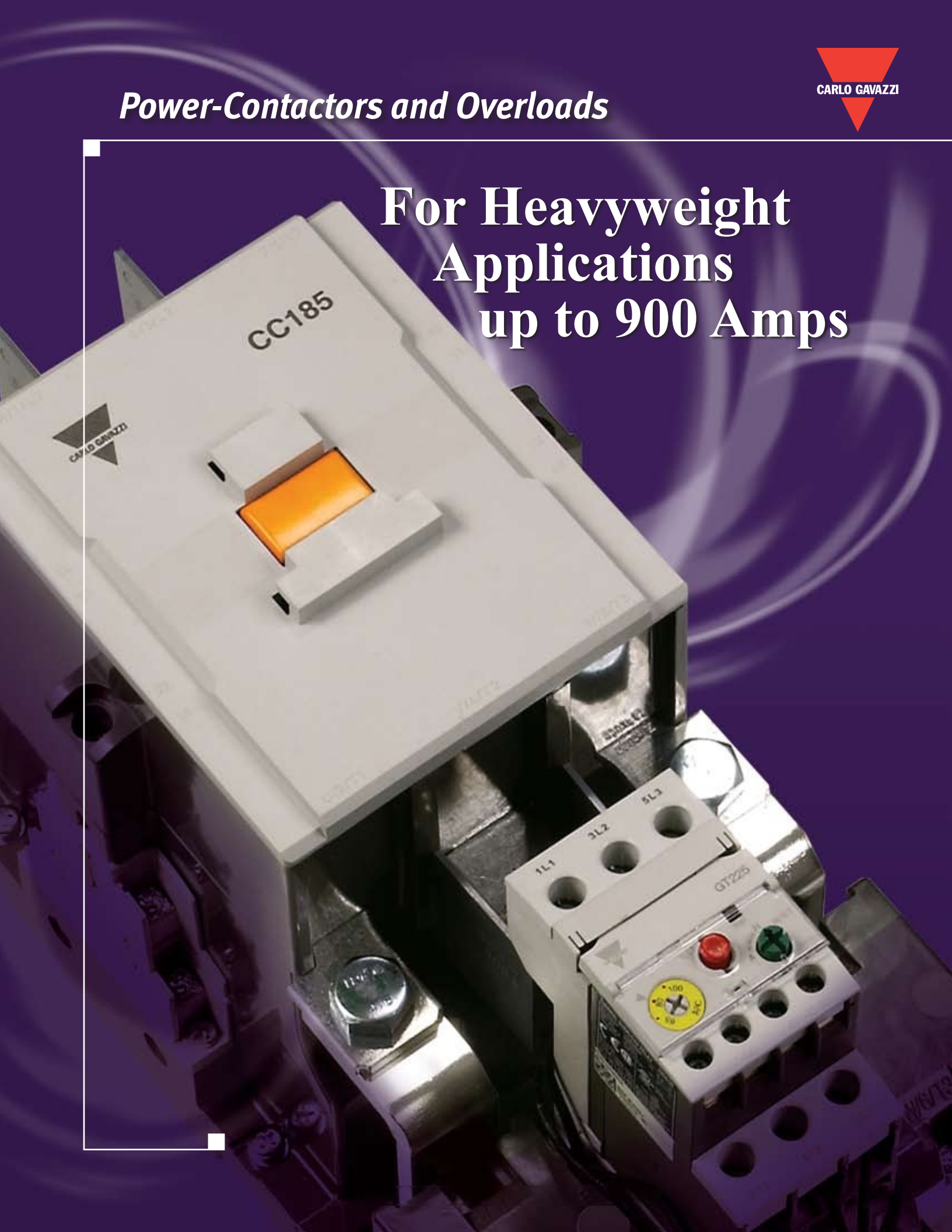
Accessories

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

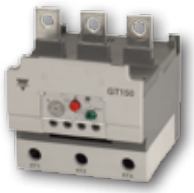
CARLO GAVAZZI

For Heavyweight Applications up to 900 Amps



Power-Contactors and Overloads

Frame Size			**150AF**		**225AF**	
Type			**CC130**	**CC150**	**CC185**	**CC225**
Available Output Terminal			Screw Clamp or Lug		Screw Clamp Only	
		Continous Current	160A	210A	230A	275A
UL Rating	Motor AC Single Phase	110~120VAC	10HP	15HP	15HP	15HP
50/60Hz		220~240VAC	20HP	25HP	30HP	40HP
	Motor AC Three Phase	220~240VAC	40HP	50HP	60HP	75HP
		440~480VAC	75HP	100HP	125HP	150HP
		550~600VAC	75HP	75HP	125HP	150HP
NEMA Size			3	4	4	4
IEC Rating	Resistive AC1	690VAC max	160A	210A	230A	275A
	Motor AC3	200~240VAC	37kW 130A	45kW 150A	55kW 185A	75kW 225A
		380~440VAC	60kW 130A	75kW 150A	90kW 185A	132kW 225A
		500~550VAC	60kW 90A	70kW 100A	110kW 180A	132kW 200A
		690VAC max	55kW 60A	55kW 60A	110kW 120A	140kW 150A
Coil Voltages	AC Coil	VAC 50/60Hz	24, 48, 110, 220, 300, 400, 500 VAC		300, 400, 500 VAC	
	DC Coil	VDC	24, 48, 110, 220 VDC		-	
	AC/DC Coil	VAC 50/60Hz / VDC	-		24, 48, 100/200 VAC/VDC	
Basic Dimensions	W x H x D mm		119 x 158 x 131		162 x 203 x 185	
Accessories	Auxiliery Contacts	Standard	2N02NC		2NO2NC	
		Mechanical Interlock	**GUR02**		**AR-400**	

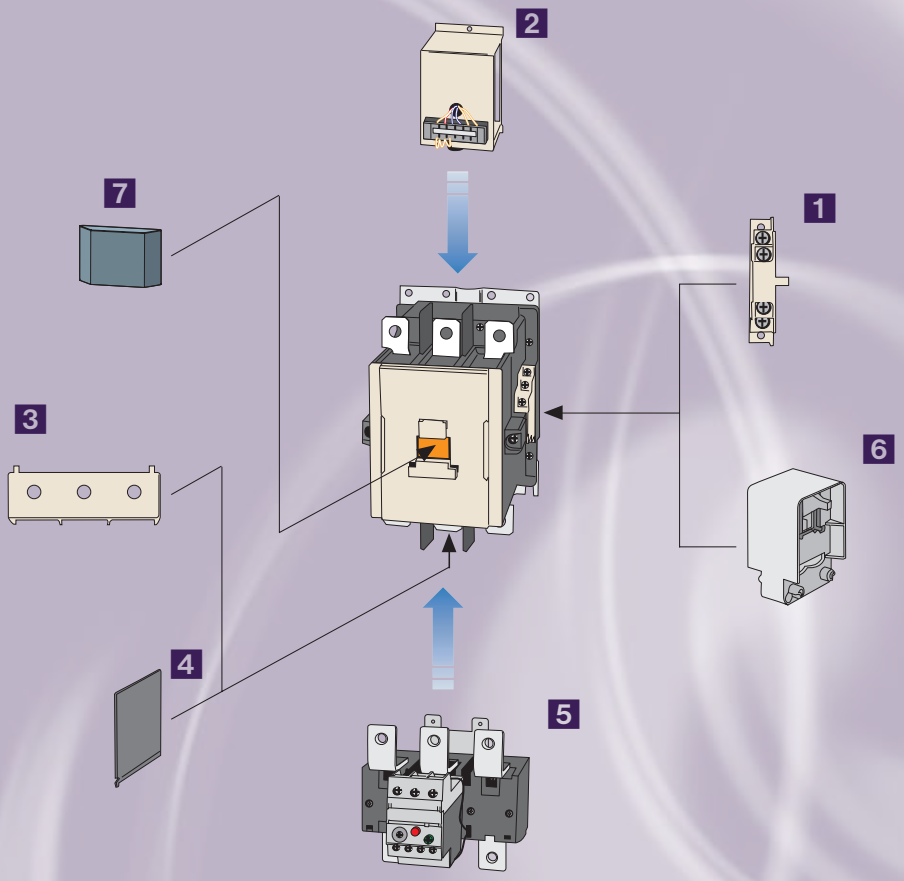


Thermal Overloads	Bimetallic, 3-Pole Differential		**GT150**	**GT225**
		Range	34 ~ 50A to 110 ~ 150A	65 ~ 100A to 160 ~ 240A

CC265	400AF CC330	CC400	CC500	800AF 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	
	AR-400			**AR-800W**	

GT400	GT800
85 ~ 125A to 85 ~ 400A	200 ~ 300A to 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 **150** - 150A **185** - 185A **225** - 225A **265** - 265A **330** - 330A **400** - 400A **500** - 500A **630** - 630A **800** - 800A	**BLANK** - 3-pole **/4 - 4-pole**	**S** - Screw **L** - Lug (130A) and 150 only	**A** - AC type **D** - DC type **AD** -AC/DC types	**24** - 24V & **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 **225** - 185, 225A **400** - 265, 330, 400A **800** - 500, 630, 800A	**BLANK** - 10 **L** - 20	**S** - Screw **L** - Lug (150A only)	34 ~ **50A** 45 ~ **65A** 54 ~ **75A** 63 ~ **85A** 65 ~ **100A** 80 ~ **105A** 85 ~ **125A** 95 ~ **130A** 110 ~ **150A** 100 ~ **160A** 120 ~ **185A** 160 ~ **240A** 200 ~ **330A** 260 ~ **400A** 400 ~ **600A** 520 ~ **800A**

GT150
GT225
GT400
GT800

Manual Motor Starters

CARLO GAVAZZI

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

CARLO GAVAZZI

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.

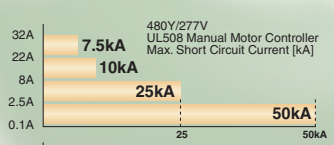
"Type E Starters" (for group installations) offer short circuit current ratings up to 65kA for all three 'High Breaking' type manual motor starters.

UL508 Short Circuit Ratings

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

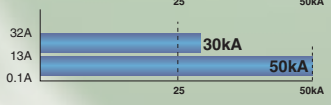
GMS 32S

- Standard



GMS 32H
GMS 32HI

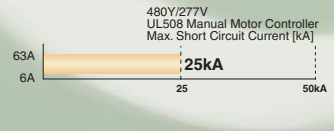
- High Break
- Magnetic Release



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

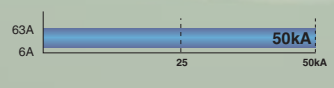
GMS 63S

- Standard



GMS 63H
GMS 63HI
GMS 63HL

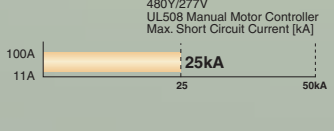
- High Break
- Magnetic Release
- Class 20



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

GMS 100S

- Standard



GMS 100H
GMS 100HI
GMS 100HL

- High Break
- Magnetic Release
- Class 20

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**
	63 - 63AF		9 ~ **13A**
			11 ~ **17A**
	100 - 100AF		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			32AF																	
Type	Current Adjustable Type		GMS-32S								GMS-32H									
	Instantaneous Type		—								GMS-32HI									
Breaking Capacity			Standard								High Breaking									
Handle Type			Toggle								Rotary									
Number of Poles			3								3									
Rated Operational Voltage [Ue]			600V								600V									
Mechanical / Electrical Endurance		[operations]	100,000 / 100,000								100,000 / 100,000									
Max Operating Frequency Per Hour		[operations]	25								25									
Temperature Compensation			-20~+60C *								-20~+60C *									
Instantaneous Short Circuit Release			13 X Ie max								13 X Ie max									
Main Functions	Overload Protection**		YES								YES									
	Phase Failure Protection**		YES								YES									
	Short Circuit Protection		YES								YES									
Dimensions (W x H x D) [mm]			45 x 94 x 75								45 x 94 x 99.6									
UL Interrupting Rating [kA]	Type of Installation		Manual (UL508) Motor Controller					Manual Motor Controller Group Installation				Manual (UL508) Motor Controller					Manual Motor Controller Group Installation				
c UL us LISTED CE	Thermal Current Setting Range [A]	Rated Current [A]	240V	480Y 277V	600Y 347V	Max Fuse Size [A]	Max Breaker Size [A]	240V	480Y 277V	600Y 347V	Max Fuse or Breaker Size [A]	240V	480Y 277V	600Y 347V	Max Fuse Size [A]	Max Breaker Size [A]	240V	480Y 277V	600Y 347V	Max Fuse or Breaker Size [A]
	0.1~0.16	0.16	100	50	10	1	15	—	—	—	—	100	50	10	1	15	100	65	25	500
	0.16~0.25	0.25	100	50	10	1	15	—	—	—	—	100	50	10	1	15	100	65	25	500
	0.25~0.4	0.4	100	50	10	1	15	—	—	—	—	100	50	10	1	15	100	65	25	500
	0.4~0.63	0.63	100	50	10	1	15	—	—	—	—	100	50	10	1	15	100	65	25	500
	0.63~1	1	100	50	10	3	15	—	—	—	—	100	50	10	3	15	100	65	25	500
	1~1.6	1.6	100	50	10	6	15	—	—	—	—	100	50	10	6	15	100	65	25	500
	1.6~2.5	2.5	100	50	10	10	15	—	—	—	—	100	50	10	10	15	100	65	25	500
	2.5~4	4	100	50	5	15	15	—	—	—	—	100	50	10	15	15	100	65	25	500
	4~6	6	100	25	5	20	20	—	—	—	—	100	50	10	20	20	100	65	25	500
	5~8	8	100	25	5	30	30	—	—	—	—	100	50	10	30	30	100	65	25	500
	6~10	10	50	10	5	40	40	—	—	—	—	100	50	10	40	40	100	65	25	500
	9~13	13	50	10	5	50	50	—	—	—	—	100	50	10	50	50	100	65	25	500
	11~17	17	40	10	5	60	60	—	—	—	—	100	30	10	60	60	100	30	10	500
	14~22	22	30	10	5	80	80	—	—	—	—	100	30	10	80	80	100	30	10	500
	18~26	26	30	7.5	5	100	100	—	—	—	—	100	30	10	100	100	100	30	10	500
	22~32	32	20	7.5	5	125	125	—	—	—	—	100	30	10	125	125	100	30	10	500
	28~40	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	34~50	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45~63	63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55~75	75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70~90	90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80~100	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

*Contact Carlo Gavazzi for further details. **Except with instantaneous (HI) types.




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

GMS-63S

Manual (UL508) Motor Controller					Manual Motor Controller Group Installation			
240V	480Y 277V	600Y 347V	Max Fuse Size [A]	Max Breaker Size [A]	240V	480Y 277V	600Y 347V	Max Fuse or Breaker Size [A]
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
100	25	10	40	40	100	50	10	600
100	25	10	50	50	100	50	10	600
100	25	10	60	60	100	40	10	600
100	25	10	80	80	100	40	10	600
100	25	10	100	100	100	40	10	600
100	25	10	125	125	100	40	10	600
100	25	10	150	150	100	40	10	600
100	25	10	200	200	100	40	10	600
100	25	10	250	250	100	40	10	600
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—

GMS-63H / GMS-63HI

Manual (UL508) Motor Controller					Manual Motor Controller Group Installation			
240V	480Y 277V	600Y 347V	Max Fuse Size [A]	Max Breaker Size [A]	240V	480Y 277V	600Y 347V	Max Fuse or Breaker Size [A]
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
100	50	10	40	40	100	65	25	600
100	50	10	50	50	100	65	25	600
100	50	10	60	60	100	50	10	600
100	50	10	80	80	100	50	10	600
100	50	10	100	100	100	50	10	600
100	50	10	125	125	100	50	10	600
100	50	10	150	150	100	50	10	600
100	50	10	200	200	100	50	10	600
100	50	10	250	250	100	50	10	600
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—

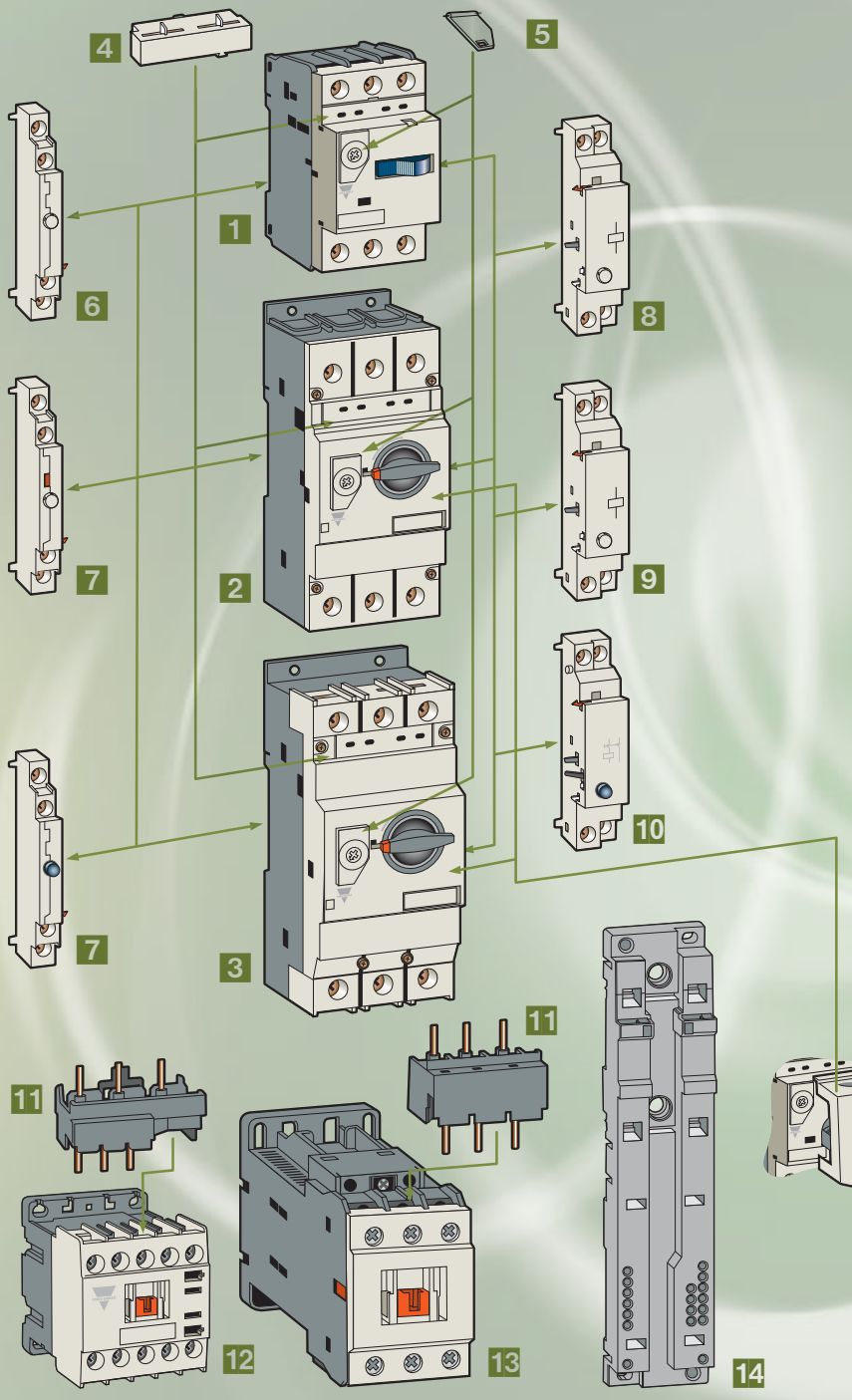
GMS-100S

Manual (UL508) Motor Controller					Manual Motor Controller Group Installation			
240V	480Y 277V	600Y 347V	Max Fuse Size [A]	Max Breaker Size [A]	240V	480Y 277V	600Y 347V	Max Fuse or Breaker Size [A]
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
100	25	10	60	60	100	50	10	1000
100	25	10	80	80	100	50	10	1000
100	25	10	100	100	100	50	10	1000
100	25	10	125	125	100	50	10	1000
100	25	10	150	150	100	50	10	1000
100	25	10	200	200	100	50	10	1000
100	25	10	250	250	100	40	10	1000
100	25	10	300	300	100	40	10	1000
100	25	10	350	350	100	40	10	1000
100	25	10	400	400	100	40	10	1000

GMS-100H / GMS-100HI

Manual (UL508) Motor Controller					Manual Motor Controller Group Installation			
240V	480Y 277V	600Y 347V	Max Fuse Size [A]	Max Breaker Size [A]	240V	480Y 277V	600Y 347V	Max Fuse or Breaker Size [A]
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
100	50	10	60	60	100	65	25	1000
100	50	10	80	80	100	65	20	1000
100	50	10	100	100	100	65	20	1000
100	50	10	125	125	100	65	20	1000
100	50	10	150	150	100	65	20	1000
100	50	10	200	200	100	65	20	1000
100	50	10	250	250	100	50	10	1000
100	50	10	300	300	100	50	10	1000
100	50	10	350	350	100	50	10	1000
100	50	10	400	400	100	50	10	1000

Manual Motor Starters



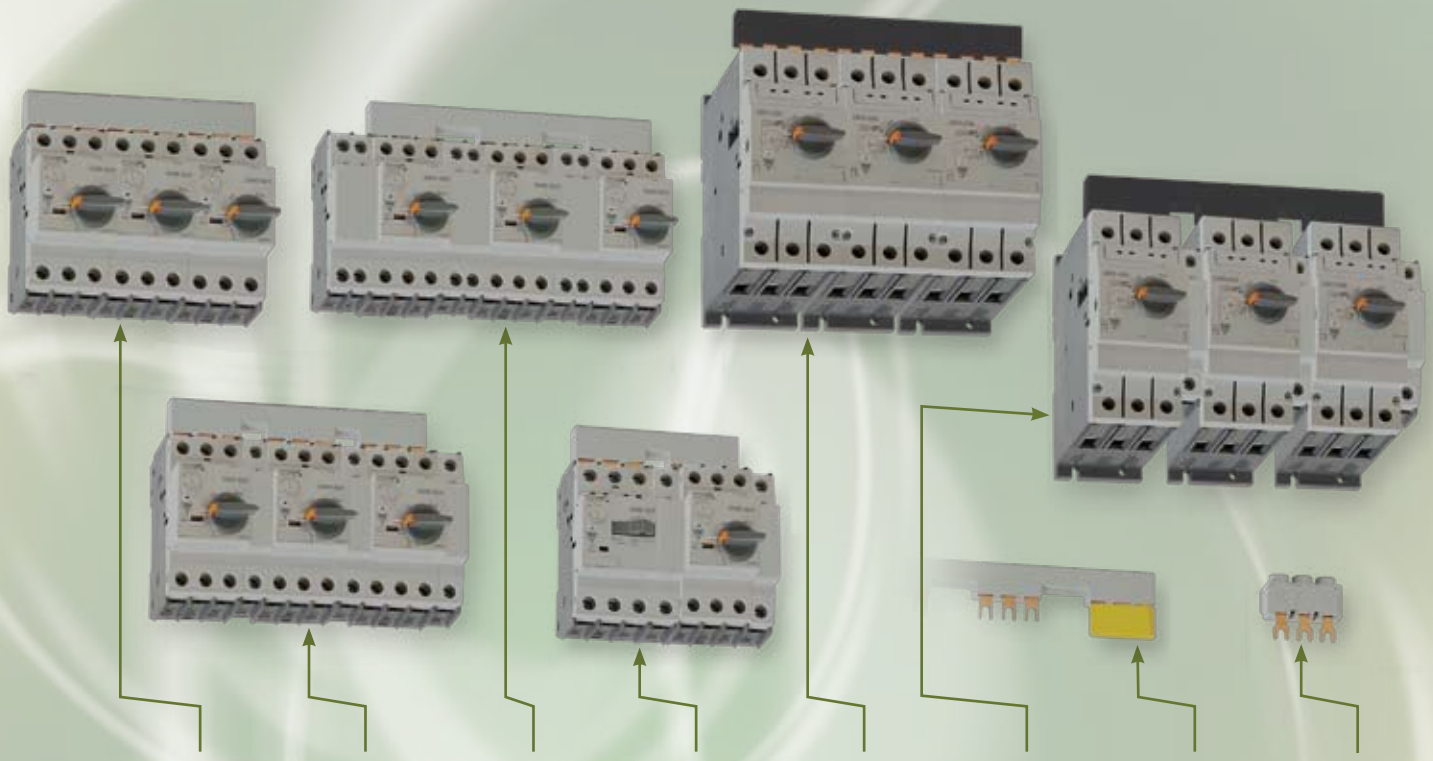
Accessories

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 Auxliary 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

CARLO GAVAZZI



	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	**MSVGW45-14-2**	**MSVGW54-14-2**	**MSVGW63-14-2**	**MSVGW45-SH**	**MSVCPM25412**	**MSVCP36312**	**MSVB54**	**MSVGWE1-14**
Description	For 2 GMS-32S/H	For 2 GMS-32S/H + accessories (side mnt aux sw)	For 2 GMS-32S/H + accessories (side mnt undervoltage or shunt trip)	For connecting GMS-32S W/ GMS-32H	For 2 GMS-63	For 2 GMS-63 + accessories (side mnt aux sw)	3 Pole protective cover for MSVGW..	3 Phase input terminal 63A
Type	**MSVGW45-14-3**	**MSVGW54-14-3**	**MSVGW63-14-3**		**MSVCPM35412**	**MSVCP36312**	**MSVTA120**	**MSVBTC50E**
Description	For 3 GMS-32S/H	For 3 GMS-32S/H + accessories (side mnt aux. sw)	For 3 GMS-32S/H + accessories (side mnt undervoltage or shunt trip)		For 3 GMS-63	For 3 GMS-63 + accessories (side mnt aux. sw)	3 Pole protective cover for MSVCP..	3 Phase Input terminal 120A
Type	**MSVGW45-14-4**	**MSVGW54-14-4**	**MSVGW63-14-4**		**MSVCPM45412**	**MSVCP46312**		
Description	For 4 GMS-32S/H	For 4 GMS-32S/H + accessories (side mnt aux. sw)	For 4 GMS-32S/H + accessories (side mnt undervoltage or shunt trip)		For 4 GMS-63	For 4 GMS-63 + accessories (side mnt aux. sw)		
Type	**MSVGW45-14-5**	**MSVGW54-14-5**	**MSVGW63-14-5**					
Description	For 5 GMS-32S/H	For 5 GMS-32S/H + accessories (side mnt aux. sw)	For 5 GMS-32S/H + accessories (side mnt undervoltage or shunt trip)					

Handle Lock

Dial Cover

Terminals

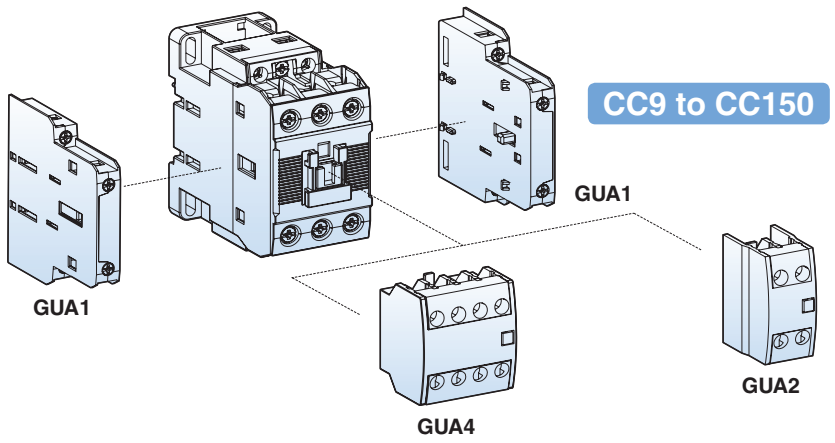
GMS-32

GMS-63

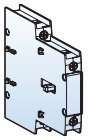
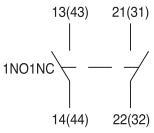
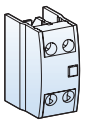
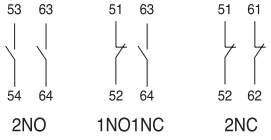
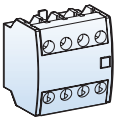
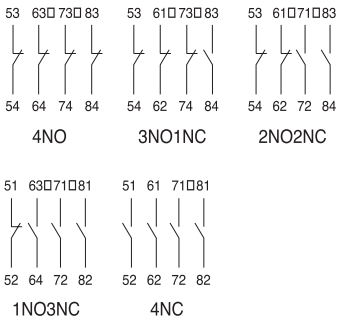
GMS-100

Auxiliary Contact Units

- 2 and 4 pole
- Side or front mountable
- Common use for Metasol contactors from CC9 to CC150



Selection

Type	Appearance	Pole	Composition		Contact arrangement	Mount	Weight
			NO	NC			
GUA1		2	1	1		Side	53g
GUA2		2	2 1 -	- 1 2		Front	28g
GUA4		4	4 3 2 1 -	- 1 2 3 4		Front	50g

Maximum Combination of Contact Units

For contactors with AC coils	For contactors with DC coils
GUA4 (on front) + GUA1 × 4EA (2EA on both sides)	GUA4 (on front) + GUA1 × 2EA (1EA on both sides)
GUA2 (on front) + GUA1 × 4EA (2EA on both sides)	GUA2 (on front) + GUA1 × 2EA (1EA on both sides)

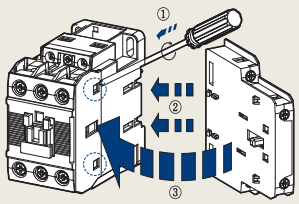
Auxiliary contact units

Rating

Type			GUA1	GUA2, 4	AUX100-11
Rated operation voltage (Ue)			600V	600V	600V
Rated insulation voltage (Ui)			600V	600V	600V
Rated impulse withstand voltage (Uimp)			6kV	6kV	6kV
Rated frequency			50/60Hz	50/60Hz	50/60Hz
Contact sensibility					
	Voltage		DC 17V	DC 24V	DC 24V
	Current		DC 5mA	DC 10mA	DC 10mA
Rated thermal current (Ith, AC12 duty)			10A	16A	16A
Rated operation current					
	AC15 duty	120V	6A	6A	6A
	(A600)	240V	3A	3A	3A
		380V	1.9A	1.9A	1.9A
		480V	1.5A	1.5A	1.5A
		500V	1.4A	1.4A	1.4A
		600V	1.2A	1.2A	1.2A
	DC13 duty	125V	1.1A	1.1A	1.1A
	(P600)	250V	0.55A	0.55A	0.55A
		400V	0.31A	0.31A	0.31A
		500V	0.27A	0.27A	0.27A
		600V	0.2A	0.2A	0.2A
Electrical lifetime (mil. operations)					
	AC15 duty	220V	0.5	0.5	0.5
		440V	0.5	0.5	0.5
	DC13 duty	220V	0.5	0.5	0.5
		440V	0.5	0.5	0.5
Maximum operating cycles per hour			1800	1800	1800
Conductor size (Solid, stranded)		AWG	18~10	18~10	18~10
(the max. number of conducts: 2)		mm^2	1~2.5	1~2.5	1~2.5

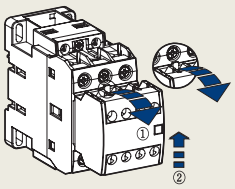
Installation

GUA1



To install side mounting unit remove the indicated part in the circle in the fig. first. And then fit each part as shown. To separate push forward and pull.

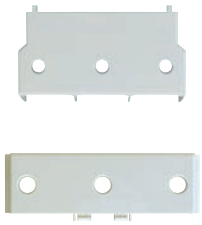
GUA2, 4



To install front mounting unit fit it on the upper part of the front of the contactor and push it down. To separate pull the lever of the unit and push the unit upward.

Contactor Accessories

Terminal Cover Units for Contactors



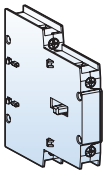
Applying contactors	Type	Remarks
MC-185a, 225a (225AF)	AP-220	2 pcs included
MC-265a, 330a, 400a (400AF)	AP-400	
MC-500a, 630a, 800a (800AF)	AP-800	

Insulation Barrier Units

Applying contactors	Type	Remarks
MC-185a, 225a (225AF)	AI-400	4 pcs required per contactor
MC-265a, 330a, 400a (400AF)		
MC-500a, 630a, 800a (800AF)	AI-800	

Interlocks

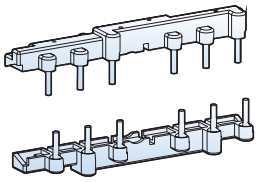
Component parts for assembling by customer



Interlock unit

Interlock Unit, GUR02

GUR02 is a mechanical interlock unit and provides 2NC contacts for use in electrical interlocking

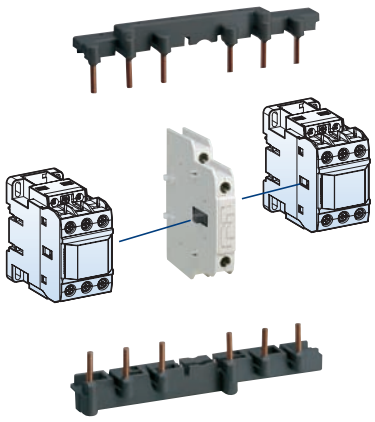


Wire kit

Wire Kit, UW

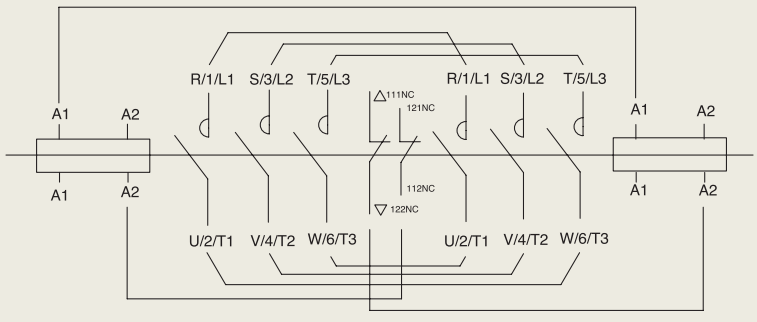
UW is used for making reversing circuit between two contactors.

Contactor	Wire kit		Interlock unit	
	Type	Weight	Type	Weight
CC9 ~ CC22	GUW22	0.04kg	GUR02	0.06kg
CC32 ~ CC40	GUW32	0.05kg		
CC50 ~ CC65	GUW63	0.12kg		
CC75 ~ CC100	GUW95	0.33kg		



Rating of the Contacts in the Interlocks

Rated operation voltage		600V
Rated insulation voltage		600V
Rated frequency		50/60Hz
Rated thermal current		10A
Rated operation current		
AC15 duty (A600)	120V	6A
	240V	3A
	380V	1.9A
	480V	1.5A
	500V	1.4A
	600V	1.2A
DC13 duty (Q300)	125V	0.55A
	250V	0.27A



Typical circuit diagram for reversing contactor

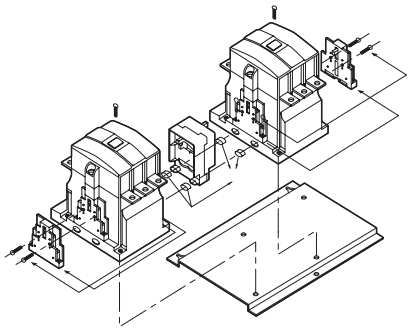
Contactor Accessories

AR-180

Interlock Unit, AR-180 and AR-800

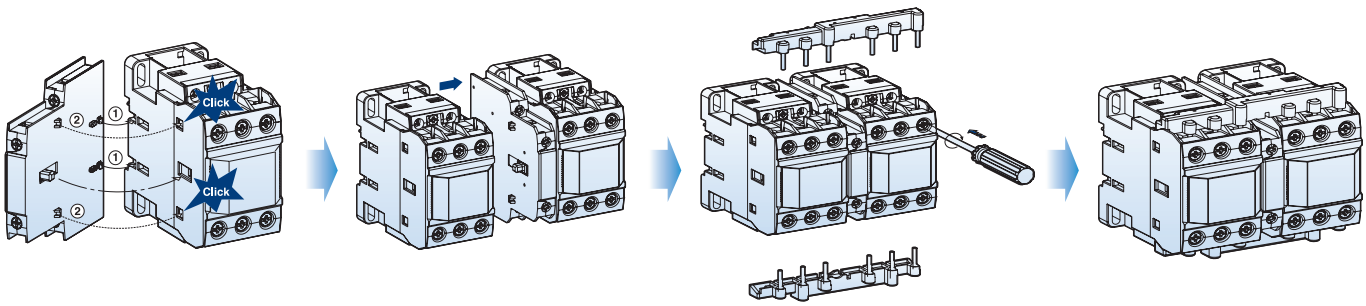
AR-180 and AR-800 are mechanical interlock units in which electrical contacts for use in electrical interlocking are not included. Please use the auxiliary contacts on the sides of the contactors for that purpose.

AR-600



Contactor	Interlock unit	
	Type	Weight
CC180 CC225 CC265 CC330 CC400	AR-180	0.09kg
CC500 CC630 CC800	AR-800	15.2kg

Installation of Interlock and Wire Kits



Install the interlock unit on the side of a contactor first. Fit each part as indicated in the fig.

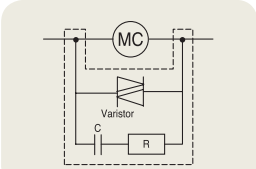
And then install the other contactor on the other side of the interlock unit as shown.

After installing interlock unit wiring kit can be assembled.
Wiring kit contains two molded wires - one for line side and the other for load side.

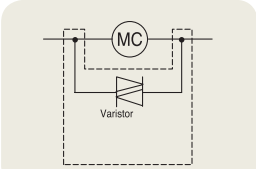
Surge Unit

It absorbs the surge arisen out of the coil of the contactor.
It can be installed simply to the contactor.

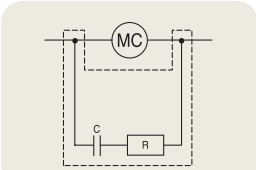
- Rated operation voltage (Ue): AC 24 ~ 440V
  DC 24 ~ 125V
- Rated insulation voltage (Ui): 1000V
- Rated impulse withstand voltage (Uimp): 8kV
- Degree of protection: IP20



US-1~6



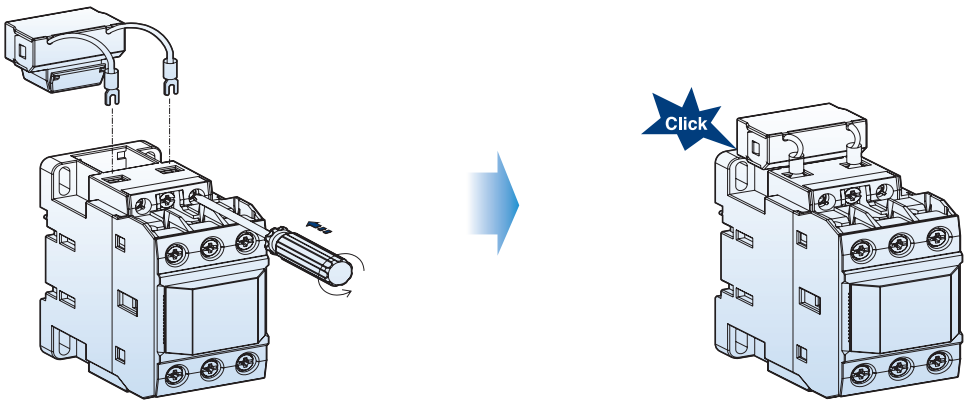
US-11~14



US-22

Surge unit		Rated voltage		Internal elements spec.			Weight
Type	Composition			V	R	C	
GUS1	Varistor+RC	AC	24~48V	120V	100 Ω	0.1 μF	29g
GUS2	Varistor+RC		100~125V	270V	100 Ω	0.1 μF	
GUS3	Varistor+RC		200~240V	470V	100 Ω	0.1 μF	
GUS4	Varistor+RC	DC	24~48V	120V	100 Ω	0.47 μF	
GUS5	Varistor+RC		100~125V	270V	100 Ω	0.47 μF	
GUS6	Varistor+RC		200~220V	470V	100 Ω	0.47 μF	
GUS11	Varistor	AC/DC common	24~48V	120V	-	-	
GUS12	Varistor		100~125V	270V	-	-	
GUS13	Varistor		200~240V	470V	-	-	
GUS14	Varistor		380~440V	1000V	-	-	
GUS22	RC	AC	100~125V	-	56 Ω	1 μF	

Installation



Connect the lead wires to the coil terminals of the contactor first.
And then insert the body into the space of the contactor as shown above.

Capacitor Unit

Capacitor unit is connected to the terminals of the contactor to reduce the high inrush current.

Type	Contactor	Maximum operating power (kvar)			Rated current (A)
		220 ~ 240V	400 ~ 440V	500 ~ 550V	
AC9	CC9	5	9.7	14	14
	CC12	6.7	12.5	18	18
	CC18	8.5	16.7	24	24
	CC22	10	18	26	26
	CC32	15	25	36	36
	CC40	20	33.3	48	48
AC50	CC50	20	40	58	58
	CC65	25	45.7	66	66
	CC75	29.7	54	78	78
	CC85	35	60	92	92
	CC100	37	62	94	94

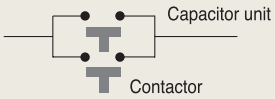
Note) - When the switch is closed condenser must be discharged before recharged. (Maximum residual voltage at terminals ≤ 50V)
prevent short current, gG type fuse must be 1.5~2 times than rated current .

Features of Capacitor Unit (Pre-loading Resistor)

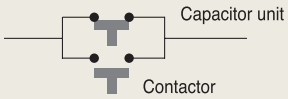
- Damping resister that can limit the inrush current upto 60 × In is connected to the mechanism that closed earlier than the main contact of the contactor
- No heat loss by the serial resistor
- Eliminate the switching surge
- Improving the performance of the capacitor system

Operation Sequence

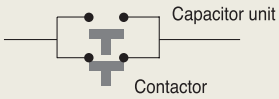
Capacitor unit: OFF
Contactor: OFF



Capacitor unit: ON
Contactor: OFF



Capacitor unit: OFF
Contactor: ON



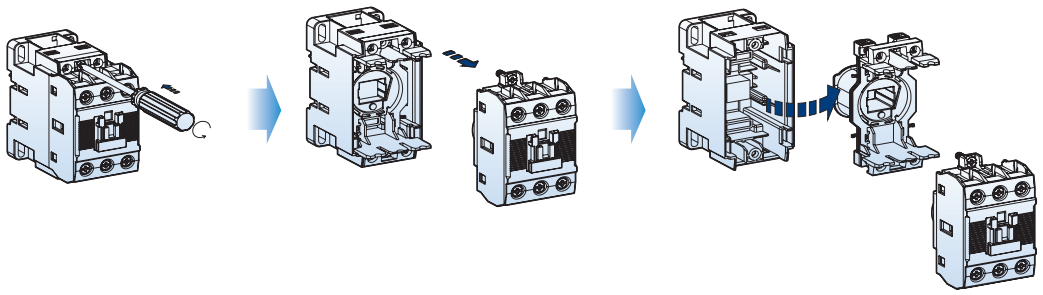
Note) Closing sequence: Fig.1 => Fig.2 => Fig.3
Opening sequence: Fig.3 => Fig.1

Replacement Coils

To replace the existing coil to change voltage or repair.

Contactor	Coil voltage							
	AC coil						DC coil	
	AC 60Hz (V)		AC 50Hz (V)		AC 50/60Hz (V)		DC (V)	
CC9 CC12 CC18 CC22	24 48 100 110 120 200 208 220	230 240 277 380 440 480 600	24 36 42 48 80 100 110 220	230 240 380 400 415 440 500 550	24 48 100 110 120 200 220 230	240 380 415 440 500 550	12 20 24 48 60 80 100	110 125 200 220 250
CC32 CC40	24 48 100 110 120 200 208 220	230 240 277 380 440 480 600	24 36 42 48 80 100 110 220	230 240 380 400 415 440 500 550	24 48 100 110 120 200 220 230	240 380 415 440 500 550	12 20 24 48 60 80 100	110 125 200 220 250
CC50 CC65	24 48 100 110 120 200 208 220	230 240 277 380 440 480 600	24 36 42 48 80 100 110 220	230 240 380 400 415 440 500 550	24 48 100 110 120 200 220 230	240 380 415 440 500 550	12 20 24 48 60 80 100	110 125 200 220 250
CC75 CC85 CC100	24 48 100 110 120 200 208 220	230 240 277 380 440 480 600	24 36 42 48 80 100 110 220	230 240 380 400 415 440 500 550	24 48 100 110 120 200 220 230	240 380 415 440 500 550	12 20 24 48 60 80 100	110 125 200 220 250
CC130 CC150	-		-		24 48 110 220	300 400 500	24 48	110 220

Replacement Process



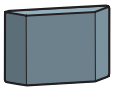
Contactor Accessories

To replace the existing coil to change voltage or repair.

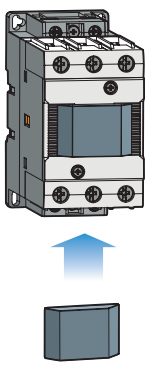
Contactor	Coil voltage	
	AC/DC common coil	AC coil
CC185 CC225	24 48 100~240/100~220	300 400 500
CC265 CC300 CC400	100~240/100~220	300 400 500
CC500 CC630 CC800	100/100 200/200	300 400 500

Safety Cover (Option)

To prevent arc from coming out from the contactor
To protect from unintended manual operation
To prevent dust from entering into the inside of the contactor



Type	Contactor
GAP9	CC9~150



Electronic overload relays

22A

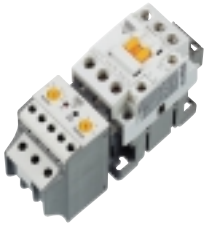
Description

- Wide and adjustable current range
- Adjustable trip time (trip class 5-10-15-20-30)
- Designed suitable for use with contactors
  Directly mountable on the CGC-9, 12, 18, 22 contactors
  Separate mount versions are also available
  Mounting on 35mm DIN rail is possible by optional base.
- 1NO+1NC trip contacts
- Manual reset as standard (Automatic reset optional)

Extended protective functions

Number of sensors		2CT	3CT	3CT
Types (CGE22-□)		(-2P, -2T, -2S)	(-3P, -3T, -3S)	(-3PR, -3TR, -3SR)
Functions	Overcurrent	✓	✓	✓
	Phase loss	✓	✓	✓
	Locked rotor	✓	✓	✓
	Phase unbalance		✓	✓
	Phase reversed			✓

Selection



Mount/Connection	Sensor	Setting range	Catalog No.
Directly on a contactor	2-sensor	0.3 - 1.5A	CGE22 - 2P - 1.5AN
	(2 CT)	1 - 5A	CGE22 - 2P - 5AN
		4.4 - 22A	CGE22 - 2P - 22AN
	3-sensor	0.3 - 1.5A	CGE22 - 3P - 1.5AN
	(3 CT)	1 - 5A	CGE22 - 3P - 5AN
		4.4 - 22A	CGE22 - 3P - 22AN
	3-sensor	0.3 - 1.5A	CGE22 - 3PR - 1.5AN
	Reverse phase	1 - 5A	CGE22 - 3PR - 5AN
	detection	4.4 - 22A	CGE22 - 3PR - 22AN
Separate mount ①	2-sensor	0.3 - 1.5A	CGE22 - 2S - 1.5A
	(2 CT)	1 - 5A	CGE22 - 2S - 5A
Cable connection		4.4 - 22A	CGE22 - 2S - 22A
with a screw ②	3-sensor	0.3 - 1.5A	CGE22 - 3S - 1.5A
	(3 CT)	1 - 5A	CGE22 - 3S - 5A
		4.4 - 22A	CGE22 - 3S - 22A
	3-sensor	0.3 - 1.5A	CGE22 - 3SR - 1.5A
	Reverse phase	1 - 5A	CGE22 - 3SR - 5A
	detection	4.4 - 22A	CGE22 - 3SR - 22A
Separate mount ①	2-sensor	0.3 - 1.5A	CGE22 - 2T - 1.5A
	(2 CT)	1 - 5A	CGE22 - 2T - 5A
Connection		4.4 - 22A	CGE22 - 2T - 22A
without a screw ②	3-sensor	0.3 - 1.5A	CGE22 - 3T - 1.5A
- cables pass	(3 CT)	1 - 5A	CGE22 - 3T - 5A
through CT holes		4.4 - 22A	CGE22 - 3T - 22A
	3-sensor	0.3 - 1.5A	CGE22 - 3TR - 1.5A
	Reverse phase	1 - 5A	CGE22 - 3TR - 5A
	detection	4.4 - 22A	CGE22 - 3TR - 22A

Front face configuration

Current setting

0.1 - 1.5A
1 - 5A
4.4 - 22A

LED indicator

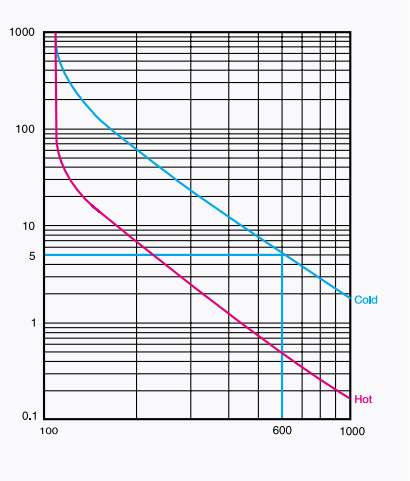
Operation status indication
- Normal operating
- Overload
- Phase unbalance

Trip cause indication
- Overcurrent
- Phase loss
- Reverse phase

Test/Reset button

Trip time setting

- 0 to 30 sec
- Set time is the trip time at 6 x set current



①To mount on 35mm DIN rail use the optional base

②Cable connection part can be modified between screw connection and passing CT hole

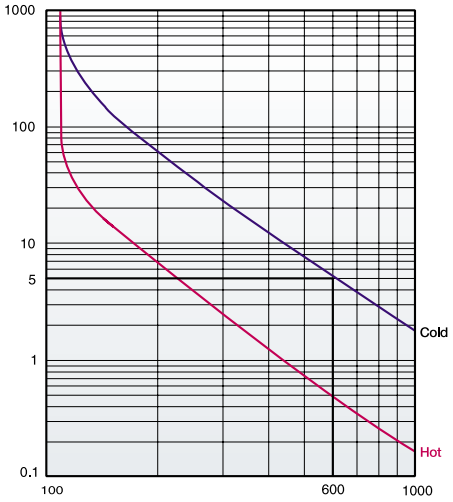
Technical information

Relay control voltage	100 to 260V AC 50/60Hz
Auxiliary contact	3A/250VAC at resistive load
	1NO(97-98) + 1NC(95-96)
Setting tolerance	Current ± 5%
	Time ± 5% (or ± 0.5sec)
Insulation resistance	Min 100 MΩ at 500V DC
Impulse withstand voltage	1.2x50μs 5kV (IEC1000-4-5)
Fast transient burst	2kV/5min (IEC1000-4-4)
Ambient temperature	-25 to 70℃ for operation
	-30 to 80℃ for storage
Humidity	30 to 90% RH

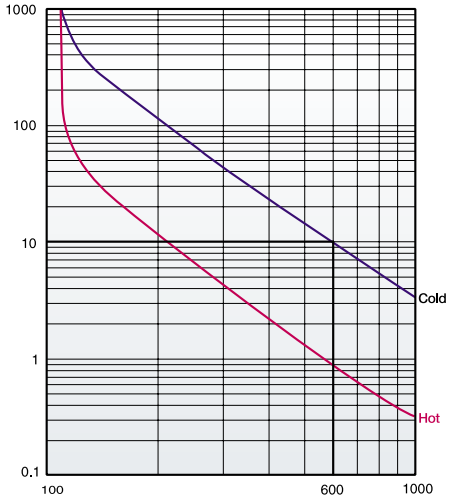
Trip curves for electronic overload relays

CGE

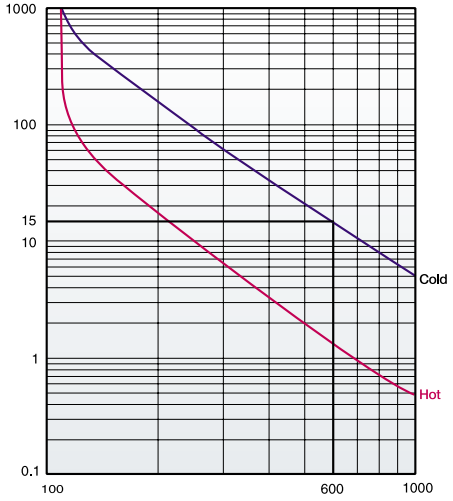
Trip class 5



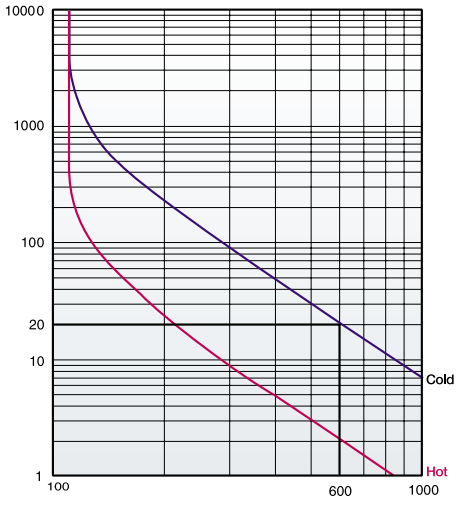
Trip class 10



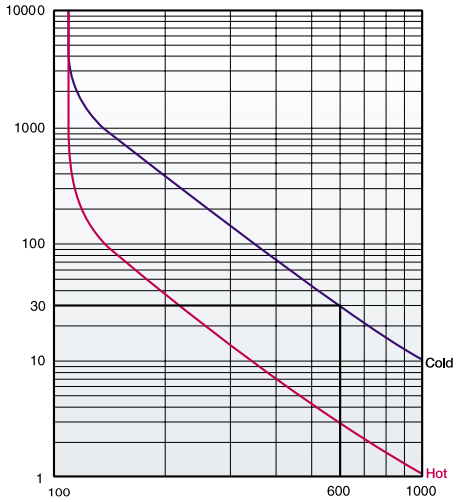
Trip class 15



Trip class 20



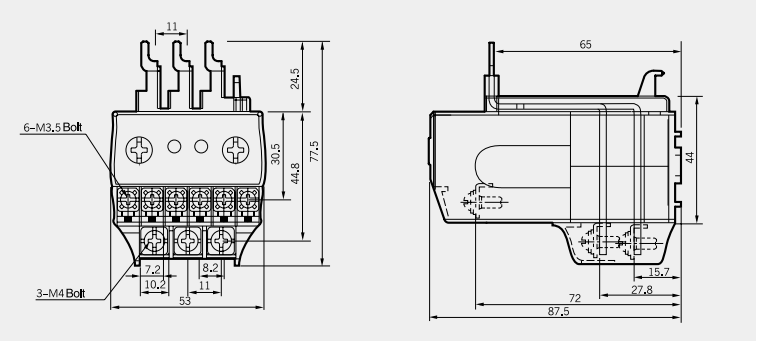
Trip class 30



Dimensions

Electronic Overload Relays

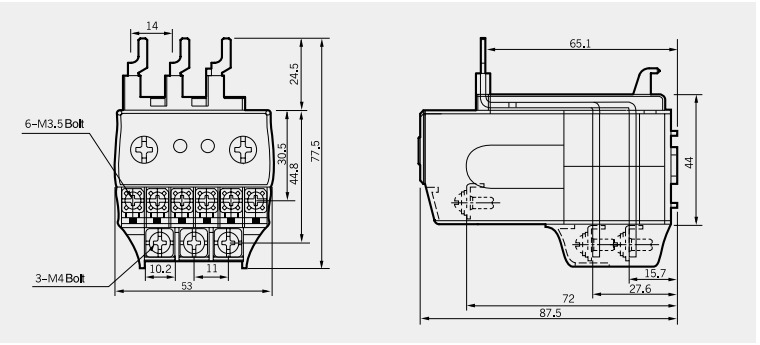
CGE22-2P
CGE22-3P
CGE22-3PR



Terminal configuration : See Fig. 1 on the next page

0.18kg

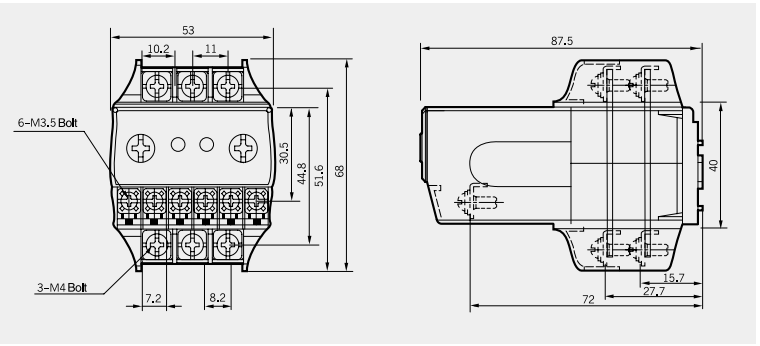
CGE40-2P
CGE40-3P
CGE40-3PR



Terminal configuration : See Fig. 1 on the next page

0.20kg/0.22kg

CGE22-2S
CGE22-3S
CGE22-3SR
CGE40-2S
CGE40-3S
CGE40-3SR

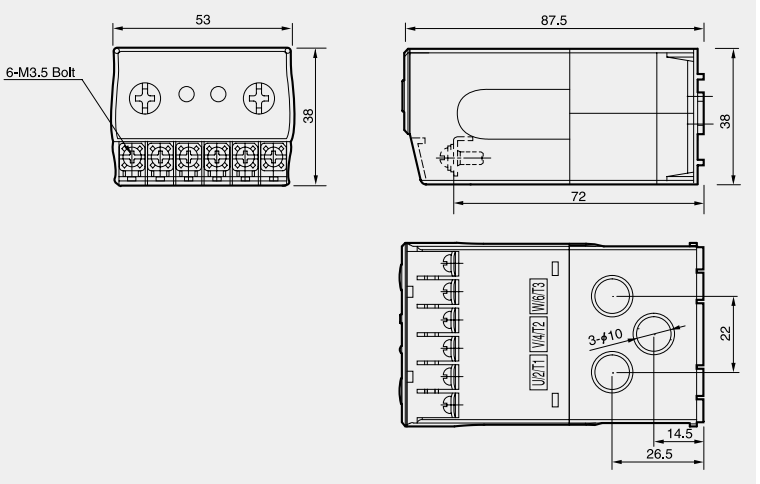


(Mounting adapter)

Terminal configuration : See Fig. 2 on the next page

0.19kg/0.21kg

CGE22-2T
CGE22-3T
CGE22-3TR
CGE40-2T
CGE40-3T
CGE40-3TR

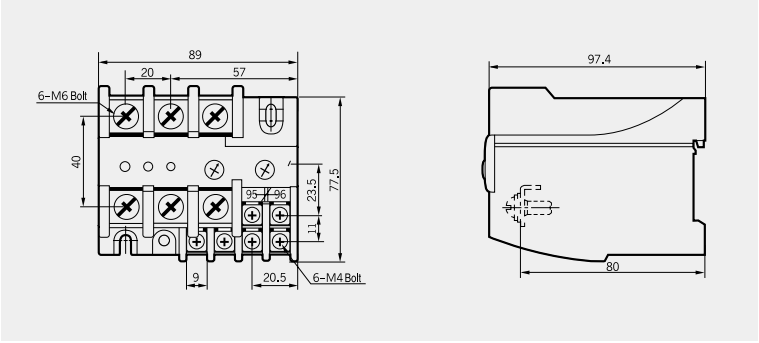


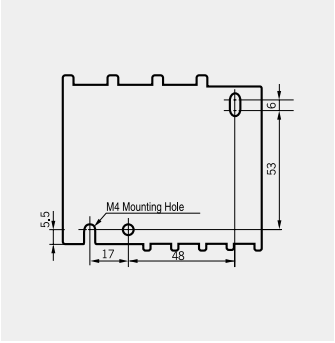
(Mounting adapter)

Terminal configuration : See Fig. 3 on the next page

0.14kg/0.16kg

CGE80-2S
CGE80-3S
CGE80-3SR





Terminal configuration : See Fig. 2

0.42kg/0.46kg

Terminal configuration

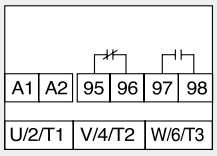


Fig. 1

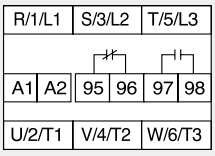


Fig. 2

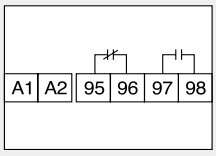
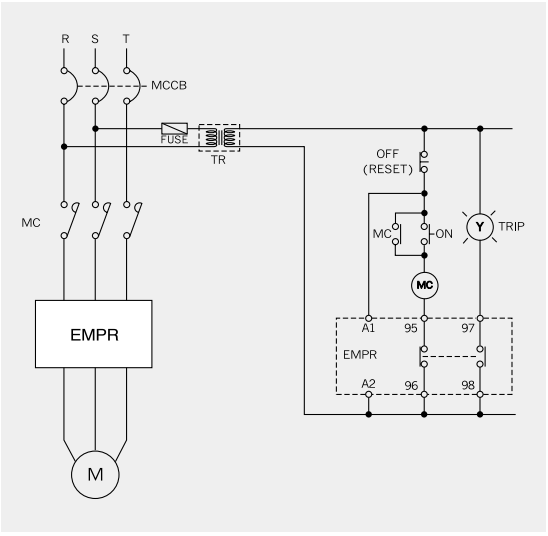
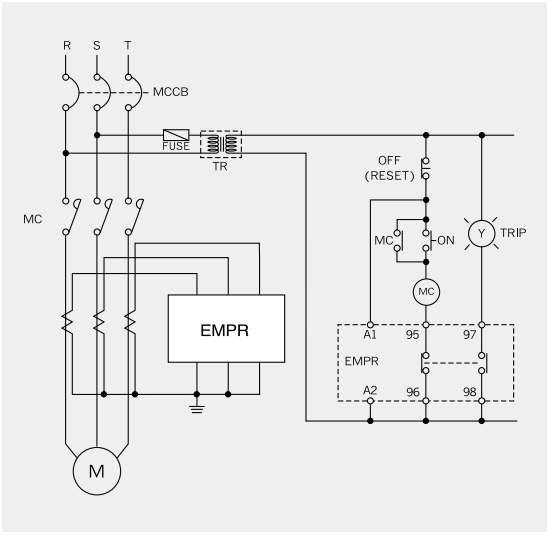


Fig. 3

Circuit diagram



Without additional CTs



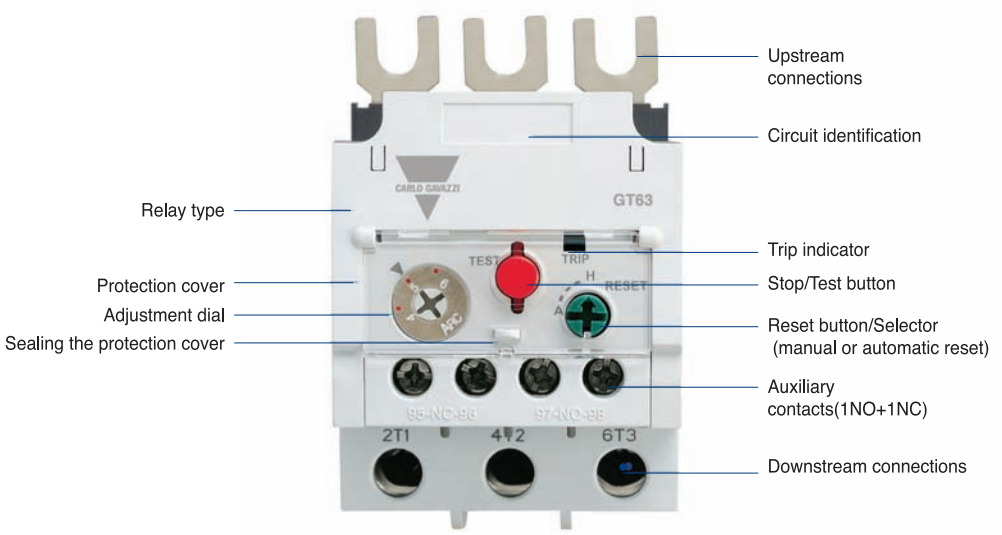
In case of using additional CTs

General Descriptions

Type GT, bimetal-style, overload relays are designed to protect AC circuits and motors against overloads, phase failure, long starting times and prolonged stalling of the motor.

Two versions are available according to the protection function and trip class as below.
1. Differential: 3pole-3bimetal(heater) and trip class 10
2. Differential: 3pole-3bimetal(heater) and trip class 20

Configuration of the Front



GT32	GT63	GT95

Environment and Auxiliary Circuit

Environment				
Standards			IEC/EN 60947-1, IEC/EN 60947-4-1	IEC/EN 60947-1, IEC/EN 60947-4-1
Certifications			CE, CSA, UL	CE, CSA, UL
Rated operation voltage			Max. 690V	Max. 690V
Rated insulation voltage			690V	690V
Rated frequency			50/60Hz	50/60Hz
Degree of protection (Conforming to IEC 60 529)			IP 20	IP 20
Ambient air temperature		Storage	-55 ~ +80° C	-55 ~ +80° C
		Operation	-5 ~ +60° C	-5 ~ +60° C
Mounting position			Vertical plane	Vertical plane
Shock resistance (Conforming to IEC 68-2-7)			15gn - 11ms	15gn - 11ms
Vibration resistance (Conforming to IEC68-2-6)			6G	6G
Insulation strength (Conforming to IEC 255-5)			6kV	6kV
Rated impulse withstand voltage (Conforming to IEC 801-5)			6kV	6kV
Auxiliary contacts characteristics				
Composition			1a1b (1NO +1NC)	1NO+1NC
Rated thermal current			5A	5A
Rated operation current			C600, R300	C600, R300
	AC15 duty	120V	1.5A	2.5A
	(C600)	240V	0.75A	2A
		380V	0.47A	0.47A
		480V	0.375A	0.375A
		500V	0.35A	0.35A
		600V	0.3A	1A
	DC13 duty	120V	0.22A	0.28A
	(R300)	240V	0.1A	0.14A
Connecting conductor		Size	18AWG /1㎟	18AWG /1㎟
Connection to screw clamp terminals		Type	65/75℃ Cu-wire	65/75℃ Cu-wire

GT150	GT225	GT400	GT800
			

Overloads Relay Specifications

GT Type
Thermal Overload Relays

GT32

Frame size			40AF	
Trip class			10	20
Type	Differential type		GT32	GT32L
Terminal type			Screw Clamp or Lug	
Number of poles			3	
Rated operational voltage (Ue)			690V	
Rated insulation voltage (Ui)			Up to 690V	
Rated impulse voltage (Uimp)			6kV	
Degree of protection (IEC 60 529)			IP 20	
Temperature compensation (° C)			-5~+40℃	
Functions	Trip indicating		■	
	Stop		■	
	Test		■	
	Manual/Automatic Reset		■	
Setting range(A)			0.1~40A	1~40A
Nominal current rating	Wire size			
	mm^2	AWG		
0.14	1	18	0.1~0.16	
0.21			0.16~0.25	
0.33			0.25~0.4	
0.52			0.4~0.63	
0.82			0.63~1	
1.3			1~1.6	1~1.6
2.1			1.6~2.5	1.6~2.5
3.3			2.5~4	2.5~4
5			4~6	4~6
6.5			5~8	5~8
7.5	1~1.5	18~16	6~9	6~9
8.5			7~10	7~10
11	1.5~2.5	16~14	9~13	9~13
15	2.5	14~12	12~18	12~18
19	2.5~4	12~10	16~22	16~22
21.5			18~25	18~25
27	4~6	10	22~32	22~32
30	4~10	10~8	-	-
34	6~10	10~8	28~40	28~40
42	10	8		
54				
65	16~25	6~4		
74				
83	25~35	4~3		
90				
Applied contactors			CC9, CC12, CC18, CC32, CC40	
Separate mounting unit			GUZ32	

Overloads Relay Specifications

GT63

GT95

65AF	
10	20
GT63	GT63L
Screw Clamp or Lug	
3	
690V	
Up to 690V	
6kV	
IP 20	
-5~+40℃	
■	
■	
■	
■	
4~65A	
4~6	4~6
5~8	5~8
6~9	6~9
7~10	7~10
9~13	9~13
12~18	12~18
16~22	16~22
18~25	18~25
-	-
24~36	24~36
28~40	28~40
34~50	34~50
45~65	45~65
CC50, CC65	
GUZ63	

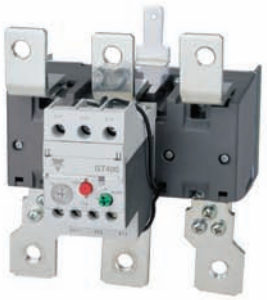
100AF	
10	20
GT95	GT95L
Screw Clamp or Lug	
3	
690V	
Up to 690V	
6kV	
IP 20	
-5~+40℃	
■	
■	
■	
■	
7~100A	
7~10	7~10
9~13	9~13
12~18	12~18
16~22	16~22
18~25	18~25
-	-
24~36	24~36
28~40	28~40
34~50	34~50
45~65	45~65
54~75	54~75
63~85	63~85
70~95	70~95
80~100	80~100
CC75, CC85, CC100	
GUZ95	

Overloads Relay Specifications

GT Type
Thermal Overload Relays

Frame size			150AF	
Trip class			10	20
Type	Differential type		GT150	GT150L
Terminal type			Screw Clamp or Lug	
Number of poles			3	
Rated operational voltage (Ue)			690V	
Rated insulation voltage (Ui)			690V	
Rated impulse voltage (Uimp)			6kV	
Degree of protection (IEC 60 529)			IP 20	
Temperature compensation (° C)			-5~+40℃	
Functions	Trip indicating		■	
	Stop		■	
	Test		■	
	Manual/Automatic Reset		■	
Setting range(A)			34~150A	34~150A
Nominal current rating	Wire size			
	mm^2	AWG		
42	10	8	34~50	
55	16	6	45~65	
65	25	4	54~75	
74	25	4	63~85	
80	35	3	-	
93	35	2	80~105	
107	50	1	-	
113	50	1	95~130	
130	50	0	110~150	
130	70	00		
153	95	000		
200	120	250		
265	185	350		
350	240	500		
515	185×2n	350×2n		
660	240×2n	300×3n		
Applied contactors			CC130, CC150	
Separate mounting unit			GUZ150	

Overloads Relay Specifications

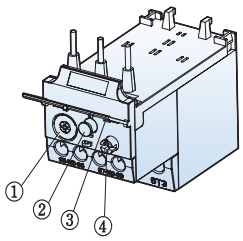


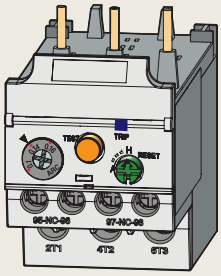
225AF	
10	20
GT225	GT255L
Screw Clamp	
3	
690V	
690V	
6kV	
IP 20	
-5~+40℃	
■	
■	
■	
■	
65~240A	65~240A
65~100	
-	
85~125	
-	
-	
100~160	
120~185	
160~240	
CC185, CC225	
-	

400AF	
10	20
GT400	GT400L
Screw Clamp	
3	
690V	
690V	
6kV	
IP 20	
-5~+40℃	
■	
■	
■	
■	
85~400A	85~400A
85~125	
-	
-	
100~160	
120~185	
160~240	
200~330	
260~400	
CC265, CC330, CC400	
-	

800AF	
10	20
GT800	GT800L
Screw Clamp	
3	
690V	
690V	
6kV	
IP 20	
-5~+40℃	
■	
■	
■	
■	
200~800A	200~800A
200~300	
260~400	
400~600	
520~800	
CC500, CC630, CC800	
-	

Overloads Relay Operation

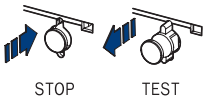




1. Adjustment dial

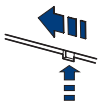
Before adjusting the dial open the protection cover.
Current setting can be done easily by using (+) or (-) driver.
Do not rotate the dial out of the setting range.

2. Stop/Test button



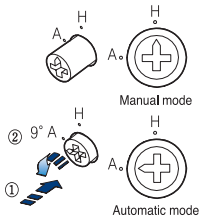
STOP function is executed by pushing the button,
which causes the next sequence.
In case of operation test pull this button.

3.Trip indicator



If relay is tripped it comes out.

4. Reset button/Selector



Using a driver the reset mode can be set.
In case of Manual mode(H) push the button to reset the relay.
To change to Automatic mode(A) from Manual mode push the button and rotate as shown in the fig.

5.Auxiliary contact operation

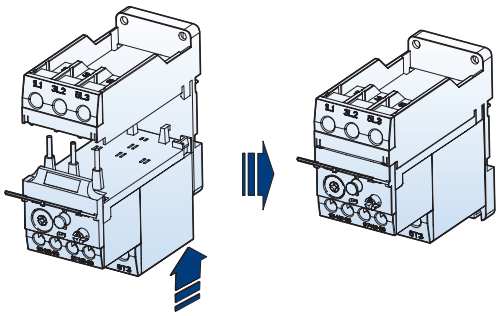
Terminal no.	Normal	STOP	TEST/TRIP	RESET
NC 95-96				
NO 97-98				

Overloads Relay Operation

Separate Mounting Units

These accessories are used to mount the relays separately from contactors. If a relay is combined with a unit, it can be mounted on DIN rail or panel by fixing screws.

Relay	Unit	
	Type	Weight
GT32S	GUZ32S	38g
GT63S, GT63L	GUZ63S, GUZ63L	134g
GT95S, GT95L	GUZ95S, GUZ95L	230g
GT150S, GT150L	GUZ150S, GUZ150L	284g



Terminal Cover Units for Overload Relays

Relay	Unit type	Remarks
GT225	APT-225	2 pcs included
GT400	APT-400	
GT800	APT-600	

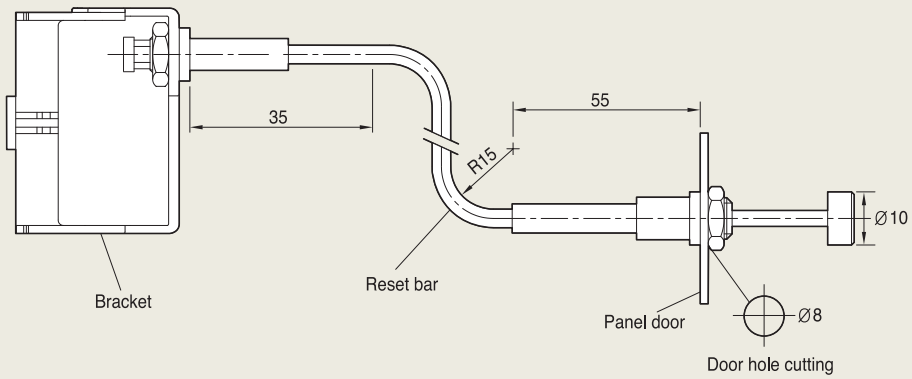
Accessories for Overload Relay

Remote Reset Units

These accessories are used to reset the relays on the panel door.

Type	Cable length (L)
GTTRR-16	400mm /16 in
GTTRR-20	500mm /20 in
GTTRR-24	600mm /24 in

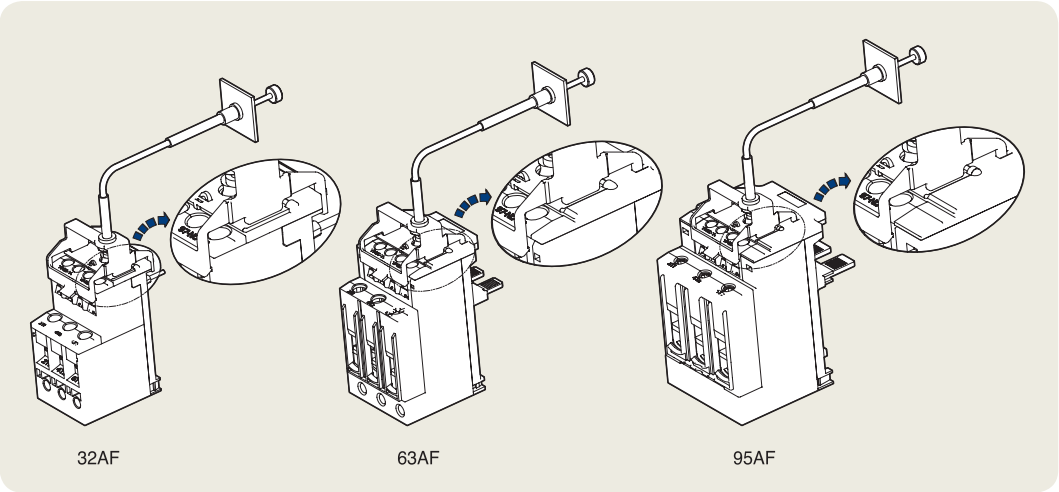
1. Make the reset bar straight at least 55mm from the panel door and 35mm from the bracket.
2. The bending radius of the flexible reset bar should not be less than 15mm.

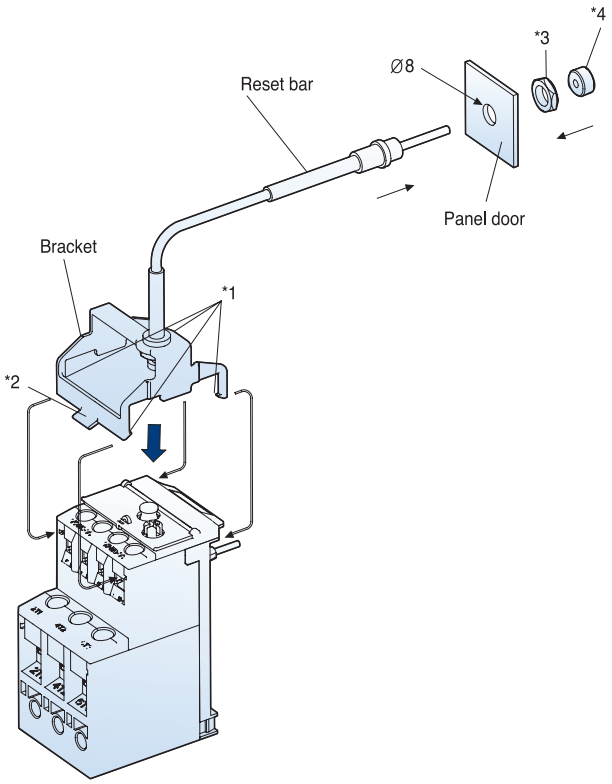


Accessories for Overload Relay

Installation

1. Fit the bracket with the relay as indicated(*1) below.
2. Separate Nut(*3) and Head cap(*4) from the reset bar first.
   Insert the reset bar into the panel hole and then fix it with the Nut and Head.
3. To separate the bracket from the relay lift the *2 part as shown in the fig.





Overload Relay Ordering Types

Bimetallic Overload for 32AF Contactors

Direct mounting type

GT32

Setting Range (A)	Ordering Type Differential		Contactor	Separate mounting unit
	Class 10 Screw Terminal	Class 20 Screw Terminal		
0.1~0.16	GT32S0.16A	GT32LS0.16A		
0.16~0.25	GT32S0.25A	GT32LS0.25A		
0.25~0.4	GT32S0.4A	GT32LS0.4A		
0.4~0.63	GT32S0.63A	GT32LS0.63A		
0.63~1	GT32S1A	GT32LS1A		
1~1.6	GT32S1.6A	GT32LS1.6A	CC9	
1.6~2.5	GT32S2.5A	GT32LS2.5A	CC12	
2.5~4	GT32S4A	GT32LS4A	CC18	
4~6	GT32S6A	GT32LS6A	CC22	GUZ32S
5~8	GT32S8A	GT32LS8A	CC32	
6~9	GT32S9A	GT32LS9A	CC40	
7~10	GT32S10A	GT32LS10A		
9~13	GT32S13A	GT32LS13A		
12~18	GT32S18A	GT32LS18A		
16~22	GT32S22A	GT32LS22A		
18~25	GT32S25A	GT32LS25A		
22~32	GT32S36A	GT32LS36A		
28~40	GT32S40A	GT32LS40A		

Overload Relay Ordering Types

Bimetallic Overload for 65AF Contactors

Direct mounting type

GT63

Setting Range (A)	Ordering Type Differential Class 10		Ordering Type Differential Class 20		Contactor	Separate mounting unit
	Screw Terminal	Lug Terminal	Screw Terminal	Lug Terminal		
4~6	GT63S6A	GT63L6A	GT63LS6A	GT63LL6A		
5~8	GT63S8A	GT63L8A	GT63LS8A	GT63LL8A		
6~9	GT63S9A	GT63L9A	GT63LS9A	GT63LL9A		
7~10	GT63S10A	GT63L10A	GT63LS10A	GT63LL10A		
9~13	GT63S13A	GT63L13A	GT63LS13A	GT63LL13A		
12~18	GT63S18A	GT63L18A	GT63LS18A	GT63LL18A	CC50	GUZ63S
16~22	GT63S22A	GT63L22A	GT63LS22A	GT63LL22A	CC65	GUZ63L
18~25	GT63S25A	GT63L25A	GT63LS25A	GT63LL25A		
24~36	GT63S36A	GT63L36A	GT63LS36A	GT63LL36A		
28~40	GT63S40A	GT63L40A	GT63LS40A	GT63LL40A		
34~50	GT63S50A	GT63L50A	GT63LS50A	GT63LL50A		
45~65	GT63S65A	GT63L65A	GT63LS65A	GT63LL65A		

Note: overload terminal type must match contactors terminal type.

Bimetallic Overload for 100AF Contactors

GT100

Setting Range (A)	Ordering Type Differential Class 10		Ordering Type Differential Class 20		Contactor	Separate mounting unit
	Screw Terminal	Lug Terminal	Screw Terminal	Lug Terminal		
7~10	GT95S10A	GT95L10A	GT95LS10A	GT95LL10A		
9~13	GT95S13A	GT95L13A	GT95LS13A	GT95LL13A		
12~18	GT95S18A	GT95L18A	GT95LS18A	GT95LL18A		
16~22	GT95S22A	GT95L22A	GT95LS22A	GT95LL22A		
18~25	GT95S25A	GT95L25A	GT95LS25A	GT95LL25A	CC75	GUZ95S
24~36	GT95S36A	GT95L36A	GT95LS36A	GT95LL36A	CC85	GUZ95L
28~40	GT95S40A	GT95L40A	GT95LS40A	GT95LL40A	CC100	
34~50	GT95S50A	GT95L50A	GT95LS50A	GT95LL50A		
45~65	GT95S65A	GT95L65A	GT95LS65A	GT95LL65A		
54~75	GT95S75A	GT95L75A	GT95LS75A	GT95LL75A		
63~85	GT95S85A	GT95L85A	GT95LS85A	GT95LL85A		
70~98	GT95S98A	GT95L98A	GT95LS98A	GT95LL98A		
80~100	GT95S100A	GT95L100A	GT95LS100A	GT95LL100A		

Note: overload terminal type must match contactors terminal type.

Overload Relay Ordering Types

Bimetallic Overload for 150AF Contactors

GT150

Setting Range (A)	Ordering Type Differential Class 10		Ordering Type Differential Class 20		Contactor	Separate mounting unit
	Screw Terminal	Lug Terminal	Screw Terminal	Lug Terminal		
34~50	GT150S50A	GT150L50A	GT150LS50A	GT150LL50A	CC130 CC150	GUZ150S
45~65	GT150S65A	GT150L65A	GT150LS65A	GT150LL65A		
54~75	GT150S75A	GT150L75A	GT150LS75A	GT150LL75A		
63~85	GT150S85A	GT150L85A	GT150LS85A	GT150LL85A		
80~105	GT150S105A	GT150L105A	GT150LS105A	GT150LL105A		
95~130	GT150S130A	GT150L130A	GT150LS130A	GT150LL130A		
110~150	GT150S150A	GT150L150A	GT150LS150A	GT150LL150A		

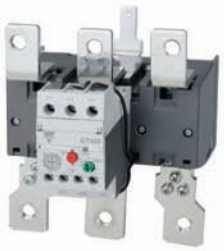
Note: overload terminal type must match contactors terminal type.

Bimetallic Overload for 225AF Contactors

GT225

Setting Range (A)	Ordering Type Differential		Contactor
	Class 10	Class 20	
	Screw Terminal		
65~100	GT225S100A	GT225LS100A	CC185 CC225
85~125	GT225S125A	GT225LS125A	
100~160	GT225S160A	GT225LS160A	
120~185	GT225S185A	GT225LS185A	
160~240	GT225S240A	GT225LS240A	

Bimetallic Overload for 400AF Contactors



GT400

Setting Range (A)	Ordering Type Differential		Contactor
	Class 10	Class 20	
	Screw Terminal		
85~125	GT400S125A	GT400LS125A	CC265 CC330 CC400
100~160	GT400S160A	GT400LS160A	
120~185	GT400S185A	GT400LS185A	
160~240	GT400S240A	GT400LS240A	
200~330	GT400S330A	GT400LS330A	
260~400	GT400S400A	GT400LS400A	

Bimetallic Overload for 800AF Contactors

GT800

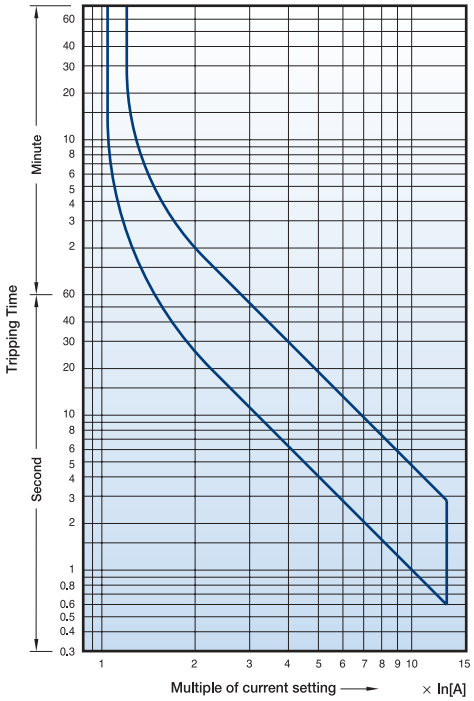
Setting Range (A)	Ordering Type Differential		Contactor
	Class 10	Class 20	
	Screw Terminal		
200~330	GT800S330A	GT800LS330A	CC500
260~400	GT800S400A	GT800LS400A	CC630
400~630	GT800S630A	GT800LS630A	CC800
520~800	GT800S800A	GT800LS800A	

Overload Relay Trip Curves

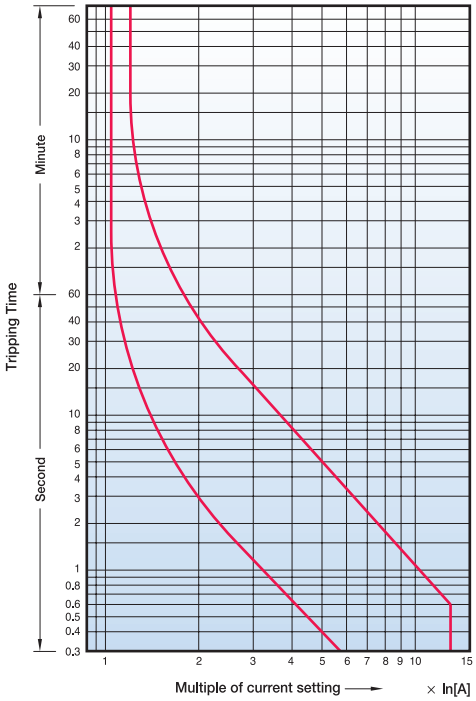
Class 10A, 40AF

GT32S

Cold starting



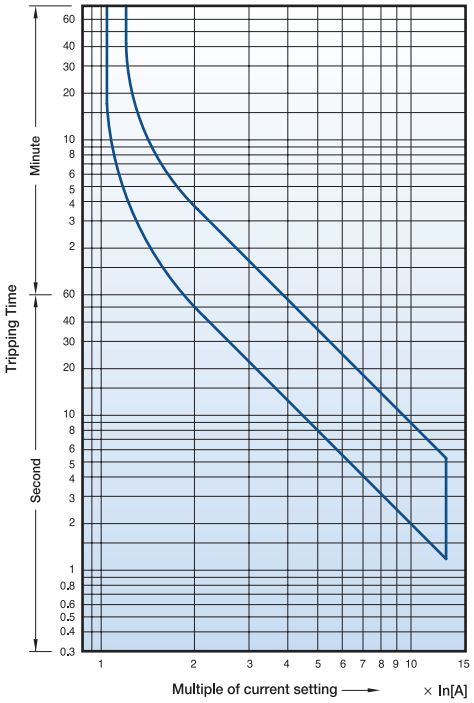
Hot starting



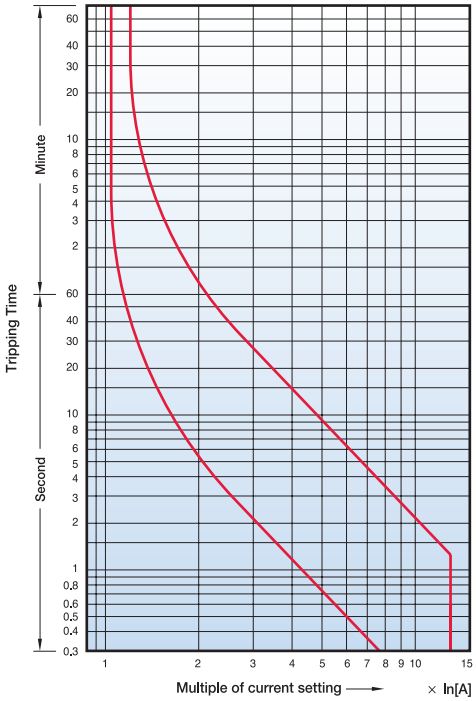
Class 20, 40AF

GT32LS

Cold starting



Hot starting

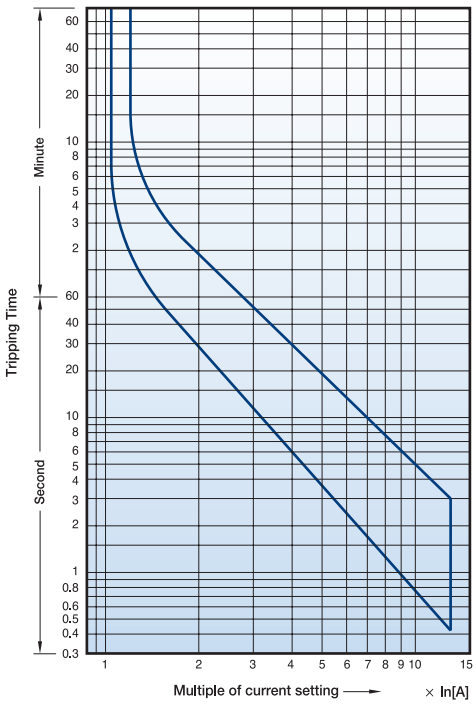


Overload Relay Trip Curves

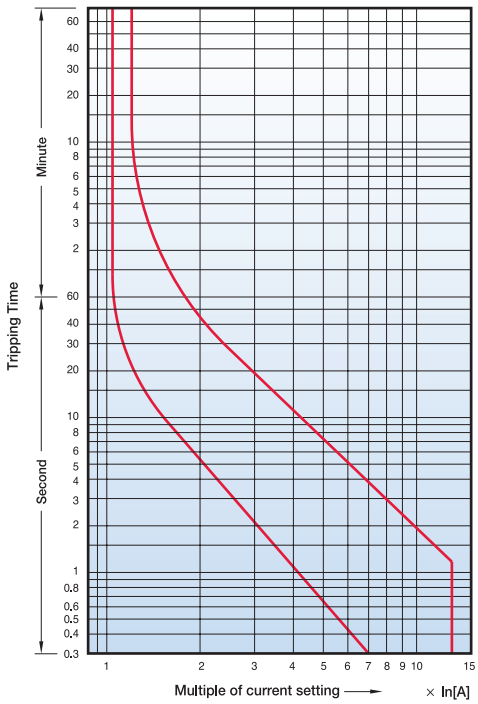
Class 10A, 65AF

GT63S
GT63L

Cold starting



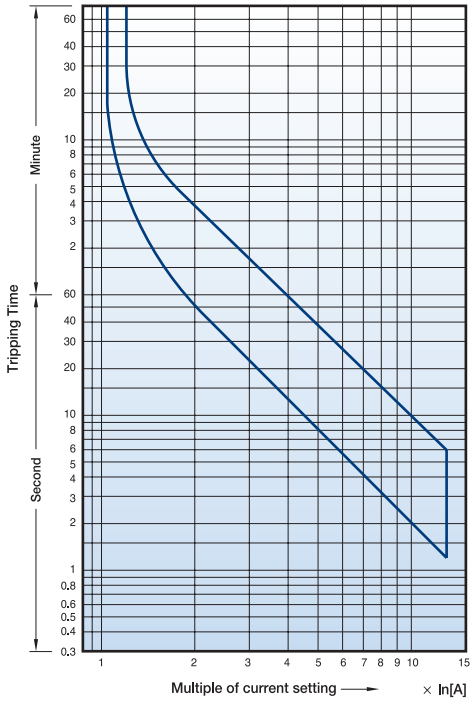
Hot starting



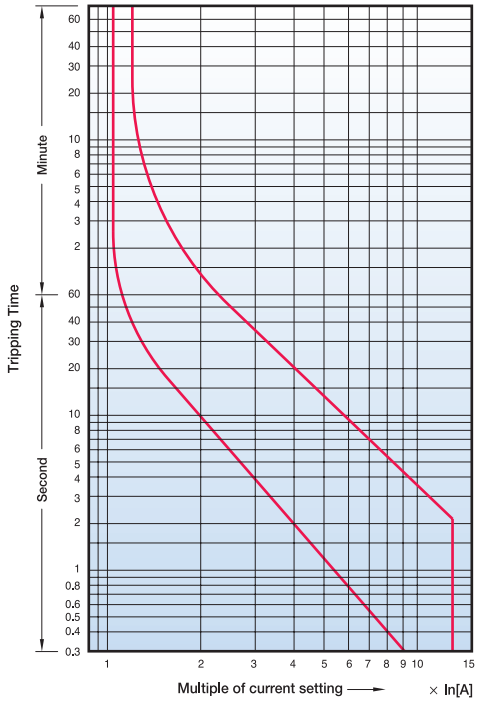
Class 20, 65AF

GT63LS
GT63LL

Cold starting



Hot starting

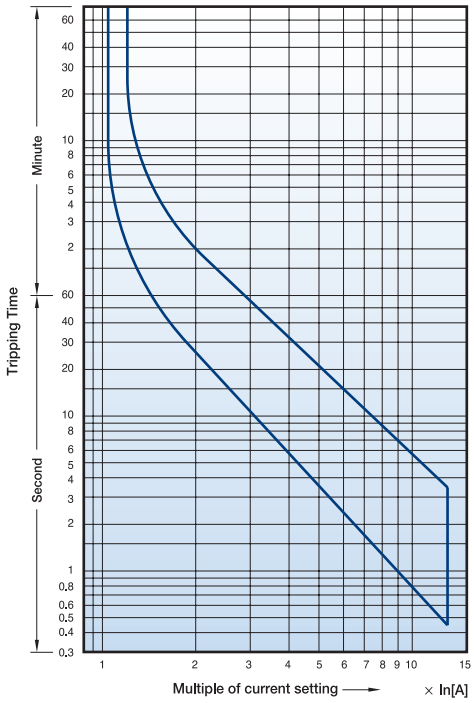


Overload Relay Trip Curves

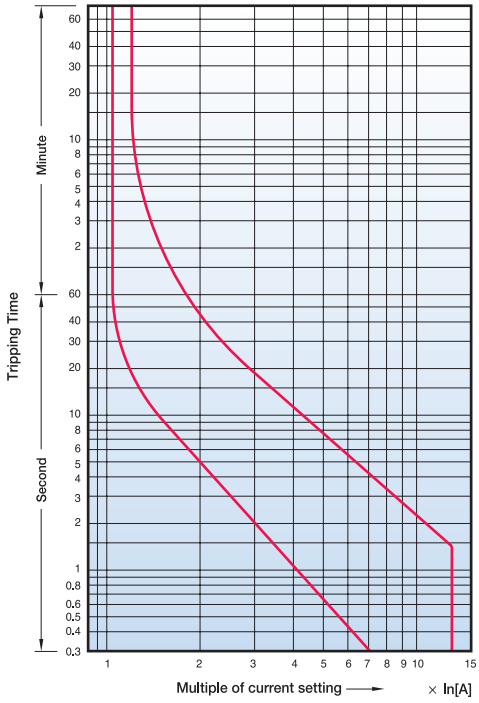
Class 10A, 100AF

GT95S
GT95L

Cold starting



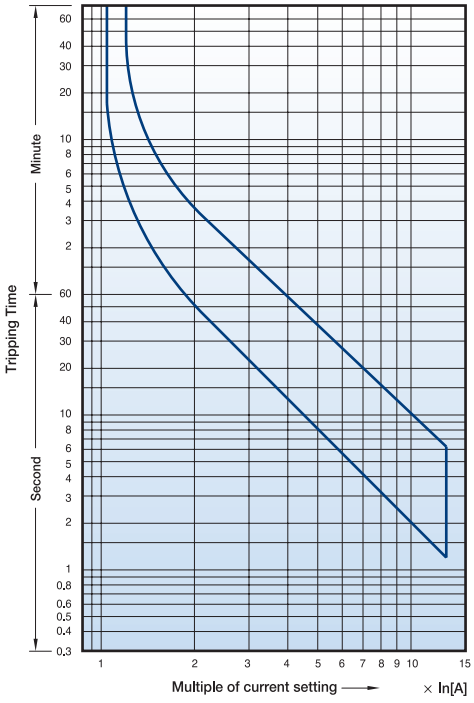
Hot starting



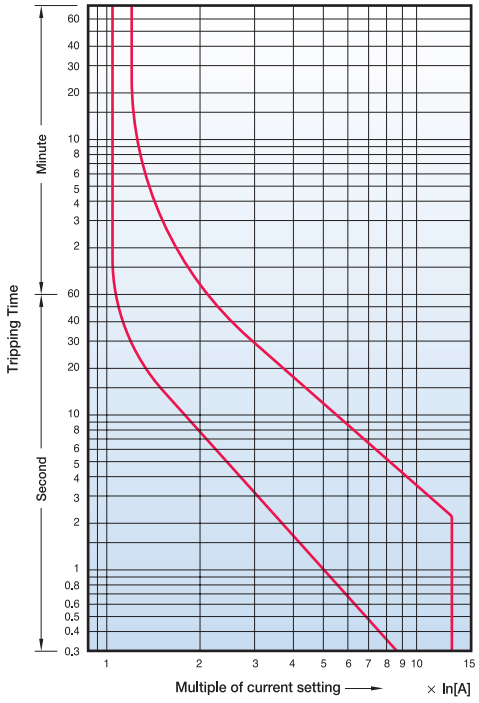
Class 20, 100AF

GT95LS
GT95LL

Cold starting



Hot starting

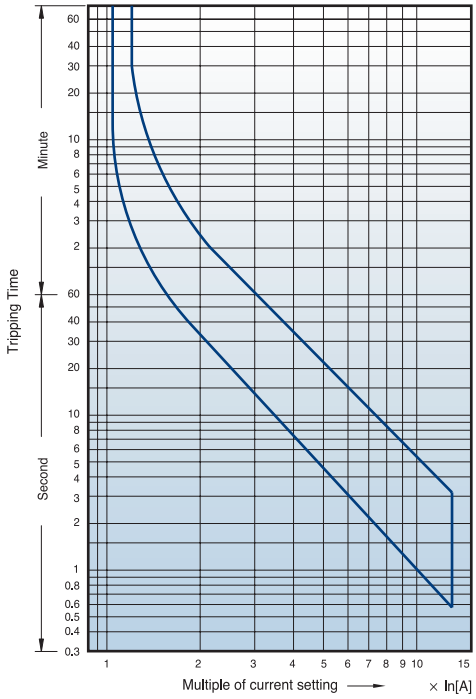


Overload Relay Trip Curves

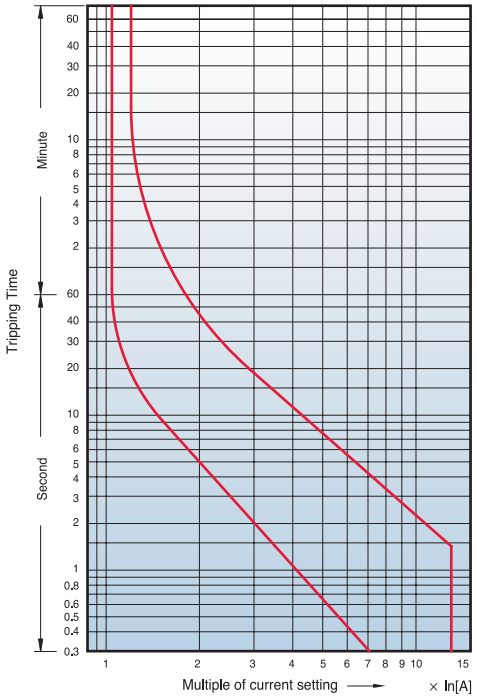
Class 10A, 150AF

GT150S
GT150L

Cold starting



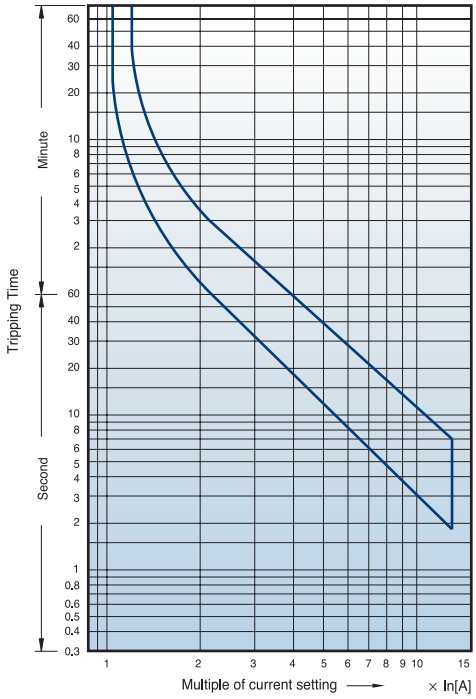
Hot starting



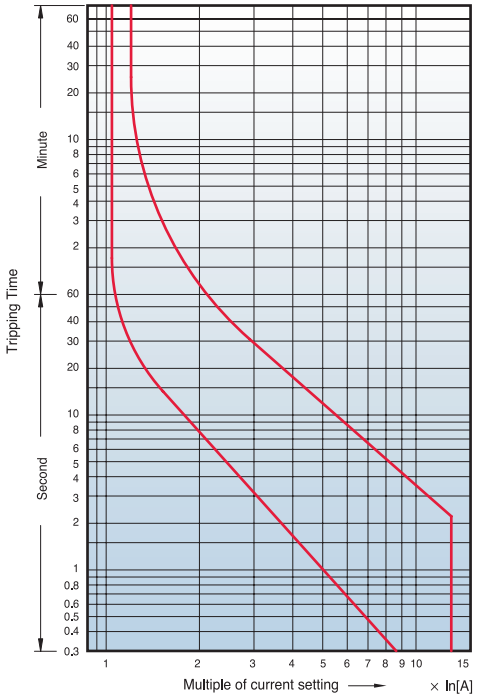
Class 20, 150AF

GT150LS
GT150LL

Cold starting



Hot starting

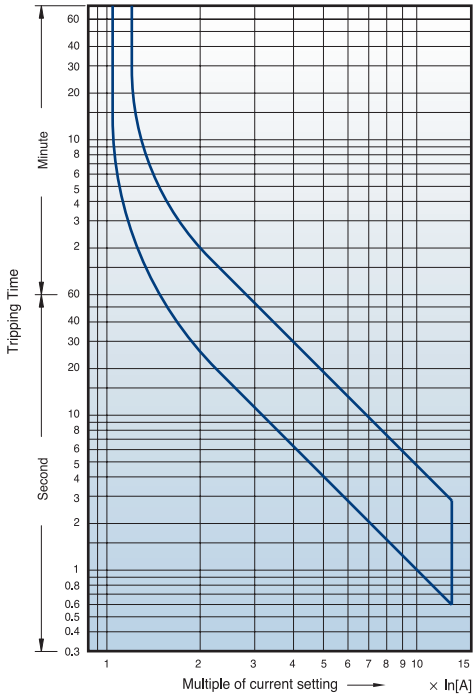


Overload Relay Trip Curves

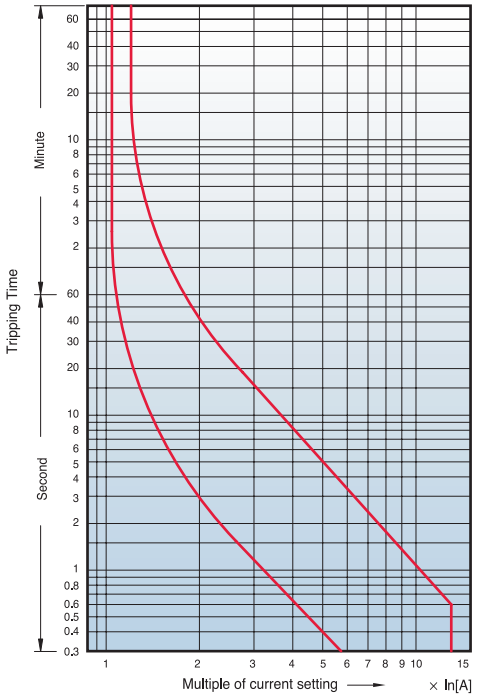
Class 10A, 225AF

GT225S

Cold starting



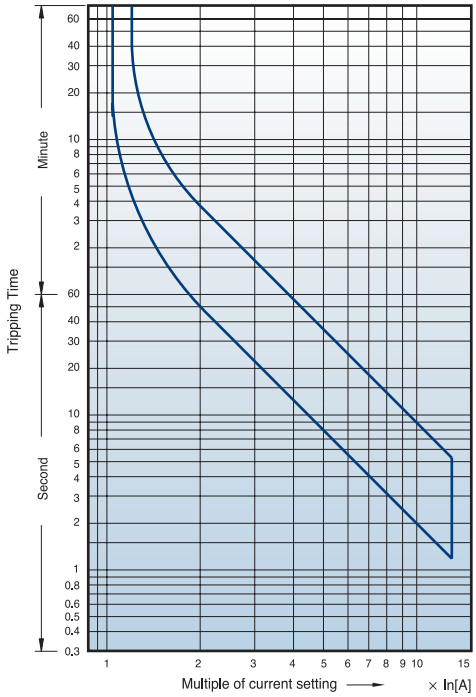
Hot starting



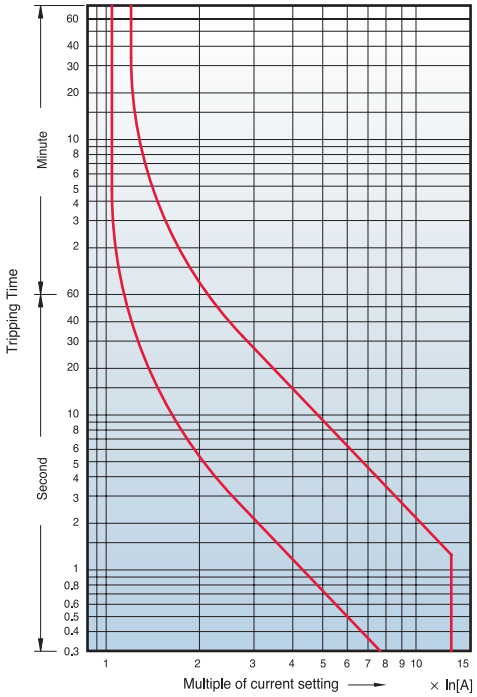
Class 20, 225AF

GT225LS

Cold starting



Hot starting

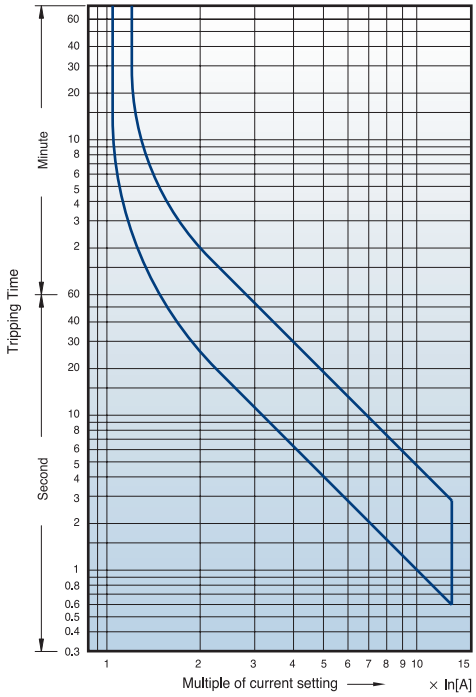


Overload Relay Trip Curves

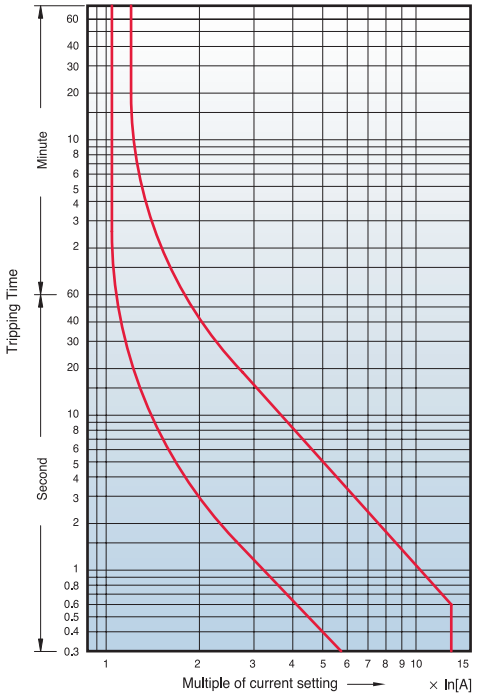
Class 10A, 400AF

GT400S

Cold starting



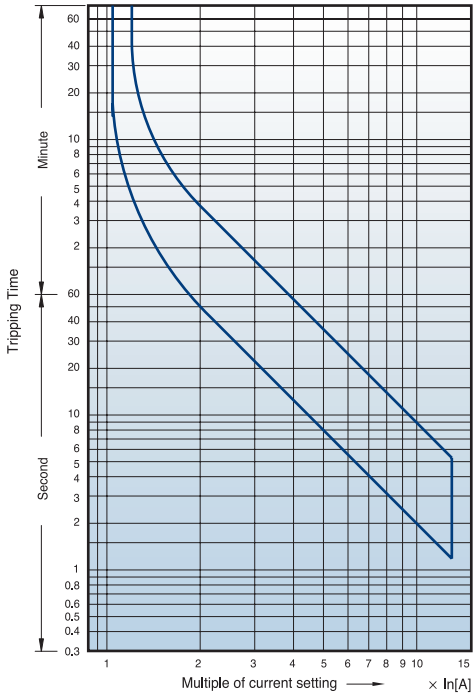
Hot starting



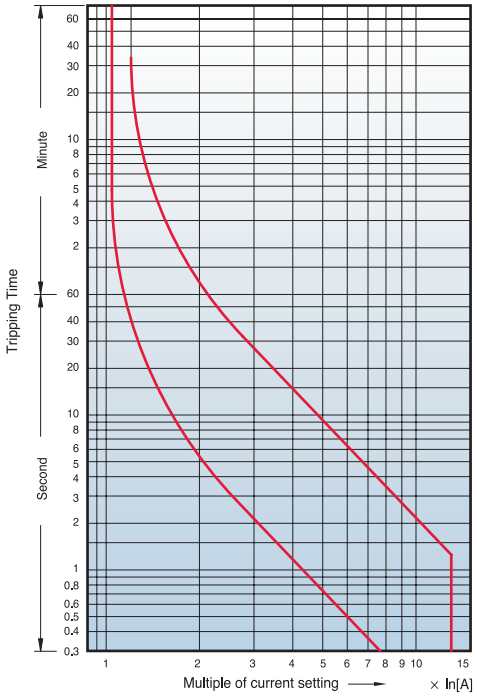
Class 20, 400AF

GT400LS

Cold starting



Hot starting

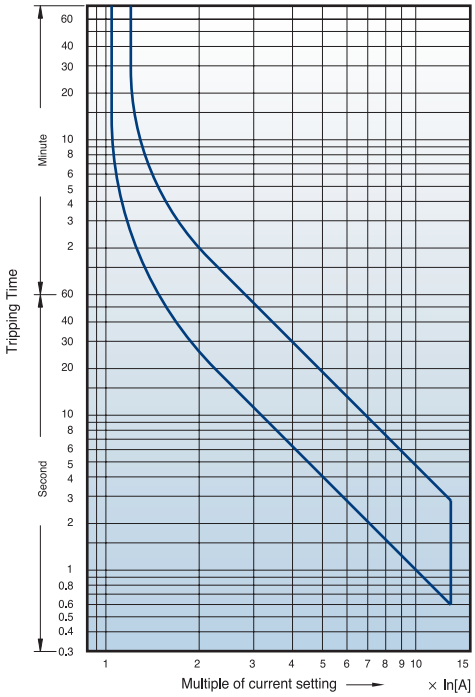


Overload Relay Trip Curves

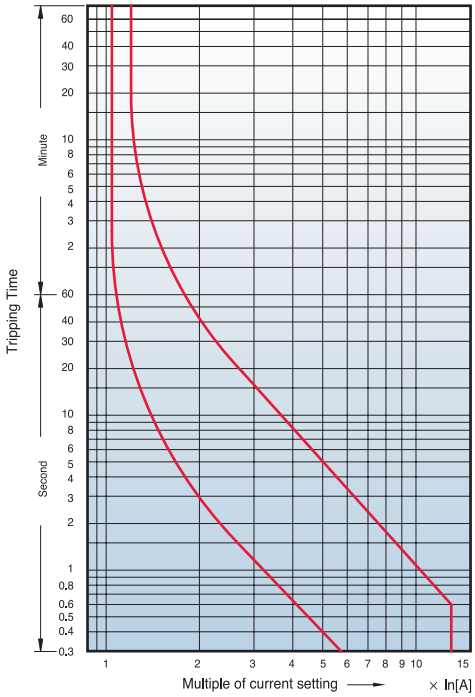
Class 10A, 800AF

GT800S

Cold starting



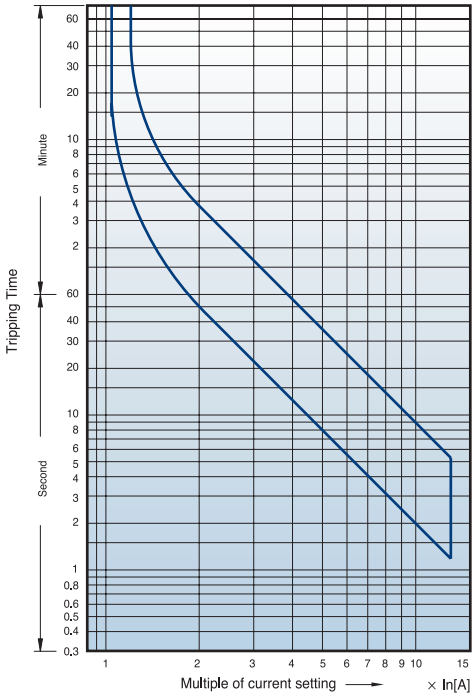
Hot starting



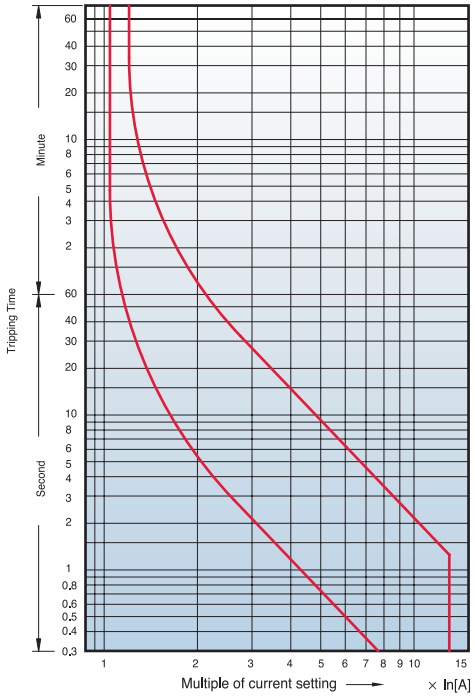
Class 20, 800AF

GT800LS

Cold starting

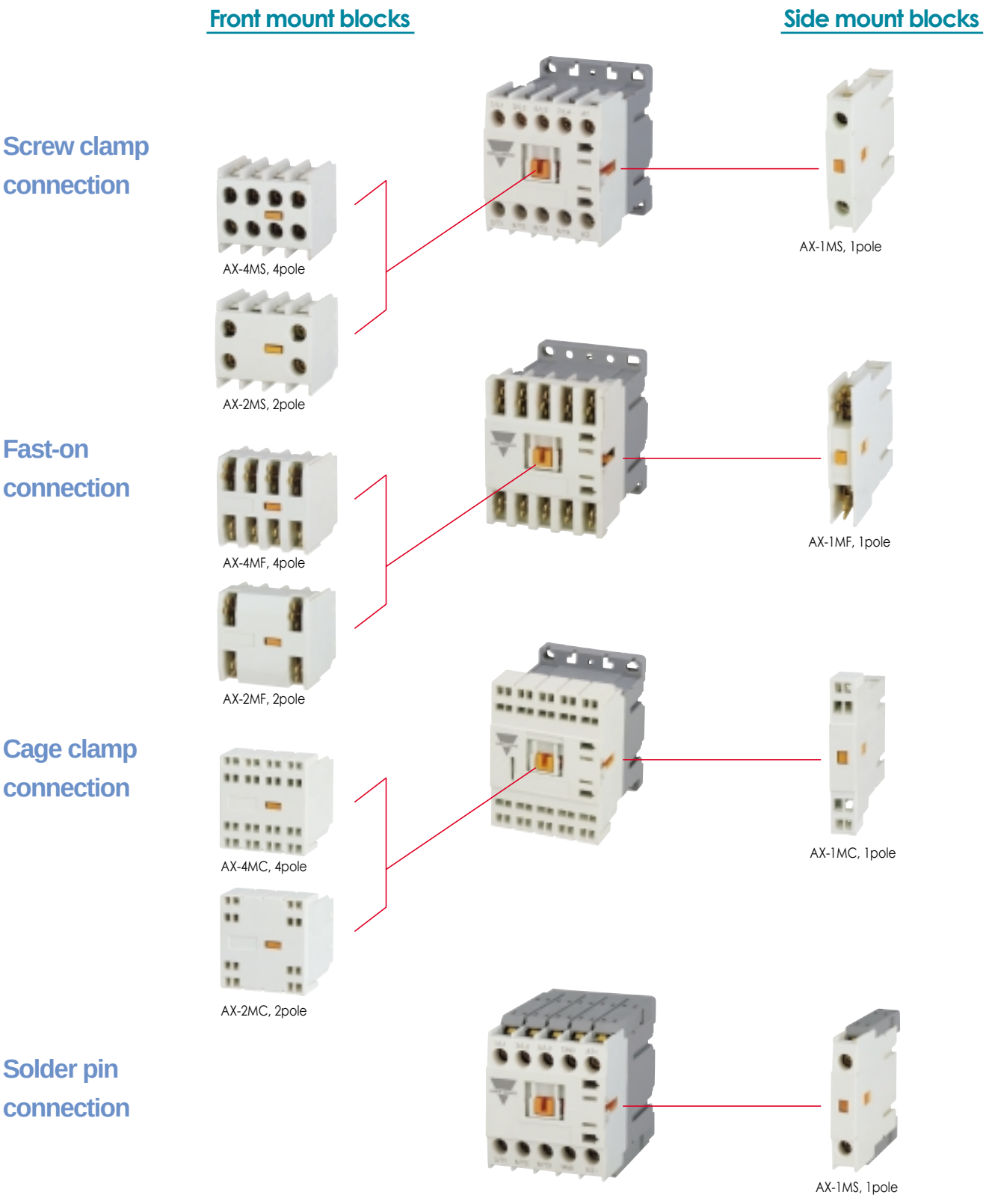


Hot starting



Accessories

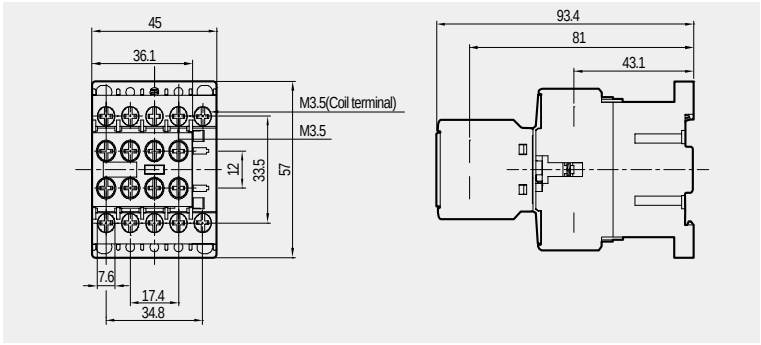
Auxiliary contact

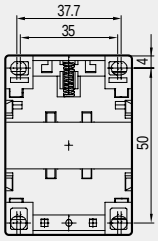


Catalog No.

Connection type	Applying contactors	Mounting type	Composition	Catalog no.
Screw clamp	CGMS-, CGMSS-, CGMUS-	Front mount	2NO	AX-2MS20
	6A(D)		2NC	AX-2MS02
	9A(D)		1NO+1NC	AX-2MS11
	12A(D)		4NO	AX-4MS40
	16A(D)		3NO+1NC	AX-4MS31
			2NO+2NC	AX-4MS22
			1NO+3NC	AX-4MS13
			4NC	AX-4MS04
		Side mount	1NO	AX-1MS10
			1NC	AX-1MS01
Fast-on	CGMF-, CGMSF-, CGMUF-	Front mount	2NO	AX-2MF20
	6A(D)		2NC	AX-2MF02
	9A(D)		1NO+1NC	AX-2MF11
	12A(D)		4NO	AX-4MF40
	16A(D)		3NO+1NC	AX-4MF31
			2NO+2NC	AX-4MF22
			1NO+3NC	AX-4MF13
			4NC	AX-4MF04
		Side mount	1NO	AX-1MF10
			1NC	AX-1MF01
Cage clamp	CGMC-, CGMSC-, CGMUC-	Front mount	2NO	AX-2MC20
	6A(D)		2NC	AX-2MC02
	9A(D)		1NO+1NC	AX-2MC11
	12A(D)		4NO	AX-4MC40
	16A(D)		3NO+1NC	AX-4MC31
			2NO+2NC	AX-4MC22
			1NO+3NC	AX-4MC13
			4NC	AX-4MC04
		Side mount	1NO	AX-1MC10
			1NC	AX-1MC01
Solder pin	CGMP-, CGMSP-, CGMUP-	Side mount	1NO	AX-1MP10
	6A(D)		1NC	AX-1MP01
	9A(D)			
	12A(D)			
	16A(D)			

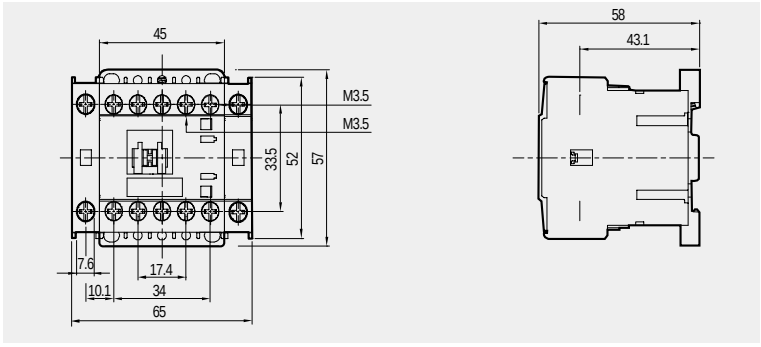
CGMS-12A
+
AX-4MS

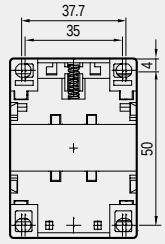




0.21kg

CGMS-12D
+
2 × AX-1MS



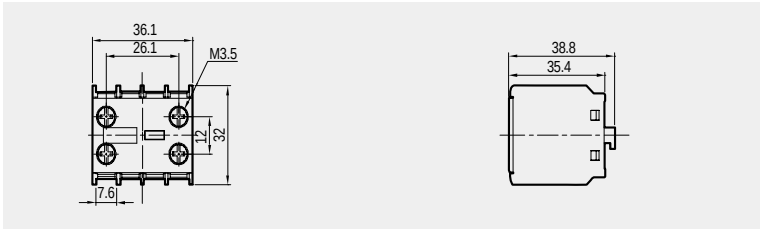


0.21kg

AX-4MS

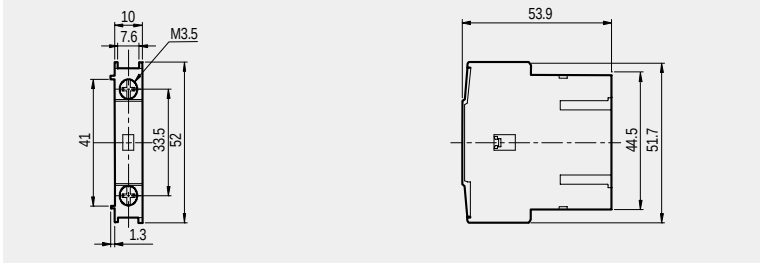
0.04kg

AX-2MS



0.03kg

AX-1MS

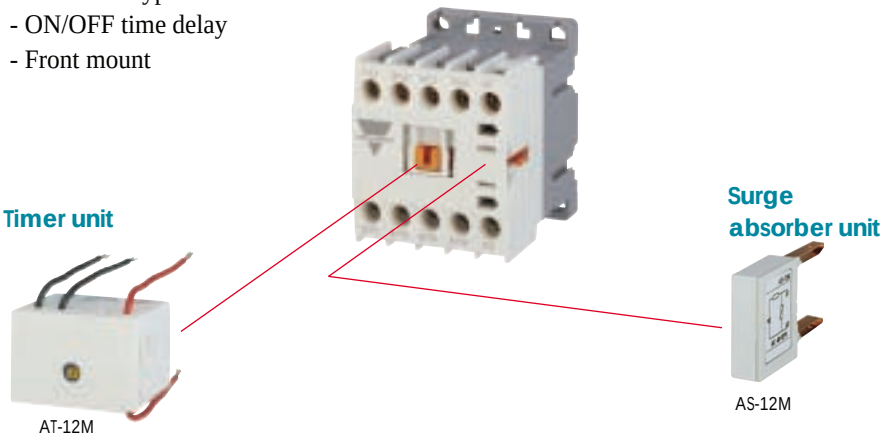


0.02kg

Accessories for mini contactors

Timer unit, AT-12M

- Electronic type
- ON/OFF time delay
- Front mount

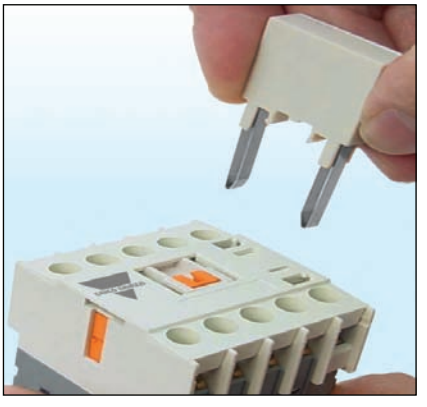


Electronic Timer

Type	Control voltage	Delay	Time	Applied contactors
AT-12M / -on	AC/DC 24~48V	ON	0.1~30s	CGMS-6A~16A CGMS-6D~16D
AT-12M / -off	AC/DC 24~48V	OFF	0.1~30s	CGMS-6A~16A CGMS-6D~16D
AT-12M / on	AC 100~220V	ON	0.1~30s	CGMS-6A~16A CGMS-6D~16D
AT-12M / off	AC 100~220V	OFF	0.1~30s	CGMS-6A~16A CGMS-6D~16D

Surge absorber unit, AS-12M

- Coil surge suppressor



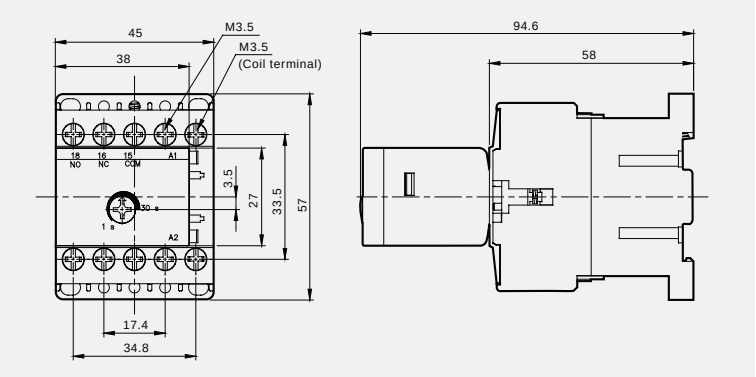
Surge absorber unit

Type	Internal element	Operational voltage	Applied contactors
AS-12M / 1	Varistor	AC24~48V	CGMS-6A~16A
AS-12M / 2		AC60~127V	
AS-12M / 3		AC200~240V	
AS-12M / 4		DC12~24V	CGMS-6D~16D
AS-12M / 5		DC30~72V	
AS-12M / 6		DC100~127V	
AS-12M / 7		DC200~250V	

Mini contactors

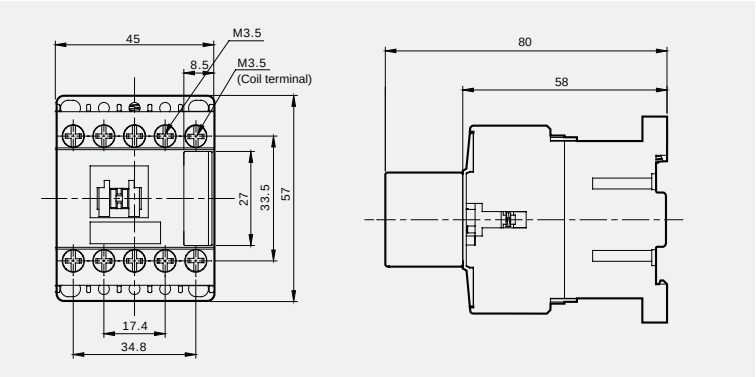
Dimensions

CGMS-12A
+
AT-12M



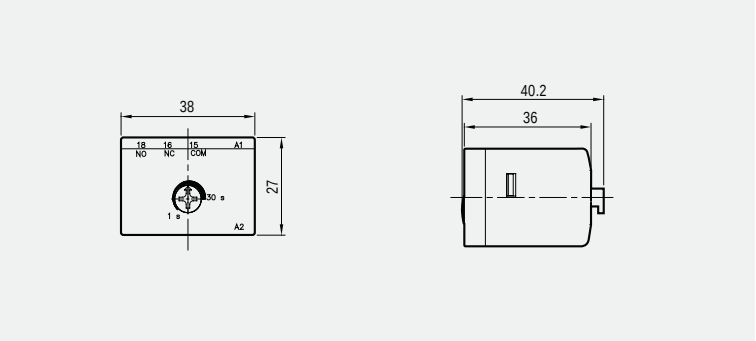
0.21kg

CGMS-12D
+
AS-12M



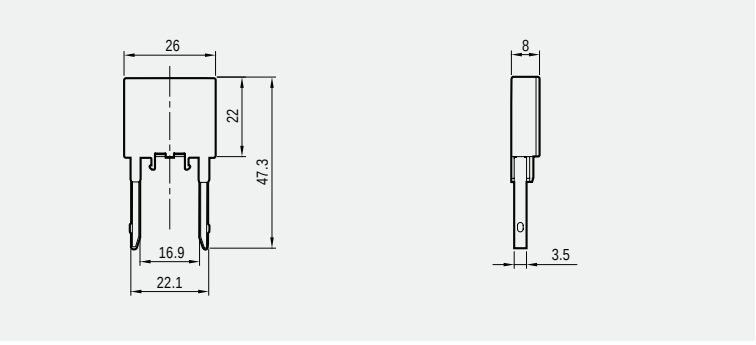
0.175kg

AT-12M



0.04kg

AS-12M



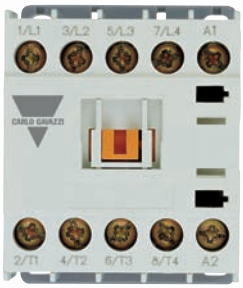
0.005kg

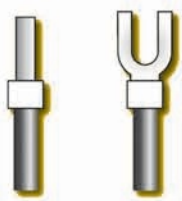
Mini contactors providing various connections and Accessories

Ratings

Frame size	AC3 ratings (IEC60947-4)				AC1 rating Ith
	220 ~ 240V	380 ~ 440V	500 ~ 550V	690V	
6A	1.5kW 7A	2.2kW 6A	3kW 5A	3kW 4A	20A
9A	2.2kW 9A	4kW 9A	3.7kW 6A	4kW 5A	20A
12A	3kW 12A	5.5kW 12A	4kW 7A	4kW 5A	20A

Screw clamps





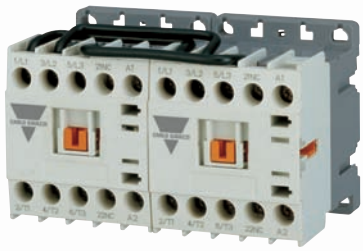
For conventional screw connections

Fast-on

For fast-on connections

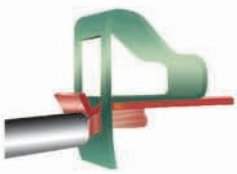
Mini-overload relay

Overload relay separately mounted



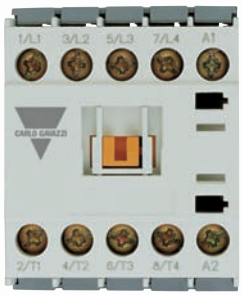
Reversing contactor

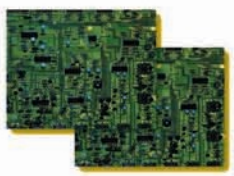
Cage clamps



For screwless connections

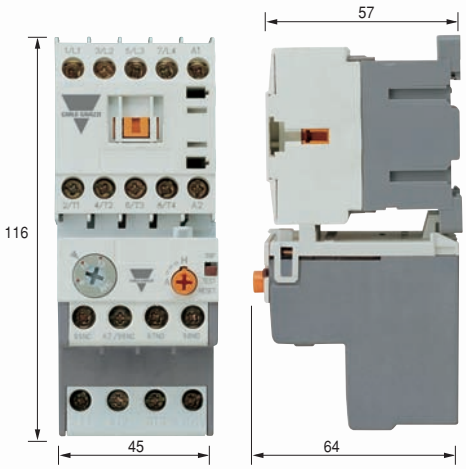
Solder pins





To mount on printed circuit boards

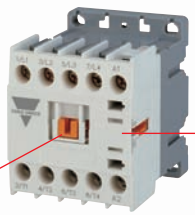
Dimensions,mm



(Screw clamp type)

(Front mount, 4pole)

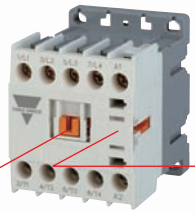
(Front mount, 2pole)



Auxiliary contact units

(Side mount, 1pole)

Timer unit



Surge absorber unit

Quick selection table

Mini contactors & overloads

Mini contactors

3NO main contacts
1 auxiliary contacts


Screw clamp type


Fast-on type


Cage clamp type


Solder pin type

Frame size		6A		9A		12A	
Screw clamp type	AC coil	CGMS-6A		CGMS-9A		CGMS-12A	
	DC coil	CGMS-6D		CGMS-9D		CGMS-12D	
Fast-on type	AC coil	CGMF-6A		CGMF-9A		CGMF-12A	
	DC coil	CGMF-6D		CGMF-9D		CGMF-12D	
Cage clamp type	AC coil	CGMC-6A		CGMC-9A		CGMC-12A	
	DC coil	CGMC-6D		CGMC-9D		CGMC-12D	
Solder pin type	AC coil	CGMP-6A		CGMP-9A		CGMP-12A	
	DC coil	CGMP-6D		CGMP-9D		CGMP-12D	
Ratings / IEC60947-4		kW	A	kW	A	kW	A
AC1			**20**		**20**		**20**
AC3	200/240V	1.5	7	2.2	9	3	12
	380/440V	**2.2**	**6**	**4**	**9**	**5.5**	**12**
	690V	3	4	4	5	4	5
Ratings / UL508		hp	A	hp	A	hp	A
continuous current		Ith = 20A (maximum for cage clamp type is 10A)					
single phase	115V	0.5		0.5		1*	
	230V	1		1.5		2**	
three phase	200V	*		*		*	
	230V	1.5		3		3	
	460V	**3**		**5**		**7.5*** **	
	575V	3		5		7.5	
NEMA size		00		00		00	

Additional auxiliary contacts

	Screw clamp type	Fast-on type	Cage clamp type	Solder pin type
2-pole, Front mount	AX-2M	AX-2MF	AX-2MC	
4-pole, Front mount	AX-4M	AX-4MF	AX-4MC	AX-1MP
2-pole, Side mount	AX-1M	AX-1MF	AX-1MC	

Overload Relays

Bimetallic style
Type CGT
Class 10A


CGT-12M

Setting ranges (A)		
	0.1 - 0.16	4 - 6
	0.16 - 0.25	5 - 8
	0.25 - 0.4	6 - 9
	0.4 - 0.63	7 - 10
	0.63 - 1	9 - 13
	1 - 1.6	12 - 16
	1.6 - 2.5	
	2.5 - 4	


Base for separate mount

Differential	CGT-12M
Non-differential (3-heater)	CGTH-12M/3
Non-differential (2-heater)	CGTH-12M

Note: * = 1/2 for cage clamp type, ** = 1.5hp for cage clamp type, *** = 5hp for cage clamp type

Contactors

- For motor control
- 3 main plus 1 auxiliary contacts
- Coil voltage : A.C.

Cage clamp connection types

Frame size	AC3 ratings (IEC60947-4)				AC1 rating Ith	Auxiliary contact (standard)	Type
	220 ~ 240V	380 ~ 440V	500 ~ 550V	690V			
6A	1.5kW 7A	2.2kW 6A	3kW 5A	3kW 4A	20A	1NO or 1NC	CGMC-6A
9A	2.2kW 9A	4kW 9A	3.7kW 6A	4kW 5A	20A	1NO or 1NC	CGMC-9A
12A	3kW 12A	5.5kW 12A	4kW 7A	4kW 5A	20A	1NO or 1NC	CGMC-12A

Solder pin connection types

Frame size	AC3 ratings (IEC60947-4)				AC1 rating Ith	Auxiliary contact (standard)	Type
	220 ~ 240V	380 ~ 440V	500 ~ 550V	690V			
6A	1.5kW 7A	2.2kW 6A	3kW 5A	3kW 4A	20A	1NO or 1NC	CGMP-6A
9A	2.2kW 9A	4kW 9A	3.7kW 6A	4kW 5A	20A	1NO or 1NC	CGMP-9A
12A	3kW 12A	5.5kW 12A	4kW 7A	4kW 5A	20A	1NO or 1NC	CGMP-12A

Coil voltage, AC 50/60Hz

24, 36, 42, 48, 110, 115, 120, 127, 200 / 208, 220, 220 / 230, 230 / 240, 256, 277, 380 / 400
400, 440, 480, 500, 550V AC

Ordering information

Type, Auxiliary contact and Coil voltage

Contactors

- For motor control
- 3 main plus 1 auxiliary contacts
- Coil voltage : D.C.

Cage clamp connection types

Frame size	AC3 ratings (IEC60947-4)				AC1 rating Ith	Auxiliary contact (standard)	Type
	220 ~ 240V	380 ~ 440V	500 ~ 550V	690V			
6A	1.5kW 7A	2.2kW 6A	3kW 5A	3kW 4A	20A	1NO or 1NC	CGMC-6D
9A	2.2kW 9A	4kW 9A	3.7kW 6A	4kW 5A	20A	1NO or 1NC	CGMC-9D
12A	3kW 12A	5.5kW 12A	4kW 7A	4kW 5A	20A	1NO or 1NC	CGMC-12D

Solder pin connection types

Frame size	AC3 ratings (IEC60947-4)				AC1 rating Ith	Auxiliary contact (standard)	Type
	220 ~ 240V	380 ~ 440V	500 ~ 550V	690V			
6A	1.5kW 7A	2.2kW 6A	3kW 5A	3kW 4A	20A	1NO or 1NC	CGMP-6D
9A	2.2kW 9A	4kW 9A	3.7kW 6A	4kW 5A	20A	1NO or 1NC	CGMP-9D
12A	3kW 12A	5.5kW 12A	4kW 7A	4kW 5A	20A	1NO or 1NC	CGMP-12D

Coil voltage, DC

① Standard type : 12, 20, 24, 36, 42, 48, 60, 72, 110, 120, 125, 220, 240, 250V DC
② Low consumption type : 12, 20, 24, 48, 72, 110, 120V DC(Low)
③ Wide Voltage : 12, 20, 24, 48, 72, 110, 12V DC(Wide)

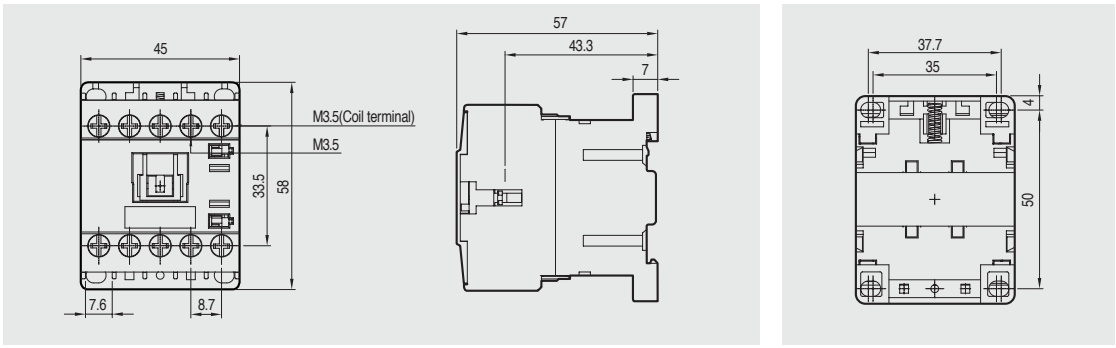
Ordering information

Type, Auxiliary contact and Coil voltage

Mini contactors

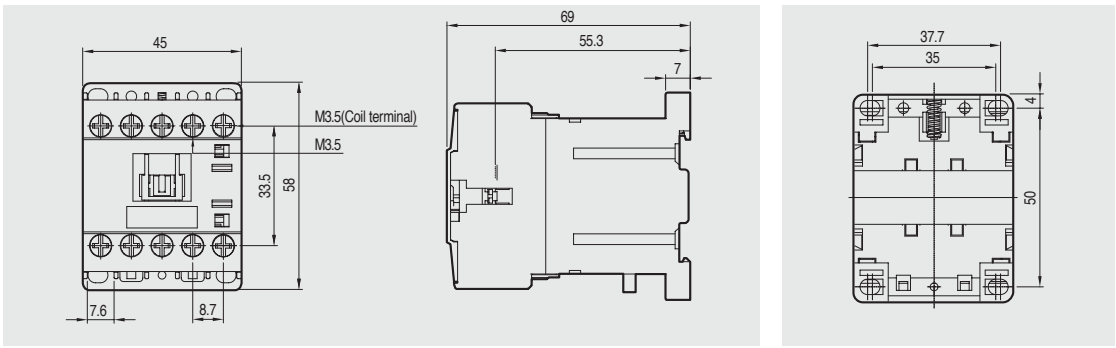
Dimensions

CGMS-12A



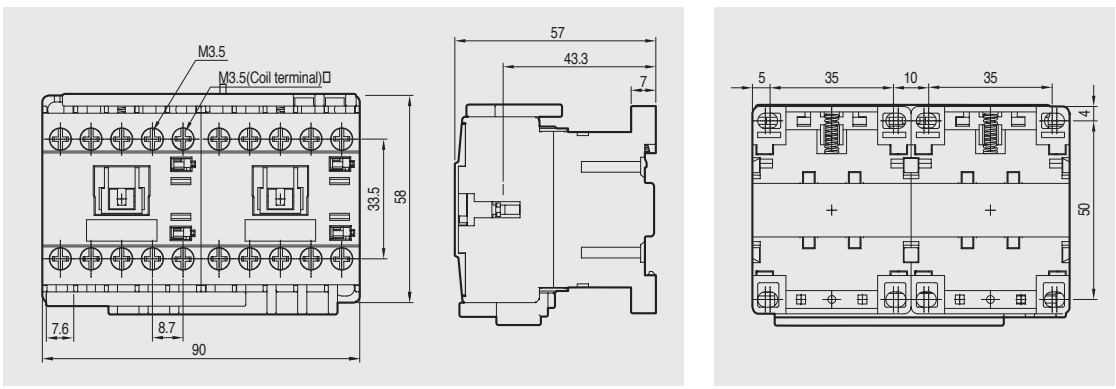
0.17kg

CGMS-12D



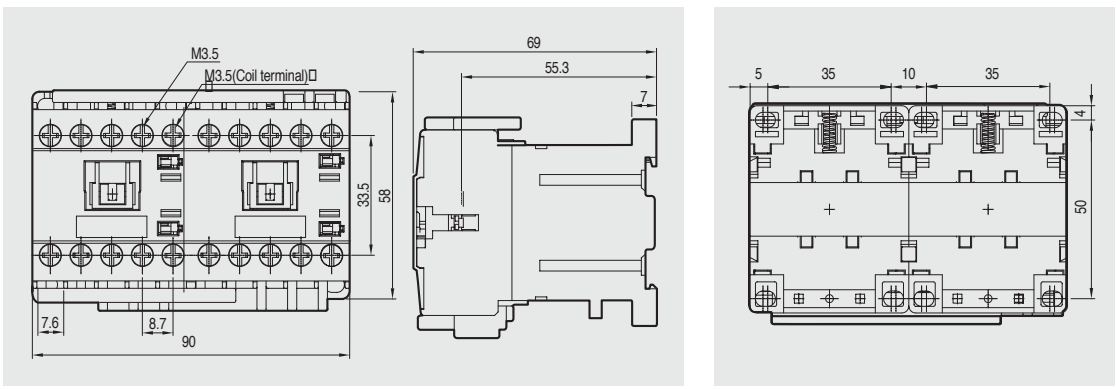
0.23kg

CGMUS-12A



0.36kg

CGMUS-12D



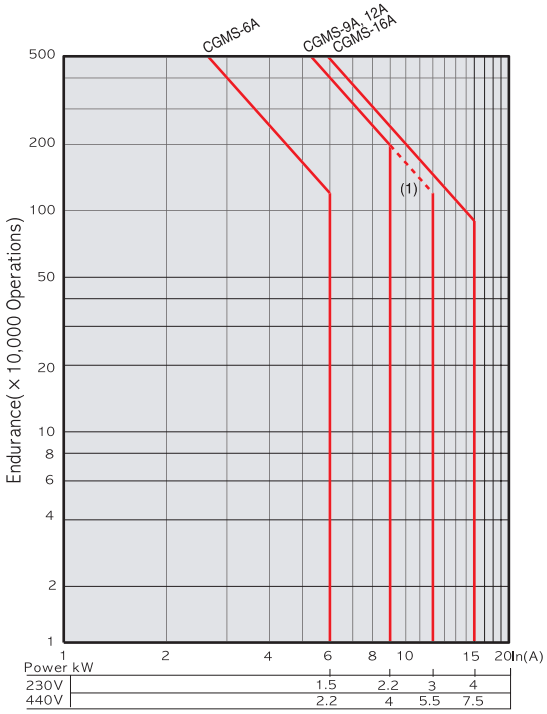
0.48kg

Mini contactors

Characteristic

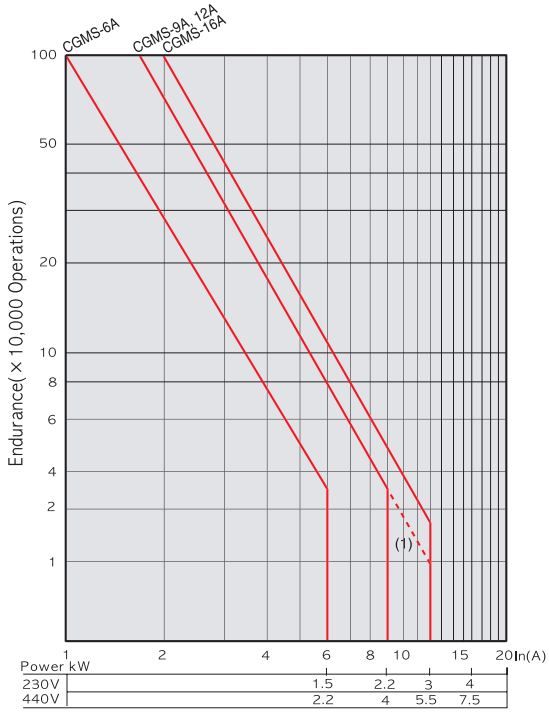
Electrical lifespan of contactors

Use in category AC-3
(Ue ≥440V)



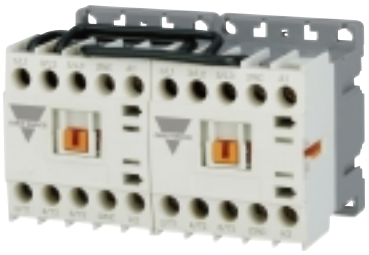
(1) The dotted lines are only applicable to CGMS-12A contactors.

Use in category AC-4
(Ue ≥440V)



(1) The dotted lines are only applicable to CGMS-12A contactors.

Accessories for mini contactors



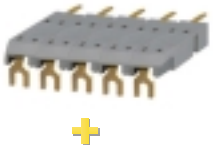
Interlock units, AR-12M and AR-12MW

consists of

- Mechanical interlock components (both **AR-12M** and **AR-12MW**)
- Cable kits for line and load sides (AR-**12MW** only)

Solder pin terminals

To modify the connection to Solder pin type from Screw clamp type
Available for contactors and auxiliary contact blocks



DC Control

AP-12MD
for converting screw terminal, mini contactors, with DC coils to pin terminals type.

AC Control

AP-12M
for converting screw terminal, mini contactors, with AC coils to pin terminals type.

AP-1MD
for converting screw terminal, mini contactor auxiliary contacts to pin terminals type

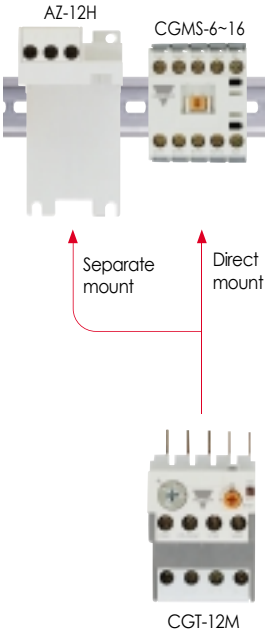
Mini overload relays

Bimetallic style

CGT-12M

Description

- Direct mount on the mini contactors with screw clamp connection.
  contactor types : CGMS-6A(D), CGMS-9A(D),
  CGMS-12A(D), CGMS-16A(D)
- DIN rail or screw mountable with the optional base AZ-12H
- Small physical size : 44 mm wide
- 1NO+1NC trip contacts
- Trip class 10A according to IEC60947-4-1
- Differential current/Phase failure protection : CGT types
- Non-differential CGTH types are available for the economic solution
- Ambient compensated -5 to 40 ℃
- Manual/Automatic reset convertible.
- Remote reset is optional
- Trip free designed



Catalog No.

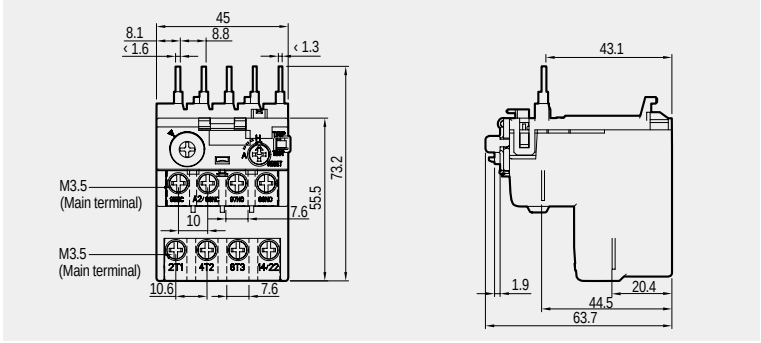
Setting ranges(A)	Differential type	Non-differential type	
	3-heater	3-heater	2-heater
0.1 - 0.16	CGT-12M • 0.16	CGTH-12MH/3 • 0.16	CGTH-12MH • 0.16
0.16 - 0.25	CGT--12M • 0.25	CGTH-12MH/3 • 0.25	CGTH-12MH • 0.25
0.25 - 0.4	CGT--12M • 0.4	CGTH-12MH/3 • 0.4	CGTH-12MH • 0.4
0.4 - 0.63	CGT--12M • 0.63	CGTH-12MH/3 • 0.63	CGTH-12MH • 0.63
0.63 - 1	CGT--12M • 1	CGTH-12MH/3 • 1	CGTH-12MH • 1
1 - 1.6	CGT--12M • 1.6	CGTH-12MH/3 • 1.6	CGTH-12MH • 1.6
1.6 - 2.5	CGT--12M • 2.5	CGTH-12MH/3 • 2.5	CGTH-12MH • 2.5
2.5 - 4	CGT--12M • 4	CGTH-12MH/3 • 4	CGTH-12MH • 4
4 - 6	CGT--12M • 6	CGTH-12MH/3 • 6	CGTH-12MH • 6
5 - 8	CGT--12M • 8	CGTH-12MH/3 • 8	CGTH-12MH • 8
6 - 9	CGT--12M • 9	CGTH-12MH/3 • 9	CGTH-12MH • 9
7 - 10	CGT--12M • 10	CGTH-12MH/3 • 10	CGTH-12MH • 10
9 - 13	CGT--12M • 13	CGTH-12MH/3 • 13	CGTH-12MH • 13
12 - 16	CGT--12M • 16	CGTH-12MH/3 • 16	CGTH-12MH • 16

Auxiliary (Trip) contact rating

AC15(11) duty			DC13(11) duty	
110V	220V	550V	110V	220V
2.5(0.3)A	2(0.3)A	1(0.3)A	0.28A	0.14A

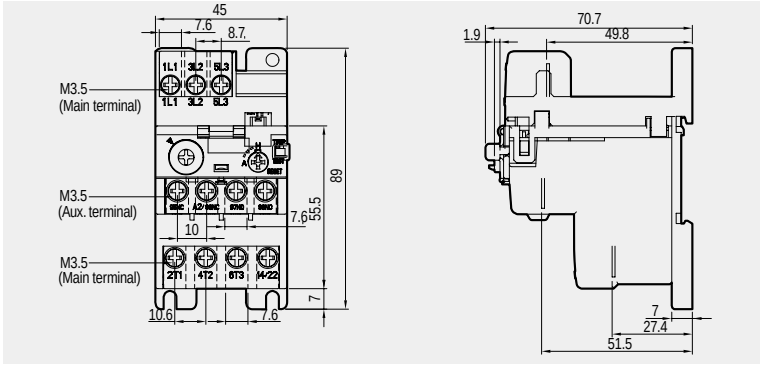
Note) Values of ( ) are the ratings of NO contact under auto reset mode.

CGT(H)-12M



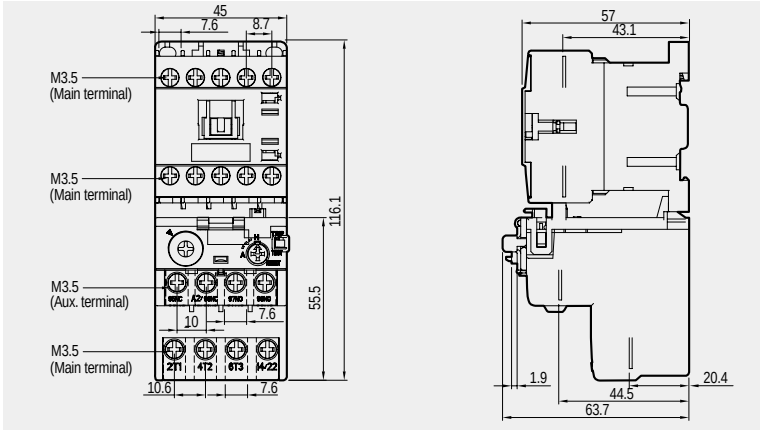
0.1kg

CGT(H)-12MH



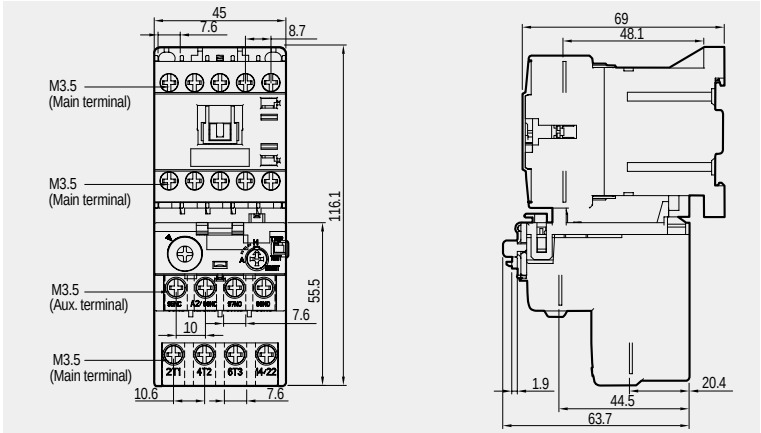
0.4kg

CGMSS-6,9, 12,16A



0.26kg

CGMSS-6,9, 12,16D



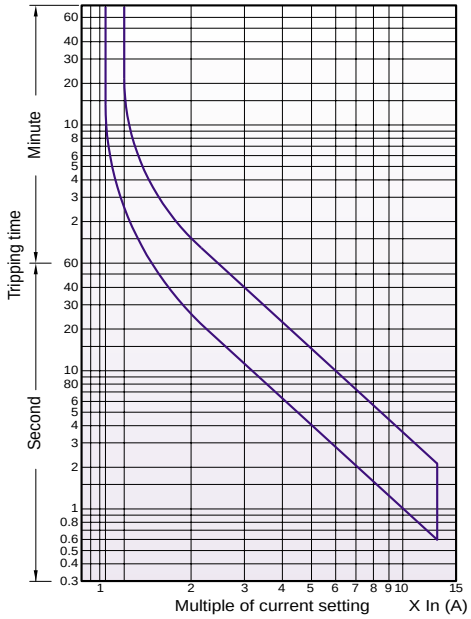
0.39kg

Overload relay curves

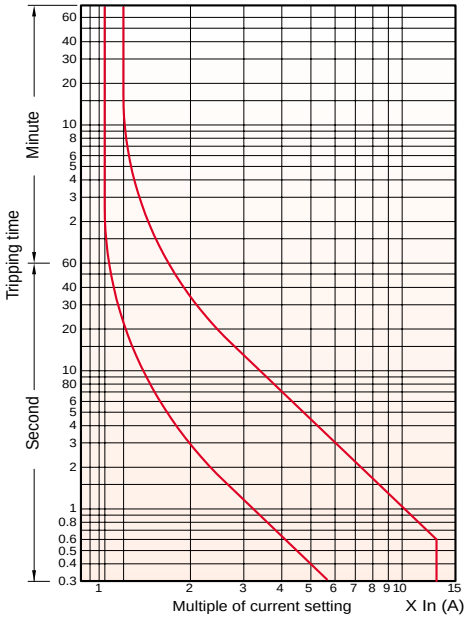
Non-Differential type

CGTH-12M

Cold state



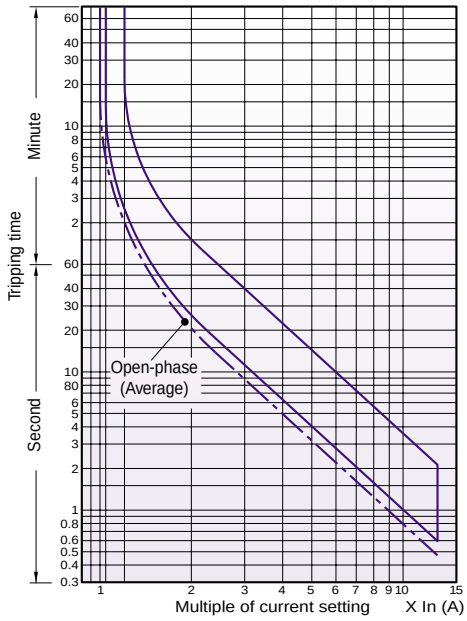
Hot state



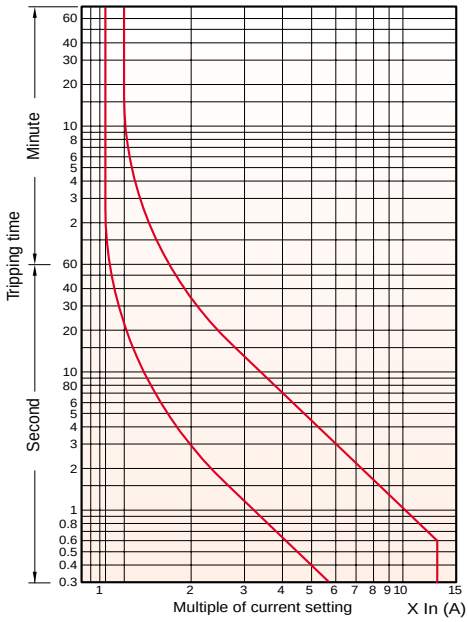
Differential type

CGT-12M

Cold state



Hot state



Motor Controllers
Enclosed Motor Starters
Type CGPM

- **Available for motors up to 600 Hp / 600 VAC**
- **Single or three phase models**
- **IP65/NEMA 4 metallic enclosure**
- **Integrated class 10 overload (class 20 available on request)**
- **Available with start/stop, hand/off/auto, or reset button**
- **Optional pilot light, control transformer, and disconnect switch**
- **Approved (according to CSA22.2/UL508A)**

Product Description

The CGP is a series of enclosed starters for single and three phase electric motors up to 600 Hp. They include an integrated thermal overload and are available in a Nema 4 metallic enclosure.
We offer a broad range of control and pilot lights to meet your application needs. In addition, we also offer starters with an integrated control transformer & disconnect switch.

Ordering Key CGPMDL603200ANNXX60

Model
Motor Voltage
Phase
Motor Rating
Control
Control Transformer
Pilot Indication
Options
Coil Voltage

Type Selection

Motor Voltage
60: 600 V
48: 480 V
22: 220 V
11:120 V

Phase
3: Three Phase
1: Single Phase

Motor Rating
0.1 to 600 Hp(see type selection below)

Control Transformer
N: None
1: 120 VAC Sec.
2: 24 VAC Sec.

Control
N : None
A: Start/stop
B: Start/stop+reset
C: Hand/off/auto
D: Hand/off/auto+reset
E: Hand/off/auto+reset/stop
F: Hand/off/auto+start/stop
Other configurations available upon request

Pilot Indication
N: None
A: Green run light
B: Red overload trip light
C: Options A+B

Options
XX: None
F1: 30 A Fusible disconnect *
F2: 60 A Fusible disconnect *
F3: 100 A Fusible disconnect *
F4: 200 A Fusible disconnect *
F5: 400 A Fusible disconnect *
N1: 30 A Non-fusible disconnect
N2: 60 A Non-fusible disconnect
N3: 100 A Non-fusible disconnect
N4: 200 A Non-fusible disconnect
N5: 400 A Non-fusible disconnect

Coil Voltage
60: 600 VAC
48: 480 VAC
22: 220/208 VAC
11: 120 VAC
00: 24 VAC

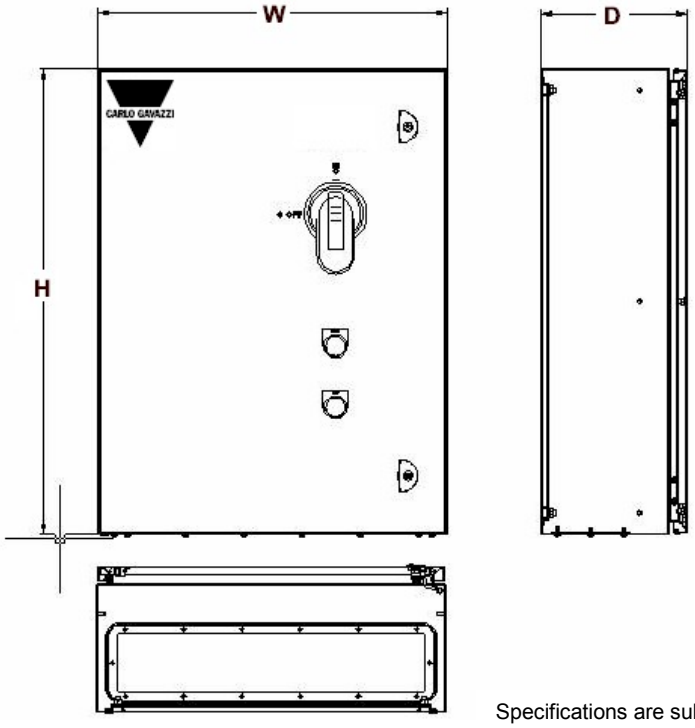
***Fuses not included**

Motor Controllers
Enclosed Motor Starters
Type CGPM

Model/Enclosure Specification										
	1ph		1ph		3ph		3ph		3ph	
HP	120VAC	FS	220VAC	FS	220VAC	FS	480VAC	FS	600VAC	FS
0.1	CGPMDL11100.1	A	CGPMDL22100.1	A						
0.25	CGPMDL1110.25	A	CGPMDL2210.25	A						
0.5	CGPMDL11100.5	A	CGPMDL22100.5	A	CGPMDL22300.5	A	CGPMDL48300.5	A	CGPMDL60300.5	A
0.75	CGPMDL1110.75	A	CGPMDL2210.75	A	CGPMDL2230.75	A	CGPMDL4830.75	A	CGPMDL6030.75	A
1	CGPMDL111001	A	CGPMDL221001	A	CGMPDL223001	A	CGPMDL483001	A	CGPMDL603001	A
1.5	CGPMDL11101.5	A	CGPMDL22101.5	A	CGMPDL22301.5	A	CGPMDL48301.5	A	CGPMDL60301.5	A
2	CGPMDL111002	A	CGPMDL221002	A	CGPMDL223002	A	CGPMDL483002	A	CGPMDL603002	A
3	CGPMDL111003	A	CGPMDL221003	A	CGPMDL223003	A	CGPMDL483003	A	CGPMDL603003	A
5	CGPMDL111005	C	CGPMDL221005	B	CGPMDL223005	A	CGPMDL483005	A	CGPMDL603005	A
7.5	CGPMDL11107.5	C	CGPMDL22107.5	B	CGPMDL22307.5	A	CGPMDL48307.5	A	CGPMDL60307.5	A
10	CGPMDL111010	D	CGPMDL221010	B	CGPMDL223010	A	CGPMDL483010	A	CGPMDL603010	A
15			CGPMDL221015	B	CGPMDL223015	B	CGPMDL483015	A	CGPMDL603015	A
20					CGPMDL223020	C	CGPMDL483020	B	CGPMDL603020	B
25					CGPMDL223025	C	CGPMDL483025	B	CGPMDL603025	B
50					CGPMDL223050	D	CGPMDL483050	C	CGPMDL603050	C
60					CGPMDL223060	D	CGPMDL483060	D	CGPMDL603060	D
75					CGPMDL223075	D	CGPMDL483075	D	CGPMDL603075	D
100					CGPMDL223100	E	CGPMDL483100	D	CGPMDL603100	D
125							CGPMDL483125	D	CGPMDL603125	D
150							CGPMDL483150	D	CGPMDL603150	D
200									CGPMDL603200	E

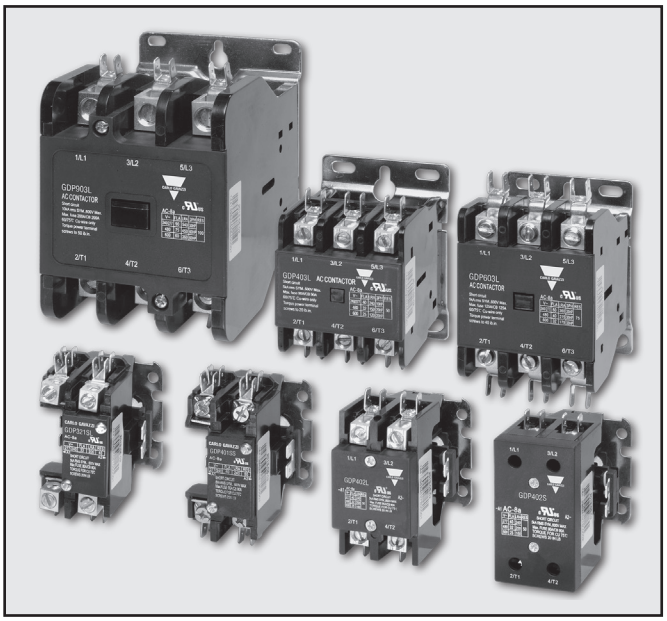
For a Frame A starter, if you choose a disconnect or a transformer option, then the frame size will increase to Frame Size B
Please contact Carlo Gavazzi for more information on horsepower ratings above 200 hp.

Dimensions



	mm / inches	mm / inches	mm / inches
Frame Size (FS)	Height (H)	Width (W)	Depth (D)
A	300 / 11.8	200 / 7.9	150 / 5.9
B	400 / 15.8	300 / 11.8	200 / 7.9
C	500 / 19.7	400 / 15.8	200 / 7.9
D	800 / 31.5	600 / 23.6	250 / 9.8
E	1000 / 39.4	800 / 31.5	300 / 11.8

Definite Purpose Contactors
1, 2 and 3 pole
Type GDP



- **Definite Purpose Contactors**
- **Switching up to 100A resistive, 90A inductive**
- **Line Voltage up to 600VAC on most sizes**
- **Control voltage up to 480VAC**
- **Screw or box lug terminals available on most sizes**
- **Fast-on coil and power terminal**
- **Hp ratings on 3-pole contactors**
- **UL recognized and CSA approved for US and Canada**
- **Cost effective**

Product Description

Power contactors specifically designed for the OEM when contactor, performance and cost must be optimized. Perfect choice-for HVAC, lighting, pumps, compressors, pools, spas, welders, etc. Available in standard 1, 2 and 3-pole type.

Ordering Key GDP 40 1 S L 120V 01

- **Product Series**
- **Amperage Rating**
- **Number of Poles**
- **Optional Shunt**
- **Load Terminals**
- **Coil Voltage**
- **Position of Coil Terminals**
- **Auxiliary Output**

Type Selection

Product Series	Amperage Rating	Number of Poles	Optional Shunt	Load Terminals
GDP	**25:** 25 Amps **32:** 32 Amps **40:** 40 Amps **50:** 50 Amps **60:** 60 Amps **75:** 75 Amps **90:** 90 Amps	**1:** 1 Pole **2:** 2 Poles **3:** 3 Poles	**S:** With Shunt **Blank:** No Shunt	**L:** Lug* **S:** Screw**

Coil Voltage	Position of Coil Terminals (3-pole only)	Auxiliary Output
24V: 24 VAC **120V:** 110/120 VAC **220V:** 220 VAC **277V:** 277 VAC **480V:** 480 VAC	**Blank:** bottom **T:** top	**01:** 1 NC*** **Blank:** none

* Lug and Fast-On load termianals.
Fast-on control terminals

** Screw and Fast-On load termianals.
Fast-on control terminals

*** Available only on 1 Pole contactors

See page 2 for list of available part numbers

CARLO GAVAZZI

Selection Guide

Amperage Rating	Terminal Type	Coil Voltage	1 Pole with 1 Aux	1 Pole with shunt	2 Pole	3-Pole
25 Amps	Screw	24 VAC	GDP251S24V01	**GDP251SS24V**	**GDP252S24V**	GDP253S24V
		120 VAC	GDP251S120V01	**GDP251SS120V**	**GDP252S120V**	GDP253S120V
		220 VAC	GDP251S220V01	**GDP251SS220V**	GDP252S220V	GDP253S220V
		277 VAC	GDP251S277V01	GDP251SS277V	GDP252S277V	GDP253S277V
		480 VAC	GDP251S480V01	GDP251SS480V	GDP252S480V	GDP253S480V
	Lug	24 VAC	GDP251L24V01	GDP251SL24V	GDP252L24V	**GDP253L24V**
		120 VAC	GDP251L120V01	GDP251SL120V	GDP252L120V	**GDP253L120V**
		220 VAC	GDP251L220V01	GDP251SL220V	GDP252L220V	**GDP253L220V**
		277 VAC	GDP251L277V01	GDP251SL277V	GDP252L277V	GDP253L277V
		480 VAC	GDP251L480V01	GDP251SL480V	GDP252L480V	GDP253L480V
32 Amps	Screw	24 VAC	GDP321S24V01	**GDP321SS24V**	**GDP322S24V**	GDP323S24V
		120 VAC	GDP321S120V01	**GDP321SS120V**	**GDP322S120V**	GDP323S120V
		220 VAC	GDP321S220V01	**GDP321SS220V**	**GDP322S220V**	GDP323S220V
		277 VAC	GDP321S277V01	GDP321SS277V	GDP322S277V	GDP323S277V
		480 VAC	GDP321S480V01	GDP321SS480V	GDP322S480V	GDP323S480V
	Lug	24 VAC	GDP321L24V01	GDP321SL24V	GDP322L24V	**GDP323L24V**
		120 VAC	GDP321L120V01	GDP321SL120V	GDP322L120V	**GDP323L120V**
		220 VAC	GDP321L220V01	GDP321SL220V	GDP322L220V	GDP323L220V
		277 VAC	GDP321L277V01	GDP321SL277V	GDP322L277V	GDP323L277V
		480 VAC	GDP321L480V01	GDP321SL480V	GDP322L480V	GDP323L480V
40 Amps	Screw	24 VAC	GDP401S24V01	GDP401SS24V	**GDP402S24V**	GDP403S24V
		120 VAC	GDP401S120V01	GDP401SS120V	**GDP402S120V**	GDP403S120V
		220 VAC	GDP401S220V01	GDP401SS220V	**GDP402S220V**	GDP403S220V
		277 VAC	GDP401S277V01	GDP401SS277V	GDP402S277V	GDP403S277V
		480 VAC	GDP401S480V01	GDP401SS480V	GDP402S480V	GDP403S480V
	Lug	24 VAC	GDP401L24V01	GDP401SL24V	**GDP402L24V**	**GDP403L24V**
		120 VAC	GDP401L120V01	GDP401SL120V	**GDP402L120V**	**GDP403L120V**
		220 VAC	GDP401L220V01	GDP401SL220V	**GDP402L220V**	**GDP403L220V**
		277 VAC	GDP401L277V01	GDP401SL277V	GDP402L277V	GDP403L277V
		480 VAC	GDP401L480V01	GDP401SL480V	GDP402L480V	GDP403L480V
50 Amps	Lug	24 VAC				**GDP503L24V**
		120 VAC				**GDP503L120V**
		220 VAC				**GDP503L220V**
		277 VAC				GDP503L277V
		480 VAC				GDP503L480V
60 Amps	Lug	24 VAC				**GDP603L24V**
		120 VAC				**GDP603L120V**
		220 VAC				**GDP603L220V**
		277 VAC				GDP603L277V
		480 VAC				GDP603L480V
75 Amps	Lug	24 VAC				**GDP753L24V**
		120 VAC				**GDP753L120V**
		220 VAC				**GDP753L220V**
		277 VAC				GDP753L277V
		480 VAC				GDP753L480V
90 Amps	Lug	24 VAC				**GDP903L24V**
		120 VAC				**GDP903L120V**
		220 VAC				**GDP903L220V**
		277 VAC				GDP903L277V
		480 VAC				GDP903L480V

Part numbers in bold font indicate stock code A items.
All other part numbers are stock code D.

GDP

CARLO GAVAZZI

Technical Specifications

Model	Voltage	FLA	LRA	Horsepower	Resistive Rating
		1 Pole			
GDP251	240/277	25	150	2*	35*
GDP321	240/277	32	200	2*	40
GDP401	240/277	40	240	3*	50
		2 Pole			
GDP252	240/277	25	150	3*	35*
	480	25*	125*	-	35*
	600	25*	100*	-	35*
GDP322	240/277	32	200	3*	40
	480	32*	150	-	40
	600	32*	150*	-	40
GDP402	240/277	40	240	3*	50
	480	40*	200	-	50
	600	40*	160	-	50
		3Pole			
GDP253	240/277	25	150	10*	35*
	480	25*	125*	15*	35*
	600	25*	100*	20*	35*
GDP323	240/277	32	200	10	40
	480	32*	150*	15	40
	600	32*	120*	20*	40
GDP403	240/277	40	240	10	50
	480	40*	200*	20	50
	600	40*	160*	25*	50
GDP503	240/277	50	300	15	65*
	480	50*	250*	25*	65*
	600	50*	200*	25*	65*
GDP603	240/277	60	360	20	75
	480	60*	300*	30	75
	600	60*	240*	30	75
GDP753	240/277	75	450	25	90
	480	75*	375	50	90
	600	75*	300	50	90
GDP903	240/277	90	540	30	120*
	480	90*	450	60	120*
	600	90*	360	60	120*

Coil Specifications

Model	In-rush VA	Sealed VA	Operational Voltage	Drop-out Voltage	Frequency
		1 Pole and 2 Pole Contactors			
All 1P and 2P	55	13	(85%~110%) Uc	(20% ~ 65%) Uc	50 / 60 Hz
		3 Pole Contactors			
GDP253 ~ GDP403	51	12	(85%~110%) Uc	(20% ~ 65%) Uc	50 / 60 Hz
GDP503 ~ GDP603	83	14			
GDP753 ~ GDP903	165	30			

Uc - nominal coil voltage

* New ratings effective May 2018.

Enviromental Specification

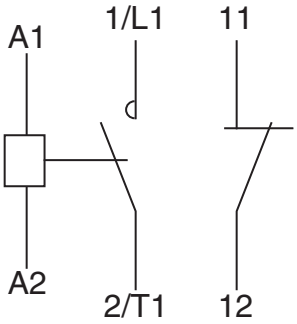
- Operating Temperature:
  Temperature ≤35°C in 24h period.
  -5 ~ 40°C (+23 ~ 104°F) - full current rating.
  41 ~ 50°C (106 ~ 122°F) - 0.875 de-rating factor
  51 ~ 60°C (124 ~ 140°F) - 0.750 de-rating factor
  61 ~ 70°C (142 ~ 158°F) - 0.625 de-rating factor
- Storage Temperature: -25 - +55°C (-13 ~ 131°F)
- Relative Humidity: less than 50% @40°C, non-condensing
- Shock and Vibration: do not subject product to shock and vibration
- Pollution Degree: 2
- Altitude: ≤2000m
- Installation: ≤5° from vertical plane

Agency Approvals, Conformance

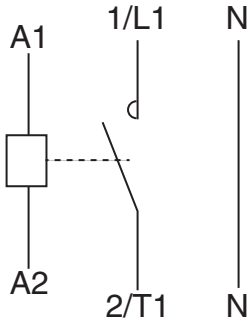
- Agency approvals: UL file: E236208, UL category: NLDX2, NLDX8
- CSA file: 268090, Class 3211-04, 3211-84
- SCCR rating: 5K rms symmetrical Amperes, 600V max, when protected by UL listed fuse
- CE: EN 60947-4-1:2010+A1
- Utilization categories: AC-1, AC-8a
- Environmental: RoHS

Connection Diagrams

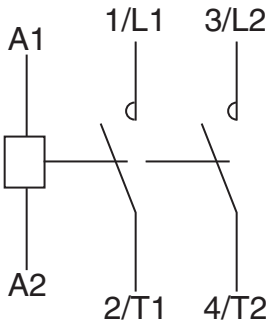
1 Pole with 1 auxiliary contact
GDP251...01, GDP321..01, GDP401..01



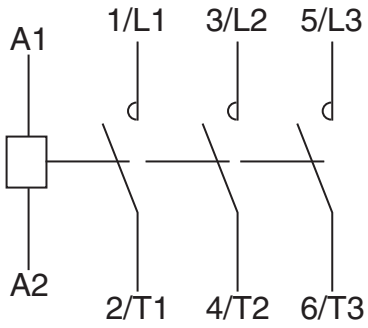
1 Pole with shunt
GDP251, GDP321, GDP401



2 Pole
GDP252, GDP322, GDP402



3 Pole
GDP253, GDP323, GDP403
GDP503, GDP603, GDP753, GDP903



1/L1, 2/T1, 3/L2, 4/T2, 5/L3, 6/T3 are the main power contacts
11, 12 are low current Normally Closed auxiliary contacts

A1, A2 are coil contacts

CARLO GAVAZZI

Auxiliary Contact Specifications

For 1 Pole Contactors with 01 sufix			
Ith (A)	Ui (V)	AC (VA)	DC (W)
10	600	300	30

Terminal Connections:

Contactor Series	Power Terminals				
	Terminal Type	Screw Type and Size	Max wire size Stranded	AWG [mm2] Solid	Max torque value lb-in [N-m]
GDP251S	Screw	Phillips, M5	14-12 [2.5~4]	14-10 [2.5~6]	20 [2.2]
GDP251L	Lug	Flat head, M8	14-12 [2.5~4]	14-10 [2.5~6]	
GDP252S, GDP32S, GDP40S	Screw	Phillips, M5	use ring of fork terminals only		
GDP252L, GDP32L, GDP40L	Lug	Flat head, M8	14-10 [2.5~6]	12-8 [4~10]	
GDP503L, GDP603L		Flat head, M10	12 -8 [4~10]	10-6 [6~16]	40 [4.5]
GDP753L, GDP903L		Flat head, M12	6-4 [16~25]	4-3 [25~35]	50 [5.6]

All power terminals offer additional dual 1/4” fast-on terminals
60/75C copper wire only

Contactor Series	Coil terminals			
	Terminal Type	Screw Type and Size	Max wire size AWG [mm2]	Max torque value Lb-in [N-m]
GDP251S	Dual 1/4” fast-on	N/A	N/A	N/A
GDP251L				
GDP252S, GDP32S, GDP40S				
GDP252L, GDP32L, GDP40L				
GDP503L, GDP603L	Dual 1/4” fast-on plus screw	Phillips, M4	16 - 14 [1~2.5]	10 [1.2]
GDP753, GDP903L				

Contactor Series	Auxiliary Contacts			
	Terminal Type	Screw Type and Size	Max wire size AWG [mm2]	Max torque value Lb-in [N-m]
GDP251S	Screw	Phillips, M4	16 - 14 [1~2.5]	10 [1.2]
GDP251L				

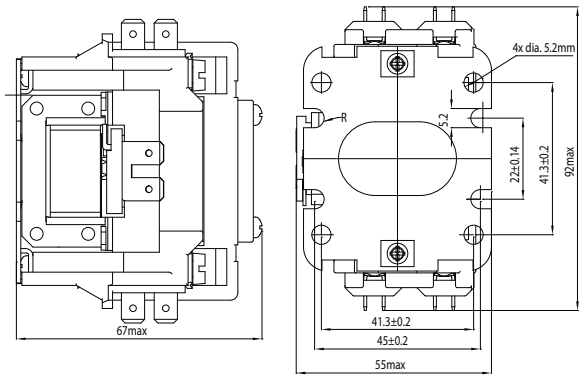
Endurance Ratings

Rating Type	Product	Rating
Mechanical life of the contactor	All 1Pole and 2Pole	1 million cycles
	All 3Pole	500K cycles
UL508 electrical life of contacts (Resistive)	All 1Pole and 2Pole	250K cycles
	All 3 Pole ≥ 50A	
	All 3 Pole ≥ 40A	30K cycles

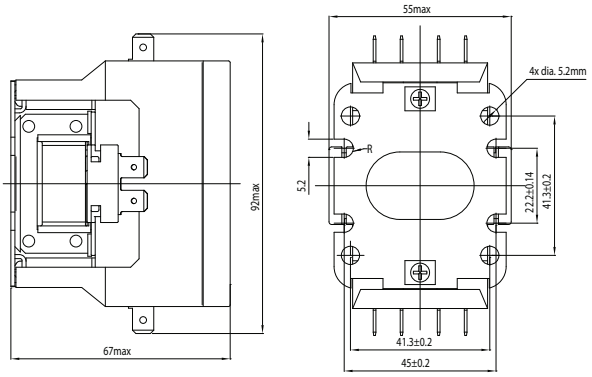
Accessories

GNCF8-11: Snap-on auxiliary contact block for 3 pole contactors. 1NO/1NC, Ith= 10A, screw terminals

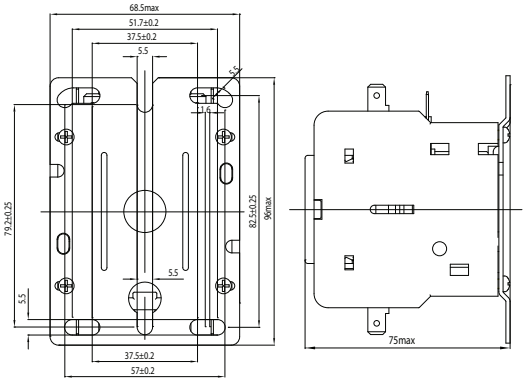
Dimensions:



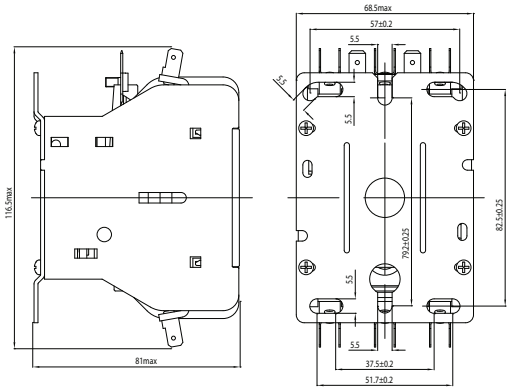
GDPx1 (1 pole+shunt)



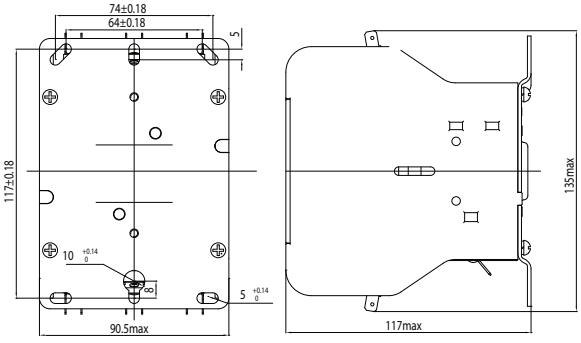
GDPx1S (1 pole+AUX) and GDPx2 (2 pole)



GDP203 ~ GDP403 (3 pole 20~40A)



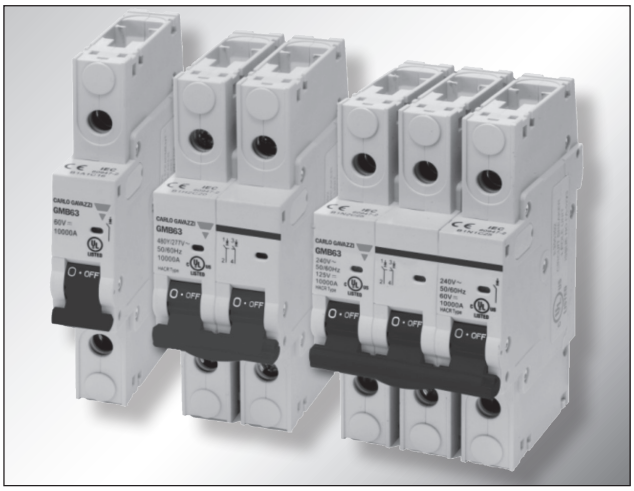
GDP503 ~ GDP603 (3 pole 50~60A)



GDP753 ~ GDP903 (3 pole 75~90A)

All Dimensions are expressed in millimeters

Miniature Circuit Breakers
Type GMB63



- Protection of circuits against short circuit and overload conditions
- UL489 branch circuit protection
- 1, 2, 3 pole arrangements
- 22 amperage sizes up to 63Amps
- Icn of 10kA
- Bimetallic element for small overloads
- Magnetic element for short circuit protection
- 240VAC and 480 Y / 277VAC versions
- Lug or screw terminals
- Line of accessories

Product Description

Competitive line of UL 489 miniature circuit breakers for 240VAC and 480Y/277VAC application where supplementary or branch circuit protection is required. GMB circuit breakers are available in 1, 2 and 3 pole configurations, with amperage rating up to 63A.

Ordering Key

GMB63 H 1P C 20 R

- **Miniature Circuit**
- **Voltage**
- **Number of Poles**
- **Tripping Characteristics**
- **Overload Range**
- **Terminal Type**

Selection Guide (Refer to page 2 for list of valid part numbers)

MCB	Voltage	Number of Poles	Tripping Characteristics	Overload Range	Terminal Type
GMB63 Family	**Blank- 240V** **H - 480Y/277V**	**1P - 1 pole** **2P - 2 pole** **3P - 3 pole**	**B - B curve** **C - C curve** **D - D curve**	**0.5A, 1A, 1.6A, 2A 3A, 4A, 5A, 6A, 8A 10A, 13A, 15A, 16A, 20A, 25A, 30A, 32A, 35A, 40A, 50A, 60A, 63A**	**Blank - lug (standard)** **R - ring**

Part numbers in bold font indicate stock item

CARLO GAVAZZI

Selection Guide

240VAC; 60/125VDC 10kA, B Curve

	Lug Terminal			Ring Terminal		
Amperage	1 Pole	2 Pole	3 Pole	1 Pole	2 Pole	3 Pole
0.5	GMB631PB0.5	GMB632PB0.5	GMB633PB0.5	GMB631PB0.5R	GMB632PB0.5R	GMB633PB0.5R
1	GMB631PB1	GMB632PB1	GMB633PB1	GMB631PB1R	GMB632PB1R	GMB633PB1R
1.6	GMB631PB1.6	GMB632PB1.6	GMB633PB1.6	GMB631PB1.6R	GMB632PB1.6R	GMB633PB1.6R
2	GMB631PB2	GMB632PB2	GMB633PB2	GMB631PB2R	GMB632PB2R	GMB633PB2R
3	GMB631PB3	GMB632PB3	GMB633PB3	GMB631PB3R	GMB632PB3R	GMB633PB3R
4	GMB631PB4	GMB632PB4	GMB633PB4	GMB631PB4R	GMB632PB4R	GMB633PB4R
5	GMB631PB5	GMB632PB5	GMB633PB5	GMB631PB5R	GMB632PB5R	GMB633PB5R
6	GMB631PB6	GMB632PB6	GMB633PB6	GMB631PB6R	GMB632PB6R	GMB633PB6R
8	GMB631PB8	GMB632PB8	GMB633PB8	GMB631PB8R	GMB632PB8R	GMB633PB8R
10	GMB631PB10	GMB632PB10	GMB633PB10	GMB631PB10R	GMB632PB10R	GMB633PB10R
13	GMB631PB13	GMB632PB13	GMB633PB13	GMB631PB13R	GMB632PB13R	GMB633PB13R
15	GMB631PB15	GMB632PB15	GMB633PB15	GMB631PB15R	GMB632PB15R	GMB633PB15R
16	GMB631PB16	GMB632PB16	GMB633PB16	GMB631PB16R	GMB632PB16R	GMB633PB16R
20	GMB631PB20	GMB632PB20	GMB633PB20	GMB631PB20R	GMB632PB20R	GMB633PB20R
25	GMB631PB25	GMB632PB25	GMB633PB25	GMB631PB25R	GMB632PB25R	GMB633PB25R
30	GMB631PB30	GMB632PB30	GMB633PB30	GMB631PB30R	GMB632PB30R	GMB633PB30R
32	GMB631PB32	GMB632PB32	GMB633PB32	GMB631PB32R	GMB632PB32R	GMB633PB32R
35	GMB631PB35	GMB632PB35	GMB633PB35	GMB631PB35R	GMB632PB35R	GMB633PB35R
40	GMB631PB40	GMB632PB40	GMB633PB40	GMB631PB40R	GMB632PB40R	GMB633PB40R
50	GMB631PB50	GMB632PB50	GMB633PB50	-	-	-
60	GMB631PB60	GMB632PB60	GMB633PB60	-	-	-
63	GMB631PB63	GMB632PB63	GMB633PB63	-	-	-

480Y/277VAB 10kA, B Curve

	Lug Terminal			Ring Terminal		
Amperage	1 Pole	2 Pole	3 Pole	1 Pole	2 Pole	3 Pole
0.5	GMB63H1PB0.5	GMB63H2PB0.5	GMB63H3PB0.5	GMB63H1PB0.5R	GMB63H2PB0.5R	GMB63H3PB0.5R
1	GMB63H1PB1	GMB63H2PB1	GMB63H3PB1	GMB63H1PB1R	GMB63H2PB1R	GMB63H3PB1R
1.6	GMB63H1PB1.6	GMB63H2PB1.6	GMB63H3PB1.6	GMB63H1PB1.6R	GMB63H2PB1.6R	GMB63H3PB1.6R
2	GMB63H1PB2	GMB63H2PB2	GMB63H3PB2	GMB63H1PB2R	GMB63H2PB2R	GMB63H3PB2R
3	GMB63H1PB3	GMB63H2PB3	GMB63H3PB3	GMB63H1PB3R	GMB63H2PB3R	GMB63H3PB3R
4	GMB63H1PB4	GMB63H2PB4	GMB63H3PB4	GMB63H1PB4R	GMB63H2PB4R	GMB63H3PB4R
5	GMB63H1PB5	GMB63H2PB5	GMB63H3PB5	GMB63H1PB5R	GMB63H2PB5R	GMB63H3PB5R
6	GMB63H1PB6	GMB63H2PB6	GMB63H3PB6	GMB63H1PB6R	GMB63H2PB6R	GMB63H3PB6R
8	GMB63H1PB8	GMB63H2PB8	GMB63H3PB8	GMB63H1PB8R	GMB63H2PB8R	GMB63H3PB8R
10	GMB63H1PB10	GMB63H2PB10	GMB63H3PB10	GMB63H1PB10R	GMB63H2PB10R	GMB63H3PB10R
13	GMB63H1PB13	GMB63H2PB13	GMB63H3PB13	GMB63H1PB13R	GMB63H2PB13R	GMB63H3PB13R
15	GMB63H1PB15	GMB63H2PB15	GMB63H3PB15	GMB63H1PB15R	GMB63H2PB15R	GMB63H3PB15R
16	GMB63H1PB16	GMB63H2PB16	GMB63H3PB16	GMB63H1PB16R	GMB63H2PB16R	GMB63H3PB16R
20	GMB63H1PB20	GMB63H2PB20	GMB63H3PB20	GMB63H1PB20R	GMB63H2PB20R	GMB63H3PB20R
25	GMB63H1PB25	GMB63H2PB25	GMB63H3PB25	GMB63H1PB25R	GMB63H2PB25R	GMB63H3PB25R
30	GMB63H1PB30	GMB63H2PB30	GMB63H3PB30	GMB63H1PB30R	GMB63H2PB30R	GMB63H3PB30R
32	GMB63H1PB32	GMB63H2PB32	GMB63H3PB32	GMB63H1PB32R	GMB63H2PB32R	GMB63H3PB32R

Part numbers in bold font indicate stock code A items.

All other part numbers are stock code D.

CARLO GAVAZZI

Selection Guide

240VAC; 60/125VDC 10kA, C curve

	Lug Terminal			Ring Terminal		
Amperage	1 Pole	2 Pole	3 Pole	1 Pole	2 Pole	3 Pole
0.5	**GMB631PC0.5**	**GMB632PC0.5**	**GMB633PC0.5**	GMB631PC0.5R	GMB632PC0.5R	GMB633PC0.5R
1	**GMB631PC1**	**GMB632PC1**	**GMB633PC1**	GMB631PC1R	GMB632PC1R	GMB633PC1R
1.6	**GMB631PC1.6**	**GMB632PC1.6**	**GMB633PC1.6**	GMB631PC1.6R	GMB632PC1.6R	GMB633PC1.6R
2	**GMB631PC2**	**GMB632PC2**	**GMB633PC2**	GMB631PC2R	GMB632PC2R	GMB633PC2R
3	**GMB631PC3**	**GMB632PC3**	**GMB633PC3**	GMB631PC3R	GMB632PC3R	GMB633PC3R
4	**GMB631PC4**	**GMB632PC4**	**GMB633PC4**	GMB631PC4R	GMB632PC4R	GMB633PC4R
5	**GMB631PC5**	**GMB632PC5**	**GMB633PC5**	GMB631PC5R	GMB632PC5R	GMB633PC5R
6	**GMB631PC6**	**GMB632PC6**	**GMB633PC6**	GMB631PC6R	GMB632PC6R	GMB633PC6R
8	**GMB631PC8**	**GMB632PC8**	**GMB633PC8**	GMB631PC8R	GMB632PC8R	GMB633PC8R
10	**GMB631PC10**	**GMB632PC10**	**GMB633PC10**	GMB631PC10R	GMB632PC10R	GMB633PC10R
13	**GMB631PC13**	**GMB632PC13**	**GMB633PC13**	GMB631PC13R	GMB632PC13R	GMB633PC13R
15	**GMB631PC15**	**GMB632PC15**	**GMB633PC15**	GMB631PC15R	GMB632PC15R	GMB633PC15R
16	**GMB631PC16**	**GMB632PC16**	**GMB633PC16**	GMB631PC16R	GMB632PC16R	GMB633PC16R
20	**GMB631PC20**	**GMB632PC20**	**GMB633PC20**	GMB631PC20R	GMB632PC20R	GMB633PC20R
25	**GMB631PC25**	**GMB632PC25**	**GMB633PC25**	GMB631PC25R	GMB632PC25R	GMB633PC25R
30	**GMB631PC30**	**GMB632PC30**	**GMB633PC30**	GMB631PC30R	GMB632PC30R	GMB633PC30R
32	**GMB631PC32**	**GMB632PC32**	**GMB633PC32**	GMB631PC32R	GMB632PC32R	GMB633PC32R
35	**GMB631PC35**	**GMB632PC35**	**GMB633PC35**	GMB631PC35R	GMB632PC35R	GMB633PC35R
40	**GMB631PC40**	**GMB632PC40**	**GMB633PC40**	GMB631PC40R	GMB632PC40R	GMB633PC40R
50	**GMB631PC50**	**GMB632PC50**	**GMB633PC50**	-	-	-
60	**GMB631PC60**	**GMB632PC60**	**GMB633PC60**	-	-	-
63	**GMB631PC63**	**GMB632PC63**	**GMB633PC63**	-	-	-

480Y/277VAC 10kA, C curve

	Lug Terminal			Ring Terminal		
Amperage	1 Pole	2 Pole	3 Pole	1 Pole	2 Pole	3 Pole
0.5	**GMB63H1PC0.5**	**GMB63H2PC0.5**	**GMB63H3PC0.5**	GMB63H1PC0.5R	GMB63H2PC0.5R	GMB63H3PC0.5R
1	**GMB63H1PC1**	**GMB63H2PC1**	**GMB63H3PC1**	GMB63H1PC1R	GMB63H2PC1R	GMB63H3PC1R
1.6	**GMB63H1PC1.6**	**GMB63H2PC1.6**	**GMB63H3PC1.6**	GMB63H1PC1.6R	GMB63H2PC1.6R	GMB63H3PC1.6R
2	**GMB63H1PC2**	**GMB63H2PC2**	**GMB63H3PC2**	GMB63H1PC2R	GMB63H2PC2R	GMB63H3PC2R
3	**GMB63H1PC3**	**GMB63H2PC3**	**GMB63H3PC3**	GMB63H1PC3R	GMB63H2PC3R	GMB63H3PC3R
4	**GMB63H1PC4**	**GMB63H2PC4**	**GMB63H3PC4**	GMB63H1PC4R	GMB63H2PC4R	GMB63H3PC4R
5	**GMB63H1PC5**	**GMB63H2PC5**	**GMB63H3PC5**	GMB63H1PC5R	GMB63H2PC5R	GMB63H3PC5R
6	**GMB63H1PC6**	**GMB63H2PC6**	**GMB63H3PC6**	GMB63H1PC6R	GMB63H2PC6R	GMB63H3PC6R
8	**GMB63H1PC8**	**GMB63H2PC8**	**GMB63H3PC8**	GMB63H1PC8R	GMB63H2PC8R	GMB63H3PC8R
10	**GMB63H1PC10**	**GMB63H2PC10**	**GMB63H3PC10**	GMB63H1PC10R	GMB63H2PC10R	GMB63H3PC10R
13	**GMB63H1PC13**	**GMB63H2PC13**	**GMB63H3PC13**	GMB63H1PC13R	GMB63H2PC13R	GMB63H3PC13R
15	**GMB63H1PC15**	**GMB63H2PC15**	**GMB63H3PC15**	GMB63H1PC15R	GMB63H2PC15R	GMB63H3PC15R
16	**GMB63H1PC16**	**GMB63H2PC16**	**GMB63H3PC16**	GMB63H1PC16R	GMB63H2PC16R	GMB63H3PC16R
20	**GMB63H1PC20**	**GMB63H2PC20**	**GMB63H3PC20**	GMB63H1PC20R	GMB63H2PC20R	GMB63H3PC20R
25	**GMB63H1PC25**	**GMB63H2PC25**	**GMB63H3PC25**	GMB63H1PC25R	GMB63H2PC25R	GMB63H3PC25R
30	**GMB63H1PC30**	**GMB63H2PC30**	**GMB63H3PC30**	GMB63H1PC30R	GMB63H2PC30R	GMB63H3PC30R
32	**GMB63H1PC32**	**GMB63H2PC32**	**GMB63H3PC32**	GMB63H1PC32R	GMB63H2PC32R	GMB63H3PC32R

Part numbers in bold font indicate stock code A items.

All other part numbers are stock code D.

CARLO GAVAZZI

Selection Guide

240VAC; 60/125VDC 10kA, D Curve

	Lug Terminal			Ring Terminal		
Amperage	1 Pole	2 Pole	3 Pole	1 Pole	2 Pole	3 Pole
0.5	GMB631PD0.5	GMB632PD0.5	GMB633PD0.5	GMB631PD0.5R	GMB632PD0.5R	GMB633PD0.5R
1	GMB631PD1	GMB632PD1	GMB633PD1	GMB631PD1R	GMB632PD1R	GMB633PD1R
1.6	GMB631PD1.6	GMB632PD1.6	GMB633PD1.6	GMB631PD1.6R	GMB632PD1.6R	GMB633PD1.6R
2	GMB631PD2	GMB632PD2	GMB633PD2	GMB631PD2R	GMB632PD2R	GMB633PD2R
3	GMB631PD3	GMB632PD3	GMB633PD3	GMB631PD3R	GMB632PD3R	GMB633PD3R
4	GMB631PD4	GMB632PD4	GMB633PD4	GMB631PD4R	GMB632PD4R	GMB633PD4R
5	GMB631PD5	GMB632PD5	GMB633PD5	GMB631PD5R	GMB632PD5R	GMB633PD5R
6	GMB631PD6	GMB632PD6	GMB633PD6	GMB631PD6R	GMB632PD6R	GMB633PD6R
8	GMB631PD8	GMB632PD8	GMB633PD8	GMB631PD8R	GMB632PD8R	GMB633PD8R
10	GMB631PD10	GMB632PD10	GMB633PD10	GMB631PD10R	GMB632PD10R	GMB633PD10R
13	GMB631PD13	GMB632PD13	GMB633PD13	GMB631PD13R	GMB632PD13R	GMB633PD13R
15	GMB631PD15	GMB632PD15	GMB633PD15	GMB631PD15R	GMB632PD15R	GMB633PD15R
16	GMB631PD16	GMB632PD16	GMB633PD16	GMB631PD16R	GMB632PD16R	GMB633PD16R
20	GMB631PD20	GMB632PD20	GMB633PD20	GMB631PD20R	GMB632PD20R	GMB633PD20R
25	GMB631PD25	GMB632PD25	GMB633PD25	GMB631PD25R	GMB632PD25R	GMB633PD25R
30	GMB631PD30	GMB632PD30	GMB633PD30	GMB631PD30R	GMB632PD30R	GMB633PD30R
32	GMB631PD32	GMB632PD32	GMB633PD32	GMB631PD32R	GMB632PD32R	GMB633PD32R
35	GMB631PD35	GMB632PD35	GMB633PD35	GMB631PD35R	GMB632PD35R	GMB633PD35R
40	GMB631PD40	GMB632PD40	GMB633PD40	GMB631PD40R	GMB632PD40R	GMB633PD40R
50	GMB631PD50	GMB632PD50	GMB633PD50	-	-	-
60	GMB631PD60	GMB632PD60	GMB633PD60	-	-	-
63	GMB631PD63	GMB632PD63	GMB633PD63	-	-	-

480Y/277VAC 10kA D Curve

	Lug Terminal			Ring Terminal		
Amperage	1 Pole	2 Pole	3 Pole	1 Pole	2 Pole	3 Pole
0.5	GMB63H1PD0.5	GMB63H2PD0.5	GMB63H3PD0.5	GMB63H1PD0.5R	GMB63H2PD0.5R	GMB63H3PD0.5R
1	GMB63H1PD1	GMB63H2PD1	GMB63H3PD1	GMB63H1PD1R	GMB63H2PD1R	GMB63H3PD1R
1.6	GMB63H1PD1.6	GMB63H2PD1.6	GMB63H3PD1.6	GMB63H1PD1.6R	GMB63H2PD1.6R	GMB63H3PD1.6R
2	GMB63H1PD2	GMB63H2PD2	GMB63H3PD2	GMB63H1PD2R	GMB63H2PD2R	GMB63H3PD2R
3	GMB63H1PD3	GMB63H2PD3	GMB63H3PD3	GMB63H1PD3R	GMB63H2PD3R	GMB63H3PD3R
4	GMB63H1PD4	GMB63H2PD4	GMB63H3PD4	GMB63H1PD4R	GMB63H2PD4R	GMB63H3PD4R
5	GMB63H1PD5	GMB63H2PD5	GMB63H3PD5	GMB63H1PD5R	GMB63H2PD5R	GMB63H3PD5R
6	GMB63H1PD6	GMB63H2PD6	GMB63H3PD6	GMB63H1PD6R	GMB63H2PD6R	GMB63H3PD6R
8	GMB63H1PD8	GMB63H2PD8	GMB63H3PD8	GMB63H1PD8R	GMB63H2PD8R	GMB63H3PD8R
10	GMB63H1PD10	GMB63H2PD10	GMB63H3PD10	GMB63H1PD10R	GMB63H2PD10R	GMB63H3PD10R
13	GMB63H1PD13	GMB63H2PD13	GMB63H3PD13	GMB63H1PD13R	GMB63H2PD13R	GMB63H3PD13R
15	GMB63H1PD15	GMB63H2PD15	GMB63H3PD15	GMB63H1PD15R	GMB63H2PD15R	GMB63H3PD15R
16	GMB63H1PD16	GMB63H2PD16	GMB63H3PD16	GMB63H1PD16R	GMB63H2PD16R	GMB63H3PD16R
20	GMB63H1PD20	GMB63H2PD20	GMB63H3PD20	GMB63H1PD20R	GMB63H2PD20R	GMB63H3PD20R
25	GMB63H1PD25	GMB63H2PD25	GMB63H3PD25	GMB63H1PD25R	GMB63H2PD25R	GMB63H3PD25R
30	GMB63H1PD30	GMB63H2PD30	GMB63H3PD30	GMB63H1PD30R	GMB63H2PD30R	GMB63H3PD30R
32	GMB63H1PD32	GMB63H2PD32	GMB63H3PD32	GMB63H1PD32R	GMB63H2PD32R	GMB63H3PD32R

Part numbers in bold font indicate stock Code A items.

All other part numbers are stock Code D.

GMB63

CARLO GAVAZZI

Electrical Specifications

		GMB63_			GMB63H		
		1 Pole	2 Pole	3 Pole	1 Pole	2 Pole	3 Pole
Standards		UL489 / CSA C22.2 No. 5 / IEC 60947-2					
Rated Voltage (see Interruptions Ratings (kA) for details):		240VAC, (60VDC 1 Pole, 125VDC 2 Pole)			480Y/277VAC		
Rated Frequency		50/60 HZ					
Rated Current	with lug terminal	0.5 ~ 63A			0.5 ~ 32A		
	with ring terminal	0.5 ~ 40A			0.5 ~ 32A		
Rated Insulation Voltage (V)		500					
Rated Impulse Withstand Voltage (kV)		6					
Instantaneous Tripping Type		B, C (standard) and D					
Interruption Rating (kA)	120 Vac	10	-	-	10	-	-
	240 Vac	10	10	10	10	10	10
	277 Vac	-	-	-	10	-	-
	480Y/277Vac	-	-	-	-	10	10
	60 Vdc	10	10	-	-	-	-
	125 Vdc	-	10	-	-	-	-

Mechanical Specifications

		GMB63_			GMB63H		
		1 Pole	2 Pole	3 Pole	1 Pole	2 Pole	3 Pole
Inverse Time-Delay Over Current Release Type		Thermal-magnetic					
Service Life	Electrical	6,000 cycles					
	Mechanical	10,000 cycles					
Protection Degree		IP20					
Wire	Single wire	14~4 AWG					
	Two wires	First wire 14~6 AWG, second wire 14~10 AWG					
Torque		31 lb-in (3.5 N-m)					

Environmemtal Specifications

		GMB63_			GMB63H		
		1 Pole	2 Pole	3 Pole	1 Pole	2 Pole	3 Pole
Temperature Range	Tested	23F to 104F (-5C to +40C)					
	Working	-13F to 131F (-25C to +55C)					
Relative Humidity	At +20C	<90%					
	At +40C	<50%					
Pollution Degree		Class 3					
Over Voltage Category / Mounting		Class III / 35mm DIN rail					
Altitude		<2000m					

GMB63

CARLO GAVAZZI

Temperature Derating

The maximum permissible current in a GMB circuit breaker depends on the ambient temperature and spacing between devices. Ambient temperature is the temperature inside the enclosure or switch board in which the circuit breaker is installed. The reference nominal current rating is +25 ~ +40C.

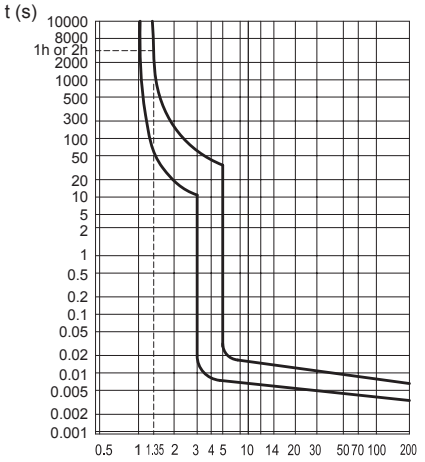
Ambient Temp >

	-22°F	-13°F	-4°F	5°°F	14°F	23°F	32°F	41°F	50°F	59°F	68°F	77°F	86°F	95°F	104°F	113°F	122°F	131°F	140°F	149°F	158°F	167°F
	-30°C	-25°C	-20°C	-15°C	-10°C	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C
Rated Current																						
0.5	0.63	0.62	0.61	0.60	0.59	0.58	0.57	0.55	0.54	0.53	0.52	0.50	0.50	0.50	0.50	0.45	0.43	0.42	0.40	0.38	0.36	0.33
1	1.21	1.19	1.18	1.16	1.14	1.12	1.10	1.08	1.06	1.04	1.02	1.00	1.00	1.00	1.00	0.91	0.89	0.87	0.84	0.80	0.77	0.73
1.6	2.11	2.06	2.05	1.98	1.94	1.90	1.86	1.81	1.76	1.73	1.65	1.60	1.60	1.60	1.60	1.36	1.30	1.23	1.17	1.09	1.01	0.93
2	2.42	2.38	2.36	2.32	2.28	2.24	2.20	2.16	2.12	2.08	2.04	2.00	2.00	2.00	2.00	1.82	1.78	1.74	1.68	1.60	1.48	1.36
3	3.81	3.75	3.66	3.60	3.54	3.45	3.39	3.33	3.24	3.15	3.09	3.00	3.00	3.00	3.00	2.64	2.55	2.46	2.34	2.25	2.13	2.01
4	5.00	4.92	4.84	4.76	4.68	4.60	4.48	4.40	4.28	4.20	4.12	4.00	4.00	4.00	4.00	3.56	3.44	3.32	3.20	3.08	2.92	2.7
5	6.30	6.20	6.10	5.95	5.85	5.75	5.65	5.50	5.40	5.25	5.15	5.00	5.00	5.00	5.00	4.45	4.30	4.15	3.95	3.75	3.50	3.25
6	7.38	7.26	7.14	7.02	6.90	6.78	6.66	6.54	6.42	6.30	6.12	6.00	6.00	6.00	6.00	5.40	5.22	5.10	4.92	4.62	4.32	4.08
8	10.32	10.08	9.92	9.76	9.52	9.36	9.12	8.88	8.72	8.48	8.24	8.00	8.00	8.00	8.00	7.04	6.72	6.40	6.08	5.76	5.12	4.48
10	12.80	12.50	12.30	12.10	11.80	11.60	11.30	11.10	10.80	10.60	10.30	10.00	10.00	10.00	10.00	8.80	8.50	8.20	7.80	7.30	6.80	6.20
13	15.60	15.34	15.08	14.95	14.69	14.43	14.17	14.04	13.78	13.52	13.26	13.00	13.00	13.00	13.00	11.96	11.70	11.44	11.05	10.40	9.75	8.84
15	19.20	18.75	18.45	18.15	17.70	17.40	16.95	16.65	16.20	15.90	15.45	15.00	15.00	15.00	15.00	13.20	12.75	12.30	11.70	10.80	9.75	8.70
16	19.84	19.52	19.20	18.88	18.56	18.24	17.76	17.44	17.12	16.80	16.32	16.00	16.00	16.00	16.00	14.40	13.92	13.44	12.96	12.00	11.20	10.24
20	24.60	24.20	23.80	23.40	23.00	22.60	22.20	21.80	21.40	21.00	20.40	20.00	20.00	20.00	20.00	18.00	17.40	16.80	16.20	15.20	14.20	13.20
25	31.00	30.50	30.00	29.50	29.00	28.50	27.75	27.25	26.75	26.25	25.50	25.00	25.00	25.00	25.00	22.50	21.75	21.25	20.50	19.25	18.00	16.75
30	39.00	38.10	37.50	36.60	36.00	35.10	34.50	33.60	32.70	31.80	30.90	30.00	30.00	30.00	30.00	26.10	24.90	23.70	22.50	20.70	19.20	17.40
32	39.36	38.72	38.08	37.44	36.80	36.16	35.52	34.88	34.24	33.28	32.64	32.00	32.00	32.00	32.00	29.12	28.16	27.20	24.96	23.36	21.76	19.84
35	45.85	45.15	44.10	43.05	42.35	41.30	40.25	39.20	38.15	37.10	36.05	35.00	35.00	35.00	35.00	30.10	28.70	27.30	25.90	24.15	22.40	20.30
40	49.20	48.40	47.60	46.80	46.00	45.20	44.40	43.60	42.80	42.00	40.80	40.00	40.00	40.00	40.00	36.40	35.20	34.00	32.80	29.60	26.40	22.40
45	55.35	54.45	53.55	52.65	51.75	50.85	49.95	49.05	48.15	47.25	45.90	45.00	45.00	45.00	45.00	40.95	39.60	38.25	36.90	33.30	29.70	36.00
50	61.50	60.50	59.50	58.50	57.50	56.50	55.50	54.50	53.50	52.50	51.00	50.00	50.00	50.00	50.00	45.50	44.00	42.50	41.00	37.50	34.00	30.00
60	77.40	76.20	74.40	73.20	71.40	70.20	68.40	66.60	65.40	63.60	61.80	60.00	60.00	60.00	60.00	52.20	50.40	48.00	45.60	42.00	37.80	33.00
63	80.01	78.75	76.86	75.60	74.34	72.45	71.19	69.93	68.04	66.15	54.81	63.00	63.00	63.00	63.00	55.44	53.55	51.66	49.14	45.36	40.95	35.91

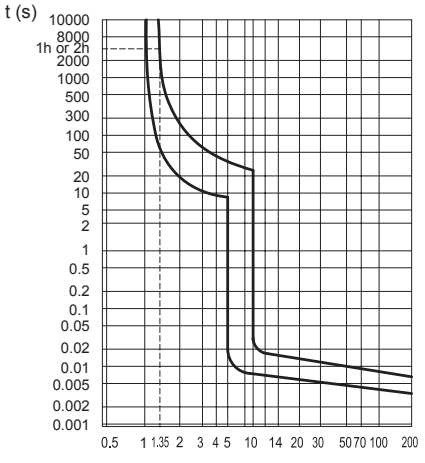
Curve Profile

C Curve
(5 ~ 10 In)

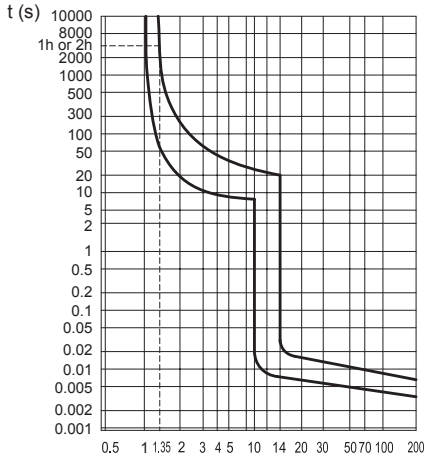
B Curve
(In=3/5)



C Curve
(In=5/10)



D Curve
(In=10/14)



GMB63

CARLO GAVAZZI

Accessories

Accessory	Poles	Part Number	Description	Ratings		Aux Contact Configuration	Approvals
Auxiliary Contact	all	**GMBAX**	Indication of the position of the device's contacts. To be mounted on the left side of the UL489 circuit breaker.	VAC / AAC	480V / 3A, 277 / 3A 240V/6A	1NO / 1NC	CE only
				VDC / ADC	24V / 6A		
Alarm Switch		**GMBAL**	Indication of the position of the device's contacts only after the automatic release of the UL489 MCB, due to an overload or a short-circuit. To be mounted on the left side of the device.	VAC / AAC	480V / 3A, 277 / 3A 240V/6A	1NO / 1NC	CE only
				VDC / ADC	24V / 6A		
Shunt Release		**GMBSHT311NC**	Release of the MCB with application of control voltage	VDC	12-24V	n/a	CE only
Padlock		**GMKLK**	Lock off for the MCB	n/a	n/a	n/a	n/a

Busbar

General

- The first cuttable UL489 Busbar.
- Allows maximum flexibility for wiring of UL489 Miniature Circuit Breakers.
- For Connection of UL489 Miniature Circuit Breakers
- 1P, 2P and 3P Configurations with and without Auxilary Switch

Ordering key: GMBB---

- Voltage Ratings: 1P 1000 V AC / DC 2+3P 600 V AC / DC
- Feeder Terminal Options allow for Top or Bottom Feed Standard
- Cuttable Design allows for maximum flexibility and less waste
- Finger Safe Design with Available Protective Caps for unused terminals

Technical data

Applicable Standard	**UL489/UL489A**	
Voltage Ratings	Single Phase	1000 VAC/VDC
	2 and 3 Phase	600 VAC/VDC
Current Rating Cross Section	End Feed	80 Amps
	Center Feed	160 Amps*
Protection Class	IP20	
KA Rating (J Fuse)	14KA	

* Note: Two GMBBCENFEED required per phase.

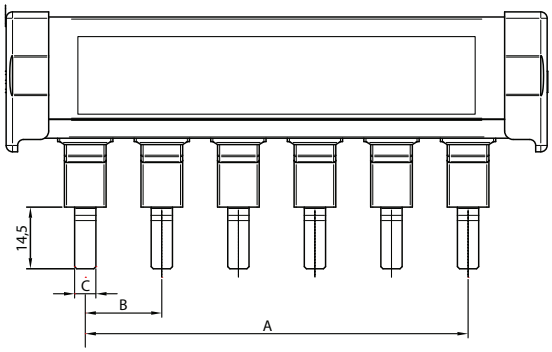
GMB63

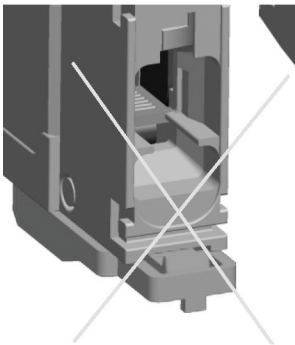
CARLO GAVAZZI

Selection Guide

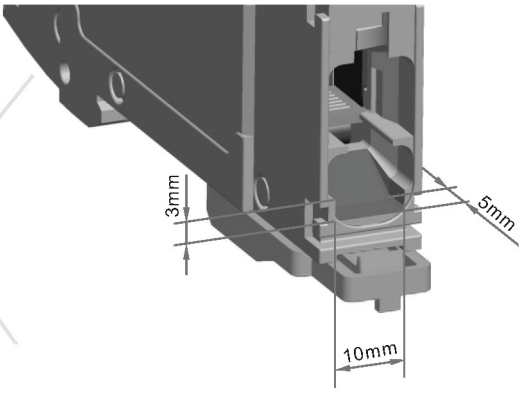
Accessory	Poles	Pins	Part Number	Description	Amperage Rating	Rated Voltage	Dimmentions [mm / in]			
					end / center feed		A	B	C	Total Height
Busbar	1	6	**GMBB1P06H**	1P 06 pins busbar for GMB	100A / 200A (*)	1000 VAC/VDC	90 / 3.5	18 / 0.71	5 / 0.20	60 / 2.36
		12	**GMBB1P12H**	1P 12 pins busbar for GMB	100A / 200A (*)		198 / 7.8	18 / 0.71	5 / 0.20	60 / 2.36
		18	**GMBB1P18H**	1P 18 pins busbar for GMB	100A / 200A (*)		306 / 12	18 / 0.71	5 / 0.20	60 / 2.36
		57	**GMBB1P57H**	cuttable 1P 57 pins busbar for GMB	100A / 200A (*)		1008 / 39.7	18 / 0.71	5 / 0.20	60 / 2.36
		37	**GMBB1P37HS**	1P 37 pins busbar for GMB+aux	100A / 200A (*)		1008 / 39.7	18 / 0.71	5 / 0.20	60 / 2.36
	2	6	**GMBB2P06H**	2P 06 pins busbar for GMB	100A / 200A (*)	600 VAC/VDC	90 / 3.5	18 / 0.71	5 / 0.20	60 / 2.36
		12	**GMBB2P12H**	2P 12 pins busbar for GMB	100A / 200A (*)		198 / 7.8	18 / 0.71	5 / 0.20	60 / 2.36
		18	**GMBB2P18H**	2P 18 pins busbar for GMB	100A / 200A (*)		306 / 12	18 / 0.71	5 / 0.20	60 / 2.36
		56	**GMBB2P56H**	2P 56 pins busbar for GMB	100A / 200A (*)		1008 / 39.7	18 / 0.71	5 / 0.20	60 / 2.36
		46	**GMBB2P46HS**	2P 46 pins busbar for GMB+aux	100A / 200A (*)		1008 / 39.7	18 / 0.71	5 / 0.20	60 / 2.36
	3	6	**GMBB3P06H**	3P 06 pins busbar for GMB	100A / 200A (*)		90 / 3.5	18 / 0.71	5 / 0.20	60 / 2.36
		12	**GMBB3P12H**	3P 12 pins busbar for GMB	100A / 200A (*)		198 / 7.8	18 / 0.71	5 / 0.20	60 / 2.36
		18	**GMBB3P18H**	3P 18 pins busbar for GMB	100A / 200A (*)		306 / 12	18 / 0.71	5 / 0.20	60 / 2.36
		57	**GMBB3P57H**	3P 57 pins busbar for GMB	100A / 200A (*)		1008 / 39.7	18 / 0.71	5 / 0.20	60 / 2.36
		37	**GMBB3P48HS**	3P 48 pins busbar for GMB+aux	100A / 200A (*)		1008 / 39.7	18 / 0.71	5 / 0.20	60 / 2.36
Feeder	all	n / a	**GMBBFEED123P**	Feeder term all GMB busbars (**)	115A	1000 VAC/VDC	(*) note that two 115A feeder terminal per phase when using center feed for 200A amperage rating			
Center feeder			**GMBBCENFEED**	Center feeder term GMB busbars	115A					
End cap			**GMBBENDCAP**	End cap all GMB busbars	n/a	n/a				
Pin cap			**GMBBPINCAP**	Pin cap all GMB busbars						

(**) GMBBFEED123P will NOT fit on GMB circuit breakers produced prior to August 2015





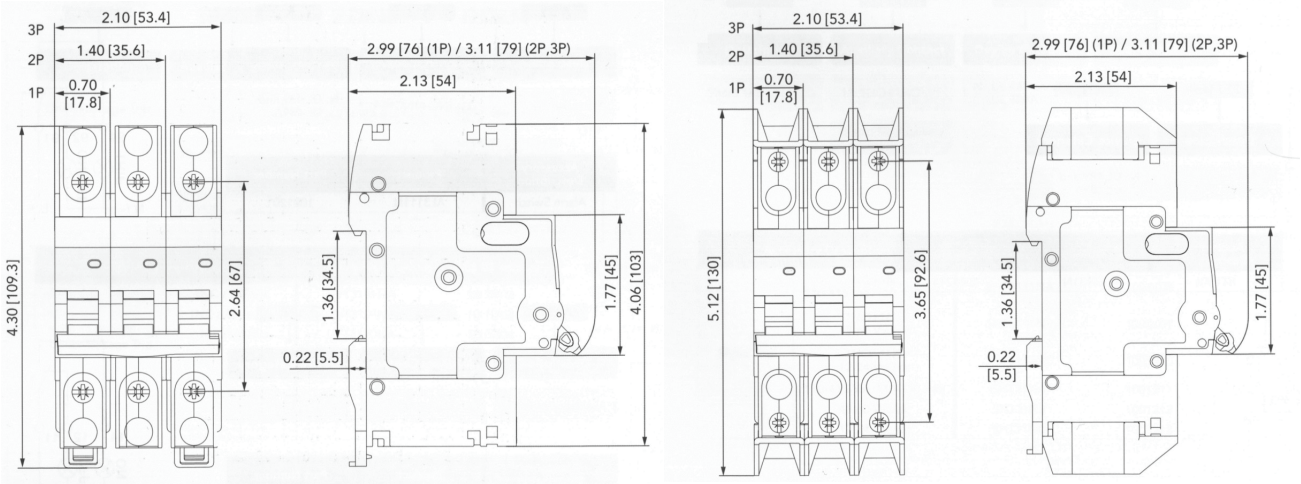
Construction prior to August 2015
Datecode 2015H or older



Construction after August 2015
Datecode 2015H and newer

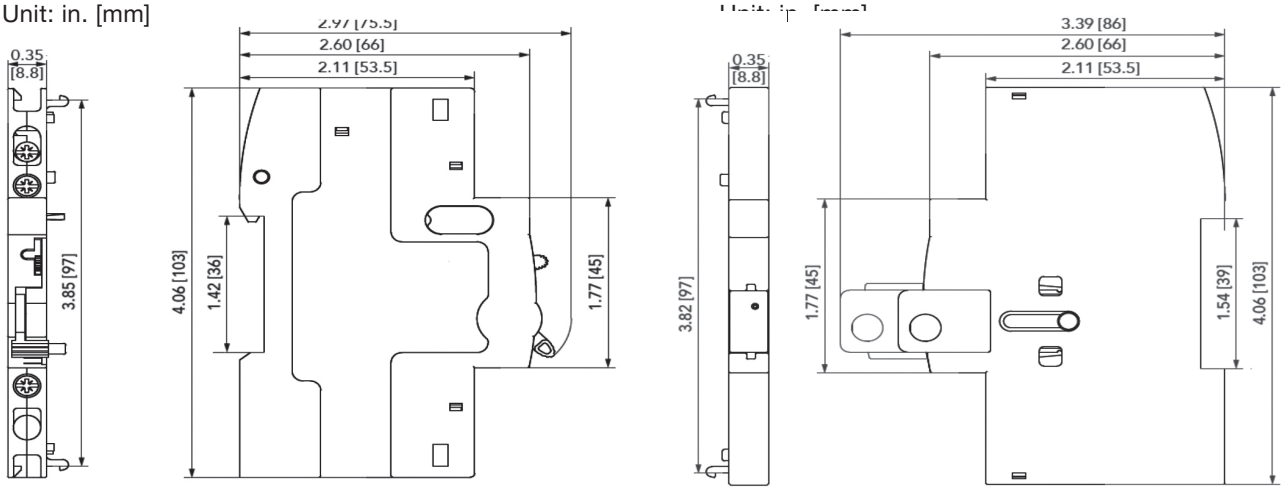
Dimensions – GMB63 IP/2P/3P Lug Terminal

Unit: in. [mm]



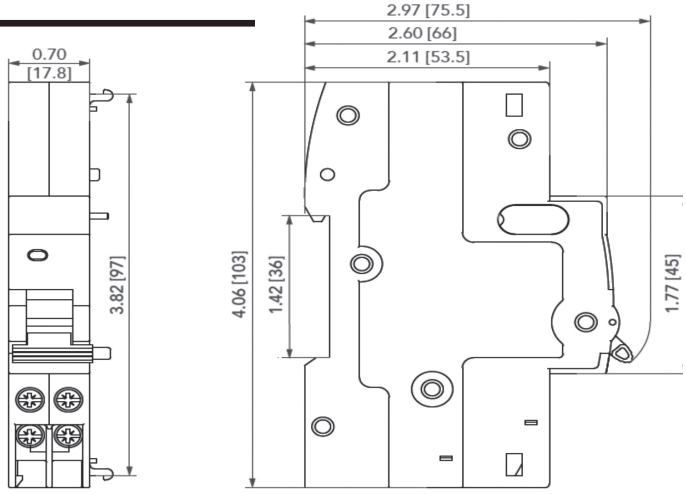
Dimensions – GMBAL BMBAX GMKLK

Unit: in. [mm]

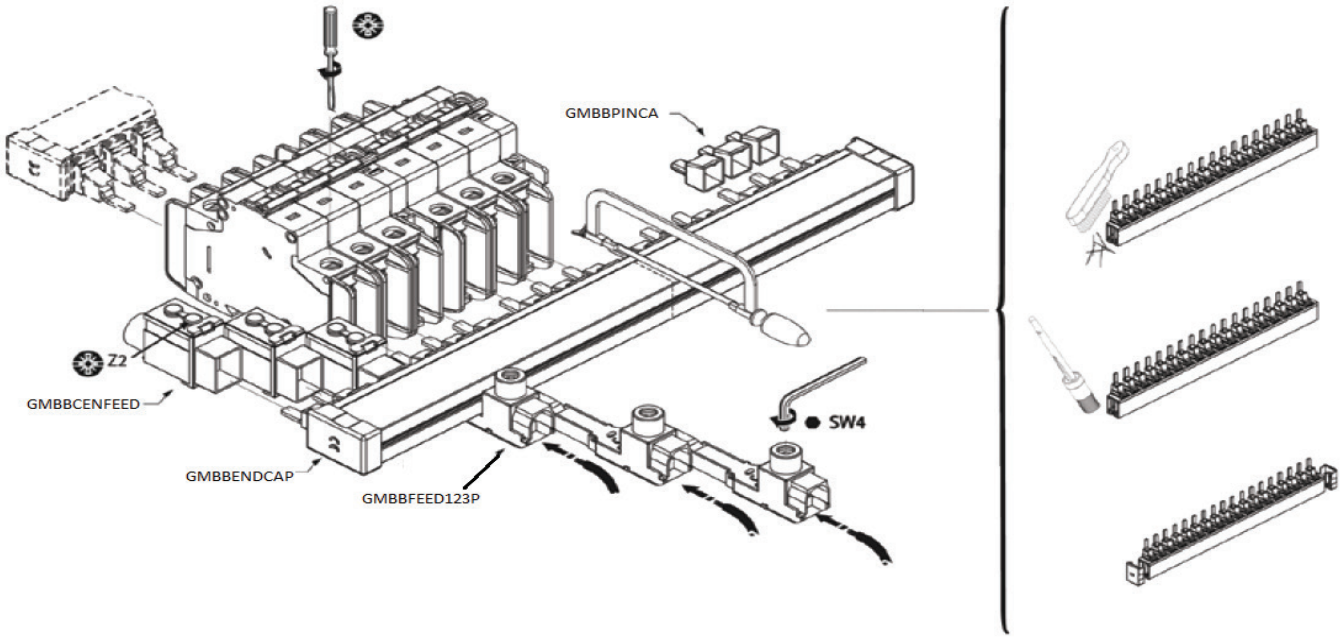


Dimensions – GMBSHT311NC

Unit: in. [mm]



CARLO GAVAZZI



Agency Approvals

GMB Supplementary Protectors

CE cULus RoHS COMPLIANT

E472420

GMBAL, GMBAX, GMKLK, GMBSHT311C Accessories

CE RoHS COMPLIANT

GMBB Busbars and Busbar Accessories

CE cULus RoHS COMPLIANT

E483985

Carlo Gavazzi GMS Manual Motor Starters provide complete ranges up to 100A

32AF

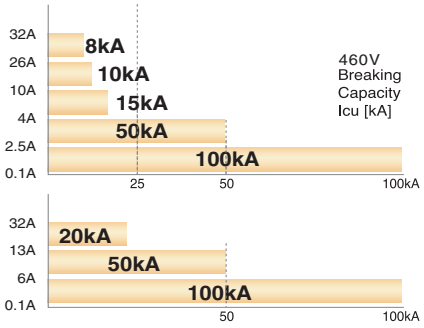
0.1~0.16... 22~32A (16 step)

GMS 32S

- Standard

GMS 32H
GMS 32HI

- High break
- Magnetic release



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

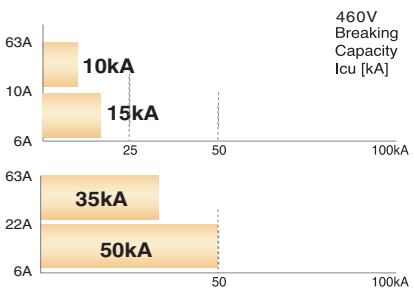
GMS 63S

- Standard

GMS 63H
GMS 63HI
GMS 63HL

- High break
- Magnetic release
- Class 20

63AF



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

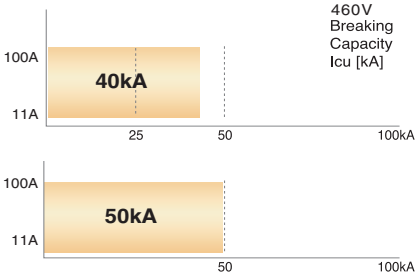
GMS 100S

- Standard

GMS 100H
GMS 100HI
GMS 100HL

- High break
- Magnetic release
- Class 20

100AF



Carlo Gavazzi GMS Manual Motor Starters deliver more efficiency through various functions and compact design

[Scale 1:1]

Front mounted auxiliary contact

Easy mounting onto DIN-rail

Large scale for current setting

Auxiliaries are just snapped on: easy, fast, without tools

Dial cover lock device

Test trip device for checks of the trip mechanism

Finger safe terminals

Dial cover

Handle Lock device (Off position)

Three position operator handle: ON-OFF-TRIP (Only 100AF is applied)

Identification labels

Handle Lock

Dial cover

Terminals

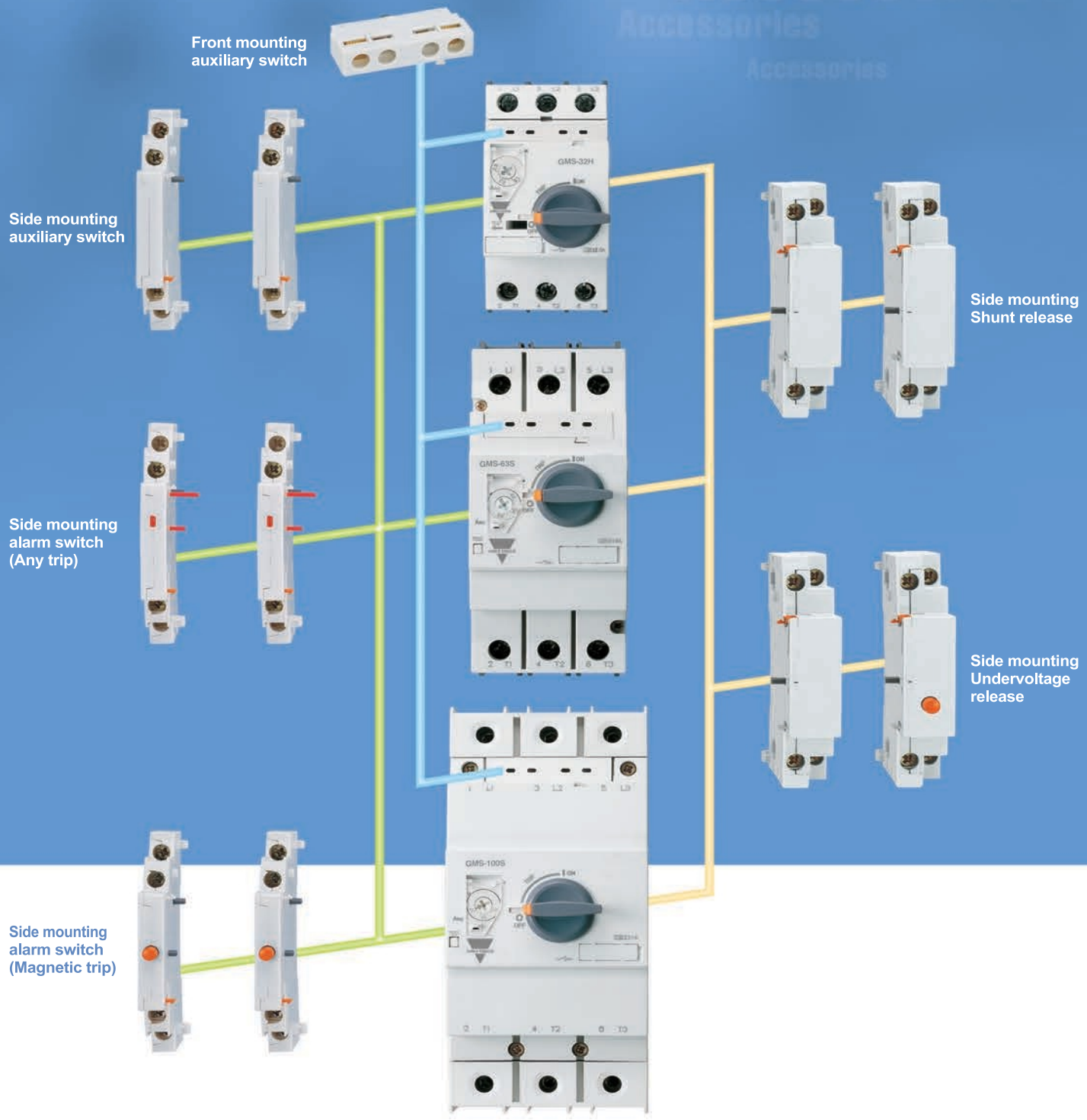
GMS32

GMS63

GMS100

Common use from 32 to 100AF

A wide variety of accessories enables a flexible response to changes in specifications



Function

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

Feature

- 45mm width up to 32A, 55mm width up to 63A and 70mm width rated to 100 amps
- Three position operator: ON-OFF-TRIP (Only 100AF is applied)
- Complete range of common accessories
- Handle lock in the OFF position
- Class 10,20 overload trip characteristics
- Trip test
- Finger safe terminal
- DIN rail and screw mounting

Standard

- The components fulfill the international standard IEC 60947
- The devices can be used as Manual Motor Starter in Group Installations According to UL508.

Contents

Product Selection Guide

Quick selection table ... IEC rating

Frame			32AF																			
Type	Current adjustable type		GMS-32S										GMS-32H									
	Instantaneous type		-										GMS-32HI									
	Class 20		-							-												
Breaking capacity			Standard										High break									
Handle Type			Rocker										Rotary									
Number of poles			3										3									
Rated operational voltage (Ue)			Up to 690V										Up to 690V									
Rated frequency			50/60 Hz										50/60 Hz									
Rated insulation voltage (Ui)			690V										690V									
Rated impulse voltage (Uimp)			6kV										6kV									
Utilization category	IEC 60 947-2 (Breaker)		Cat. A										Cat. A									
	IEC 60 947-4 (Motor starter)		AC 3										AC 3									
Shock resistance (IEC 68 Part 2-27)			25g										25g									
Degree of protection (IEC 60 529)			IP 20										IP 20									
Instantaneous short circuit release			13 × Ie max.										13 × Ie max.									
Mechanical endurance (Operating)			100,000										100,000									
Electrical endurance (Cycles)			100,000										100,000									
Max operating frequency per hour (Ope./h)			25										25									
Temperature compensation (Operation)			-20 ~ +60 ℃										-20 ~ +60 ℃									
Phase failure function			○										○									
Trip indicating function			×										×									
Test function			○										○									
Rated breaking capacity (kA)	Rated operational current (Ie)	Thermal release Adjustment range (A)	240V 230V		415V 400V		460V 440V		525V 500V		690V 600V		240V 230V		415V 400V		460V 440V		525V 500V		690V 600V	
			Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics
	0.16	0.1~0.16	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	0.25	0.16~0.25	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	0.4	0.25~0.4	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	0.63	0.4~0.63	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	1	0.63~1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	1.6	1~1.6	100	100	100	100	100	100	100	100	3	3	100	100	100	100	100	100	100	100	100	100
	2.5	1.6~2.5	100	100	100	100	100	100	50	38	3	3	100	100	100	100	100	100	100	100	8	8
	4	2.5~4	100	100	100	100	50	38	15	11	3	3	100	100	100	100	100	100	100	100	8	8
	6	4~6	100	100	100	100	15	11	10	8	3	3	100	100	100	100	100	100	100	100	6	6
	8	5~8	100	100	100	100	15	11	10	8	3	3	100	100	100	100	50	38	50	38	6	6
	10	6~10	100	100	50	38	15	11	6	5	3	3	100	100	100	100	50	38	50	38	6	6
	13	9~13	100	100	50	38	10	8	6	5	3	3	100	100	100	100	50	38	42	32	6	6
	17	11~17	50	38	20	15	10	8	6	5	3	3	100	100	50	38	20	15	10	8	4	4
	22	14~22	40	30	15	11	8	6	6	5	3	3	100	100	50	38	20	15	10	8	4	4
	26	18~26	40	30	15	11	8	6	6	5	3	3	100	100	50	38	20	15	10	8	4	4
	32	22~32	30	22	15	11	6	4	5	4	3	3	100	100	50	38	20	15	10	8	4	4
	40	28~40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	50	34~50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	63	45~63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	75	55~75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	90	70~90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	100	80~100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Ordering Example: Specify Rated Operational Current

GMS-32S-0.16 (0.1 to 0.16)

GMS-32S-0.25 (0.16 to 0.25)




63AF		100AF	
GMS-63S	GMS-63H	GMS-100S	GMS-100H
	GMS-63HI	-	GMS-100HI
-	GMS-63HL	-	GMS-100HL
Standard	High break	Standard	High break
Rotary	Rotary	Rotary	Rotary
3	3	3	3
Up to 690V	Up to 690V	Up to 690V	Up to 690V
50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
1,000V	1,000V	1,000V	1,000V
8kV	8kV	8kV	8kV
Cat. A	Cat. A	Cat. A	Cat. A
AC 3	AC 3	AC 3	AC 3
25g	25g	25g	25g
IP 20	IP 20	IP 20	IP 20
13 × Ie max.	13 × Ie max.	13 × Ie max.	13 × Ie max.
50,000	50,000	50,000	50,000
25,000	25,000	25,000	25,000
25	25	25	25
-20 ~ +60 ℃	-20 ~ +60 ℃	-20 ~ +60 ℃	-20 ~ +60 ℃
○	○	○	○
×	×	○	○
○	○	○	○

63AF (GMS-63S, GMS-63H/HI/HL):

240V 230V		415V 400V		460V 440V		525V 500V		690V 600V		240V 230V		415V 400V		460V 440V		525V 500V		690V 600V	
Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	100	100	100	15	12	10	8	4	3	100	100	100	100	50	38	50	38	6	5
100	100	50	38	10	8	6	5	4	3	100	100	100	100	50	38	42	32	6	5
100	100	25	19	10	8	6	5	4	3	100	100	50	50	50	38	12	9	5	5
50	38	25	19	10	8	6	5	4	3	100	100	50	50	50	38	12	9	5	5
50	38	25	19	10	8	6	5	4	3	100	100	50	50	35	27	12	9	5	5
50	38	25	19	10	8	6	5	4	3	100	100	50	50	35	27	10	8	5	5
50	38	25	19	10	8	6	5	4	3	100	100	50	50	35	27	10	8	5	5
50	38	25	19	10	8	6	5	4	3	100	100	50	50	35	27	10	8	5	5
50	38	25	19	10	8	6	5	4	3	100	100	50	50	35	27	10	8	5	5
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

100AF (GMS-100S, GMS-100H/HI/HL):

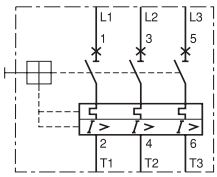
240V 230V		415V 400V		460V 440V		525V 500V		690V 600V		240V 230V		415V 400V		460V 440V		525V 500V		690V 600V	
Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	100	50	38	40	30	25	19	10	8	100	100	100	100	50	38	35	27	12	9
100	100	50	38	40	30	25	19	10	8	100	100	100	50	50	38	35	27	12	9
100	100	50	38	40	30	25	19	10	8	100	100	100	50	50	38	35	27	12	9
100	100	50	38	40	30	15	11	10	8	100	100	100	50	50	38	25	19	12	9
100	100	50	38	40	30	15	11	6	5	100	100	100	50	50	38	20	15	12	9
100	100	50	38	40	30	12	9	6	5	100	100	100	50	50	38	15	11	10	8
100	100	50	38	40	30	12	9	6	5	100	100	100	50	50	38	15	11	8	6
100	100	50	38	40	30	8	6	5	4	100	100	75	50	50	38	12	9	6	6
100	100	50	38	40	30	8	6	5	4	100	100	75	50	50	38	12	9	6	6
100	100	50	38	40	30	8	6	5	4	100	100	75	50	50	38	12	9	6	6

Motor protection

- Adjustable thermal release
- Magnetic release 13 × Ie max.
- Trip class 10
- Ambient temperature compensation
- Phase-failure protection

GMS-32S

GMS-32H



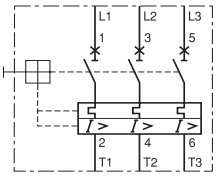
(Circuit diagram)

Type	Rated operational current Ie [A]	Thermal release Adjustment range [A]	Magnetic release Operating current [A]	Switching of 3 phase AC motors, AC-2, AC-3						440/460V	
				3-phase [kW] (50/60Hz)			3-phase [HP] (60Hz)				
				230V	400V	690V	230V	460V	575V	Icu [kA]	Ics [kA]
GMS-32S (Standard)	0.16	0.1...0.16	2.1	-	0.02	-	-	-	-	100	100
	0.25	0.16...0.25	3.3	0.03	0.06	-	-	-	-	100	100
	0.4	0.25...0.4	5.2	0.06	0.09	-	-	-	-	100	100
	0.63	0.4...0.63	8.2	0.09	0.12	0.25	-	-	-	100	100
	1	0.63...1.0	13	0.12	0.25	0.55	-	1/2	1/2	100	100
	1.6	1.0...1.6	20.8	0.25	0.55	1.1	1/3	3/4	1	100	100
	2.5	1.6...2.5	32.5	0.37	0.75	1.5	1/2	1½	1½	100	100
	4	2.5...4.0	52	0.75	1.5	3	1	2	3	50	38
	6	4...6	78	1.5	2.2	4	1½	5	5	15	11
	8	5...8	104	1.5	3	5.5	2	5	5	15	11
	10	6...10	130	3	4	7.5	3	7½	10	15	11
	13	9...13	169	3	5.5	11	3	7½	10	10	8
	17	11...17	221	4	7.5	11	5	10	15	10	8
	22	14...22	286	4	7.5	15	7½	15	20	8	6
	26	18...26	338	5.5	11	18.5	7½	15	20	8	6
	32	22...32	416	7.5	15	22	10	20	30	6	4
GMS-32H (High break)	0.16	0.1...0.16	2.1	-	0.02	-	-	-	-	100	100
	0.25	0.16...0.25	3.3	0.03	0.06	-	-	-	-	100	100
	0.4	0.25...0.4	5.2	0.06	0.09	-	-	-	-	100	100
	0.63	0.4...0.63	8.2	0.09	0.12	0.25	-	-	-	100	100
	1	0.63...1.0	13	0.12	0.25	0.55	-	1/2	1/2	100	100
	1.6	1.0...1.6	20.8	0.25	0.55	1.1	1/3	3/4	1	100	100
	2.5	1.6...2.5	32.5	0.37	0.75	1.5	1/2	1½	1½	100	100
	4	2.5...4.0	52	0.75	1.5	3	1	2	3	100	100
	6	4...6	78	1.5	2.2	4	1½	5	5	100	100
	8	5...8	104	1.5	3	5.5	2	5	5	50	38
	10	6...10	130	3	4	7.5	3	7½	10	50	38
	13	9...13	169	3	5.5	11	3	7½	10	50	38
	17	11...17	221	4	7.5	11	5	10	15	20	15
	22	14...22	286	4	7.5	15	7½	15	20	20	15
	26	18...26	338	5.5	11	18.5	7½	15	20	20	15
	32	22...32	416	7.5	15	22	10	20	30	20	15

- Adjustable thermal release
- Magnetic release 13 × Ie max.
- Trip class 10
- Ambient temperature compensation
- Phase-failure protection

GMS-63H

GMS-100H



(Circuit diagram)

Type	Rated operational current Ie [A]	Thermal release Adjustment range [A]	Magnetic release Operating current [A]	Switching of 3 phase AC motors, AC-2, AC-3						440/460V	
				3-phase [kW] (50/60Hz)			3-phase [HP] (60Hz)				
				230V	400V	690V	230V	460V	575V	Icu [kA]	Ics [kA]
GMS-63S (Standard)	10	6~10	130	3	4	7.5	3	7½	10	15	12
	13	9~13	169	3	5.5	11	3	7½	10	10	8
	17	11~17	221	4	7.5	11	5	10	15	10	8
	22	14~22	286	4	7.5	15	7½	15	20	10	8
	26	18~26	338	5.5	11	18.5	10	20	25	10	8
	32	22~32	416	7.5	15	22	10	25	30	10	8
	40	28~40	520	7.5	18.5	30	15	30	40	10	8
	50	34~50	650	11	22	45	15	40	50	10	8
	63	45~63	819	15	30	55	20	50	60	10	8
GMS-63H (High break)	10	6~10	130	3	4	7.5	3	7½	10	50	38
	13	9~13	169	3	5.5	11	3	7½	10	50	38
	17	11~17	221	4	7.5	11	5	10	15	50	38
	22	14~22	286	4	7.5	15	7½	15	20	50	38
	26	18~26	338	5.5	11	18.5	10	20	25	35	27
	32	22~32	416	7.5	15	22	10	25	30	35	27
	40	28~40	520	7.5	18.5	30	15	30	40	35	27
	50	34~50	650	11	22	45	15	40	50	35	27
	63	45~63	819	15	30	55	20	50	60	35	27
GMS-100S (Standard)	17	11~17	221	4	7.5	11	5	10	15	40	30
	22	14~22	286	4	7.5	15	7½	15	20	40	30
	26	18~26	338	5.5	11	18.5	10	20	25	40	30
	32	22~32	416	7.5	15	22	10	25	30	40	30
	40	28~40	520	7.5	18.5	30	15	30	40	40	30
	50	34~50	650	11	22	45	15	40	50	40	30
	63	45~63	819	15	30	55	20	50	60	40	30
	75	55~75	975	22	37	63	25	60	75	40	30
	90	70~90	1170	30	45	75	30	75	100	40	30
	100	80~100	1300	30	45	90	40	75	100	40	30
GMS-100H (High break)	17	11~17	221	4	7.5	11	5	10	15	50	38
	22	14~22	286	4	7.5	15	7½	15	20	50	38
	26	18~26	338	5.5	11	18.5	10	20	25	50	38
	32	22~32	416	7.5	15	22	10	25	30	50	38
	40	28~40	520	7.5	18.5	30	15	30	40	50	38
	50	34~50	650	11	22	45	15	40	50	50	38
	63	45~63	819	15	30	55	20	50	60	50	38
	75	55~75	975	22	37	63	25	60	75	50	38
	90	70~90	1170	30	45	75	30	75	100	50	38
	100	80~100	1300	30	45	90	40	75	100	50	38

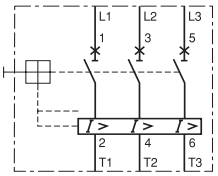
Short-circuit protection for starters

· Without thermal releases
· Magnetic release 13 × Ie max.


GMS-32HI


GMS-63HI


GMS-100HI



(Circuit diagram)

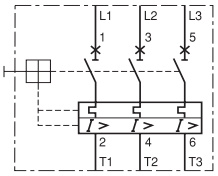
Type	Rated operational current Ie [A]	Thermal release Adjustment range [A]	Magnetic release Operating current [A]	Switching of 3 phase AC motors, AC-2, AC-3						440/460V	
				3-phase [kW] (50/60Hz)			3-phase [HP] (60Hz)				
				230V	400V	690V	230V	460V	575V	Icu [kA]	Ics [kA]
GMS-32HI (High break)	0.16	-	2.1	-	0.02	-	-	-	-	100	100
	0.25	-	3.3	0.03	0.06	-	-	-	-	100	100
	0.4	-	5.2	0.06	0.09	-	-	-	-	100	100
	0.63	-	8.2	0.09	0.12	0.25	-	-	-	100	100
	1	-	13	0.12	0.25	0.55	-	1/2	1/2	100	100
	1.6	-	20.8	0.25	0.55	1.1	1/3	3/4	1	100	100
	2.5	-	32.5	0.37	0.75	1.5	1/2	1½	1½	100	100
	4	-	52	0.75	1.5	3	1	2	3	100	100
	6	-	78	1.5	2.2	4	1½	5	5	100	100
	8	-	104	1.5	3	5.5	2	5	5	50	38
	10	-	130	3	4	7.5	3	7½	10	50	38
	13	-	169	3	5.5	11	3	7½	10	50	38
	17	-	221	4	7.5	11	5	10	15	20	15
	22	-	286	4	7.5	15	7½	15	20	20	15
	26	-	338	5.5	11	18.5	7½	15	20	20	15
	32	-	416	7.5	15	22	10	20	30	20	15
GMS-63HI (High break)	10	-	130	3	4	7.5	3	7½	10	50	38
	13	-	169	3	5.5	11	3	7½	10	50	38
	17	-	221	4	7.5	11	5	10	15	50	38
	22	-	286	4	7.5	15	7½	15	20	50	38
	26	-	338	5.5	11	18.5	10	20	25	35	27
	32	-	416	7.5	15	22	10	25	30	35	27
	40	-	520	7.5	18.5	30	15	30	40	35	27
	50	-	650	11	22	45	15	40	50	35	27
	63	-	819	15	30	55	20	50	60	35	27
GMS-100HI (High break)	17	-	221	4	7.5	11	5	10	15	50	38
	22	-	286	4	7.5	15	7½	15	20	50	38
	26	-	338	5.5	11	18.5	10	20	25	50	38
	32	-	416	7.5	15	22	10	25	30	50	38
	40	-	520	7.5	18.5	30	15	30	40	50	38
	50	-	650	11	22	45	15	40	50	50	38
	63	-	819	15	30	55	20	50	60	50	38
	75	-	975	22	37	63	25	60	75	50	38
	90	-	1170	30	45	75	30	75	100	50	38
	100	-	1300	30	45	90	40	75	100	50	38

Motor protection ··· Class 20

- Adjustable thermal release
- Magnetic release 13 × Ie max.
- Trip class 20
- Ambient temperature compensation
- Phase-failure protection


GMS-63H

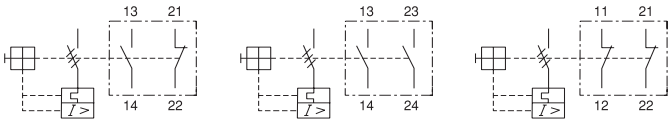
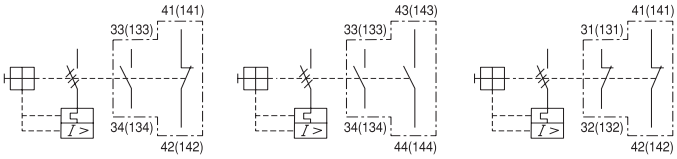
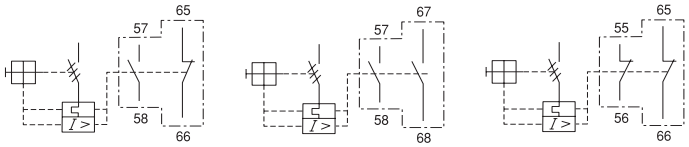
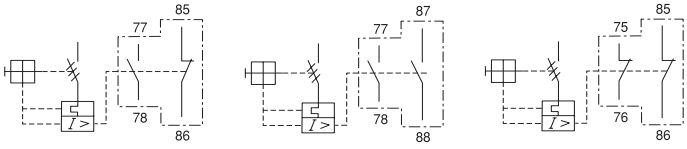

GMS-100H



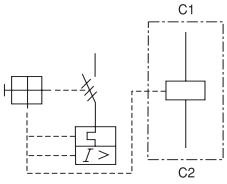
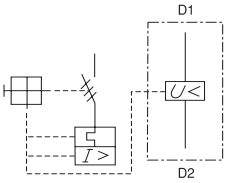
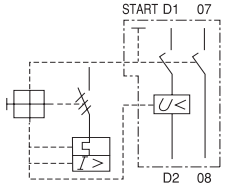
(Circuit diagram)

Type	Rated operational current Ie [A]	Thermal release Adjustment range [A]	Magnetic release Operating current [A]	Switching of 3 phase AC motors, AC-2, AC-3						440/460V	
				3-phase [kW] (50/60Hz)			3-phase [HP] (60Hz)				
				230V	400V	690V	230V	460V	575V	Icu [kA]	Ics [kA]
GMS-63HL (High break)	10	6~10	130	3	4	7.5	3	7½	10	50	38
	13	9~13	169	3	5.5	11	3	7½	10	50	38
	17	11~17	221	4	7.5	11	5	10	15	50	38
	22	14~22	286	4	7.5	15	7½	15	20	50	38
	26	18~26	338	5.5	11	18.5	10	20	25	35	27
	32	22~32	416	7.5	15	22	10	25	30	35	27
	40	28~40	520	7.5	18.5	30	15	30	40	35	27
	50	34~50	650	11	22	45	15	40	50	35	27
	63	45~63	819	15	30	55	20	50	60	35	27
GMS-100HL (High break)	17	11~17	221	4	7.5	11	5	10	15	50	38
	22	14~22	286	4	7.5	15	7½	15	20	50	38
	26	18~26	338	5.5	11	18.5	10	20	25	50	38
	32	22~32	416	7.5	15	22	10	25	30	50	38
	40	28~40	520	7.5	18.5	30	15	30	40	50	38
	50	34~50	650	11	22	45	15	40	50	50	38
	63	45~63	819	15	30	55	20	50	60	50	38
	75	55~75	975	22	37	63	25	60	75	50	38
	90	70~90	1170	30	45	75	30	75	100	50	38
	100	80~100	1300	30	45	90	40	75	100	50	38

Accessories

Type	Description	Connection diagram
GFX... 	Auxiliary Switch · Front mounting · 2-pole · One front mounting module per circuit breaker	1NO1NC / 2NO / 2NC  **GFX-11** **GFX-20** **GFX-02**
GSX... 	Auxiliary Switch · Side mounting on the left · 2-pole · One side mounting module per circuit breaker	1NO1NC / 2NO / 2NC  **GSX-11** **GSX-20** **GSX-02**
GSA... 	Any Trip Alarm Switch · Side mounting on the left · 2-pole · One side mounting module per circuit breaker. (Always directly fitted to the circuit breaker). **GMS-32:** **GMS-63/100:**	 **GSA32-11** **GSA32-20** **GSA32-02** **GSA63100-11** **GSA63100-20** **GSA63100-02**
GMA... 	Magnetic Trip Alarm Switch · Side mounting on the left · 2-pole · One side mounting module per circuit breaker. (Always directly fitted to the circuit breaker except using with Any Trip Alarm Switch).	 **GMA-11** **GMA-20** **GMA-02**

Ordering Example: Specify Contact Arrangement
GFX-11 (1NO 1NC)
GFX-20 (2NO)
GFX-02 (2NC)

Type	Description	Connection diagram	
GSR... 	Shunt release · Side mounting on the right · One side mounting module per circuit breaker. (Always directly fitted to the circuit breaker).		24V 50Hz / 28V 60Hz 110~127V 50Hz / 120V 60Hz 220~230V 50Hz / 240~260V 60Hz 240V 50Hz / 277V 60Hz 380~400V 50Hz / 440~460V 60Hz 415~440V 50Hz / 460~480V 60Hz
GUR... 	Undervoltage release · Side mounting on the right · One side mounting module per circuit breaker. (Always directly fitted to the circuit breaker).		24V 50Hz / 28V 60Hz 110~127V 50Hz / 120V 60Hz 220~230V 50Hz / 240~260V 60Hz 240V 50Hz / 277V 60Hz 380~400V 50Hz / 440~460V 60Hz 415~440V 50Hz / 460~480V 60Hz
GURX... 	Undervoltage release with Switch (Rotary Handle Only) · Side mounting on the right · Include 2NO Auxiliary contact · One side mounting module per circuit breaker. (Always directly fitted to the circuit breaker).		24V 50Hz / 28V 60Hz 110~127V 50Hz / 120V 60Hz 220~230V 50Hz / 240~260V 60Hz 240V 50Hz / 277V 60Hz 380~400V 50Hz / 440~460V 60Hz 415~440V 50Hz / 460~480V 60Hz

Others

Type	Description	Applied Type
PIL32 	**Push-in lug** · For screwing the MMS on to mounting plates.	**GMS-32S** **GMS-32H**
IB100 	**Insulation barriers** · Insulation barriers with increased creepage distances and clearances for UL	**GMS-100S** **GMS-100H**

● E-Handle (Rotary-type)

GMS E-Handle is a Rotary-type Handle accessory which can be attached to the front to control and verify the ON, TRIP, OFF condition of Manual
Motor Starters under the situation of closing panel.

- Application Model : GMS-32H/HI, GMS-63S/H/HI, GMS-100S/H/HI
- Operation temp. : -20~ +60°C
- CE and UL certified
- Degree of protection : IP65
- Locking device : Lockable in on/off position
- Material of insulation : Plastic(PA66)

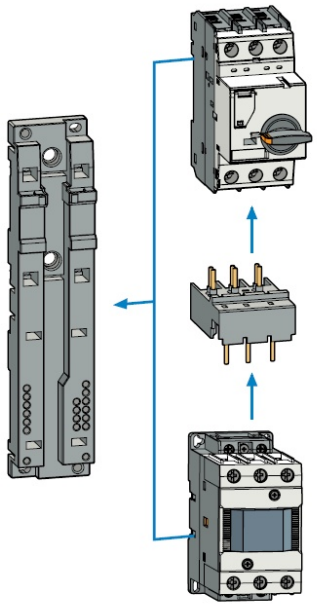
Type	Application MMS	Remarks
GEH32	GMS-32H, 32HI	Length of shaft : 115 or 315mm
GEH63	GMS-63S, 63H, 63HI	
GEH100	GMS-100S, 100H, 100HI	

● Enclosure

Case cover of GMS enclosure is specifically designed with dust-proof and corrosive-proof structure.
Therefore, it is the optimum product to use in dusty areas such as cement plants, cotton mills as well as in the presence of corrosive gas or liquid (excl. explosive, flammable gas) such as fertilizer, refinery, and plating plant.

- Application Model: GMS-32H/HI
- Operation temp. : -20~ +60℃
- CE and UL certified
- Degree of protection : IP65
- Material of insulation :Plastic(ABS)

Type	Application MMS	Remarks
GEP32A65S	GMS-32H, 32HI	Surface mount



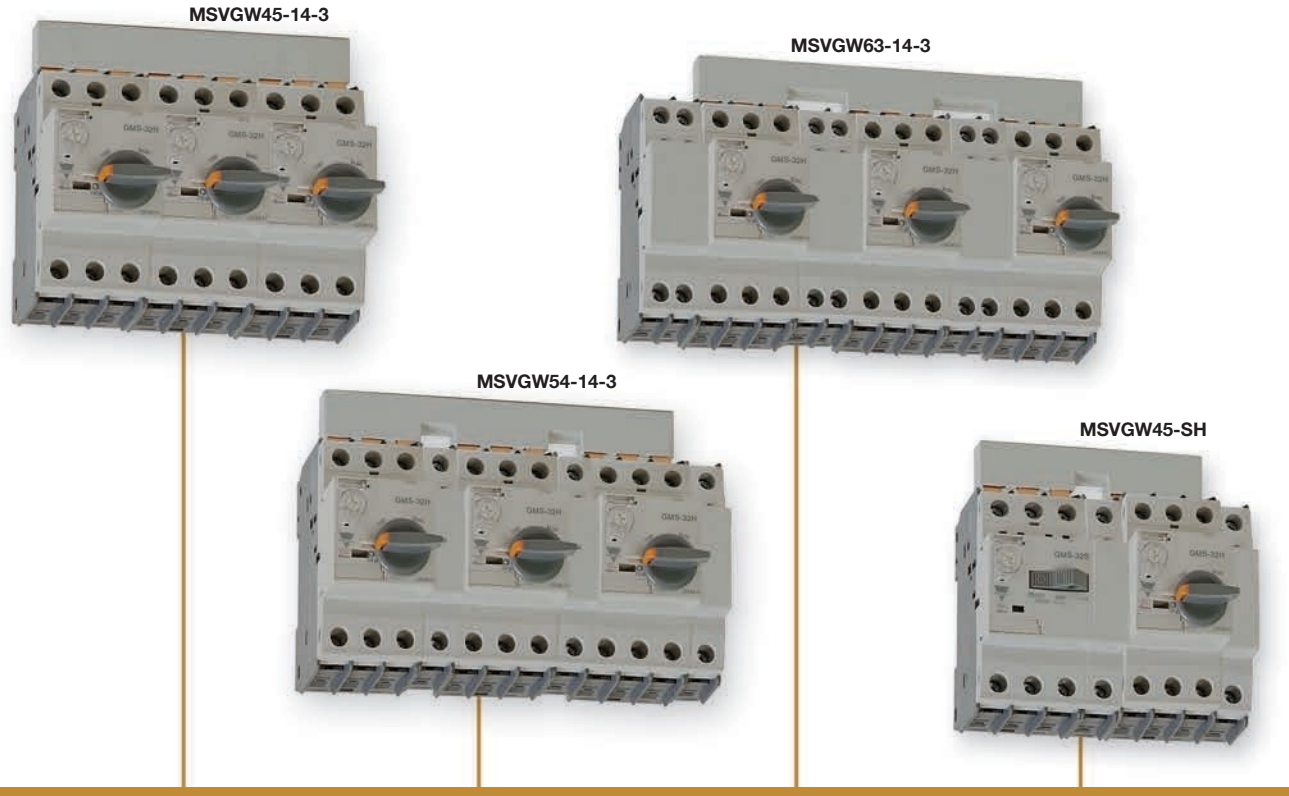
● Direct adaptor and Mounting unit

Direct adaptor , GDA
Direct adaptor is used to connect GMS directly with a contactor

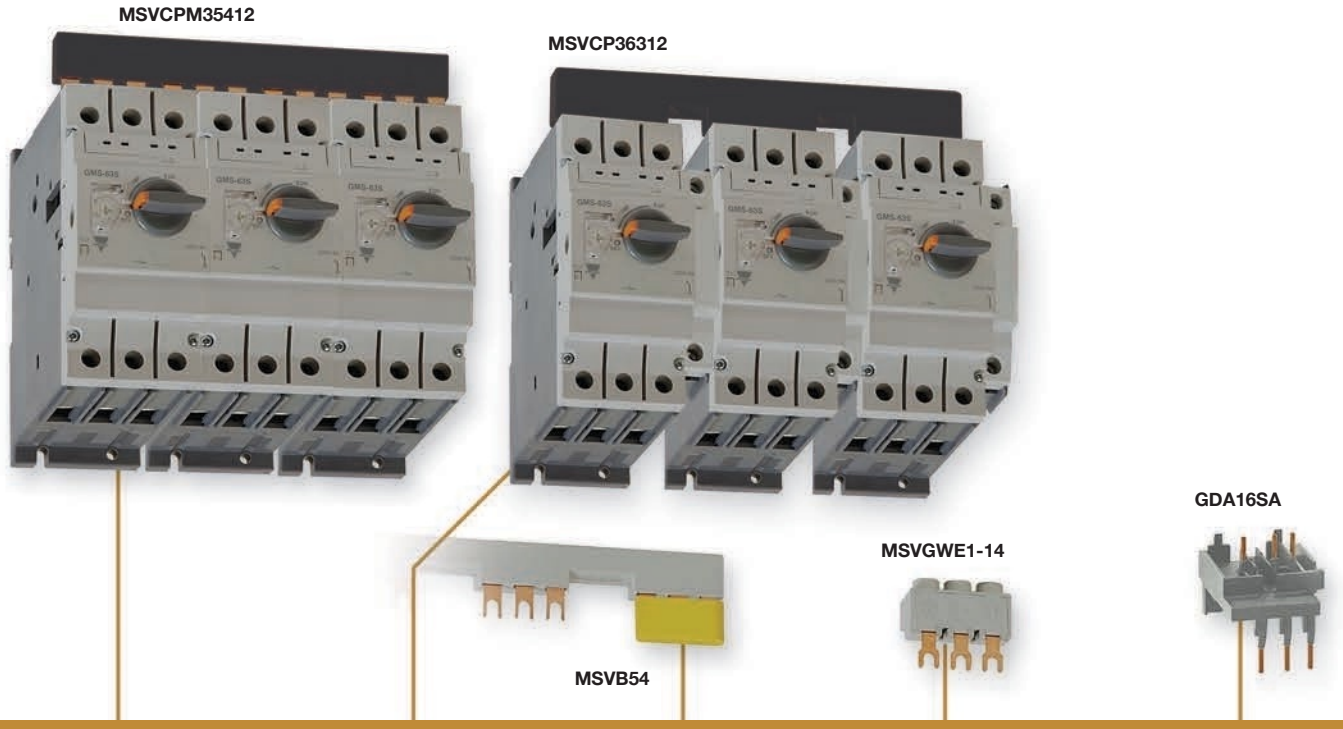
Mounting unit , GMU
This device allows for mounting joined contactor and GMS onto a common back plate.

Contactor	Mounting Unit	Manual Motor Starter	Adapter
CGMS-6A, CGMS-9A, CGMS-12A	GMU45	GMS-32H	GDA16HA
		GMS-32S	GDA16SA
CGMS-6D, CGMS-9D, CGMS-12D		GMS-32H	GDA16HD
		GMS-32S	GDA16SD
CC9SA, CC12SA, CC18SA, CC22SA		GMS-32H	GDA22HA
		GMS-32S	GDA22SA
CC9SD, CC12SD, CC18SD, CC22SD		GMS-32H	GDA22HD
		GMS-32S	GDA22SD
CC32SA, CC40SA		GMS-32H	GDA32HA
		GMS-32S	GDA32SA
CC32SD, CC40SD		GMS-32H	GDA32HD
		GMS-32S	GDA32SD
CC50LA, CC65LA	GMU55	GMS-63H, GMS-63S	GDA63A
CC50LD, CC65LS		GMS-63H, GMS-63S	GDA63D
CC75LA, CC85LA, CC100LA	GMU70	GMS-100H, GMS-100S	GDA95A
CC75LD, CC85LD, CC100LD		GMS-100H, GMS-100S	GDA95D

Busbar accessories



	45mm Spacing (rated 63A)	54mm Spacing (rated 63A)	63mm Spacing (rated 63A)	Jumper
Type	**MSVGW45-14-2**	**MSVGW54-14-2**	**MSVGW63-14-2**	**MSVGW45-SH**
Description	For 2 GMS-32S/H	For 2 GMS-32S/H + accessories (side mnt aux sw)	For 2 GMS-32S/H + accessories (side mnt undervoltage or shunt trip)	For connecting GMS-32S W/ GMS-32H
Type	**MSVGW45-14-3**	**MSVGW54-14-3**	**MSVGW63-14-3**	
Description	For 3 GMS-32S/H	For 3 GMS-32S/H + accessories (side mnt aux. sw)	For 3 GMS-32S/H + accessories (side mnt undervoltage or shunt trip)	
Type	**MSVGW45-14-4**	**MSVGW54-14-4**	**MSVGW63-14-4**	
Description	For 4 GMS-32S/H	For 4 GMS-32S/H + accessories (side mnt aux. sw)	For 4 GMS-32S/H + accessories (side mnt undervoltage or shunt trip)	
Type	**MSVGW45-14-5**	**MSVGW54-14-5**	**MSVGW63-14-5**	
Description	For 5 GMS-32S/H	For 5 GMS-32S/H + accessories (side mnt aux. sw)	For 5 GMS-32S/H + accessories (side mnt undervoltage	



54mm Spacing (rated 120A)	63mm Spacing (rated 120A)	Terminal cover	Supply connector	Connection module
MSVCPM25412	**MSVCP36312**	**MSVB54**	**MSVGWE1-14**	**GDA16SA**
For 2 GMS-63	For 2 GMS-63 + accessories (side mnt aux sw)	3 Pole protective cover for MSVGW..	3 Phase input terminal 63A	For connecting GMS-32S to CGMS-6A - CGMS-12A
MSVCPM35412	**MSVCP36312**	**MSVTA120**	**MSVBTC50E**	**GDA16SD**
For 3 GMS-63	For 3 GMS-63 + accessories (side mnt aux. sw)	3 Pole protective cover for MSVCP..	3 Phase Input terminal 120A	For connecting GMS-32S to CGMS-6D - CGMS-12D
MSVCPM45412	**MSVCP46312**			**GDA16HA**
For 4 GMS-63	For 4 GMS-63 + accessories (side mnt aux. sw)			For connecting GMS-32H to CGMS-6A - CGMS-12A
				GDA16HD
				For connecting GMS-32H to CGMS-6D - CGMS-12D

IEC performance data (Motor protection)

● GMS-100S

Rated operational current I_e [A]	17	22	26	32	40	50	63	75	90	100
Switching of standard three-phase motors AC-2, AC-3										
230/240V [kW]	3.7/4	4	5.5	7.5	7.5	11	15	22	30	30
400/415V [kW]	7.5	7.5	11	15	18.5	22	30	37	45	45
500V [kW]	11	11	15	18.5	22	30	37	45	55	63
690V [kW]	11	15	18.5	22	30	45	55	63	75	90
Back-up fuses gG, gL,, only if Icc>Icu (* = No back up fuse required)										
230/240V [A]	*	*	*	*	*	*	*	*	*	*
400/415V [A]	100	125	125	125	160	160	160	160	160	160
440/460V [A]	100	125	125	125	125	125	160	160	160	160
500V [A]	100	100	100	100	100	100	100	125	125	125
690V [A]	63	80	80	80	80	80	80	100	125	125
Ultimate short-circuit breaking capacity I_{cu}										
230/240V [kA]	100	100	100	100	100	100	100	100	100	100
400/415V [kA]	50	50	50	50	50	50	50	50	50	50
440/460V [kA]	40	40	40	40	40	40	40	40	40	40
500V [kA]	25	25	25	15	15	12	12	8	8	8
690V [kA]	10	10	10	10	6	6	6	5	5	5
Rated service short-circuit breaking capacity I_{cs}										
230/240V [kA]	100	100	100	100	100	100	100	100	100	100
400/415V [kA]	38	38	38	38	38	38	38	38	38	38
440/460V [kA]	30	30	30	30	30	30	30	30	30	30
500V [kA]	19	19	19	11	11	9	9	6	6	6
690V [kA]	8	8	8	8	5	5	5	4	4	4

● GMS-100H

Rated operational current I_e [A]	17	22	26	32	40	50	63	75	90	100
Switching of standard three-phase motors AC-2, AC-3										
230/240V [kW]	3.7/4	4	5.5	7.5	7.5	11	15	22	30	30
400/415V [kW]	7.5	7.5	11	15	18.5	22	30	37	45	45
500V [kW]	11	11	15	18.5	22	30	37	45	55	63
690V [kW]	11	15	18.5	22	30	45	55	63	75	90
Back-up fuses gG, gL,, only if Icc>Icu (*= No back up fuse required)										
230/240V [A]	*	*	*	*	*	*	*	*	*	*
400/415V [A]	*	*	*	*	*	*	*	*	*	*
440/460V [A]	125	125	125	160	160	160	200	200	200	200
500V [A]	100	125	125	125	160	160	160	160	160	160
690V [A]	80	80	80	80	80	100	100	125	160	160
Ultimate short-circuit breaking capacity I_{cu}										
230/240V [kA]	100	100	100	100	100	100	100	100	100	100
400/415V [kA]	100	100	100	100	100	100	100	75	75	75
440/460V [kA]	50	50	50	50	50	50	50	50	50	50
500V [kA]	35	35	35	25	20	15	15	12	12	12
690V [kA]	12	12	12	12	12	10	8	6	6	6
Rated service short-circuit breaking capacity I_{cs}										
230/240V [kA]	100	100	100	100	100	100	100	100	100	100
400/415V [kA]	100	50	50	50	50	50	50	50	50	50
440/460V [kA]	38	38	38	38	38	38	38	38	38	38
500V [kA]	27	27	27	19	15	11	11	9	9	9
690V [kA]	9	9	9	9	9	8	6	6	6	6

Note) * = Short circuit proof up to 50 or 100kA.
No back up fuse required.

IEC performance data (Short-circuit protection for starters)

CARLO GAVAZZI

● GMS-32HI

Rated operational current I_e	[A]	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6	8	10	13	17	22	26	32
AC-2, AC-3																	
230/240V	[kW]	-	0.03	0.06	0.09	0.12	0.18/0.25	0.37	0.55/0.75	1.1/1.5	1.5	2.2/3	3	3.7/4	4	5.5	7.5
400/415V	[kW]	0.02	0.06	0.09	0.12	0.18/0.25	0.37/0.55	0.75	1.1/1.5	2.2	3	3.7/4	5.5	7.5	7.5	11	15
500V	[kW]	-	-	-	0.25	0.37	0.55/0.75	1.1	1.5/2.2	3	3.7	4/5.5	7.5	11	11	15	18.5
690V	[kW]	-	-	-	0.25	0.37/0.55	0.75/1.1	1.5	2.2/3	3.7/4	5.5	7.5	11	11	15	18.5	22
Back-up fuses gG, gL,, only if Icc>Icu (* = No back up fuse required)																	
230/240V	[A]	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
400/415V	[A]	*	*	*	*	*	*	*	*	*	*	*	*	100	125	125	125
440/460V	[A]	*	*	*	*	*	*	*	*	*	80	80	80	80	100	100	100
500V	[A]	*	*	*	*	*	*	*	*	*	63	80	80	80	80	80	80
690V	[A]	*	*	*	*	*	*	35	40	50	63	63	63	63	63	63	63
Ultimate short-circuit breaking capacity I_{cu}																	
230/240V	[kA]	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
400/415V	[kA]	100	100	100	100	100	100	100	100	100	100	100	100	50	50	50	50
440/460V	[kA]	100	100	100	100	100	100	100	100	100	50	50	50	20	20	20	20
500V	[kA]	100	100	100	100	100	100	100	100	100	50	50	42	10	10	10	10
690V	[kA]	100	100	100	100	100	100	8	8	6	6	6	6	4	4	4	4
Rated service short-circuit breaking capacity I_{cs}																	
230/240V	[kA]	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
400/415V	[kA]	100	100	100	100	100	100	100	100	100	100	100	100	38	38	38	38
440/460V	[kA]	100	100	100	100	100	100	100	100	100	38	38	38	15	15	15	15
500V	[kA]	100	100	100	100	100	100	100	100	100	38	38	32	8	8	8	8
690V	[kA]	100	100	100	100	100	100	8	8	6	6	6	6	4	4	4	4

● GMS-63HI

Rated operational current I_e	[A]	10	13	17	22	26	32	40	50	63
AC-2, AC-3										
230/240V	[kW]	2.2/3	3	3.7/4	4	5.5	7.5	7.5	11	15
400/415V	[kW]	3.7/4	5.5	7.5	7.5	11	15	18.5	22	30
500V	[kW]	4/5.5	7.5	11	11	15	18.5	22	30	37
690V	[kW]	7.5	11	11	15	18.5	22	30	45	55
Back-up fuses gG, gL,, only if Icc>Icu (* = No back up fuse required)										
230/240V	[A]	*	*	*	*	*	*	*	*	*
400/415V	[A]	*	*	100	125	125	125	160	160	160
440/460V	[A]	100	100	100	125	125	125	125	125	160
500V	[A]	100	100	100	100	100	100	100	100	100
690V	[A]	63	63	63	80	80	80	80	80	80
Ultimate short-circuit breaking capacity I_{cu}										
230/240V	[kA]	100	100	100	100	100	100	100	100	100
400/415V	[kA]	100	100	50	50	50	50	50	50	50
440/460V	[kA]	50	50	50	50	35	35	35	35	35
500V	[kA]	50	42	12	12	12	10	10	10	10
690V	[kA]	6	6	5	5	5	5	5	5	5
Rated service short-circuit breaking capacity I_{cs}										
230/240V	[kA]	100	100	100	100	100	100	100	100	100
400/415V	[kA]	100	100	50	50	50	50	50	50	50
440/460V	[kA]	38	38	38	38	27	27	27	27	27
500V	[kA]	38	32	9	9	9	8	8	8	8
690V	[kA]	5	5	5	5	5	5	5	5	5

● GMS-100HI

Rated operational current I_e	[A]	17	22	26	32	40	50	63	75	90	100
AC-2, AC-3											
230/240V	[kW]	3.7/4	4	5.5	7.5	7.5	11	15	22	30	30
400/415V	[kW]	7.5	7.5	11	15	18.5	22	30	37	45	45
500V	[kW]	11	11	15	18.5	22	30	37	45	55	63
690V	[kW]	11	15	18.5	22	30	45	55	63	75	90
Back-up fuses gG, gL,, only if Icc>Icu (* = No back up fuse required)											
230/240V	[A]	*	*	*	*	*	*	*	*	*	*
400/415V	[A]	*	*	*	*	*	*	*	*	*	*
440/460V	[A]	125	125	125	160	160	160	200	200	200	200
500V	[A]	100	125	125	125	160	160	160	160	160	160
690V	[A]	80	80	80	80	80	100	100	125	160	160
Ultimate short-circuit breaking capacity I_{cu}											
230/240V	[kA]	100	100	100	100	100	100	100	100	100	100
400/415V	[kA]	100	100	100	100	100	100	100	75	75	75
440/460V	[kA]	50	50	50	50	50	50	50	50	50	50
500V	[kA]	35	35	35	25	20	15	15	12	12	12
690V	[kA]	12	12	12	12	12	10	8	6	6	6
Rated service short-circuit breaking capacity I_{cs}											
230/240V	[kA]	100	100	100	100	100	100	100	100	100	100
400/415V	[kA]	100	50	50	50	50	50	50	50	50	50
440/460V	[kA]	38	38	38	38	38	38	38	38	38	38
500V	[kA]	27	27	27	19	15	11	11	9	9	9
690V	[kA]	9	9	9	9	9	8	6	6	6	6

IEC performance data (Motor protection)

● GMS-100S

Rated operational current I_e [A]	17	22	26	32	40	50	63	75	90	100
Switching of standard three-phase motors AC-2, AC-3										
230/240V [kW]	3.7/4	4	5.5	7.5	7.5	11	15	22	30	30
400/415V [kW]	7.5	7.5	11	15	18.5	22	30	37	45	45
500V [kW]	11	11	15	18.5	22	30	37	45	55	63
690V [kW]	11	15	18.5	22	30	45	55	63	75	90
Back-up fuses gG, gL,, only if Icc>Icu (* = No back up fuse required)										
230/240V [A]	*	*	*	*	*	*	*	*	*	*
400/415V [A]	100	125	125	125	160	160	160	160	160	160
440/460V [A]	100	125	125	125	125	125	160	160	160	160
500V [A]	100	100	100	100	100	100	100	125	125	125
690V [A]	63	80	80	80	80	80	80	100	125	125
Ultimate short-circuit breaking capacity I_{cu}										
230/240V [kA]	100	100	100	100	100	100	100	100	100	100
400/415V [kA]	50	50	50	50	50	50	50	50	50	50
440/460V [kA]	40	40	40	40	40	40	40	40	40	40
500V [kA]	25	25	25	15	15	12	12	8	8	8
690V [kA]	10	10	10	10	6	6	6	5	5	5
Rated service short-circuit breaking capacity I_{cs}										
230/240V [kA]	100	100	100	100	100	100	100	100	100	100
400/415V [kA]	38	38	38	38	38	38	38	38	38	38
440/460V [kA]	30	30	30	30	30	30	30	30	30	30
500V [kA]	19	19	19	11	11	9	9	6	6	6
690V [kA]	8	8	8	8	5	5	5	4	4	4

● GMS-100H

Rated operational current I_e [A]	17	22	26	32	40	50	63	75	90	100
Switching of standard three-phase motors AC-2, AC-3										
230/240V [kW]	3.7/4	4	5.5	7.5	7.5	11	15	22	30	30
400/415V [kW]	7.5	7.5	11	15	18.5	22	30	37	45	45
500V [kW]	11	11	15	18.5	22	30	37	45	55	63
690V [kW]	11	15	18.5	22	30	45	55	63	75	90
Back-up fuses gG, gL,, only if Icc>Icu (*= No back up fuse required)										
230/240V [A]	*	*	*	*	*	*	*	*	*	*
400/415V [A]	*	*	*	*	*	*	*	*	*	*
440/460V [A]	125	125	125	160	160	160	200	200	200	200
500V [A]	100	125	125	125	160	160	160	160	160	160
690V [A]	80	80	80	80	80	100	100	125	160	160
Ultimate short-circuit breaking capacity I_{cu}										
230/240V [kA]	100	100	100	100	100	100	100	100	100	100
400/415V [kA]	100	100	100	100	100	100	100	75	75	75
440/460V [kA]	50	50	50	50	50	50	50	50	50	50
500V [kA]	35	35	35	25	20	15	15	12	12	12
690V [kA]	12	12	12	12	12	10	8	6	6	6
Rated service short-circuit breaking capacity I_{cs}										
230/240V [kA]	100	100	100	100	100	100	100	100	100	100
400/415V [kA]	100	50	50	50	50	50	50	50	50	50
440/460V [kA]	38	38	38	38	38	38	38	38	38	38
500V [kA]	27	27	27	19	15	11	11	9	9	9
690V [kA]	9	9	9	9	9	8	6	6	6	6

Note) * = Short circuit proof up to 50 or 100kA.
No back up fuse required.

IEC performance data (Short-circuit protection for starters)

CARLO GAVAZZI

● GMS-32HI

Rated operational current I_e	[A]	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6	8	10	13	17	22	26	32
AC-2, AC-3																	
230/240V	[kW]	-	0.03	0.06	0.09	0.12	0.18/0.25	0.37	0.55/0.75	1.1/1.5	1.5	2.2/3	3	3.7/4	4	5.5	7.5
400/415V	[kW]	0.02	0.06	0.09	0.12	0.18/0.25	0.37/0.55	0.75	1.1/1.5	2.2	3	3.7/4	5.5	7.5	7.5	11	15
500V	[kW]	-	-	-	0.25	0.37	0.55/0.75	1.1	1.5/2.2	3	3.7	4/5.5	7.5	11	11	15	18.5
690V	[kW]	-	-	-	0.25	0.37/0.55	0.75/1.1	1.5	2.2/3	3.7/4	5.5	7.5	11	11	15	18.5	22
Back-up fuses gG, gL,, only if Icc>Icu (* = No back up fuse required)																	
230/240V	[A]	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
400/415V	[A]	*	*	*	*	*	*	*	*	*	*	*	*	100	125	125	125
440/460V	[A]	*	*	*	*	*	*	*	*	*	80	80	80	80	100	100	100
500V	[A]	*	*	*	*	*	*	*	*	*	63	80	80	80	80	80	80
690V	[A]	*	*	*	*	*	*	35	40	50	63	63	63	63	63	63	63
Ultimate short-circuit breaking capacity I_{cu}																	
230/240V	[kA]	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
400/415V	[kA]	100	100	100	100	100	100	100	100	100	100	100	100	50	50	50	50
440/460V	[kA]	100	100	100	100	100	100	100	100	100	50	50	50	20	20	20	20
500V	[kA]	100	100	100	100	100	100	100	100	100	50	50	42	10	10	10	10
690V	[kA]	100	100	100	100	100	100	8	8	6	6	6	6	4	4	4	4
Rated service short-circuit breaking capacity I_{cs}																	
230/240V	[kA]	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
400/415V	[kA]	100	100	100	100	100	100	100	100	100	100	100	100	38	38	38	38
440/460V	[kA]	100	100	100	100	100	100	100	100	100	38	38	38	15	15	15	15
500V	[kA]	100	100	100	100	100	100	100	100	100	38	38	32	8	8	8	8
690V	[kA]	100	100	100	100	100	100	8	8	6	6	6	6	4	4	4	4

● GMS-63HI

Rated operational current I_e	[A]	10	13	17	22	26	32	40	50	63
AC-2, AC-3										
230/240V	[kW]	2.2/3	3	3.7/4	4	5.5	7.5	7.5	11	15
400/415V	[kW]	3.7/4	5.5	7.5	7.5	11	15	18.5	22	30
500V	[kW]	4/5.5	7.5	11	11	15	18.5	22	30	37
690V	[kW]	7.5	11	11	15	18.5	22	30	45	55
Back-up fuses gG, gL,, only if Icc>Icu (* = No back up fuse required)										
230/240V	[A]	*	*	*	*	*	*	*	*	*
400/415V	[A]	*	*	100	125	125	125	160	160	160
440/460V	[A]	100	100	100	125	125	125	125	125	160
500V	[A]	100	100	100	100	100	100	100	100	100
690V	[A]	63	63	63	80	80	80	80	80	80
Ultimate short-circuit breaking capacity I_{cu}										
230/240V	[kA]	100	100	100	100	100	100	100	100	100
400/415V	[kA]	100	100	50	50	50	50	50	50	50
440/460V	[kA]	50	50	50	50	35	35	35	35	35
500V	[kA]	50	42	12	12	12	10	10	10	10
690V	[kA]	6	6	5	5	5	5	5	5	5
Rated service short-circuit breaking capacity I_{cs}										
230/240V	[kA]	100	100	100	100	100	100	100	100	100
400/415V	[kA]	100	100	50	50	50	50	50	50	50
440/460V	[kA]	38	38	38	38	27	27	27	27	27
500V	[kA]	38	32	9	9	9	8	8	8	8
690V	[kA]	5	5	5	5	5	5	5	5	5

● GMS-100HI

Rated operational current I_e	[A]	17	22	26	32	40	50	63	75	90	100
AC-2, AC-3											
230/240V	[kW]	3.7/4	4	5.5	7.5	7.5	11	15	22	30	30
400/415V	[kW]	7.5	7.5	11	15	18.5	22	30	37	45	45
500V	[kW]	11	11	15	18.5	22	30	37	45	55	63
690V	[kW]	11	15	18.5	22	30	45	55	63	75	90
Back-up fuses gG, gL,, only if Icc>Icu (* = No back up fuse required)											
230/240V	[A]	*	*	*	*	*	*	*	*	*	*
400/415V	[A]	*	*	*	*	*	*	*	*	*	*
440/460V	[A]	125	125	125	160	160	160	200	200	200	200
500V	[A]	100	125	125	125	160	160	160	160	160	160
690V	[A]	80	80	80	80	80	100	100	125	160	160
Ultimate short-circuit breaking capacity I_{cu}											
230/240V	[kA]	100	100	100	100	100	100	100	100	100	100
400/415V	[kA]	100	100	100	100	100	100	100	75	75	75
440/460V	[kA]	50	50	50	50	50	50	50	50	50	50
500V	[kA]	35	35	35	25	20	15	15	12	12	12
690V	[kA]	12	12	12	12	12	10	8	6	6	6
Rated service short-circuit breaking capacity I_{cs}											
230/240V	[kA]	100	100	100	100	100	100	100	100	100	100
400/415V	[kA]	100	50	50	50	50	50	50	50	50	50
440/460V	[kA]	38	38	38	38	38	38	38	38	38	38
500V	[kA]	27	27	27	19	15	11	11	9	9	9
690V	[kA]	9	9	9	9	9	8	6	6	6	6

IEC performance data (Motor protection ; Class 20)

● GMS-63HL

Rated operational current I_e [A]	10	13	17	22	26	32	40	50	63
Switching of standard three-phase motors AC-2, AC-3									
230/240V [kW]	2.2/3	3	3.7/4	4	5.5	7.5	7.5	11	15
400/415V [kW]	3.7/4	5.5	7.5	7.5	11	15	18.5	22	30
500V [kW]	4/5.5	7.5	11	11	15	18.5	22	30	37
690V [kW]	7.5	11	11	15	18.5	22	30	45	55
Back-up fuses gG, gL,, only if Icc>Icu (* = No back up fuse required)									
230/240V [A]	*	*	*	*	*	*	*	*	*
400/415V [A]	*	*	100	125	125	125	160	160	160
440/460V [A]	100	100	100	125	125	125	125	125	160
500V [A]	100	100	100	100	100	100	100	100	100
690V [A]	63	63	63	80	80	80	80	80	80
Ultimate short-circuit breaking capacity I_{cu}									
230/240V [kA]	100	100	100	100	100	100	100	100	100
400/415V [kA]	100	100	50	50	50	50	50	50	50
440/460V [kA]	50	50	50	50	35	35	35	35	35
500V [kA]	50	42	12	12	12	10	10	10	10
690V [kA]	6	6	5	5	5	5	5	5	5
Rated service short-circuit breaking capacity I_{cs}									
230/240V [kA]	100	100	100	100	100	100	100	100	100
400/415V [kA]	100	100	50	50	50	50	50	50	50
440/460V [kA]	38	38	38	38	27	27	27	27	27
500V [kA]	38	32	9	9	9	8	8	8	8
690V [kA]	5	5	5	5	5	5	5	5	5

● GMS-100HL

Rated operational current I_e [A]	17	22	26	32	40	50	63	75	90	100
Switching of standard three-phase motors AC-2, AC-3										
230/240V [kW]	3.7/4	4	5.5	7.5	7.5	11	15	22	30	30
400/415V [kW]	7.5	7.5	11	15	18.5	22	30	37	45	45
500V [kW]	11	11	15	18.5	22	30	37	45	55	63
690V [kW]	11	15	18.5	22	30	45	55	63	75	90
Back-up fuses gG, gL,, only if Icc>Icu (* = No back up fuse required)										
230/240V [A]	*	*	*	*	*	*	*	*	*	*
400/415V [A]	*	*	*	*	*	*	*	*	*	*
440/460V [A]	125	125	125	160	160	160	200	200	200	200
500V [A]	100	125	125	125	160	160	160	160	160	160
690V [A]	80	80	80	80	80	100	100	125	160	160
Ultimate short-circuit breaking capacity I_{cu}										
230/240V [kA]	100	100	100	100	100	100	100	100	100	100
400/415V [kA]	100	100	100	100	100	100	100	75	75	75
440/460V [kA]	50	50	50	50	50	50	50	50	50	50
500V [kA]	35	35	35	25	20	15	15	12	12	12
690V [kA]	12	12	12	12	12	10	8	6	6	6
Rated service short-circuit breaking capacity I_{cs}										
230/240V [kA]	100	100	100	100	100	100	100	100	100	100
400/415V [kA]	100	50	50	50	50	50	50	50	50	50
440/460V [kA]	38	38	38	38	38	38	38	38	38	38
500V [kA]	27	27	27	19	15	11	11	9	9	9
690V [kA]	9	9	9	9	9	8	6	6	6	6

Note) * = Short circuit proof up to 50 or 100kA.
No back up fuse required.

UL/CSA performance data (Motor protection)

Manual motor controller
(UL 508, CSA C22.2 as Manual motor controllers)

● GMS-32S

Rated operational current Ie		[A]	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6	8	10	13	17	22	26	32
Max. short-circuit current																		
	240V	[kA]	100	100	100	100	100	100	100	100	100	100	50	50	40	30	30	20
	480Y/277V	[kA]	50	50	50	50	50	50	50	50	25	25	10	10	10	10	7.5	7.5
	600Y/347V	[kA]	10	10	10	10	10	10	10	5	5	5	5	5	5	5	5	5
Motor load																		
1 Phase	115V	[HP]	-	-	-	-	-	-	-	1/8	1/4	1/3	1/2	1/2	1	2	2	2
	230V	[HP]	-	-	-	-	-	1/10	1/6	1/3	3/4	1	1½	2	3	3	5	5
3 Phase	230V	[HP]	-	-	-	-	-	1/3	1/2	1	1½	2	3	3	5	7½	7½	10
	460V	[HP]	-	-	-	-	1/2	3/4	1½	2	5	5	7½	7½	10	15	15	20
	575V	[HP]	-	-	-	-	1/2	1	1½	3	5	5	10	10	15	20	20	30
Maximum rated current of fuse or breaker		[A]	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500

Manual motor controller "group installation" or "Type E starter"
(UL 508, CSA C22.2 No..14, for group installation, in connection with
a short-circuit protection device)

● GMS-32H

Rated operational current Ie		[A]	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6	8	10	13	17	22	26	32
Max. short-circuit current																		
	240V	[kA]	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	480Y/277V	[kA]	65	65	65	65	65	65	65	65	65	65	65	65	30	30	30	30
	600Y/347V	[kA]	25	25	25	25	25	25	25	25	25	25	25	25	10	10	10	10
Motor load																		
1 Phase	115V	[HP]	-	-	-	-	-	-	-	1/8	1/4	1/3	1/2	1/2	1	2	2	2
	230V	[HP]	-	-	-	-	-	1/10	1/6	1/3	3/4	1	1½	2	3	3	5	5
3 Phase	230V	[HP]	-	-	-	-	-	1/3	1/2	1	1½	2	3	3	5	7½	7½	10
	460V	[HP]	-	-	-	-	1/2	3/4	1½	2	5	5	7½	7½	10	15	15	20
	575V	[HP]	-	-	-	-	1/2	1	1½	3	5	5	10	10	15	20	20	30
Maximum rated current of fuse or breaker		[A]	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500

UL/CSA performance data (Motor protection)

Manual motor controller "group installation" or "Type E starter"
(UL 508, CSA C22.2 No.14, for group installation, in connection with a short-circuit protection device)

● GMS-63S

Rated operational current I_e		[A]	10	13	17	22	26	32	40	50	63
Max. short-circuit current											
	240V	[kA]	100	100	100	100	100	100	100	100	100
	480Y/277V	[kA]	50	50	40	40	40	40	40	40	40
	600Y/347V	[kA]	10	10	10	10	10	10	10	10	10
Motor load											
1 Phase	115V	[HP]	1/2	1/2	1	2	2	3	3	5	5
	230V	[HP]	1½	2	3	3	5	5	7½	10	15
3 Phase	230V	[HP]	3	3	5	7½	10	10	15	15	20
	460V	[HP]	7½	7½	10	15	20	25	30	40	50
	575V	[HP]	10	10	15	20	25	30	40	50	60
Maximum rated current of fuse or breaker		[A]	600	600	600	600	600	600	600	600	600

● GMS-63H

Rated operational current I_e		[A]	10	13	17	22	26	32	40	50	63
Max. short-circuit current											
	240V	[kA]	100	100	100	100	100	100	100	100	100
	480Y/277V	[kA]	65	65	50	50	50	50	50	50	50
	600Y/347V	[kA]	25	25	10	10	10	10	10	10	10
Motor load											
1 Phase	115V	[HP]	1/2	1/2	1	2	2	3	3	5	5
	230V	[HP]	1½	2	3	3	5	5	7½	10	15
3 Phase	230V	[HP]	3	3	5	7½	10	10	15	15	20
	460V	[HP]	7½	7½	10	15	20	25	30	40	50
	575V	[HP]	10	10	15	20	25	30	40	50	60
Maximum rated current of fuse or breaker		[A]	600	600	600	600	600	600	600	600	600

Manual motor controller "group installation" or "Type E starter"
(UL 508, CSA C22.2 No..14, for group installation, in connection with a short-circuit protection device)

● GMS-100S

Rated operational current Ie		[A]	17	22	26	32	40	50	63	75	90	100
Max. short-circuit current												
	240V	[kA]	100	100	100	100	100	100	100	100	100	100
	480Y/277V	[kA]	50	50	50	50	50	50	40	40	40	40
	600Y/347V	[kA]	10	10	10	10	10	10	10	10	10	10
Motor load												
1 Phase	115V	[HP]	1	1½	2	3	3	5	5	7½	10	10
	230V	[HP]	3	3	5	5	7½	10	15	15	20	20
3 Phase	230V	[HP]	5	7½	10	10	15	15	20	25	30	40
	460V	[HP]	10	15	20	25	30	40	50	60	75	75
	575V	[HP]	15	20	25	30	40	50	60	75	100	100
Maximum rated current of fuse or breaker		[A]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

● GMS-100H

Rated operational current Ie		[A]	17	22	26	32	40	50	63	75	90	100
Max. short-circuit current												
	240V	[kA]	100	100	100	100	100	100	100	100	100	100
	480Y/277V	[kA]	65	65	65	65	65	65	50	50	50	50
	600Y/347V	[kA]	25	20	20	20	20	20	10	10	10	10
Motor load												
1 Phase	115V	[HP]	1	1½	2	3	3	5	5	7½	10	10
	230V	[HP]	3	3	5	5	7½	10	15	15	20	20
3 Phase	230V	[HP]	5	7½	10	10	15	15	20	25	30	40
	460V	[HP]	10	15	20	25	30	40	50	60	75	75
	575V	[HP]	15	20	25	30	40	50	60	75	100	100
Maximum rated current of fuse or breaker		[A]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

Manual Motor Controller (UL508)

● GMS-32S

Rated operational current Ie		[A]	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6	8	10	13	17	22	26	32
Max. short-circuit current																		
	240V	[kA]	100	100	100	100	100	100	100	100	100	100	50	50	40	30	30	20
	480Y/277V	[kA]	50	50	50	50	50	50	50	50	25	25	10	10	10	10	7.5	7.5
	600Y/347V	[kA]	10	10	10	10	10	10	10	5	5	5	5	5	5	5	5	5
Motor load																		
1 Phase	115V	[HP]	-	-	-	-	-	-	-	1/8	1/4	1/3	1/2	1/2	1	2	2	2
	230V	[HP]	-	-	-	-	-	1/10	1/6	1/3	3/4	1	1½	2	3	3	5	5
3 Phase	230V	[HP]	-	-	-	-	-	1/3	1/2	1	1½	2	3	3	5	7½	7½	10
	460V	[HP]	-	-	-	-	1/2	3/4	1½	2	5	5	7½	7½	10	15	15	20
	575V	[HP]	-	-	-	-	1/2	1	1½	3	5	5	10	10	15	20	20	30
Max. fuse size		[A]	1	1	1	1	3	6	10	15	20	30	40	50	60	80	100	125
Max. breaker size		[A]	15	15	15	15	15	15	15	15	20	30	40	50	60	80	100	125

● GMS-32H

Rated operational current Ie		[A]	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6	8	10	13	17	22	26	32
Max. short-circuit current																		
	240V	[kA]	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	480Y/277V	[kA]	50	50	50	50	50	50	50	50	50	50	50	50	30	30	30	30
	600Y/347V	[kA]	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Motor load																		
1 Phase	115V	[HP]	-	-	-	-	-	-	-	1/8	1/4	1/3	1/2	1/2	1	2	2	2
	230V	[HP]	-	-	-	-	-	1/10	1/6	1/3	3/4	1	1½	2	3	3	5	5
3 Phase	230V	[HP]	-	-	-	-	-	1/3	1/2	1	1½	2	3	3	5	7½	7½	10
	460V	[HP]	-	-	-	-	1/2	3/4	1½	2	5	5	7½	7½	10	15	15	20
	575V	[HP]	-	-	-	-	1/2	1	1½	3	5	5	10	10	15	20	20	30
Max. fuse size		[A]	1	1	1	1	3	6	10	15	20	30	40	50	60	80	100	125
Max. breaker size		[A]	15	15	15	15	15	15	15	15	20	30	40	50	60	80	100	125

● GMS-63S

Rated operational current Ie		[A]	10	13	17	22	26	32	40	50	63
Max. short-circuit current											
	240V	[kA]	100	100	100	100	100	100	100	100	100
	480Y/277V	[kA]	25	25	25	25	25	25	25	25	25
	600Y/347V	[kA]	10	10	10	10	10	10	10	10	10
Motor load											
1 Phase	115V	[HP]	1/2	1/2	1	2	2	3	3	5	5
	230V	[HP]	1½	2	3	3	5	5	7½	10	15
3 Phase	230V	[HP]	3	3	5	7½	10	10	15	15	20
	460V	[HP]	7½	7½	10	15	20	25	30	40	50
	575V	[HP]	10	10	15	20	25	30	40	50	60
Max. fuse size		[A]	40	50	60	80	100	125	150	200	250
Max. breaker size		[A]	40	50	60	80	100	125	150	200	250

● GMS-63H

Rated operational current Ie		[A]	10	13	17	22	26	32	40	50	63
Max. short-circuit current											
	240V	[kA]	100	100	100	100	100	100	100	100	100
	480Y/277V	[kA]	50	50	50	50	50	50	50	50	50
	600Y/347V	[kA]	10	10	10	10	10	10	10	10	10
Motor load											
1 Phase	115V	[HP]	1/2	1/2	1	2	2	3	3	5	5
	230V	[HP]	1½	2	3	3	5	5	7½	10	15
3 Phase	230V	[HP]	3	3	5	7½	10	10	15	15	20
	460V	[HP]	7½	7½	10	15	20	25	30	40	50
	575V	[HP]	10	10	15	20	25	30	40	50	60
Max. fuse size		[A]	40	50	60	80	100	125	150	200	250
Max. breaker size		[A]	40	50	60	80	100	125	150	200	250

● GMS-100S

Rated operational current Ie		[A]	17	22	26	32	40	50	63	75	90	100
Max. short-circuit current												
	240V	[kA]	100	100	100	100	100	100	100	100	100	100
	480Y/277V	[kA]	25	25	25	25	25	25	25	25	25	25
	600Y/347V	[kA]	10	10	10	10	10	10	10	10	10	10
Motor load												
1 Phase	115V	[HP]	1	1½	2	3	3	5	5	7½	10	10
	230V	[HP]	3	3	5	5	7½	10	15	15	20	20
3 Phase	230V	[HP]	5	7½	10	10	15	15	20	25	30	40
	460V	[HP]	10	15	20	25	30	40	50	60	75	75
	575V	[HP]	15	20	25	30	40	50	60	75	100	100
Max. fuse size		[A]	60	80	100	125	150	200	250	300	350	400
Max. breaker size		[A]	60	80	100	125	150	200	250	300	350	400

● GMS-100H

Rated operational current Ie		[A]	17	22	26	32	40	50	63	75	90	100
Max. short-circuit current												
	240V	[kA]	100	100	100	100	100	100	100	100	100	100
	480Y/277V	[kA]	50	50	50	50	50	50	50	50	50	50
	600Y/347V	[kA]	10	10	10	10	10	10	10	10	10	10
Motor load												
1 Phase	115V	[HP]	1	1½	2	3	3	5	5	7½	10	10
	230V	[HP]	3	3	5	5	7½	10	15	15	20	20
3 Phase	230V	[HP]	5	7½	10	10	15	15	20	25	30	40
	460V	[HP]	10	15	20	25	30	40	50	60	75	75
	575V	[HP]	15	20	25	30	40	50	60	75	100	100
Max. fuse size		[A]	60	80	100	125	150	200	250	300	350	400
Max. breaker size		[A]	60	80	100	125	150	200	250	300	350	400

Technical Information

General data

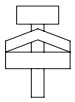
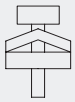
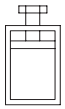
Type			GMS-32S
Rated insulation voltage			
	IEC		690V
	UL, CSA		600V
Rated impulse withstand voltage			
Uimp/Pollution degree			6kV / 3
Rated frequency			50 / 60 Hz
Utilization category:			
IEC 947-2 (Circuit breaker)			Cat. A
IEC 947-4-1 (Motor starter)			AC 3
Life span			
Mechanical		Operations	100,000
Electrical(Ie max.)		Operations	100,000
Switching frequency		Ope./h	25
Ambient temperature			
	Storage	℃	-50 ~ +80
	Operation	℃	-20 ~ +60
Operation altitude		m	Up to 2000 (6500 Feet)
Protection class			IP 20 Safe from finger touch
Resistance to shock		g	25
Resistance to vibration		Hz	5 ~ 150
Rated thermal current Ith			
IEC		[A]	0.1 ... 32
up to 60℃ ambient temperature			
Overload protection			○
Characteristics			
Ambient temperature compensation, thermal current Ith adjustments		-20°C ~ -5°C -5°C ~ +40°C +40°C ~ +60°C	set one point lower [3] automatic set one point higher [3]
Phase-failure protection			○
Trip class		IEC 60947-4-1	10
Magnetic release			13 × In [2]
Response current			
Total power loss Pv			
Circuit breaker at rated load		[W]	In = 0.16~4A : 9.8
Operating temperature			In = 6~26A : 8
			In = 32A : 3.9

Note = 1) Class20; GMS-63HL, GMS-100HL
2) In = Max. rated operational current Ie
3) use Thermal Current dial to adjust accordingly

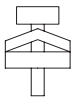
	GMS-32H	GMS-63S, 63H	GMS-100S,100H
	690V	1000V	1000V
	600V	600V	600V
	6kV / 3	8kV / 3	8kV / 3
	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
	Cat. A AC 3	Cat. A AC 3	Cat. A AC 3
	100,000 100,000	50,000 25,000	50,000 25,000
	25	25	25
	-50 ~ +80	-50 ~ +80	-50 ~ +80
	-20 ~ +60	-20 ~ +60	-20 ~ +60
	Up to 2000 (6500 Feet)	Up to 2000 (6500 Feet)	Up to 2000 (6500 Feet)
	IP 20 Safe from finger touch	IP 20 Safe from finger touch	IP 20 Safe from finger touch
	25	25	25
	5 ~ 150	5 ~ 150	5 ~ 150
	0.1 ... 32	6 ...63	11 ...100
	○	○	○
	set one point lower [3] automatic set one point higher [3]	set one point lower [3] automatic set one point higher [3]	set one point lower [3] automatic set one point higher [3]
	○	○	○
	10	10 [1]	10 [1]
	13 × In [2]	13 × In [2]	13 × In [2]
	In = 0.16~4A : 9.8 In = 6~26A : 8 In = 32A : 3.9	In = 10~22A : 13.3 In = 26~63A : 12.6	In = 17~63A : 11.9 In = 75~100A : 15

General data

● Manual Motor Starter GMS-32...100

			GMS-32S	GMS-32H	GMS-32S, 63H	GMS-100S, 100H
Conformity to standards			IEC60947 UL508, UL508 Type E			
Approvals			CE, UL			
Terminal parts						
Screwdriver						
Single-core	1.conductor	[㎟] / [AWG]	1...10 / 18...8	1...10 / 18...8	0.75...35 / 18...2	2.5...70 / 12...2/0
	2.conductor	[㎟] / [AWG]	1...6 / 18...10	1...6 / 18...10	0.75...25 / 18...4	2.5...50 / 12...1/0
Stranded	1.conductor	[㎟] / [AWG]	1...6 / 18...10	1...6 / 18...10	0.75...35 / 18...2	2.5...70 / 12...2/0
	2.conductor	[㎟] / [AWG]	1...6 / 18...10	1...6 / 18...10	0.75...25 / 18...4	2.5...50 / 12...1/0
Flexible	1.conductor	[㎟] / [AWG]	1...6 / 18...10	1...6 / 18...10	0.75...25 / 18...4	2.5...50 / 12...1/0
	2.conductor	[㎟] / [AWG]	0.75...4 / 18...10	0.75...4 / 18...10	0.75...16 / 18...6	2.5...35 / 10...2
Tightening torque		[Nm] / [lb-in]	0.8...2.5 / 7...22	0.8...2.5 / 7...22	3...4.5 / 26...39	4...6 / 35...53

● Accessories for Manual Motor Starter GMS-32...100

			Auxiliary contacts for front mounting **GFX...**		Auxiliary contacts for left side mounting **GSX...**		Alarm switch for left side mounting **GSA...**	
Rated thermal current / th								
at 40 ℃ ambient temperature		[A]	5		1	0	1	0
at 60 ℃ ambient temperature		[A]	3		6		6	
Contact class coordination according to NEMA								
(UL/CSA-Standards)		AC	B 600 Standard Pilot Duty		A 600 Standard Pilot Duty		A 600 Standard Pilot Duty	
		DC	R 300 Light Pilot Duty		Q 300 Light Pilot Duty		Q 300 Light Pilot Duty	
Back-up fuses gG, gL		[A]	16		1	6	1	6
Rated supply current		[V]	24	240	24	240	24	240
	AC-15:	[A]	3	2	6	4	6	4
	DC-13:	[V]	24	220	24	220	24	220
		[A]	1	0.1	2	0.25	2	0.25
Terminal parts								
Type of terminals								
Screwdriver					Pozidriv size 2			
Single-core	1.conductor	[㎟] / [AWG]			0.5...2.5 / 20...14			
	2.conductor	[㎟] / [AWG]			0.5...2.5 / 20...14			
Flexible	1.conductor	[㎟] / [AWG]			0.5...4 / 20...10			
	2.conductor	[㎟] / [AWG]			0.75...2.5 / 18...14			
Tightening torque		[Nm] / [lb-in]			0.8...1.2 / 7...10			

● Accessories for Manual Motor Starter GMS-32...100

	Undervoltage release for right side mounting **GUR...**	Undervoltage release with 2 auxiliary contacts for right side mounting **GURX...**	Shunt release for right side mounting **GSR...**
Actuating voltage			
Pull-in	0.85...1.1 × Us	0.85...1.1 × Us	0.7...1.1 × Us
Drop-out	0.7...0.35 × Us	0.7...0.35 × Us	
Rated control voltage			
min.:	24V 50Hz / 28V 60Hz	24V 50Hz / 28V 60Hz	24V 50Hz / 28V 60Hz
max.:	415~440V 50Hz / 460~480V 60Hz	415~440V 50Hz / 460~480V 60Hz	415~440V 50Hz / 460~480V 60Hz
Coil rating			
Pull-in	8.5VA, 6W	8.5VA, 6W	8.5VA, 6W
Hold	3VA, 1.2W	3VA, 1.2W	3VA, 1.2W
On-Time	100%	100%	100%
Terminal parts			
Type of terminals			
Screwdriver		Pozidriv size 2	
1.conductor [㎟] / [AWG]		0.5...2.5 / 20...14	
2.conductor [㎟] / [AWG]		0.5...2.5 / 20...14	
1.conductor [㎟] / [AWG]		0.5...4 / 20...10	
2.conductor [㎟] / [AWG]		0.75...2.5 / 18...14	
Tightening torque [Nm] / [lb-in]		0.8...1.2 / 7...10	

● Weights

Description	Type	Weight [g]
Circuit breaker	**GMS-32S**	320
	GMS-32H	360
	GMS-63S	1,000
	GMS-100S	2,200
Auxiliary switch	**GFX...**(Front Auxiliary Switch)	18
	GSX...(Side Auxiliary Switch)	30
	GSA...(Alarm Switch)	40
Undervoltage release	**GUR...**(Undervoltage release)	110
	GURX...(Undervoltage release with 2 auxiliary contacts)	120
Shunt release	**GSR...**(Shunt release)	110

Type '2' coordination according to IEC 947-4-1

● Short-circuit current Iq = 50kA
Voltage : 400/415V, 50/60Hz

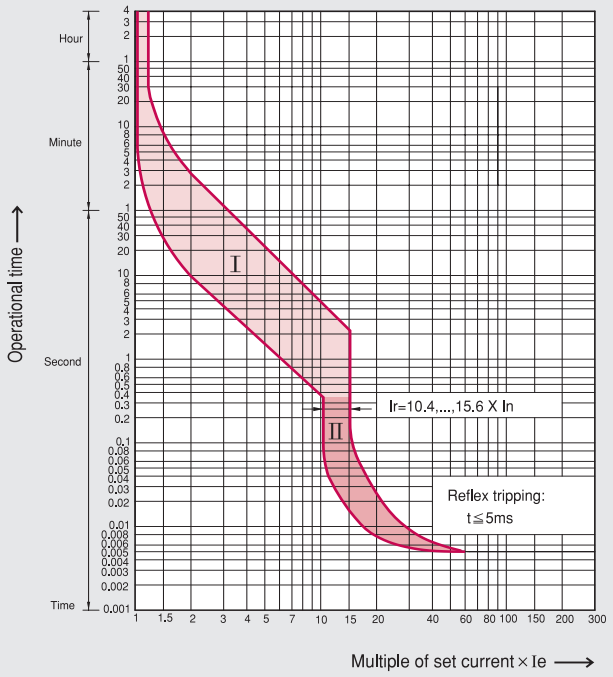
Standard motors AC-3 at 400/415V 1500rpm		Manual motor starter			Contactor	
		Circuit breaker	Thermal overload release setting range	Magnetic release response current		
[kW]	[A]	Type	[A]	[A]	Type	[A]
0.06	0.24	GMS-32S 0.25A	0.16 ~0.25	3.25	CGMS-6	6
0.09	0.33	GMS-32S 0.4A	0.25~0.4	5.2	CGMS-6	6
0.12	0.43	GMS-32S 0.63A	0.4~0.63	8.19	CGMS-6	6
0.18	0.61	GMS-32S 0.63A	0.4~0.63	8.19	CGMS-6	6
0.25	0.8	GMS-32S 1A	0.63~1	13	CGMS-6	6
0.37	1.1	GMS-32S 1.6A	1~1.6	20.8	CGMS-6	6
0.55	1.5	GMS-32S 1.6A	1~1.6	20.8	CGMS-6	6
0.75	1.9	GMS-32S 2.5A	1.6~2.5	32.5	CGMS-9/CGC-9	9
1.1	2.7	GMS-32S 4A	2.5~4	52	CGMS-9/CGC-9	9
1.5	3.5	GMS-32S 4A	2.5~4	52	CGMS-12/CGC-12	12
2.2	5.0	GMS-32S 6A	4~6	78	CGC-18	18
3.0	6.6	GMS-32S 8A	5~8	104	CGC-18	18
4.0	8.5	GMS-32S 10A	6~10	130	CGC-18	18
5.5	11.0	GMS-32S 13A	9~13	169	CGC-22	22
7.5	15.0	GMS-32H 17A	11~17	221	CGC-22	22
10.0	20.0	GMS-32H 22A	14~22	286	CGC-32	32
11.0	22.0	GMS-32H 26A	18~26	338	CGC-32	32
15.0	29.0	GMS-32H 32A	22~32	416	CGC-32	32
18.5	36.0	GMS-63S 40A	28~40	520	CGC-50	50
22.0	41.0	GMS-63S 50A	34~50	650	CGC-50	50
30.0	56.0	GMS-63S 63A	45~63	819	CGC-65	65
37.0	68.0	GMS-100S 75A	55~75	975	CGC-75	75
-	-	GMS-100S 90A	70~90	1170	CGC-85	85
45.0	81.0	GMS-100S 100A	80~100	1300	CGC-85	85

Definition type '2' coordination according to IEC 947-4-1

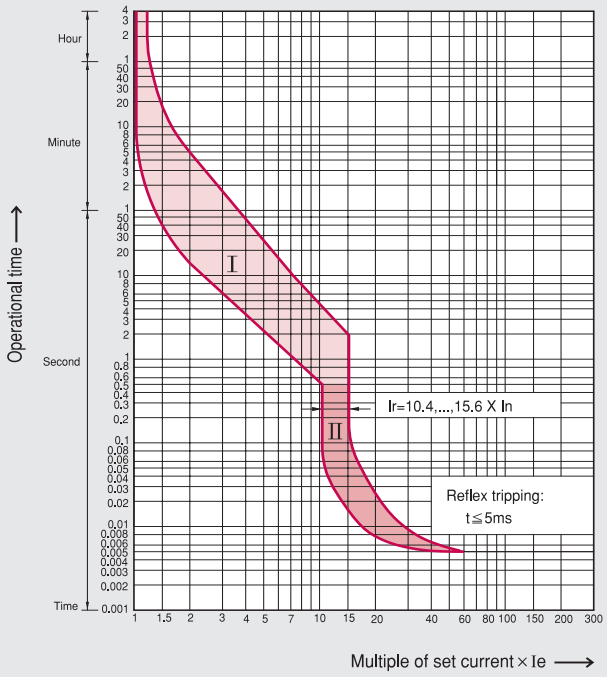
- The contactor or the starter must not endanger persons or systems in the event of a short-circuit.
- The contactor or the starter must be suitable for further use.
- No damage to the overload relay or other parts may occur with the exception of welding of the contactor or starter contacts provided that these can be easily separated without significant deformation (such as with a screwdriver).

Time/Current characteristic

GMS-32S, H



GMS-63S, H / GMS-100S, H



Ⅰ) Thermal release trip current :

The adjustable inverse bimetal trip reliability protects motors against overloads.
The curve shows the mean operating current at an ambient temperature of 20℃ starting from cold.
Careful testing and setting ensures effective motor protection even in the case of single-phasing.

Ⅱ) Magnetic release trip current :

The instantaneous magnetic trip has a fixed operating current setting.
This corresponds to 13times the maximum value of setting range,
at a lower setting it is correspondingly higher.

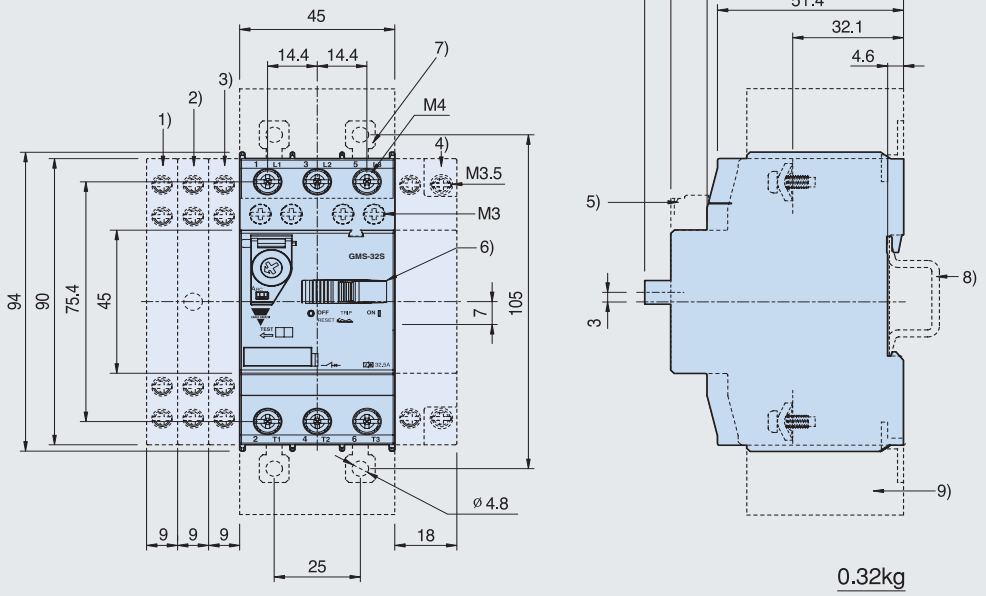
Current setting Ie :

The overload trip corresponds to a thermal overload relay in a motor starter conforming to IEC 947-4-1.
If a different value is prescribed (e.g. reduced Ie for cooling medium having a temperature higher
than 40℃ or a place of installation higher than 2000m above sea level),
the setting current is equal to the reduced rated current Ie of the motor.

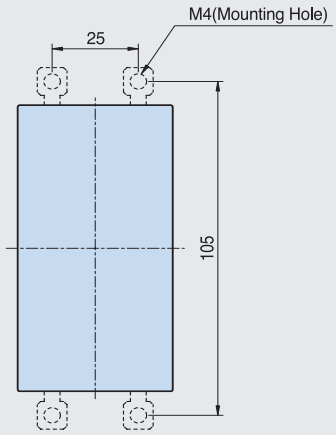
Dimensions

● GMS-32S

[mm]



0.32kg



Height of arcing spaces
(Clearance from earthed parts)

Ue[V]	240	415	460	525	690
[mm]	20	20	20	20	20

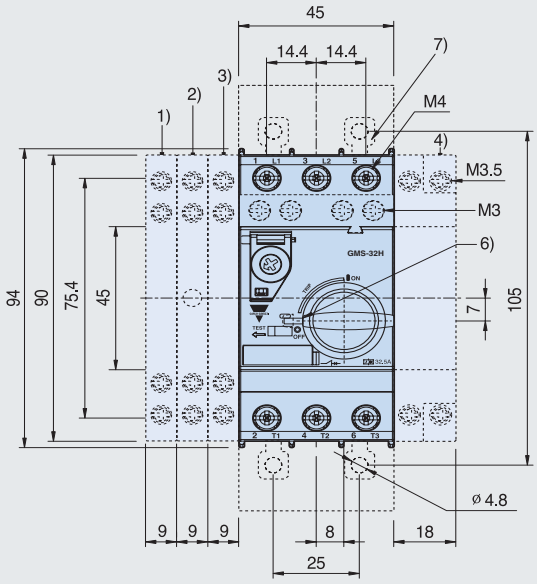
Arcing spaces for limiter function

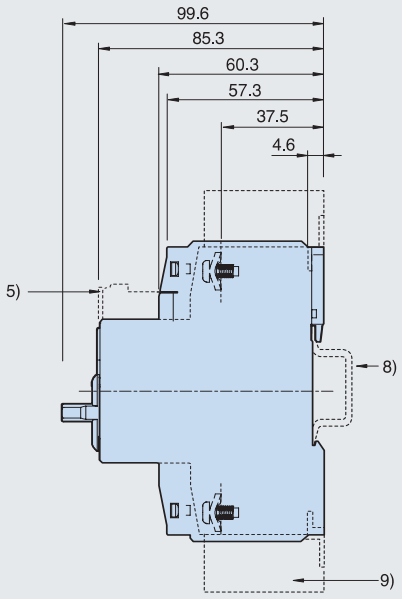
Ue[V]	525		690	
	left/right	top/bottom	left/right	top/bottom
[mm]	10	40	30	50

1) Side auxiliary switch
2) Side magnetic trip alarm switch
3) Side any trip alarm switch
4) Side shunt release or Side undervoltage release
5) Front auxiliary switch
6) Handle lock in OFF position(ø 5mm)
7) Push-in Lugs for screw mounting
8) 35mm standard mounting rail acc. to EN 50 022
9) Arcing space

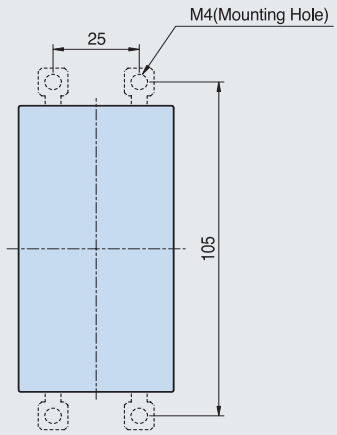
● GMS-32H, 32HI

[mm]





0.36kg



Height of arcing spaces
(Clearance from earthed parts)

Ue[V]	240	415	460	525	690
[mm]	30	30	30	30	50

Arcing spaces for limiter function

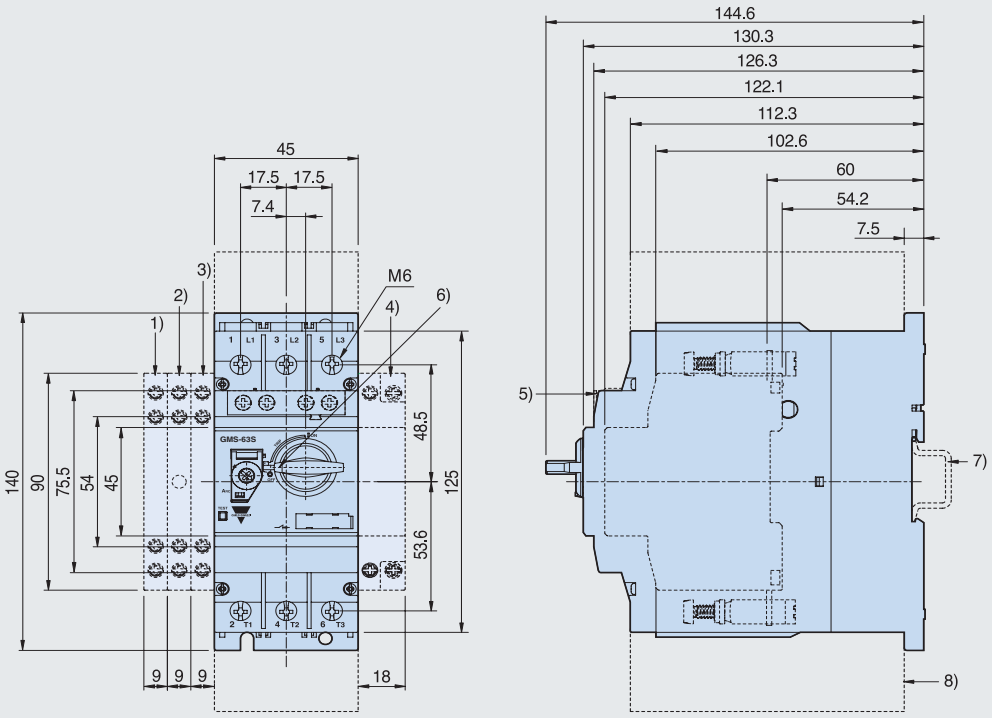
Ue[V]	525		690	
	left/right	top/bottom	left/right	top/bottom
[mm]	10	40	30	50

1) Side auxiliary switch
2) Side magnetic trip alarm switch
3) Side any trip alarm switch
4) Side shunt release or Side undervoltage release
5) Front auxiliary switch
6) Handle lock in OFF position(ø 5mm)
7) Push-in Lugs for screw mounting
8) 35mm standard mounting rail acc. to EN 50 022
9) Arcing space

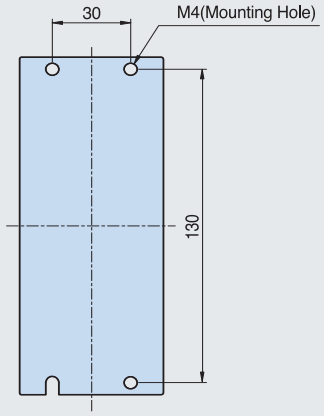
Dimension

● GMS-63S, 63H, 63HI, 63HL

[mm]



1kg



Height of arcing spaces
(Clearance from earthed parts)

Ue[V]	240	415	460	525	690
[㎜]	50	50	50	50	50

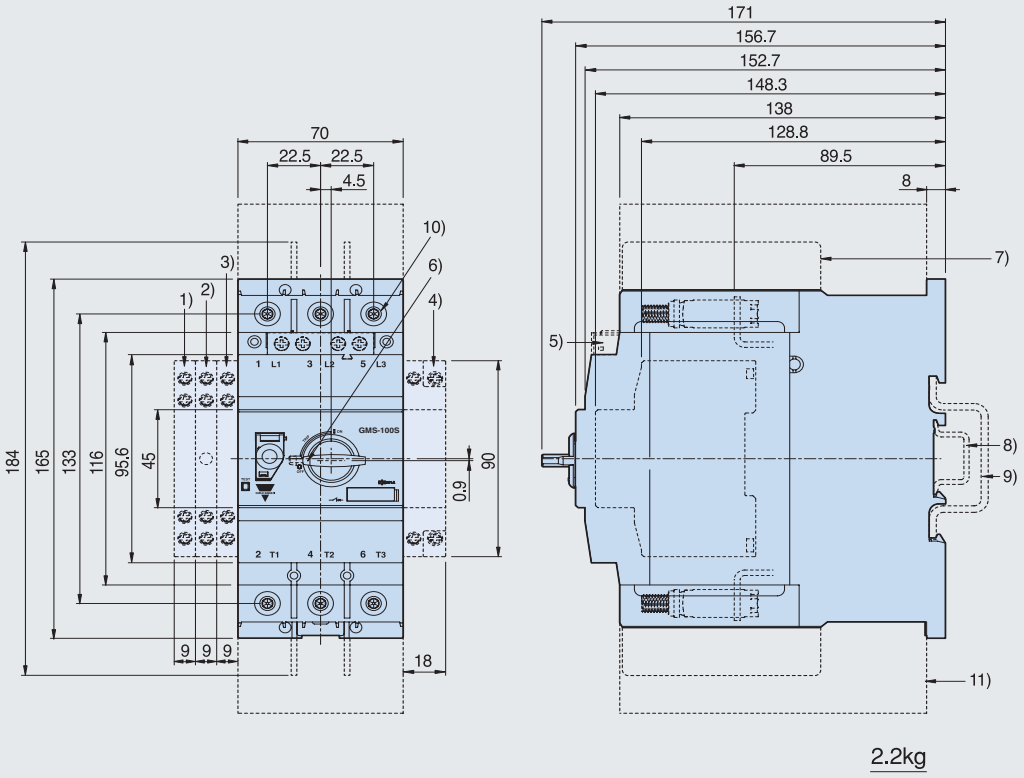
Arcing spaces for limiter function

Ue[V]	525		690	
	left/right	top/bottom	left/right	top/bottom
[㎜]	10	50	10	50

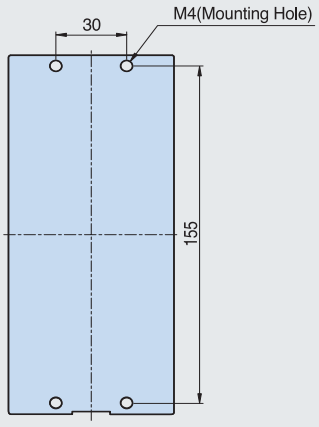
1) Side auxiliary switch
2) Side magnetic trip alarm switch
3) Side any trip alarm switch
4) Side shunt release or Side undervoltage release
5) Front auxiliary switch
6) Handle lock in OFF position(ø 5㎜)
7) 35㎜ standard mounting rail acc. to EN 50 022
8) Arcing space

● GMS-100S, 100H, 100HI, 100HL

[mm]



2.2kg



Height of arcing spaces
(Clearance from earthed parts)

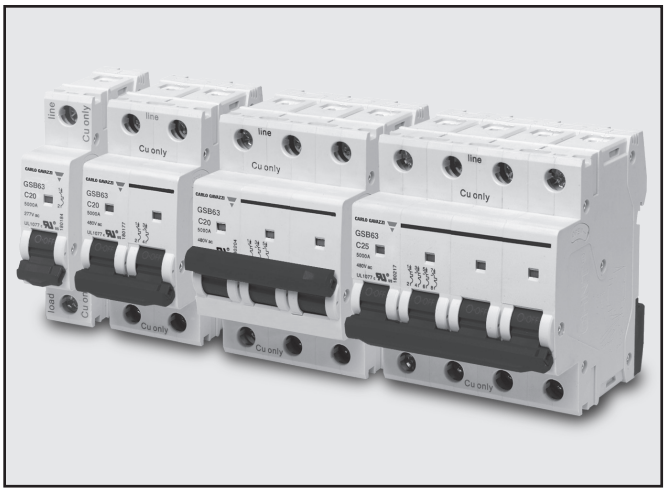
Ue[V]	240	415	460	525	690
[mm]	50	70	70	110	150

Arcing spaces for limiter function

Ue[V]	525		690	
	left/right	top/bottom	left/right	top/bottom
[mm]	10	110	30	150

1) Side auxiliary switch
2) Side magnetic trip alarm switch
3) Side any trip alarm switch
4) Side shunt release or Side undervoltage release
5) Front auxiliary switch
6) Handle lock in OFF position(ø 5mm)
7) Insulation barrier
8) 35mm standard mounting rail acc. to EN 50 022
9) 75mm standard mounting rail acc. to EN 50 023
10) 4mm hexagon socket screw
11) Arcing space

Supplementary Circuit Protectors
Type GSB63



- **Protection of circuits against short circuit and overload currents**
- **UL1077 supplementary protection**
- **1, 2, 3 and 4 pole arrangements**
- **13 amperage sizes up to 63Amps**
- **Icn of 5kA**
- **Bimetallic element for small overloads**
- **Magnetic element for short circuit protection**
- **B, C, D trip characteristics**
- **Full line of bus bars and connectors**
- **Auxiliary contact, alarm switch and shunt release accessories**

Product Description

Competitive line of supple- or not required. GSB pro-mentary circuit protectors tectors are available in 1, intended for over current 2, 3 and 4 pole configu- ra-protection in applications tions, with amperage rating where branch circuit pro- up to 63A and voltage up to tection is already provided 480Y/277VAC.

Ordering Key

GSB63 1P C 20

- **Supplementary Protector**
- **Number of poles**
- **Tripping Characteristics**
- **Overload range**

Selection Guide *(Refer to page 2 for list of valid part numbers)*

SCP	Numbers of poles	Tripping Characteristics	Overload Range (amps)
GSB63 Family	1P	C – C curve	1, 2, 3, 4, 6, 10,
	2P	(standard)	16, 20, 25, 32, 40,
	3P	B – B curve	50, 63
	4P	D – D curve	

GSB63

CARLO GAVAZZI

Selection Guide

C Curve

In	1-pole	2-pole	3-pole	4-pole
1	**GSB63 1P C1**	**GSB63 2P C1**	**GSB63 3P C1**	**GSB63 4P C1**
2	**GSB63 1P C2**	**GSB63 2P C2**	**GSB63 3P C2**	**GSB63 4P C2**
3	**GSB63 1P C3**	**GSB63 2P C3**	**GSB63 3P C3**	**GSB63 4P C3**
4	**GSB63 1P C4**	**GSB63 2P C4**	**GSB63 3P C4**	**GSB63 4P C4**
6	**GSB63 1P C6**	**GSB63 2P C6**	**GSB63 3P C6**	**GSB63 4P C6**
10	**GSB63 1P C10**	**GSB63 2P C10**	**GSB63 3P C10**	**GSB63 4P C10**
16	**GSB63 1P C16**	**GSB63 2P C16**	**GSB63 3P C16**	**GSB63 4P C16**
20	**GSB63 1P C20**	**GSB63 2P C20**	**GSB63 3P C20**	**GSB63 4P C20**
25	**GSB63 1P C25**	**GSB63 2P C25**	**GSB63 3P C25**	**GSB63 4P C25**
32	**GSB63 1P C32**	**GSB63 2P C32**	**GSB63 3P C32**	**GSB63 4P C32**
40	**GSB63 1P C40**	**GSB63 2P C40**	**GSB63 3P C40**	**GSB63 4P C40**
50	**GSB63 1P C50**	**GSB63 2P C50**	**GSB63 3P C50**	**GSB63 4P C50**
63	**GSB63 1P C63**	**GSB63 2P C63**	**GSB63 3P C63**	**GSB63 4P C63**

B Curve

In	1-pole	2-pole	3-pole	4-pole
1	**GSB631PB1**	**GSB632PB1**	**GSB633PB1**	**GSB634PB1**
2	**GSB631PB2**	**GSB632PB2**	**GSB633PB2**	**GSB634PB2**
3	**GSB631PB3**	**GSB632PB3**	**GSB633PB3**	**GSB634PB3**
4	**GSB631PB4**	**GSB632PB4**	**GSB633PB4**	**GSB634PB4**
6	**GSB631PB6**	**GSB632PB6**	**GSB633PB6**	**GSB634PB6**
10	**GSB631PB10**	**GSB632PB10**	**GSB633PB10**	**GSB634PB10**
16	**GSB631PB16**	**GSB632PB16**	**GSB633PB16**	**GSB634PB16**
20	**GSB631PB20**	**GSB632PB20**	**GSB633PB20**	**GSB634PB20**
25	**GSB631PB25**	**GSB632PB25**	**GSB633PB25**	**GSB634PB25**
32	**GSB631PB32**	**GSB632PB32**	**GSB633PB32**	**GSB634PB32**
40	**GSB631PB40**	**GSB632PB40**	**GSB633PB40**	**GSB634PB40**
50	**GSB631PB50**	**GSB632PB50**	**GSB633PB50**	**GSB634PB50**
63	**GSB631PB63**	**GSB632PB63**	**GSB633PB63**	**GSB634PB63**

D Curve

In	1-pole	2-pole	3-pole	4-pole
1	**GSB631PD1**	**GSB632PD1**	**GSB633PD1**	**GSB634PD1**
2	**GSB631PD2**	**GSB632PD2**	**GSB633PD2**	**GSB634PD2**
3	**GSB631PD3**	**GSB632PD3**	**GSB633PD3**	**GSB634PD3**
4	**GSB631PD4**	**GSB632PD4**	**GSB633PD4**	**GSB634PD4**
6	**GSB631PD6**	**GSB632PD6**	**GSB633PD6**	**GSB634PD6**
10	**GSB631PD10**	**GSB632PD10**	**GSB633PD10**	**GSB634PD10**
16	**GSB631PD16**	**GSB632PD16**	**GSB633PD16**	**GSB634PD16**
20	**GSB631PD20**	**GSB632PD20**	**GSB633PD20**	**GSB634PD20**
25	**GSB631PD25**	**GSB632PD25**	**GSB633PD25**	**GSB634PD25**
32	**GSB631PD32**	**GSB632PD32**	**GSB633PD32**	**GSB634PD32**
40	**GSB631PD40**	**GSB632PD40**	**GSB633PD40**	**GSB634PD40**
50	**GSB631PD50**	**GSB632PD50**	**GSB633PD50**	**GSB634PD50**
63	**GSB631PD63**	**GSB632PD63**	**GSB633PD63**	**GSB634PD63**

Part numbers in bold font indicate stock item

CARLO GAVAZZI

Electrical Specifications

Rated Current	1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63 A
Poles	1, 2, 3 or 4 pole
Rated Voltage	single phase 277 VAC
	three phase 480Y/277VAC
Insulation Voltgae	500 VAC
Rated Frequency	50/60 Hz
Rated Breaking capacity	5,000 A
Rated Impulse Withstand Voltage (1.2/50)	4,000 V
Dielectric Test Voltage for 1 minute	2,000 V
Pollution Degree	2
Power loss per pole	
1, 2, 3, 4, 5, 6, 10 A	2 W
13, 16, 20, 25, 32 A	3.5 W
40, 50, 63 A	5 W
Thermo—magnetic release characteristics	B, C (standard), D
Electrical life	4,000 cycles

Mechanical Specifications

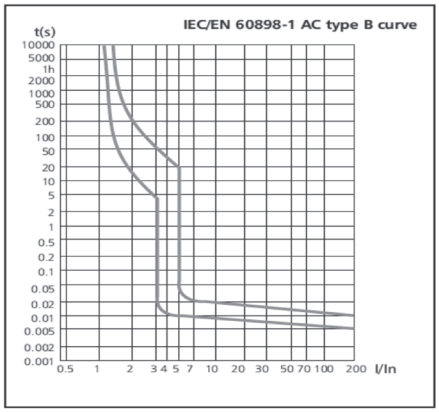
Mechanical life	20,000 cycles
Contact Position Indicator	Yes
Protection Degree	IP20
Reference Temperature	30°C
Operation Temperature Range	-35°C ~ +70°C (see table on page 3 for derating)
Terminal Connection Type	Copper/U-type busbar/Pin-type busbar
Wire Size Range	18-4 AWG
Busbar size range	18-8 AWG
Maximum tightening torque	22 In-lbs. (N*m 2)
Mounting	Vertical on DIN rail EN 60715 (35mm)
Connection	Line-in on top, line-out on bottom

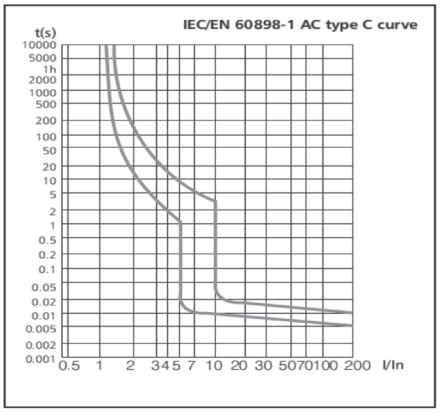
Temperature Derating

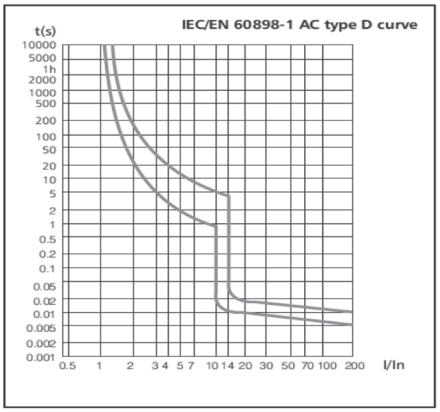
The maximum permissible current in a supplementary protector depends on the ambient temperature and spacing between devices (see next paragraph). Ambient temperature is the temperature inside the enclosure or switch-board in which circuit breaker is installed. The reference temperature for nominal current rating is 30°C.

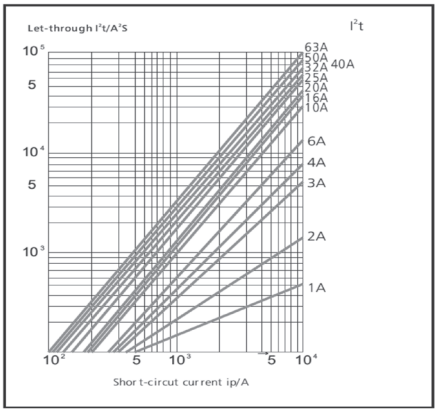
Ambient Temp >	-35°C	-30°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
Rated Current												
1A	1.30	1.26	1.23	1.19	1.15	1.11	1.05	1.00	0.96	0.93	0.88	0.83
2A	2.60	2.52	2.46	2.38	2.28	2.20	2.08	2.00	1.92	1.86	1.76	1.66
3A	3.90	3.78	3.69	3.57	3.42	3.30	3.12	3.00	2.88	2.79	2.64	2.49
4A	5.20	5.04	4.92	4.76	4.56	4.40	4.16	4.00	3.84	3.76	3.52	3.32
6A	7.80	7.56	7.38	7.14	6.84	6.60	6.24	6.00	5.76	5.64	5.28	4.98
10A	13.20	12.76	12.50	12.00	11.50	11.10	10.60	10.00	9.60	9.30	8.90	8.40
16A	21.12	20.48	20.00	19.20	18.40	17.76	16.96	16.00	15.36	14.88	14.24	13.44
20A	26.40	25.60	25.00	24.00	23.00	22.20	21.20	20.00	19.20	18.60	17.80	16.80
25A	33.00	32.00	31.25	30.00	28.75	27.75	26.50	25.00	24.00	23.25	22.25	21.00
32A	42.56	1.28	40.00	38.72	37.12	35.52	33.92	32.00	30.72	29.76	28.16	26.88
40A	53.20	51.20	50.00	48.00	46.40	44.80	42.40	40.00	38.40	37.20	35.60	33.60
50A	67.00	65.50	63.00	60.50	58.00	56.00	53.00	50.00	48.00	46.50	44.00	41.50
63A	83.79	81.90	80.01	76.86	73.71	70.56	66.78	63.00	60.48	58.90	55.44	52.29

Curve Profiles









GSB63

Accessories

Auxiliary Contact

General — Ordering key: GSBXF9

Indication of the position of the device's contacts. To be mounted on the left side of the UL1077 supplementary protector, thanks to the special pin.

Technical data

Standard	IEC/EN 60947-5-1		
Rated values	Voltage		Current
	AC415 50/60HZ		3A
	AC240 50/60HZ		6A
	DC130		1A
	DC48		2A
	DC24		6A
Electrical features	Configurations		1 N/O + 1 N/C
	Rated impulse withstand voltage (1.2/50)Uimp	V	4000
	Dielectric Test voltage at ind. Freq. for 1min	kV	2
	Insulation voltage Ui	V	500
	Pollution degree		2
Mechanical features	Electrical life		6,050
	Mechanical life		10,000
	Protection degree		IP20
	Ambient temperature (with daily average≤35°C)	°C	-5...+40
	Storage temperature	°C	-25...+70
Installation	Terminal connection type T		Cable
	Terminal size top/bottom for cable	mm^2	2.5
		AWG	18 ~ 14
	Tightening torque	N·m	0.8
		In-lbs.	7
Approvals	CE only		

GSB63

CARLO GAVAZZI

Alarm Switch

General

Ordering key: GSBXF9J

Indication of the position of the device's contacts only after the automatic release of the UL1077 supplementary protector, due to an overload or a short-circuit. To be mounted on the left side of the UL1077 device thanks to the special pin.

Technical data

Standard	IEC/EN 60947-5-1		
Rated value	Voltage		Current
	AC415 50/60HZ		3A
	AC240 50/60HZ		6A
	DC130		1A
	DC48		2A
	DC24		6A
Electrical features	Configurations		1 N/O + 1 N/C
	Rated impulse withstand voltage (1.2/50)Uimp	V	4000
	Dielectric test voltage at ind. Freq. for 1min	kV	2
	Insulation voltage Ui	V	500
	Pollution degree		2
Mechanical features	Electrical life		6,050
	Mechanical life		10,000
	Protection degree		IP20
	Ambient temperature (with daily average≤35°C)	°C	-5...+40
	Storage temperature	°C	-25...+70
Installation	Terminal connection type		Cable
	Terminal size top/bottom for cable	mm²	2.5
		AWG	18 ~ 14
	Tightening torque	N·m	0.8
		In-lbs.	7
Approvals	CE only		

GSB63

Shunt realease

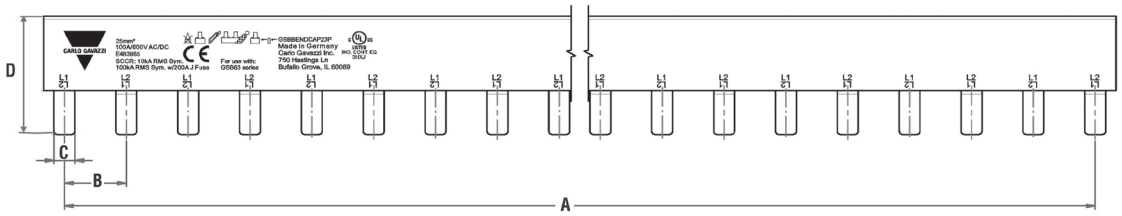
General — Ordering key: GSBS9

Remote opening of the device when a voltage is applied.
To be mounted on the left side of the UL1077 supplementary protector, thanks to the special pin.

Technical data

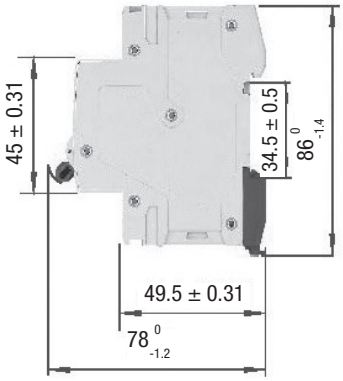
Standard	IEC/EN 60947-5-1		
Rated value	Voltage		24VDC
Electrical features	Configurations		1 N/O + 1 N/C
	Rated impulse withstand voltage (1.2/50)Uimp	V	4000
	Dielectric TEST voltage at ind. Freq. for 1min	kV	2
	Insulation voltage Ui	V	500
	Pollution degree		2
Mechanical features	Electrical life		4,000
	Mechanical life		4,000
	Protection degree		IP20
	Ambient temperature (with daily average≤35°C)	°C	-5...+70
	Storage temperature	°C	-25...+70
Installation	Terminal connection type		Cable
	Terminal size top/bottom for cable	mm²	2.5
		AWG	18 ~ 14
	Tightening torque	N·m	0.8
		In-lbs.	7
Approvals	CE only		

GSB63 — Busbars and Connectors



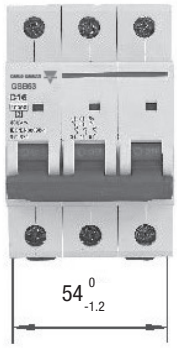
Acces-sory	Poles	Pins	Part Number	Description	Combined Amperage Rating	Rated voltage	Dimmentions [mm / in]			
							A	B	C	D
Busbar	1	6	GSBB1P06H	6 pins busbar 1 pole GSB	100A	600 VAC / 1000 VDC	89 / 3.5	17.8 / 0.70	5.5 / 0.22	16.7 / 0.66
		12	GSBB1P12H	12 pins busbar 1 pole GSB	100A		196 / 7.72	17.8 / 0.70	5.5 / 0.22	16.7 / 0.66
		18	GSBB1P18H	18 pins busbar 1 pole GSB	100A		303 / 11.92	17.8 / 0.70	5.5 / 0.22	16.7 / 0.66
		57	**GSBB1P57H**	cuttable 57 pins busbar 1 pole GSB	100A		997 / 39.25	17.8 / 0.70	5.5 / 0.22	15.6 / 0.61
		37	GSBB1P37HS	cuttable 37 pins busbar 1 pole GSB+AUX	100A		972 / 38.27	17.8 / 0.70	5.5 / 0.22	15.6 / 0.61
	2	6	GSBB2P06H	6 pins busbar 2 pole GSB	100A	600 VAC / 600 VDC	89 / 3.5	17.8 / 0.70	5.5 / 0.22	36.5 / 1.44
		12	GSBB2P12H	12 pins busbar 2 pole GSB	100A		196 / 7.72	17.8 / 0.70	5.5 / 0.22	36.5 / 1.44
		18	GSBB2P18H	18 pins busbar 2 pole GSB	100A		303 / 11.93	17.8 / 0.70	5.5 / 0.22	36.5 / 1.44
		56	**GSBB2P56H**	cuttable 57 pins busbar 2 pole GSB	100A		979 / 38.54	17.8 / 0.70	5.5 / 0.22	36.5 / 1.44
		46	GSBB2P46HS	cuttable 37 pins busbar 2 pole GSB+AUX	100A		968 / 38.11	17.8 / 0.70	5.5 / 0.22	36.5 / 1.44
	3	6	GSBB3P06H	6 pins busbar 3 pole GSB	100A		89 / 3.5	17.8 / 0.70	5.5 / 0.22	36.5 / 1.44
		12	GSBB3P12H	12 pins busbar 3 pole GSB	100A		196 / 7.72	17.8 / 0.70	5.5 / 0.22	36.5 / 1.44
		18	GSBB3P18H	18 pins busbar 3 pole GSB	100A		303 / 11.93	17.8 / 0.70	5.5 / 0.22	36.5 / 1.44
		57	**GSBB3P57H**	cuttable 57 pins busbar 3 pole GSB	100A		997 / 39.25	17.8 / 0.70	5.5 / 0.22	36.5 / 1.44
		48	GSBB3P48HS	cuttable 37 pins busbar 3 pole GSB+AUX	100A		935 / 36.81	17.8 / 0.70	5.5 / 0.22	36.5 / 1.44
Feeder	1		**GSBBFEED1P**	Feeder terminal 1 pole GSB	115A	600 VAC / 600 VDC	Part number in **bold font** indicate stock items Approvals - CE, cULus (UL508)			
	2, 3		**GSBBFEED23P**	Feeder terminal 2 & 3 pole GSB	115A					
Center feeder	all		**GSBBCENFEED**	Center feeder terminal	115A					
End cap	1		**GSBBENDCAP1P**	End cover 1 pole GSB	n / a	n / a				
	2, 3		**GSBBENDCAP23P**	End cover 2 & 3 pole GSB						
Pin cap	all		**GSBBPINCAP**	Protective pin cap						

Dimensions

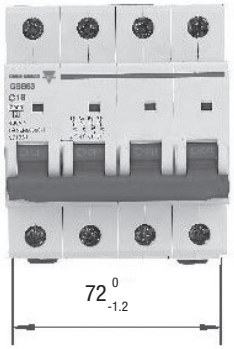


1P

1P+N, 2P



3P



3P+N, 4P

Agency Approvals

GSB Supplementary Protectors

E365997

GSB Supplementary Protectors

GSBB Busbars and Busbar Accessories

E483985

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Россия (495)268-04-70
Киргизия (996)312-96-26-47
Казахстан (7172)727-132

cgo@nt-rt.ru || https://gavazzi.nt-rt.ru/