Table of Specifications

Midi-Contactors

Frame size				22AF				40AF	
Type				CC9	CC12	CC18	CC22	CC32	CC40
	Terminal type			Screw Only				Screw Only	
Number of poles				3pole				3pole	
Rated operational voltage, Ue				690V				690V	
Rated insulation voltage, Ui				690V				1000V	
Rated frequency				50/60Hz				50/60Hz	
Rated impulse withstand voltage, Uimp				6kV				8kV	
Maximum operating rate in operating cycles per hour(AC3)				1800 operations per hour				1800 operations per hour	
Durability	Mechanical			15 mil. operations				12 mil. operations	
	Electrical			2.5 mil. operations				2 mil. operations	
Current and power	AC-1, Thermal current		A	25	25	32	40	50	60
	AC-3	200/240V	kW	2.5	3.5	4.5	5.5	7.5	11
			A	11	13	18	22	32	40
		380/440V	kW	4	5.5	7.5	11	15	18.5
			A	9	12	18	22	32	40
		500/550V	kW	4	7.5	7.5	15	18.5	22
			A	7	12	13	20	28	32
		690V	kW	4	7.5	7.5	15	18.5	22
			A	6	9	9	18	20	23
UL rating (50/60Hz)	Continuous current		A	25	25	40	40	50	60
	Single phase	110~120V	HP	0.5	0.75	1	2	2	3
		220~240V	HP	1.5	2	3	3	5	7.5
	Three phase	200~208V	HP	2	3	5	7.5	7.5	15
		220~240V	HP	3	5	7.5	10	10	15
		440~480V	HP	5	7.5	10	15	20	30
		550~600V	HP	7.5	10	15	20	25	30
	NEMA size			00	00	0	1	1	1
Size and weight 	AC control	Weight	kg	0.34				0.55	
		Size(W×H×D)	mm	45×73.5×86				69×83×93	
	DC control	Weight	kg	0.51				0.77	
		Size(W×H×D)	mm	45×73.5×117.7				69×83×120	
Auxiliary(standard)				GUA1, GUA2, GUA4					
Auxiliary	Side mount			GUA-1				GUA-1	
	Front mount			GUA-2, GUA-4				GUA-2, GUA-4	

Note) Minimum conduct current of Auxiliary contactor is DC 17V 5mA.

GT Type Thermal Overload Relays

Type			GT32	GT32
	Screws clamp terminals		●	●
Rated operational voltage, Ue			690V	690V
Rated insulation voltage, Ui			690V	690V
Rated impulse withstand voltage, Uimp			6kV	6kV
Trip class			10A, 20	10A, 20
Setting range			0.1~40A	0.1~40A
Size and weight 		Weight kg	0.17	0.17
		Size(W×H×D) mm	45×75×90	45×75×90

Type Numbering System

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** class 10 **L** - class 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**

CGE	22	3P	22A
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 Tunel Type 22 and 40AF **2T** - 2-Pole **3T** - 3-Pole **3TR** - 3-Pole	**CGE22** 0.3 ~ **1.5A** 1 ~ **5A** 4.4 ~ **22A** **CGE40** 4 ~ **20A** 8 ~ **40A** **CGE80** 16 ~ **80A**

(Setting Range Guide)

- **GT32**
- **GT65**
- **GT95**

Optional Accessories

Auxiliary contact unit

GUA1 – **11**

Version	
GUA1	Side mount
GUA2	Front mount(2P)
GUA4	Front mount(4P)

Contact composition	
11	1NO+1NC
20	2NO
02	2NC
40	4NO
31	3NO+1NC
22	2NO+2NC
13	1NO+3NC
04	4NC

Surge absorber

GUS11

Composition and voltage		
1	Varistor+RC	AC/DC 24~48V
2	Varistor+RC	AC/DC 100~125V
3	Varistor+RC	AC/DC 200~240V
4	Varistor+RC	AC 380~440V
5	Varistor+RC	AC 24~48V
6	Varistor+RC	AC 100~125V
11	Varistor	AC 200~240V
12	Varistor	DC 24~48V
13	Varistor	DC 100~125V
14	Varistor	DC 200~220V
22	RC	AC 100~125V

Note) See page 52 for details.

Interlock unit

GUR02

Contact composition	
02	2NC

Wire kit for Interlocking

GUW32

Frame size	
22	22AF
32	32AF
63	63AF
95	95AF

Separate mounting unit (For relay)

GUZ32

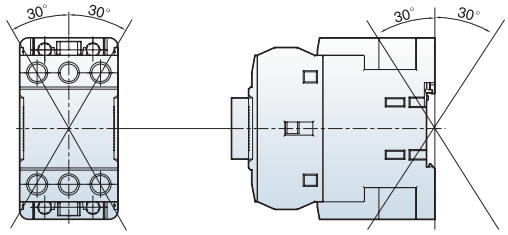
Frame size	
32	32AF
63	63AF
95	95AF
150	150AF

Remote reset unit (For relay)

GTTRR-16

Cable length	
16	400
20	500
24	600

Environment

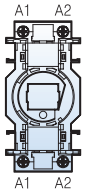
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, UL508, K60947
Certifications	CE, UL
Rated insulation voltage (Ui)	1000V
Rated impulse withstand voltage (Uimp)	8kV
Degree of protection	IP20 (Conforming to IEC60529)
Ambient air temperature	Storage: -50° C ~ +80° C
	Operation: -5° C ~ +60° C
Operating altitude	3000m (8900ft)
Operating positions	
Shock resistance	Opened: 8G
(1/2 sine wave =11ms)	Closed: 10G
Vibration resistance (Conforming to IEC68-2-6)	Opened: 2G
(5...300 Hz)	Closed: 4G
Flame resistance	Conforming to UL 94: Vo
	Conforming to IEC 695-2-1: 960° C

Connections

Frame \ Wire type		Main Terminal Size	(AWG / mm²)			mm(max)	Torque [lb-in]	Torque [Nm]
CC9		M4	18~10 / 1~6	18~10 / 1~6	18~10 / 1~6	9.6	20	2.25
CC12			18~10 / 1~6	16~10 / 1~6	16~10 / 1~6			
CC18			18~10 / 1~6	16~8 / 1.5~10	16~8 / 1.5~10			
CC22			18~10 / 1~6	14~8 / 2.5~10	14~8 / 2.5~10			
CC32			18~10 / 1~6	12~8 / 2.5~10	12~8 / 2.5~10	12.8	20	2.25
CC40		M5	18~10 / 1~6	8~6 / 10~16	8~6 / 10~16		35	4
CC50		M6	-	10~4 / 6~25	10~4 / 6~25	14	35	4
CC65			-	8~3 / 10~35	8~3 / 10~35			
CC75		M8	-	8~2 / 10~35	8~2 / 10~35	17	45	5.1
CC85			-	8~1/0 / 10~50	8~1/0 / 10~50			
CC100			-	8~2/0 / 10~70	8~2/0 / 10~70			
CC130		M8	-	3~2/0 / 35~70	3~2/0 / 35~70	24.5	80	9.1
CC150			-	3~4/0 / 35~95	3~4/0 / 35~95			
CC9~150		M4	20~14 / 0.5~2.5	18~12 / 0.75~2.5	18~12 / 0.75~2.5	7.6	15	1.75
CC185		M10	-	1~4/0 / 50~95	1~4/0 / 50~95	25	130	14.7
CC225			-	1/0~300 / 50~150	1/0~300 / 50~150			
CC265		M12	-	3/0~500 / 95~240	3/0~500 / 95~240	30	200	22.6
CC330			-	4/0~500 / 95~240	4/0~500 / 95~240			
CC400			-	350~700 / 185~185×2	350~700 / 185~185×2			
CC500		M16	-	350~800 / 185~240×2	350~800 / 185~240×2	40	500	26.5
CC630			-	600~2000	-			
CC800			-	1700~Busbar	-			
CC185~800		M25	16~10 / 1.25~5.5	16~10 / 1.25~5.5	16~10 / 1.25~5.5	7.6	15	1.75

Control Coil Charactoristics

Frame size			22AF	40AF	65AF	100AF	150AF
Type			CC9 CC12 CC12 CC22	CC32 CC40	CC50 CC65	CC75 CC85 CC100	CC130 CC150
AC coil							
Control voltage		[Uc]					
	50Hz	[V]	24, 32, 36, 42, 48, 80, 100, 110, 220, 230, 240, 380, 400, 415, 440, 500, 550V				24, 48, 110, 220, 300, 400, 500
	60Hz	[V]	24, 48, 100, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600V				
	50/60Hz	[V]	24, 48, 100, 110, 120, 200, 220, 230, 240, 380, 415, 440, 500, 550V				
Voltage limit		[Uc]					
	Pick-up		85 ~110% (50Hz)				
			85 ~110% (60Hz)				
	Drop-out		30 ~ 60%				
Coil consumption at 20°C							
AC 220V	Inrush	[VA]	58/56	53/50	110/104	229/216	108/104
50/60Hz	Holding	[VA]	9.0/6.0	12.0/9.0	13.0/10.0	17.0/13.0	18.0/21.0
Heat dissipation		[W]	2.1/1.5	2.7/2.2	2.8/2.4	5.4/4.7	2.7/3.6
Operating time							
	Closing	[ms]	12 ... 22	12 ... 22	12 ... 22	15 ... 30	20 ... 40
	Opening	[ms]	4 ... 19	4 ... 19	4 ... 19	10 ... 30	60 ... 70
DC coil							
Control voltage		[Uc]	12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250				24, 48, 110, 220
Voltage limit		[Uc]					
	Pick-up		70 ~ 110%				
	Drop-out		10 ~ 30%				
Coil consumption at 20°C							
DC 110V	Inrush	[W]	9	7	9	18	213
	Holding	[W]	9	7	9	18	7.5
Time constant (L/R)		[ms]	28	28	65	75	
Operating time							
	Closing	[ms]	35 ... 50	50 ... 65	50 ... 65	100 ... 120	70 ... 80
	Opening	[ms]	4 ... 19	4 ... 19	4 ... 19	10 ... 25	60 ... 70

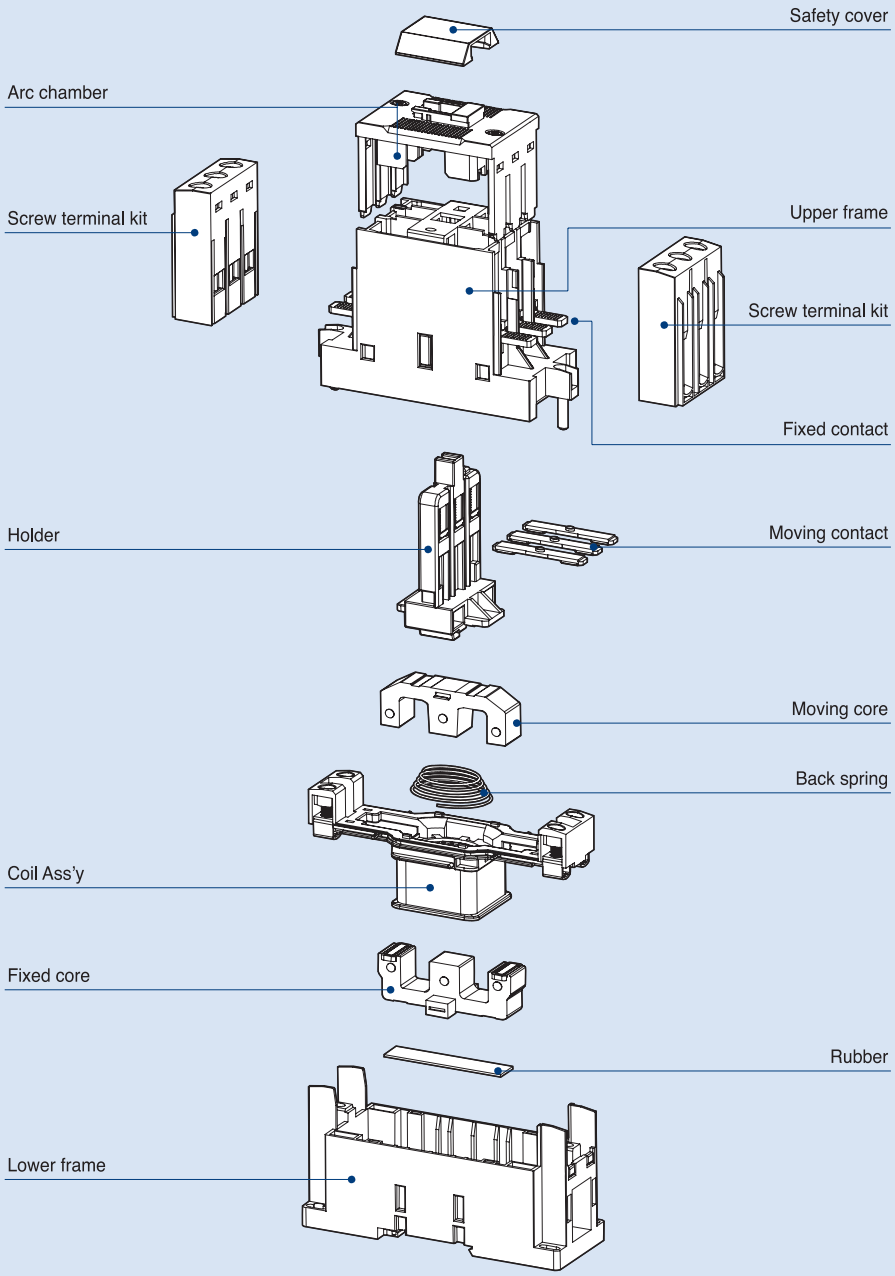


Note) A1(A2) in line side is internally connected to A1(A2) in load side.

Control Coil Charactoristics

Frame size			225AF	400AF	800AF
Type			**CC185** **CC225**	**CC265** **CC330** **CC400**	**CC500** **CC630** **CC800**
AC/DC common coil					
Control voltage		[Uc]			
	AC/DC		24/24	-	-
	AC/DC		48/48	-	100/100
	AC/DC		100~240/100~220	100~240/100~220	200/200
	AC		300	300	300
	AC		400	400	400
	AC		500	500	500
Voltage limit		[Uc]			
	Pick-up			86~110%	
	Drop-out			30~60%	
Coil consumption at 20°C					
AC 220V	Inrush	[VA]	380	571	1000
50/60Hz	Holding	[VA]	11.6	14	29
Heat dissipation		[W]	4.7	5	7.8
Operating time					
	Closing	[ms]	70	55	75
	Opening	[ms]	70	55	75

Internal Structure



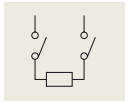
Description

- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available Rating
- 1NO1NC Auxiliary contact built-in as standard.

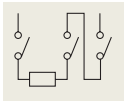
CC22

Rating

Contactor type			CC9		CC12		CC18		CC22	
			kW	A	kW	A	kW	A	kW	A
AC duty	AC3	200/240V	2.5	11	3.5	13	4.5	18	5.5	22
		380/440V	4	9	5.5	12	7.5	18	11	22
		500/550V	4	7	7.5	12	7.5	13	15	20
		690V	4	5	7.5	9	7.5	9	15	18
	AC4	200/240V	1.5	8	2.2	11	3.7	16	3.7	18
		380/440V	2.2	6	4	9	4	11	5.5	13
	AC1		-	25	-	25	-	32	-	40
DC1 duty	2-pole	24V	-	18	-	18	-	18	-	32
(L/R=1ms)	in series	48V	-	17	-	17	-	17	-	30
		110V	-	12	-	12	-	12	-	23
	3-pole	24V	-	20	-	20	-	20	-	32
	in series	48V	-	20	-	20	-	20	-	32
		110V	-	15	-	15	-	15	-	27
DC 2,4 duty	2-pole	24V	-	15	-	15	-	15	-	25
(L/R=15ms)	in series	48V	-	12	-	12	-	12	-	20
		110V	-	8	-	8	-	8	-	15
	3-pole	24V	-	18	-	18	-	18	-	30
	in series	48V	-	15	-	15	-	15	-	30
		110V	-	12	-	12		12	-	20
Directly mountable Overload relay			GT32							
Conductor size (solid, stranded)		AWG	16~10		16~8		14~8		14~8	
(the max. number of conducts: 2)		mm^2	1.5~4		1.5~10		2.5~10		2.5~10	
Conductor type			65/75℃ Cu-wire only							



2-pole in series



3-pole in series

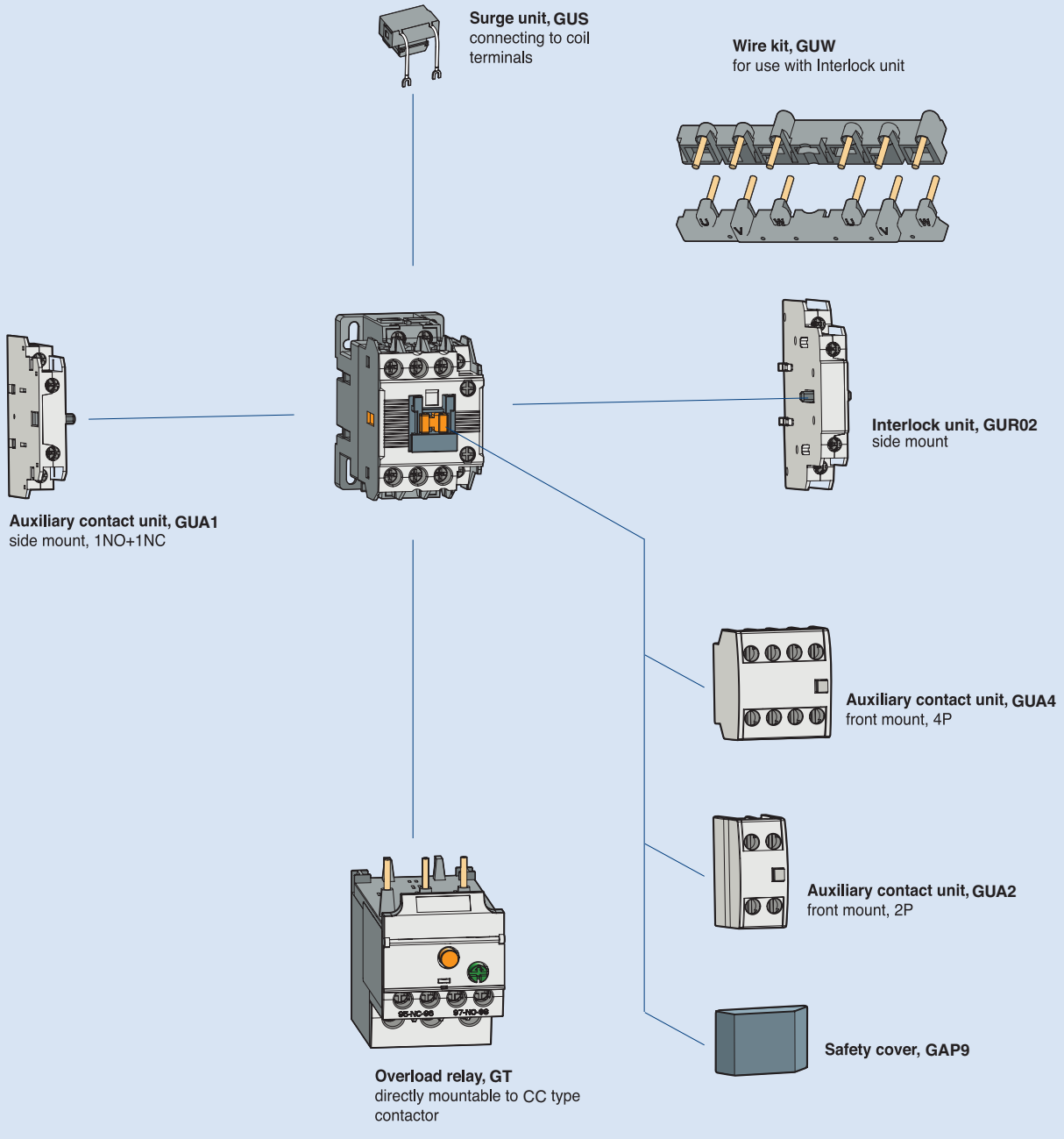
Coil Voltage

AC	50Hz	24, 32, 42, 48, 80, 100, 110, 220, 230, 240, 380, 400, 500, 550V
	60Hz	24, 48, 110, 110, 12, 200, 208, 220, 230, 240, 277, 380, 480, 600V
	50/60Hz	24, 48, 100, 110, 120, 200, 220, 230, 240, 380, 415, 440, 500, 550V
DC	DC	12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250V

Certification

- CE(IEC)
- UL508

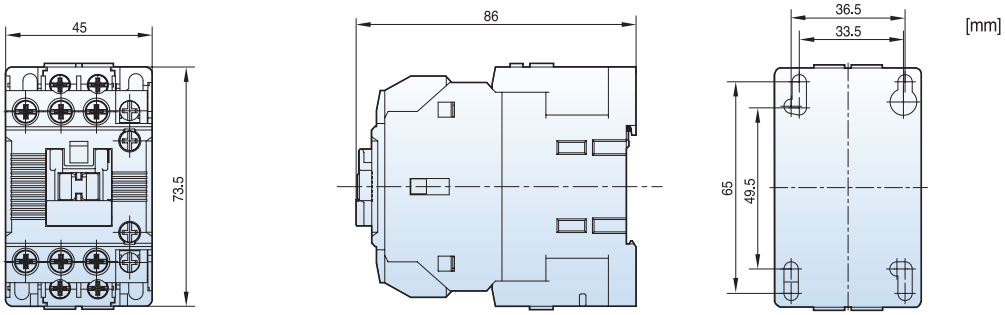
Accessories



Rated Short Breaking Capacity of Installation

Manual Motor Starter	Adjustment Range (A)	Manual Motor Controller Group Installation Short Circuit Rating(KAIC) 240V	480Y/277V	600Y/347V	Applied Contactor (GC Series)	Applied Contactor (CC Series)
32AF Rotary operation, standard interruption						
GMS-32H-0.16	0.1~0.16	100	65	25	GC9	CC9
GMS-32H-0.25	0.16~0.25	100	65	25	GC9	CC9
GMS-32H-0.4	0.25~0.4	100	65	25	GC9	CC9
GMS-32H-0.63	0.4~0.63	100	65	25	GC9	CC9
GMS-32H-1	0.63~1	100	65	25	GC9	CC9
GMS-32H-1.6	1~1.6	100	65	25	GC9	CC9
GMS-32H-2.5	1.6~2.5	100	65	25	GC12	CC12
GMS-32H-4	2.5~4	100	65	25	GC12	CC12
GMS-32H-6	4~6	100	65	25	GC18	CC18
GMS-32H-8	5~8	100	65	10	GC18	CC18
GMS-32H-10	6~10	100	65	10	GC18	CC18
GMS-32H-13	9~13	100	65	10	GC25	CC22
GMS-32H-17	11~17	100	30	10	GC25	CC22
GMS-32H-22	14~22	100	30	10	GC25	CC22
GMS-32H-26	18~26	100	30	10	GC32	CC32
GMS-32H-32	22~32	100	30	10	GC32	CC32
63AF Rotary operation, standard interruption						
GMS-63S-10	6~10	100	50	10	GC35	CC50
GMS-63S-13	9~13	100	50	10	GC35	CC50
GMS-63S-17	11~17	100	40	10	GC35	CC50
GMS-63S-22	14~22	100	40	10	GC35	CC50
GMS-63S-26	18~26	100	40	10	GC35	CC50
GMS-63S-32	22~32	100	40	10	GC35	CC50
GMS-63S-40	28~40	100	40	10	GC40	CC50
GMS-63S-50	34~50	100	40	10	GC50	CC50
GMS-63S-63	45~63	100	40	10	GC63	CC65
GMS-63S-65	47~65	100	40	10	—	CC65
63AF Rotary operation, High interruption						
GMS-63H-10	6~10	100	65	25	GC35	CC50
GMS-63H-13	9~13	100	65	25	GC35	CC50
GMS-63H-17	11~17	100	50	10	GC35	CC50
GMS-63H-22	14~22	100	50	10	GC35	CC50
GMS-63H-26	18~26	100	50	10	GC35	CC50
GMS-63H-32	22~32	100	50	10	GC35	CC50
GMS-63H-40	28~40	100	50	10	GC40	CC50
GMS-63H-50	34~50	100	50	10	GC50	CC50
GMS-63H-63	45~63	100	50	10	GC63	CC65
GMS-63H-65	47~65	100	40	10	—	CC65
100AF Rotary operation, Standard interruption						
GMS-100S-17	11~17	100	50	10	GC65	CC75
GMS-100S-22	14~22	100	50	10	GC65	CC75
GMS-100S-26	18~26	100	50	10	GC65	CC75
GMS-100S-32	22~32	100	50	10	GC65	CC75
GMS-100S-40	28~40	100	50	10	GC65	CC75
GMS-100S-50	34~50	100	50	10	GC65	CC75
GMS-100S-63	45~63	100	40	10	GC65	CC75
GMS-100S-75	55~75	100	40	10	GC75	CC75
GMS-100S-90	70~90	100	40	10	GC85	CC85
GMS-100S-100	80~100	100	40	10	GC95	CC100
100AF Rotary operation, High interruption						
GMS-100H-17	11~17	100	65	25	GC65	CC75
GMS-100H-22	14~22	100	65	20	GC65	CC75
GMS-100H-26	18~26	100	65	20	GC65	CC75
GMS-100H-32	22~32	100	65	20	GC65	CC75
GMS-100H-40	28~40	100	65	20	GC65	CC75
GMS-100H-50	34~50	100	65	20	GC65	CC75
GMS-100H-63	45~63	100	50	10	GC65	CC75
GMS-100H-75	55~75	100	50	10	GC75	CC75
GMS-100H-90	70~90	100	50	10	GC85	CC85
GMS-100H-100	80~100	100	50	10	GC95	CC100

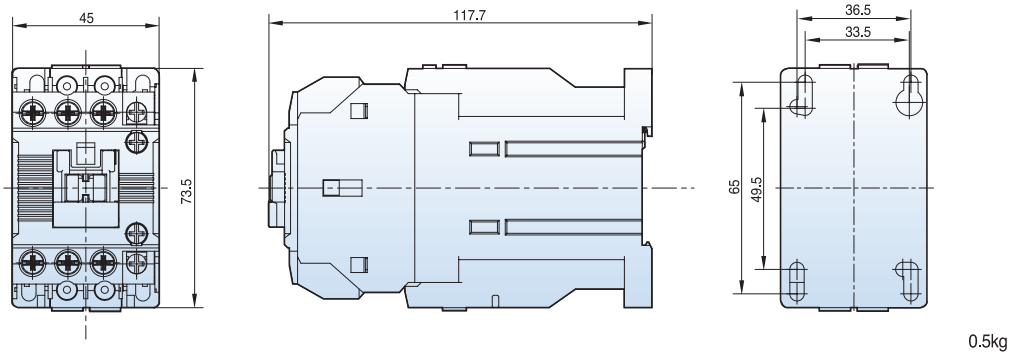
CC9 ~ CC22
AC coil
1NO1NC aux



[mm]

0.3kg

CC9 ~ CC22
DC coil
1NO1NC aux

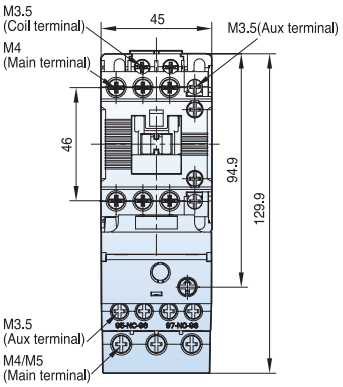


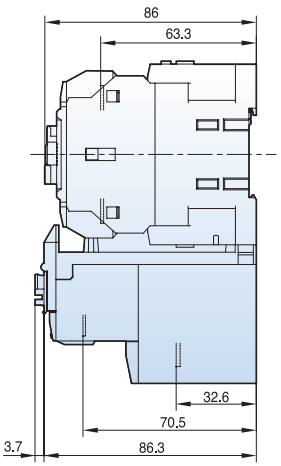
0.5kg

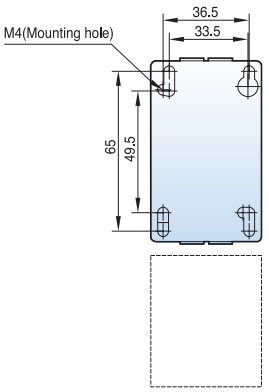
Motor Starters (18AF ~ 40AF)

[mm]

CC9 ~ CC22 with GT32
shown with no aux contact

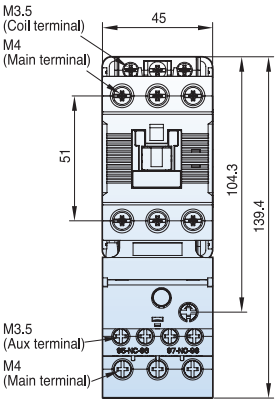


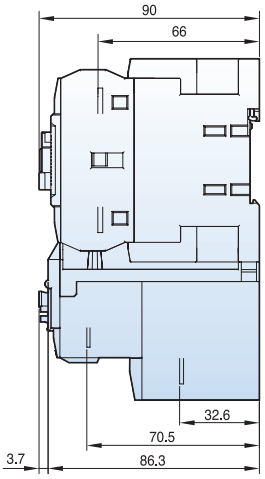


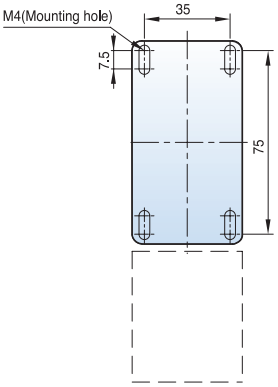


0.5kg

CC32 ~ CC40 with GT32
shown with no aux contact







0.6kg