

# Table of Specifications

## Midi-Contactors



Frame size	
Type	Terminal type
Number of poles	
Rated operational voltage, Ue	
Rated insulation voltage, Ui	
Rated frequency	
Rated impulse withstand voltage, Uimp	
Maximum operating rate in operating cycles per hour(AC3)	
Durability	Mechanical
	Electrical
Current and power	AC-1, Thermal current A
	AC-3 200/240V kW
	380/440V kW
	500/550V kW
	690V kW
UL rating (50/60Hz)	Continuous current A
	Single phase 110~120V HP
	220~240V HP
	200~208V HP
	Three phase 220~240V HP
	440~480V HP
Size and weight	NEMA size
	Weight kg
Auxiliary(standard)	AC control
	DC control
Auxiliary	Side mount
	Front mount



22AF			
CC9	CC12	CC18	CC22
Screw Only			
3pole			
690V			
690V			
50/60Hz			
6kV			
1800 operations per hour			
15 mil. operations			
2.5 mil. operations			
25	25	32	40
2.5	3.5	4.5	5.5
11	13	18	22
4	5.5	7.5	11
9	12	18	22
4	7.5	7.5	15
7	12	13	20
4	7.5	7.5	15
6	9	9	18
25	25	40	40
0.5	0.75	1	2
1.5	2	3	3
2	3	5	7.5
3	5	7.5	10
5	7.5	10	15
7.5	10	15	20
00	00	0	1
0.34			
45 × 73.5 × 86			
0.51			
45 × 73.5 × 117.7			
GUA1, GUA2, GUA4			
GUA-1			
GUA-2, GUA-4			

40AF	
CC32	CC40
Screw Only	
3pole	
690V	
1000V	
50/60Hz	
8kV	
1800 operations per hour	
12 mil. operations	
2 mil. operations	
50	60
7.5	11
32	40
15	18.5
32	40
18.5	22
28	32
18.5	22
20	23
50	60
2	3
5	7.5
7.5	15
10	15
20	30
25	30
1	1
0.55	
69 × 83 × 93	
0.77	
69 × 83 × 120	
GUA-1	
GUA-2, GUA-4	

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

## GT Type Thermal Overload Relays



Type	
Screws clamp terminals	
Rated operational voltage, Ue	
Rated insulation voltage, Ui	
Rated impulse withstand voltage, Uimp	
Trip class	
Setting range	
Size and weight	Weight kg
	Size(W × H × D) mm



GT32	
●	
690V	
690V	
6kV	
10A, 20	
0.1~40A	
0.17	
45 × 75 × 90	

GT32	
●	
690V	
690V	
6kV	
10A, 20	
0.1~40A	
0.17	
45 × 75 × 90	

# Table of Specifications



400AF		
CC265*	CC330*	CC400*
Screw Only		
3pole		
690V		
1000V		
50/60Hz		
8kV		
1200 operations per hour		
5 mil. operations		2.5 mil. operations
1 mil. operations		0.5 mil. operations
300	350	450
80	90	125
265	330	400
147	160	200
265	330	400
147	160	225
225	280	350
160	200	250
185	225	300
300	350	450
-	-	-
-	-	-
75	100	125
100	125	150
200	250	300
200	250	300
5	5	5

800AF		
CC500*	CC630*	CC800*
Screw Only		
3pole		
690V		
1000V		
50/60Hz		
8kV		
1200 operations per hour		
2.5 mil. operations		0.5 mil. operations
580	660	900
147	190	220
500	630	800
265	330	440
500	630	800
265	330	500
400	500	720
300	400	500
380	420	630
580	660	900
-	-	-
-	-	-
150	200	200
200	250	300
400	500	600
400	500	600
6	6	7

9.2  
163 × 243 × 198

22.4  
285 × 312 × 242

2a2b
-
-

2a2b
-
-



GT400
●
690V
690V
6kV
10A, 20
85~400A
2.6

GT800
●
690V
690V
6kV
10A, 20
200~800A
11.5

151 × 171 × 198

360 × 530 × 212

# Type Numbering System

## Midi-Contactor

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

## Overload

<b>GT</b> Bimetallic Midi-Overload	<b>32</b> Frame Size	<b>BLANK</b> Class class 10 L - class 20	<b>S</b> Terminal Type (Must match contactor number) S - Screw L - Lug (>35A)	<b>0.16A</b> Setting Ranges (Use upper limit in part)
	32 - 9, 12, 18A 22, 32, 40A 65 - 50, 65A 75 - 75, 85, 100A			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)
<b>CGE</b> Electronic Midi Overload	<b>22</b> Frame Size	<b>3P</b> Protection 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	<b>22A</b> Setting Range (Use upper limit in part) <b>CGE22</b> 0.3 ~ 1.5A 1 ~ 5A 4.4 ~ 22A <b>CGE40</b> 4 ~ 20A 8 ~ 40A <b>CGE80</b> 16 ~ 80A	CGE22 CGE40 CGE80
	22 - 9, 12, 18, 22A 40 - 32, 40A 80 - 50, 65, 75, 85A			22 ~ 32A 24 ~ 36A 28 ~ 40A 34 ~ 50A 45 ~ 65A 54 ~ 75A 63 ~ 85A 70 ~ 95A 80 ~ 100A (Setting Range Guide)
		Tunnel Type 22 and 40AF 2T - 2-Pole 3T - 3-Pole 3TR - 3-Pole		GT32 GT65 GT95

## Optional Accessories

### Auxiliary contact unit



Version	Mounting	Contact composition
GUA1	Side mount	11 1NO+1NC
GUA2	Front mount(2P)	20 2NO
GUA4	Front mount(4P)	02 2NC
		40 4NO
		31 3NO+1NC
		22 2NO+2NC
		13 1NO+3NC
		04 4NC

### Surge absorber



Version	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



Contact composition
02 2NC

### Wire kit for Interlocking



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

### Separate mounting unit (For relay)



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

### Remote reset unit (For relay)

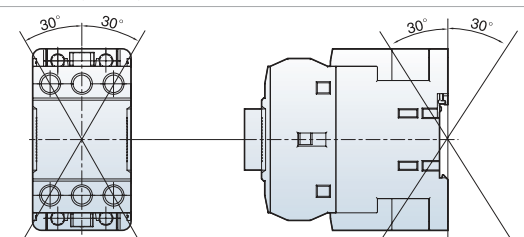


Cable length
16 400
20 500
24 600

# Environment / Connections



## 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 (1/2 sine wave =11ms)	Opened: 8G
	Closed: 10G
Vibration resistance (Conforming to IEC68-2-6) (5...300 Hz)	Opened: 2G
	Closed: 4G
Flame resistance	Conforming to UL 94: Vo
	Conforming to IEC 695-2-1: 960° C

## Connections

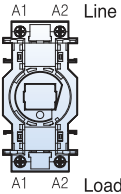
Frame	Wire type	Main Terminal Size	Wire type						Torque	
			(AWG / mm <sup>2</sup> )						mm(max)	[lb-in]
CC9		M4	18~10 / 1~6	18~10 / 1~6	18~10 / 1~6		9.6	20	2.25	
CC12			18~10 / 1~6	16~10 / 1~6	16~10 / 1~6					
CC18			18~10 / 1~6	16~8 / 1.5~10	16~8 / 1.5~10					
CC22		M5	18~10 / 1~6	14~8 / 2.5~10	14~8 / 2.5~10		12.8	35	4	
CC32			18~10 / 1~6	12~8 / 2.5~10	12~8 / 2.5~10					
CC40		M6	-	10~4 / 6~25	10~4 / 6~25		14	35	4	
CC50			-	8~3 / 10~35	8~3 / 10~35					
CC65			-	8~2 / 10~35	8~2 / 10~35					
CC75		M8	-	8~1/0 / 10~50	8~1/0 / 10~50		17	45	5.1	
CC85			-	8~2/0 / 10~70	8~2/0 / 10~70					
CC100		M8	-	3~2/0 / 35~70	3~2/0 / 35~70		24.5	80	9.1	
CC130			-	3~4/0 / 35~95	3~4/0 / 35~95					
CC150		M4	20~14 / 0.5~2.5	18~12 / 0.75~2.5	18~12 / 0.75~2.5		7.6	15	1.75	
CC9~150			-	1~4/0 / 50~95	1~4/0 / 50~95					
CC185			-	1/0~300 / 50~150	1/0~300 / 50~150					
CC225		M10	-	3/0~500 / 95~240	3/0~500 / 95~240		30	200	22.6	
CC265			-	350~700 / 185~185x2	350~700 / 185~185x2					
CC330		M12	-	4/0~500 / 95~240	4/0~500 / 95~240		40	500	26.5	
CC400			-	600~2000	-					
CC500			-	1700~Busbar	-					
CC630		M16	-	600~2000	-		40	500	26.5	
CC800			-	1700~Busbar	-					
CC185~800		M16	16~10 / 2.5~5.5	16~10 / 2.5~5.5	16~10 / 2.5~5.5		7.6	15	1.75	

a data sheet and specify products, visit [www.CavazziOnline.com](http://www.CavazziOnline.com)

# Control Coil Characteristics



Frame size			22AF	40AF	65AF	100AF	150AF	
Type	CC9		CC32	CC40	CC50	CC75	CC130	
	CC12							
	CC12							
	CC22							
<b>AC coil</b>								
Control voltage	[Uc]		24, 32, 36, 42, 48, 80, 100, 110, 220, 230, 240, 380, 400, 415, 440, 500, 550V				24, 48, 110,	
	50Hz	[V]	24, 48, 100, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600V				220, 300,	
	60Hz	[V]	24, 48, 100, 110, 120, 200, 220, 230, 240, 380, 415, 440, 500, 550V				400, 500	
Voltage limit	[Uc]							
	Pick-up		85 ~110% (50Hz)					
	Drop-out		85 ~110% (60Hz)					
Coil consumption at 20°C			30 ~ 60%					
	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			12 ... 22	12 ... 22	12 ... 22	15 ... 30	20 ... 40	
	Closing	[ms]	4 ... 19	4 ... 19	4 ... 19	10 ... 30	60 ... 70	
	Opening	[ms]						
<b>DC coil</b>								
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			35 ... 50	50 ... 65	50 ... 65	100 ... 120	70 ... 80	
	Closing	[ms]	4 ... 19	4 ... 19	4 ... 19	10 ... 25	60 ... 70	
	Opening	[ms]						



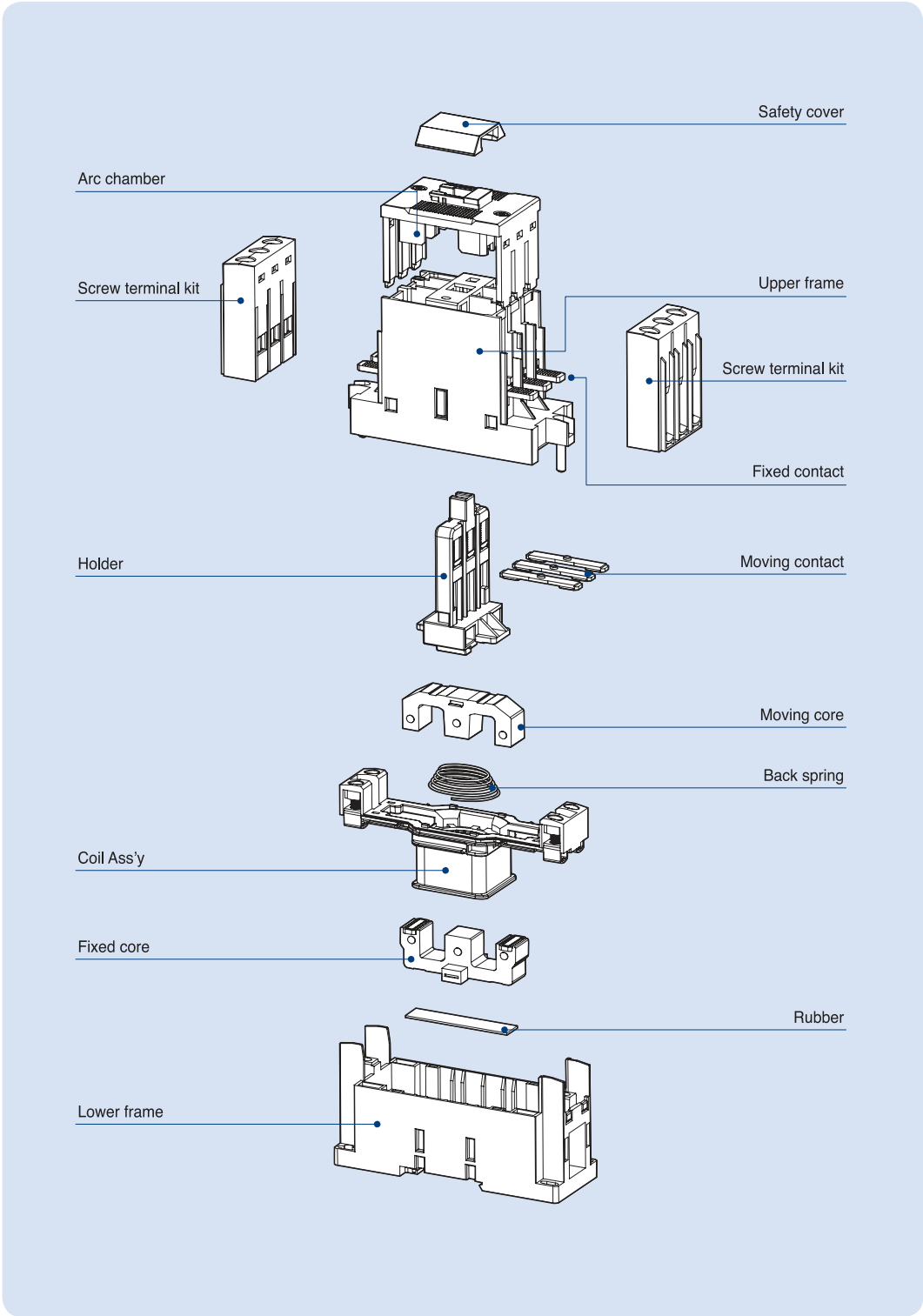
Note) A1(A2) in line side is internally connected to A1(A2) in load side.

# Control Coil Characteristics



Frame size	225AF	400AF	800AF
Type	<b>CC185</b> <b>CC225</b>	<b>CC265</b> <b>CC330</b> <b>CC400</b>	<b>CC500</b> <b>CC630</b> <b>CC800</b>
<b>AC/DC common coil</b>			
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



# Contactors (400AF)

## Description

- 3-pole main contact
- AC/DC common use coil built
- Wide coil operation voltage
- Screw mountable
- 2NO+2NC Auxiliary contacts built-in as standard
- Top/side mountable accessories available
- Direct mountable overload relays available

## Rating



Contactor type			CC265		CC330		CC400		
			kW	A	kW	A	kW	A	
AC duty	AC3	200/240V	80	265	90	330	125	400	
		380/440V	147	265	160	330	200	400	
		500/550V	147	225	160	280	225	350	
		690V	160	185	200	225	250	300	
	AC4	200/240V	50	200	55	220	75	300	
		380/440V	102	200	110	220	150	300	
	AC1		-	300	-	350	-	450	
	DC1 duty (L/R=1ms)	2-pole	24V	-	220	-	300	-	400
			in series	48V	-	180	-	240	-
110V			-	150	-	200	-	200	
3-pole		24V	-	220	-	300	-	400	
		in series	48V	-	220	-	300	-	400
		110V	-	220	-	300	-	400	
DC2, 4 duty (L/R=15ms)	2-pole	24V	-	220	-	300	-	400	
		in series	48V	-	150	-	200	-	200
		110V	-	120	-	150	-	150	
	3-pole	24V	-	220	-	300	-	400	
		in series	48V	-	220	-	280	-	280
		110V	-	150	-	200	-	200	
Directly mountable Overload relay			<b>GT400</b>						
Conductor size (solid, stranded)	AWG		310~500		410~500		350~700		
	(the max. number of conducts: 2)	mm <sup>2</sup>	95~240		95~240		185~370		
Conductor type			75°C Cu stranded wire						



## Coil Voltage, AC/DC Common

Nominal(ordering) voltage	AC 50/60Hz	DC
100/200V	100 - 240V	100 - 220V
300V	265 - 347V	-
400V	380 - 450V	-
500V	440 - 575V	-

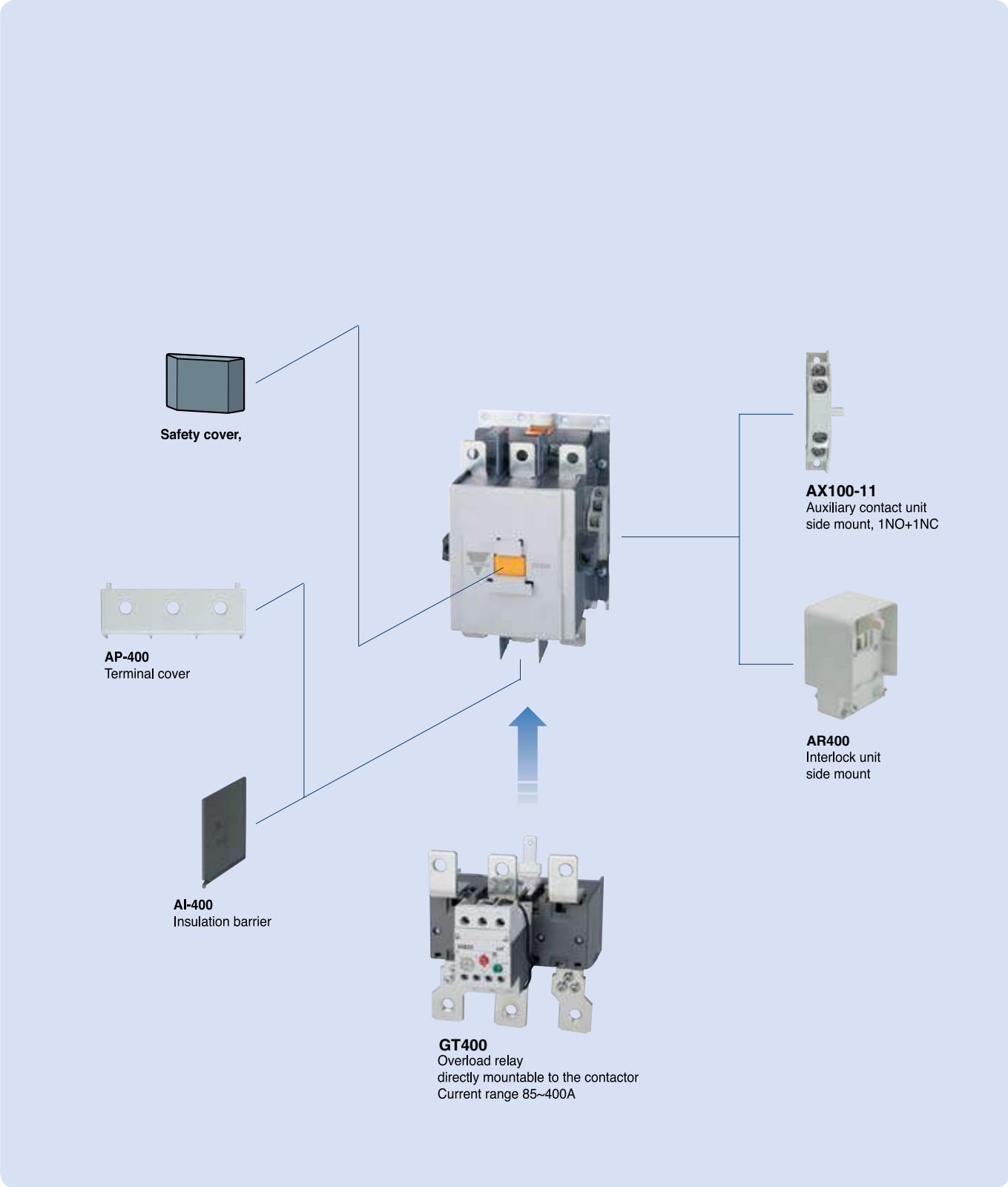
### Certification

- CE(IEC)
- UL508



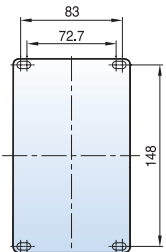
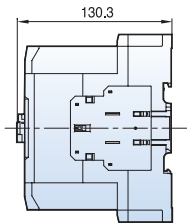
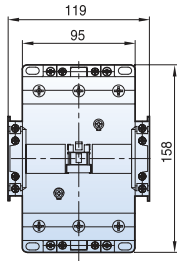
# Contactors (400AF)

## Accessories



# Contactors (150AF ~ 800AF)

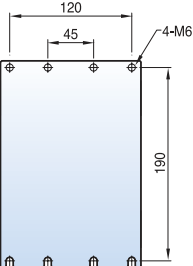
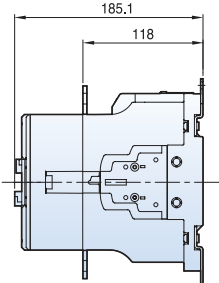
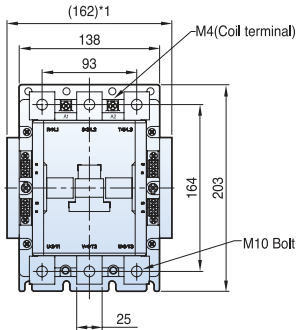
**CC130 ~ CC150**  
**2NO2NC aux**



[mm]

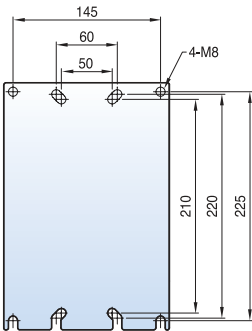
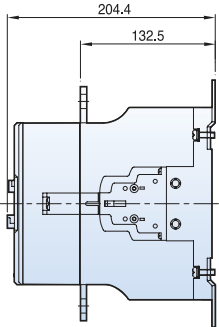
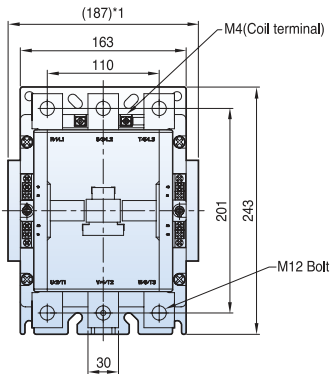
2.4kg

**CC185 ~ CC225**  
**2NO2NC aux**



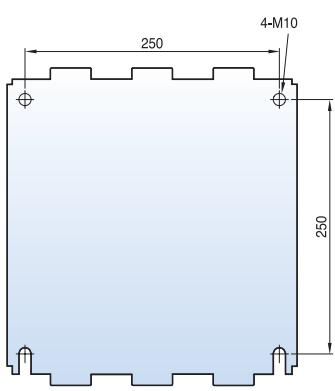
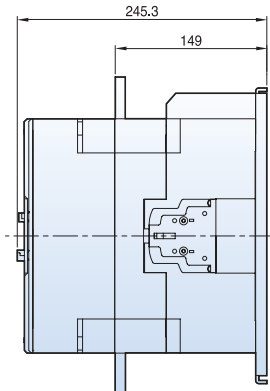
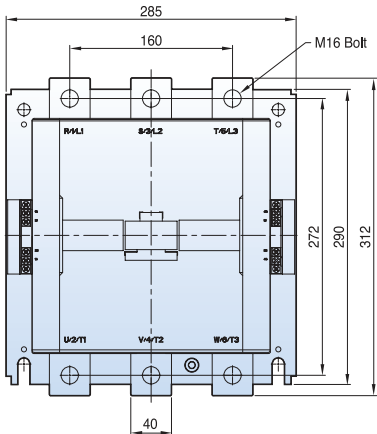
5.4kg

**CC265 ~ CC400**  
**2NO2NC aux**



9.2kg

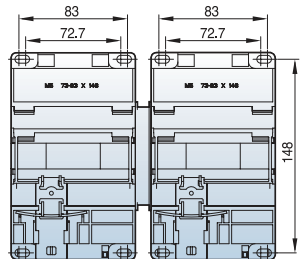
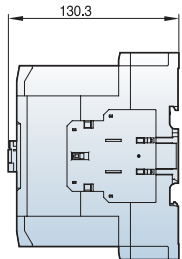
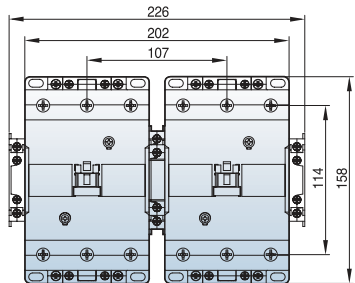
**CC500 ~ CC800**  
**2NO2NC aux**



22.4kg

# Reversing Contactors and Starters (150AF ~ 800AF)

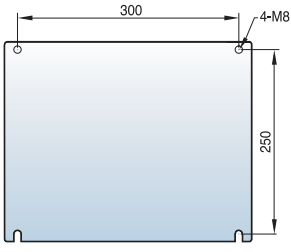
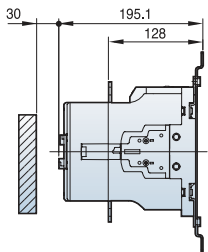
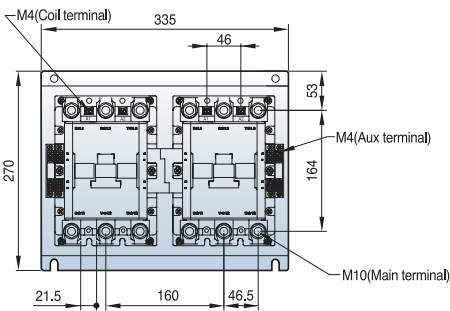
**CC130 ~ CC150**  
AC coil  
reversing  
combination  
shown with aux  
contacts



(mm)

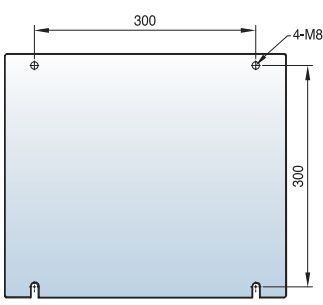
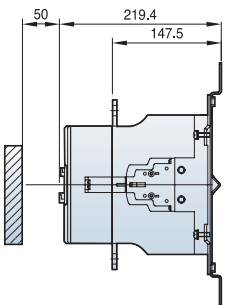
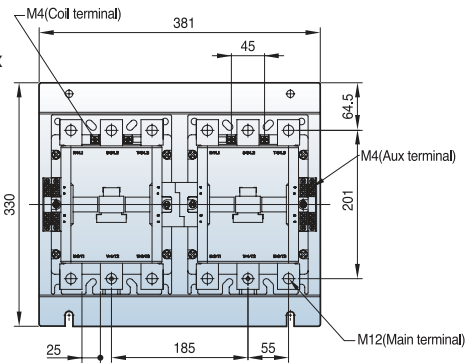
4.3kg

**CC185 ~ CC225**  
reversing  
combination  
shown with aux  
contacts



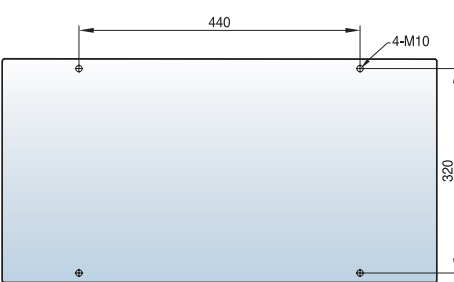
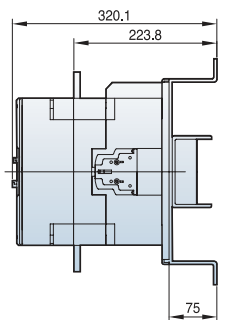
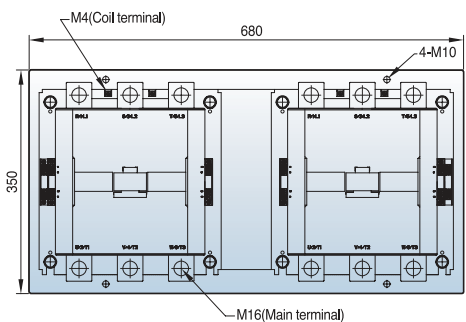
12.9kg

**CC265 ~ CC400**  
reversing  
combination  
shown with aux  
contacts



21.4kg

**CC500 ~ CC800**  
reversing  
combination  
shown with  
aux contacts

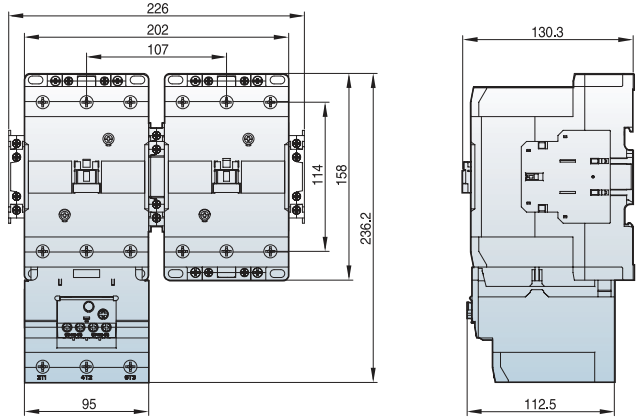


60kg

# Reversing Contactors and Starters (150AF ~ 400AF)

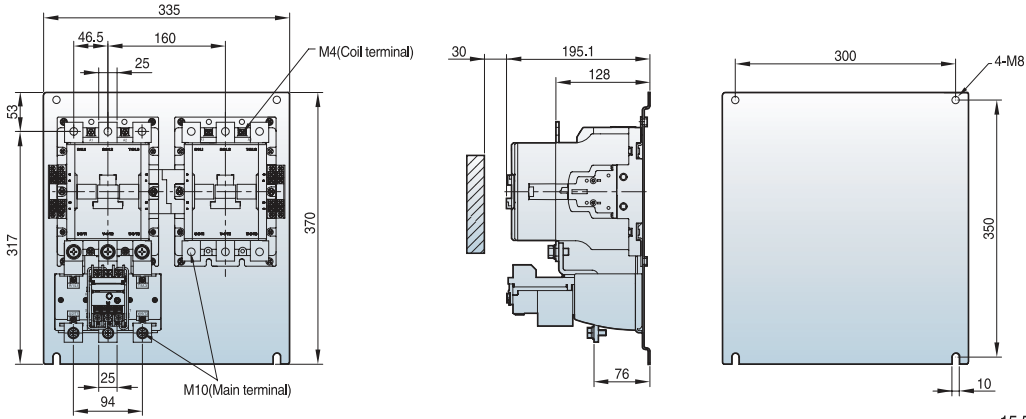
[mm]

**CC130 ~ CC150**  
AC coil  
reversing  
combination  
shown with GT150  
and aux contacts



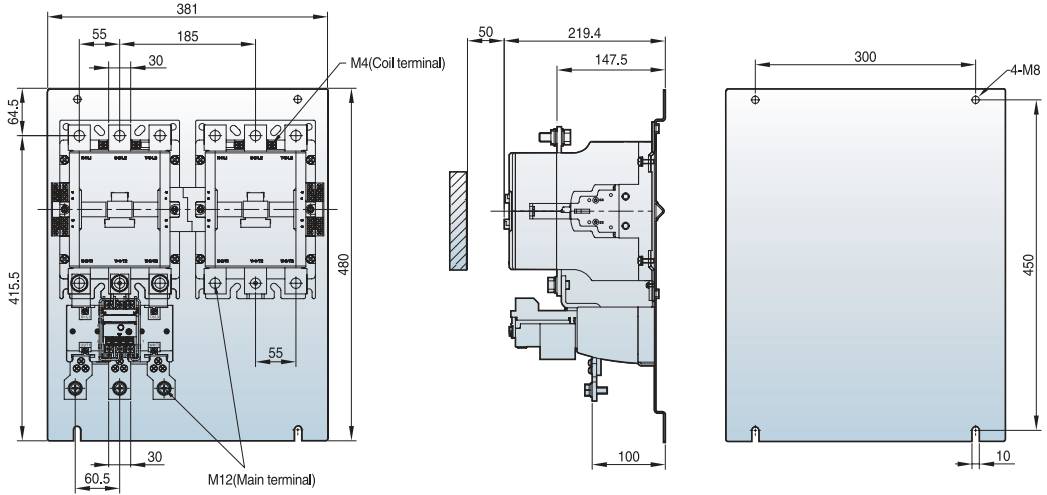
5kg

**CC185 ~ CC225**  
AC coil  
reversing  
combination  
shown with GT225  
and aux contacts



15.5kg

**CC265 ~ CC400**  
AC coil  
reversing  
combination  
shown with GT400  
and aux contacts



23kg