



# Metasol

Meta Solution

For Nuclear power plant  
Contactors and Overload relays



# Metasol Contactors and Overload Relays

*New generation of Contactors from LSIS*



Metasol Contactors

Metasol  
Contactors  
For Nuclear power plant



**LSIS META SOLUTION CONTACTORS**

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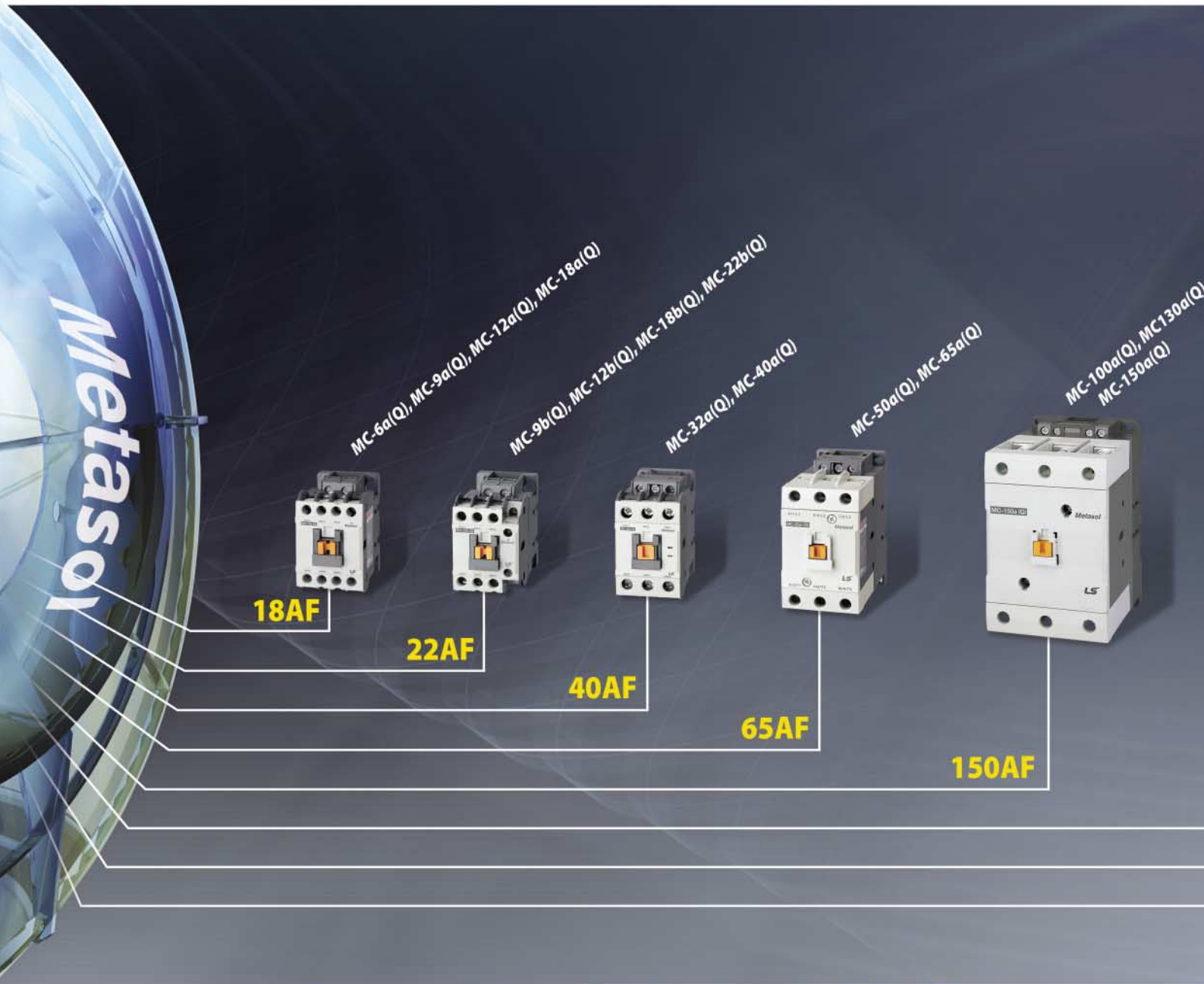
## ■ Designed to show superior technology: The Metasol series

Sealed structure has improved its safety features so that no arc flash is exposed. In order to emphasize its durability as an industrial device, Metasol series adopt simple design form and sophisticated shape applying diamond cut concepts on product surface.





# Metasol Series completion



More Safe,  
More Valuable



Contactors & Overload Relays



- *Advanced technology & Expert solution*
- *Offering economical solution with compact size & easy connection*
- *Ensure reliability in the system: Type II Coordination*
- *Perfect system with peripheral devices.*
- *Environment friendly product: complies with International environment standard RoHS.*
- *25Models in 9 Frames*



## MC/TOR Accessories

Perfect combination of peripheral devices and various accessories

# Offering economical solution with compact size & easy connection



### Perfect system with other devices and accessories

#### ■ One-touch connection

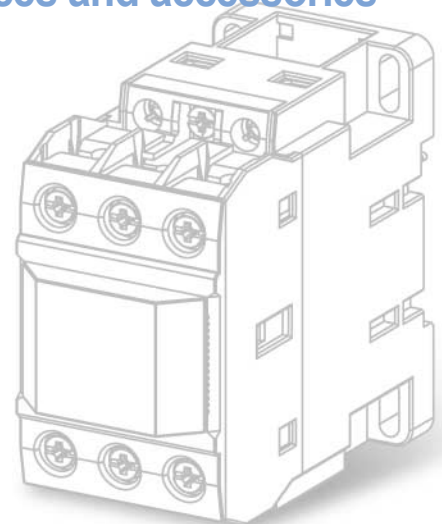
- Din Rail connection without any special tools
- Direct combine a surge unit

#### ■ Simple wiring

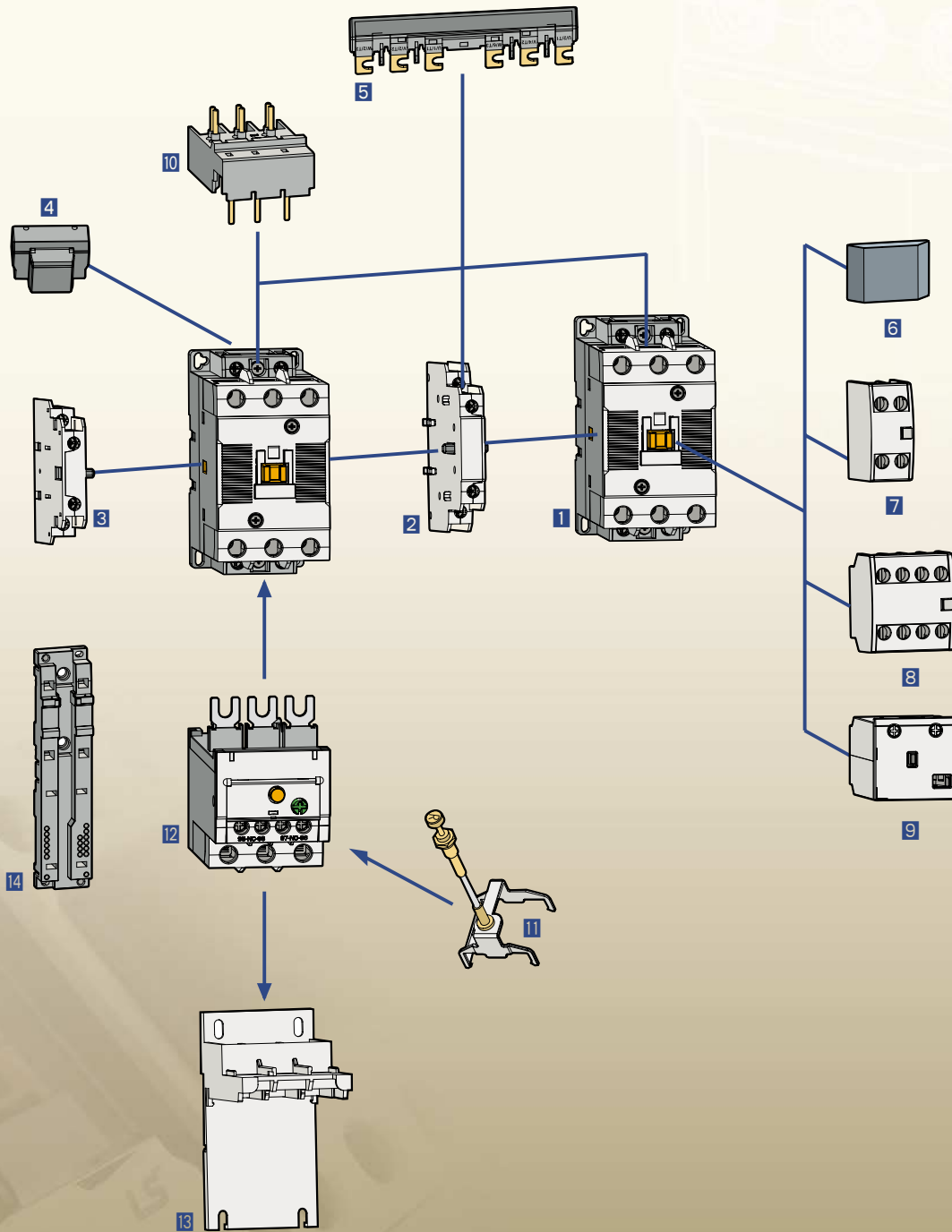
- Mounting unit, Adapter
- Reversing wire set

#### ■ Easy Maintenance

- 4-terminal type: Easy wiring of operation coil
- Module type of Screw terminal
- Interlock unit with built-in auxiliary contacts(2NO built-in)



# Advanced accessories for Metasol contactors



- |   |  |  |
|---|--|--|
| <b>1</b> Contactor                              | <b>6</b> Safety cover (Option)                       | <b>10</b> Direct adaptor to MMS          |
| <b>2</b> Interlock unit                         | <b>7</b> Auxiliary contact unit<br>- front mount(2p) | <b>11</b> Remote reset unit              |
| <b>3</b> Auxiliary contact unit<br>- side mount | <b>8</b> Auxiliary contact unit<br>- front mount(4p) | <b>12</b> Overload relay                 |
| <b>4</b> Surge unit                             | <b>9</b> Mechanical latch unit                       | <b>13</b> Separate mounting unit         |
| <b>5</b> Wire kit                               |  | <b>14</b> Mounting unit for use with MMS |



## MC type Magnetic Contactors



Frame size			
Type	screws clamp terminals		
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		A
			kW
	690V	kW	A
UL rating (50/60Hz)	Continuous current		
	Single phase	110~120V	HP
		220~240V	HP
		200~208V	HP
	Three phase	220~240V	HP
		440~480V	HP
		550~600V	HP
NEMA size			
Size and weight	AC control	Weight	kg
		Size(W × H × D)	mm
	DC control	Weight	kg
		Size(W × H × D)	mm



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

## MT 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

\* The safety cover of magnetic contactor and thermal overload relay is optional.

18AF				
MC-6a(Q)	MC-9a(Q)	MC-12a(Q)	MC-18a(Q)	
●	●	●	●	
3pole				
690V				
690V				
50/60Hz				
6kV				
1800 operations per hour				
15 mil. operations				
2.5 mil. operations				
25	25	25	32	
2.2	2.5	3.5	4.5	
9	11	13	18	
3	4	5.5	7.5	
7	9	12	18	
3	4	7.5	7.5	
6	7	12	13	
3	4	7.5	7.5	
4	5	9	9	
25	25	25	32	
0.5	0.5	0.75	1	
1.5	1.5	2	3	
2	2	3	5	
3	3	5	7.5	
5	5	7.5	10	
7.5	7.5	10	15	
00	00	0	1	
0.33				
45 × 73.5 × 80.4				
0.4				
45 × 73.5 × 96.6				
<b>1NO or 1NC</b>				
UA-1(Q)				
UA-2(Q), UA-4(Q)				





**22AF**

MC-9b(Q)	MC-12b(Q)	MC-18b(Q)	MC-22b(Q)
●	●	●	●
3pole			
690V			
690V			
50/60Hz			
6kV			
1800 operations per hour			
15 mil. operations			
2.5 mil. operations			
25	25	40	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	1	
0.34			
45 × 73.5 × 87.4			
0.41			
45 × 73.5 × 103.6			
<b>1NO1NC</b>			
UA-1(Q)			
UA-2(Q), UA-4(Q)			



**40AF**

MC-32a(Q)	MC-40a(Q)
●	●
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
1P	2
0.4	
45 × 83 × 90	
0.6	
45 × 83 × 117.1	
<b>2NO2NC</b>	
UA-1(Q)	
UA-2(Q), UA-4(Q)	



**65AF**

MC-50a(Q)	MC-65a(Q)
●	●
3pole	
690V	
1000V	
50/60Hz	
8kV	
1800 operations per hour	
12 mil. operations	
2 mil. operations	
70	100
15	18.5
55	65
22	30
50	65
30	33
43	60
30	33
28	35
70	100
3	5
10	15
20	25
25	30
40	50
50	60
0.9	
55 × 106 × 119	
1.2	
55 × 106 × 146.4	
<b>2NO2NC</b>	
UA-1(Q)	
UA-2(Q), UA-4(Q)	



**MT-32/□(Q)**

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



**MT-32/□(Q)**

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



**MT-63/□(Q)**

●
690V
690V
6kV
10A, 20
4~65A
0.31/0.33
55 × 81 × 100

## MC type Magnetic Contactors



Frame size			
Type	screws clamp terminals		
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
			A
		380/440V	kW
			A
		500/550V	kW
			A
		690V	kW
UL rating (50/60Hz)	Continuous current		
	Single phase	110~120V	HP
		220~240V	HP
		200~208V	HP
	Three phase	220~240V	HP
		440~480V	HP
		550~600V	HP
	NEMA size		
Size and weight	AC control	Weight	kg
		Size(W × H × D)	mm
	DC control	Weight	kg
		Size(W × H × D)	mm
Auxiliary(standard)			
Auxiliary	Side mount		
	Front mount		

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

## MT 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	

\* The safety cover of magnetic contactor and thermal overload relay is optional.

150AF			
MC-100a(Q)	MC-130a(Q)	MC-150a(Q)	
	●	●	
	3pole		
	690V		
	1000V		
	50/60Hz		
	8kV		
	1200 operations per hour		
	5 mil. operations		
	1 mil. operations		
160	160		210
30	37		45
105	130		150
55	60		75
105	130		150
55	60		70
85	90		100
55	55		55
65	60		60
160	160		210
10	10		15
20	20		25
30	40		40
40	40		50
75	75		100
75	75		75
			3, 4
	2.4		
	95 × 158 × 130.3		
UA-1(Q)			
UA-2(Q), UA-4(Q)			



### 225AF

MC-185a(Q)	MC-225a(Q)
●	●
3pole	
690V	
1000V	
50/60Hz	
8kV	
1200 operations per hour	
5 mil. operations	
1 mil. operations	
230	275
55	75
185	225
90	132
185	225
110	132
180	200
110	140
120	150
230	275
15	15
30	40
60	60
60	75
125	150
125	150

5.4  
138 × 203 × 185.1



### 400AF

MC-265a(Q)	MC-330a(Q)	MC-400a(Q)
●	●	●
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		

9.2  
163 × 243 × 204.4



### 800AF

MC-500a(Q)	MC-630a(Q)	MC-800a(Q)
●	●	●
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		7

22.4  
285 × 312 × 245.3

### 2NO2NC

AU-100, AU-100E (Max.4NO4NC)



### MT-225/□(Q)

●  
690V  
690V  
6kV  
10A, 20  
65~240A  
2.5

147 × 141 × 184

### 2NO2NC

AU-100, AU-100E (Max.4NO4NC)



### MT-400/□(Q)

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

151 × 171 × 198

### 2NO2NC

AU-100, AU-100E (Max.4NO4NC)



### MT-800/□(Q)

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

360 × 530 × 212

## Contactor

**MC-6a(Q)** / **R** / **AC220** **60Hz** **1NO1NC**

Rated current		Version		Coil voltage		Frequency		Auxiliary contact	
6a	6A	-	Standard	AC 220	AC 220V	60	60Hz	00	None
...	...	R	Reversing	...	...	50	50Hz	11	1NO1NC
800a	800A	4	4pole	...	...	...	...	22	2NO2NC
9b	9A			DC 24	DC 24V			10	1NO
...	...							01	1NC
22b	22A								

(Q) : Class 1E

Note) See page 22, 23 for details.

## Thermal Overload Relay


**MT-12(Q)** / **2H** **0.1**

Rated current		Relay version		Relay setting current	
12	12AF	2H	Non-differential (2-heater)	0.1	0.1A
32	32AF	3H	Non-differential (3-heater)	...	...
63	63AF	3K	Differential	800	800A
95	95AF	3D	Class 20		
...	...				
800	800AF				

(Q) : Class 1E

## Contactor relays

**MR** / **4(Q)**



Poles	
4	4 Pole
6	6 Pole
8	8 Pole

(Q) : Class 1E

## Optional Accessories

### Surge absorber

**US11(Q)**

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

Note) See page 82 for details.  
(Q) : Class 1E

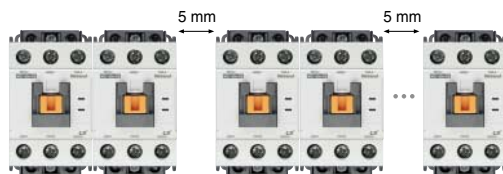


## Environment



Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, UL508, K60947
Certifications	CE, UL, CCC
Rated insulation voltage (Ui)	1000V (6A~22A: 690V, 32A~800A: 1000V)
Rated impulse withstand voltage (Uimp)	8kV (6A~22A: 6kV, 32A~800A: 8kV)
Degree of protection	IP20 (Conforming to IEC60529)
Ambient air temperature	Storage: -50° C ~ +80° C Operation: -5° C ~ +40° 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: V0 Conforming to IEC 695-2-1: 960° C

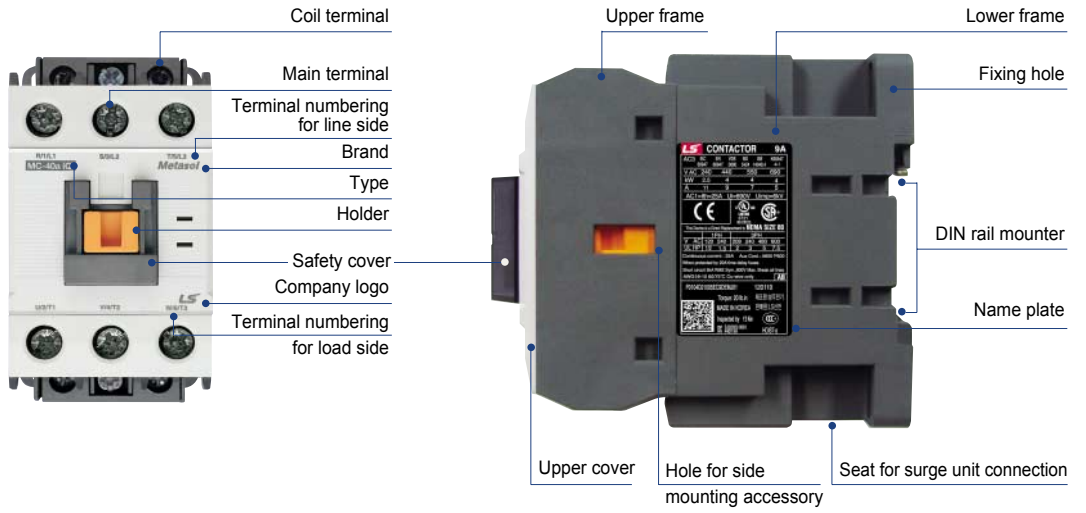
If attach multiple units closely, at least 5 mm of space between two unit is required or coil can be burnt due to high temperature of itself.



# Marking

## For Nuclear power plant

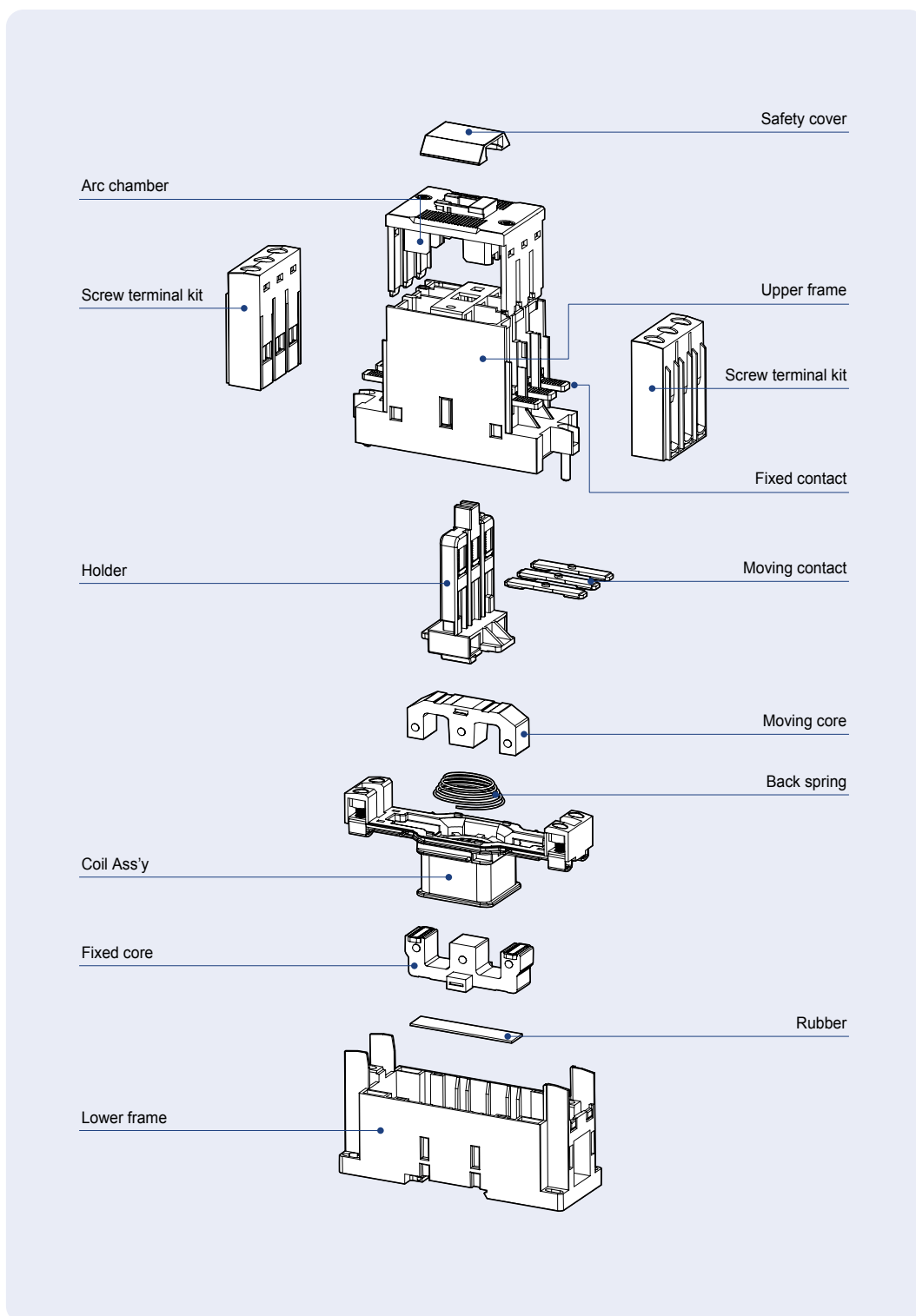
Metasol



Labels for the name plate:

- Company logo
- CE marking
- UL size
- Wire size
- Country of origin
- Type
- Product name
- Rating
- UL, CSA rating
- A, B : Metasol MC  
S : Susol MC
- Date of manufacture
- Certification (Domestic use only)

AC3	IEC	EN	VDE	BS	GB	K60947
60947	60947	0660	5424	14048.4	-4-1	
V AC	240	440	550	690		
kW	2.5	4	4	4	4	
A	11	9	7	5		
AC1=Ith=25A U <sub>i</sub> =690V U <sub>imp</sub> =6kV						
This Device is a Direct Replacement to <b>NEMA SIZE 00</b>						
V AC	120	240	208	240	480	600
UL HP	1/2	1.5	2	3	5	7.5
Continuous current : 25A Aux Cont. : A600 P600 When protected by 20A time delay fuses. Short circuit 5kA RMS Sym, 600V Max, Break all lines AWG18-10 60/75°C Cu-wire only						
P0104D21005EC9DEMJ01			120110			
Torque: 20 lb.in 제조원: 성우전기						
MADE IN KOREA 판매원: LS사점						
Inspected by YS Kim						
S 002002-0001 400V 9A HOISTra						



### Description

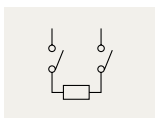
- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available Rating
- 1NO or 1NC Auxiliary contact built-in as standard.

### Rating

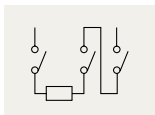


MC-18a(Q)

Contactor type			MC-6a(Q)		MC-9a(Q)		MC-12a(Q)		MC-18a(Q)		
			kW	A	kW	A	kW	A	kW	A	
AC duty	AC3	200/240V	2.2	9	2.5	11	3.5	13	4.5	18	
		380/440V	3	7	4	9	5.5	12	7.5	18	
		500/550V	3	6	4	7	7.5	12	7.5	13	
		690V	3	4	4	5	7.5	9	7.5	9	
	AC4	200/240V	1.5	7	1.5	8	2.2	11	3.7	16	
		380/440V	2.2	5	2.2	6	4	9	4	11	
AC1		-	25	-	25	-	25	-	32		
DC1 duty (L/R=1ms)	2-pole	24V	-	18	-	18	-	18	-	18	
		in series	48V	-	17	-	17	-	17	-	17
		110V	-	12	-	12	-	12	-	12	
	3-pole	24V	-	20	-	20	-	20	-	20	
		in series	48V	-	20	-	20	-	20	-	20
		110V	-	15	-	15	-	15	-	15	
DC2, 4 duty (L/R=15ms)	2-pole	24V	-	15	-	15	-	15	-	15	
		in series	48V	-	12	-	12	-	12	-	12
		110V	-	8	-	8	-	8	-	8	
	3-pole	24V	-	18	-	18	-	18	-	18	
		in series	48V	-	15	-	15	-	15	-	15
		110V	-	12	-	12	-	12	-	12	
Directly mountable Overload relay			MT-12(Q)								
Conductor size (solid, stranded)		AWG	18~10		16~10		16~8		14~8		
(the max. number of conducts: 2)		mm <sup>2</sup>	1~4		1.5~4		1.5~10		2.5~10		
Conductor type			65/75°C Cu-wire only								



2pole for DC contact



3pole for DC contact



### Coil voltage

AC	50Hz	120, 220V
	60Hz	120, 220V

\* Please be cautious for wiring control power cable, especially "+" (Positive) and "-" (Negative) polarity should be correctly considered.

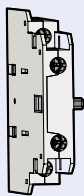
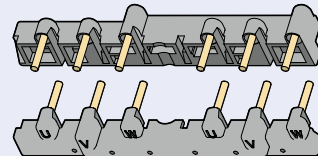
### Certification

- CE(IEC)
- UL508
- CCC

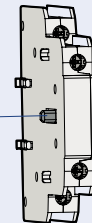
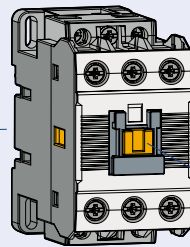


Accessories

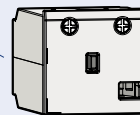
Wire kit, UW  
for use with Interlock unit  
▶ 80 page



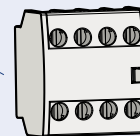
Auxiliary contact unit, UA-1(Q)  
side mount, 1NO+1NC



Interlock unit, UR  
side mount  
▶ 80 page



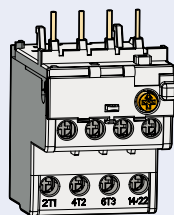
Mechanical latch unit,  
ML-65(Q)



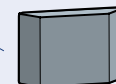
Auxiliary contact unit,  
UA-4(Q)  
front mount, 4P



Auxiliary contact unit,  
UA-2(Q)  
front mount, 2P



Overload relay, MT  
directly mountable to MC type  
contactor



Safety cover, A7

### Description

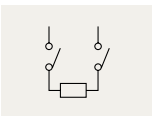
- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available Rating
- 1NO1NC Auxiliary contact built-in as standard.
- UA-1(Q) is available on only left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

### Rating

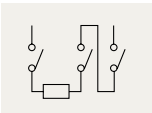


MC-22b(Q)

Contactor type			MC-9b(Q)		MC-12b(Q)		MC-18b(Q)		MC-22b(Q)		
			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 (L/R=1ms)	2-pole	24V	-	18	-	18	-	18	-	32	
		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 (L/R=15ms)	2-pole	24V	-	15	-	15	-	15	-	25	
		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			MT-32(Q)								
Conductor size (solid, stranded)		AWG	16~10		16~8		14~8		14~8		
(the max. number of conducts: 2)		mm <sup>2</sup>	1.5~4		1.5~10		2.5~10		2.5~10		
Conductor type			65/75°C Cu-wire only								



2pole for DC contact



3pole for DC contact



### Coil voltage

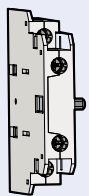
AC	50Hz	120, 220V
	60Hz	120, 220V

\* Please be cautious for wiring control power cable, especially "+" (Positive) and "-" (Negative) polarity should be correctly considered.

### Certification

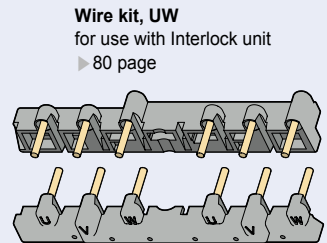
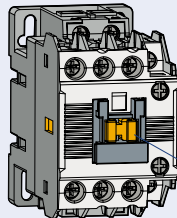
- CE(IEC)
- UL508
- CCC

Accessories

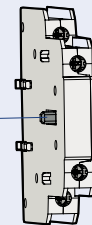


**Auxiliary contact unit, UA-1(Q)**  
side mount, 1NO+1NC

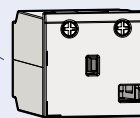
\* It is not possible to attach "UA-1(Q)" on the right side of product



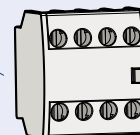
**Wire kit, UW**  
for use with Interlock unit  
▶ 80 page



**Interlock unit, UR**  
side mount  
▶ 80 page



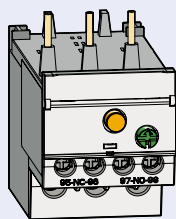
**Mechanical latch unit, ML-65(Q)**



**Auxiliary contact unit, UA-4(Q)**  
front mount, 4P



**Auxiliary contact unit, UA-2(Q)**  
front mount, 2P



**Overload relay, MT**  
directly mountable to MC type contactor



**Safety cover, A7**

### Description

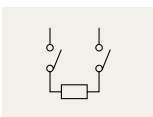
- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available Rating
- 2NO2NC Auxiliary contact built-in is possible as standard

### Rating

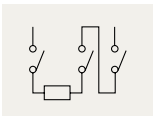


MC-40a(Q)

Contactor type			MC-32a(Q)		MC-40a(Q)		
			kW	A	kW	A	
AC duty	AC3	200/240V	7.5	32	11	40	
		380/440V	15	32	18.5	40	
		500/550V	18.5	28	22	32	
		690V	18.5	20	22	23	
	AC4	200/240V	4.5	20	5.5	25	
		380/440V	7.5	17	11	24	
	AC1		-	50	-	60	
DC1 (L/R=1ms)	2-pole	24V	-	32	-	55	
		in series	48V	-	30	-	55
		110V	-	25	-	40	
	3-pole	24V	-	32	-	55	
		in series	48V	-	32	-	55
		110V	-	27	-	45	
DC2,4 (L/R=15ms)	2-pole	24V	-	25	-	30	
		in series	48V	-	20	-	25
		110V	-	15	-	20	
	3-pole	24V	-	30	-	45	
		in series	48V	-	30	-	40
		110V	-	20	-	30	
Directly mountable Overload relay			MT-32(Q)				
Conductor size (solid, stranded) (the max. number of conducts: 2)		AWG	12~8		8~6		
		mm <sup>2</sup>	2.5~10		10~16		
Conductor type			65/75°C Cu-wire only				



2pole for DC contact



3pole for DC contact



### Coil voltage

AC	50Hz	120, 220V
	60Hz	120, 220V

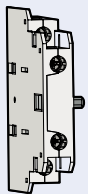
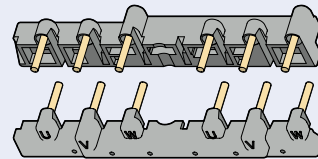
### Certification

- CE(IEC)
- UL508
- CCC

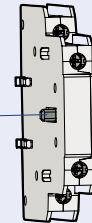
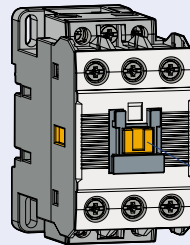


Accessories

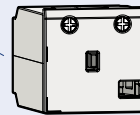
Wire kit, UW  
for use with Interlock unit  
▶ 80 page



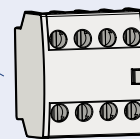
Auxiliary contact unit,  
UA-1(Q)  
side mount, 1NO+1NC



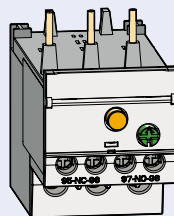
Interlock unit, UR  
side mount  
▶ 80 page



Mechanical latch unit,  
ML-65(Q)



Auxiliary contact unit,  
UA-4(Q)  
front mount, 4P



Overload relay, MT  
directly mountable to MC type  
contactor



Auxiliary contact unit,  
UA-2(Q)  
front mount, 2P



Safety cover, A7

### Description

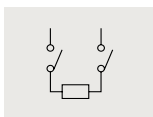
- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available rating
- 2NO2NC Auxiliary contact built-in is possible as standard

### Rating

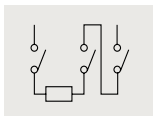


MC-65a(Q)

Contactor type			MC-50a(Q)		MC-65a(Q)		
			kW	A	kW	A	
AC duty	AC3	200/240V	15	55	18.5	65	
		380/440V	22	50	30	65	
		500/550V	30	43	33	60	
		690V	30	28	33	35	
	AC4	200/240V	7.5	35	11	50	
		380/440V	15	32	22	47	
	AC1		-	70	-	100	
DC1 duty (L/R=1ms)	2-pole	24V	-	70	-	90	
		in series	48V	-	70	-	90
		110V	-	50	-	75	
	3-pole	24V	-	70	-	90	
		in series	48V	-	70	-	90
		110V	-	60	-	80	
DC2, 4 duty (L/R=15ms)	2-pole	24V	-	45	-	55	
		in series	48V	-	40	-	45
		110V	-	25	-	38	
	3-pole	24V	-	55	-	75	
		in series	48V	-	50	-	65
		110V	-	35	-	55	
Directly mountable Overload relay			MT-63(Q)				
Conductor size (solid, stranded) (the max. number of conducts: 2)		AWG	10~4		8~3		
		mm <sup>2</sup>	6~25		10~35		
Conductor type			65/75 °C Cu-wire only				



2pole for DC contact



3pole for DC contact



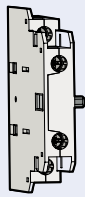
### Coil voltage

AC	50Hz	120, 220V
	60Hz	120, 220V

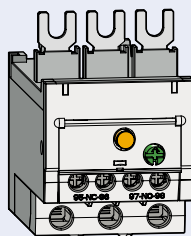
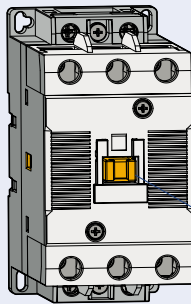
### Certification

- CE(IEC)
- UL508
- CCC

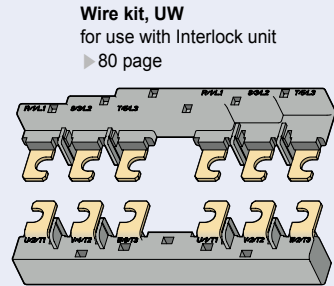
Accessories



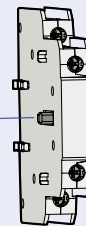
**Auxiliary contact unit, UA-1(Q)**  
side mount, 1NO+1NC



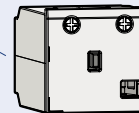
**Overload relay, MT**  
directly mountable to MC type contactor



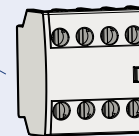
**Wire kit, UW**  
for use with Interlock unit  
▶ 80 page



**Interlock unit, UR**  
side mount  
▶ 80 page



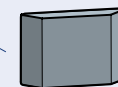
**Mechanical latch unit, ML-65(Q)**



**Auxiliary contact unit, UA-4(Q)**  
front mount, 4P



**Auxiliary contact unit, UA-2(Q)**  
front mount, 2P



**Safety cover, A7**

### Description

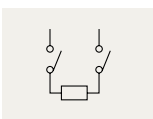
- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available Rating
- 2NO2NC Auxiliary contact built-in is possible as standard

### Rating

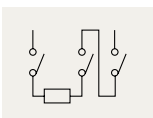


MC-100a(Q)

Contactor type			MC-100a(Q)		MC-130a(Q)		MC-150a(Q)		
			kW	A	kW	A	kW	A	
AC duty	AC3	200/240V	30	105	37	130	45	150	
		380/440V	55	105	60	130	75	150	
		500/550V	55	85	60	90	70	100	
		690V	45	65	55	60	55	60	
	AC4	200/240V	19	80	22	93	30	120	
		380/440V	37	75	45	90	55	110	
	AC1		-	160	-	160	-	210	
DC1 duty (L/R=1ms)	2-pole	24V	-	100	-	120	-	150	
		in series	48V	-	100	-	100	-	120
		110V	-	80	-	80	-	100	
	3-pole	24V	-	100	-	120	-	150	
		in series	48V	-	100	-	120	-	150
		110V	-	85	-	100	-	150	
DC2, 4 duty (L/R=15ms)	2-pole	24V	-	60	-	120	-	150	
		in series	48V	-	50	-	60	-	100
		110V	-	40	-	40	-	80	
	3-pole	24V	-	80	-	120	-	150	
		in series	48V	-	70	-	90	-	130
		110V	-	60	-	80	-	120	
Directly mountable Overload relay			MT-150(Q)						
Conductor size (solid, stranded)	AWG		8~00		3~00		3~4/0		
	(the max. number of conducts: 2)	mm <sup>2</sup>	10~70		35~70		35~95		
Conductor type			65/75°C Cu-wire only						



2pole for DC contact



3pole for DC contact



### Coil voltage

AC	50Hz	100~240V
	60Hz	

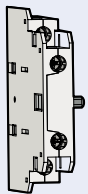
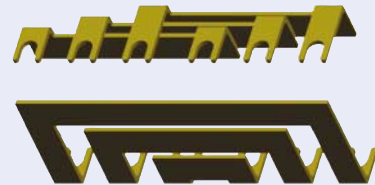
### Certification

- CE(IEC)
- UL508
- CCC

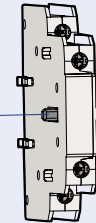
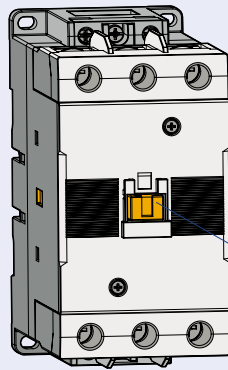


Accessories

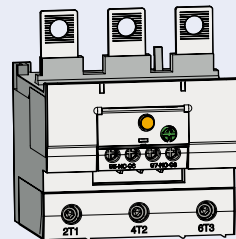
Wire kit, UW  
for use with Interlock unit  
▶ 80 page



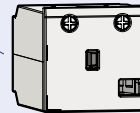
Auxiliary contact unit,  
UA-1(Q)  
side mount, 1NO+1NC



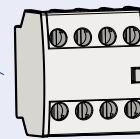
Interlock unit, UR  
side mount  
▶ 80 page



Overload relay, MT  
directly mountable to MC type  
contactor



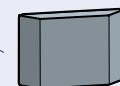
Mechanical latch unit,  
ML-150



Auxiliary contact unit,  
UA-4(Q)  
front mount, 4P



Auxiliary contact unit,  
UA-2(Q)  
front mount, 2P



Safety cover, A7

### Description

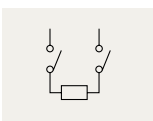
- 3-pole main contact
- AC/DC common use coil built
- Wide coil operation voltage
- Screw mountable
- 2NO+2NC Auxiliary contacts built-in as standard
- Top/side mountable accessories available
- Direct mountable overload relays available

### Rating

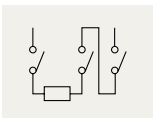


MC-225a(Q)

Contactor type			MC-185a(Q)		MC-225a(Q)		
			kW	A	kW	A	
AC duty	AC3	200/240V	55	185	75	225	
		380/440V	90	185	132	225	
		500/550V	110	180	132	200	
		690V	110	120	140	150	
	AC4	200/240V	37	150	45	180	
		380/440V	75	150	90	180	
	AC1		-	230	-	275	
DC1 duty (L/R=1ms)	2-pole	24V	-	180	-	220	
		in series	48V	-	180	-	180
		110V	-	150	-	150	
	3-pole	24V	-	180	-	220	
		in series	48V	-	180	-	220
		110V	-	180	-	220	
DC2, 4 duty (L/R=15ms)	2-pole	24V	-	180	-	220	
		in series	48V	-	150	-	150
		110V	-	120	-	120	
	3-pole	24V	-	180	-	220	
		in series	48V	-	180	-	220
		110V	-	150	-	150	
Directly mountable Overload relay			MT-225(Q)				
Conductor size (solid, stranded)		AWG	1~4/0		0~300		
(the max. number of conducts: 2)		mm <sup>2</sup>	50~95		50~150		
Conductor type			75°C Cu stranded wire				



2pole for DC contact



3pole for DC contact



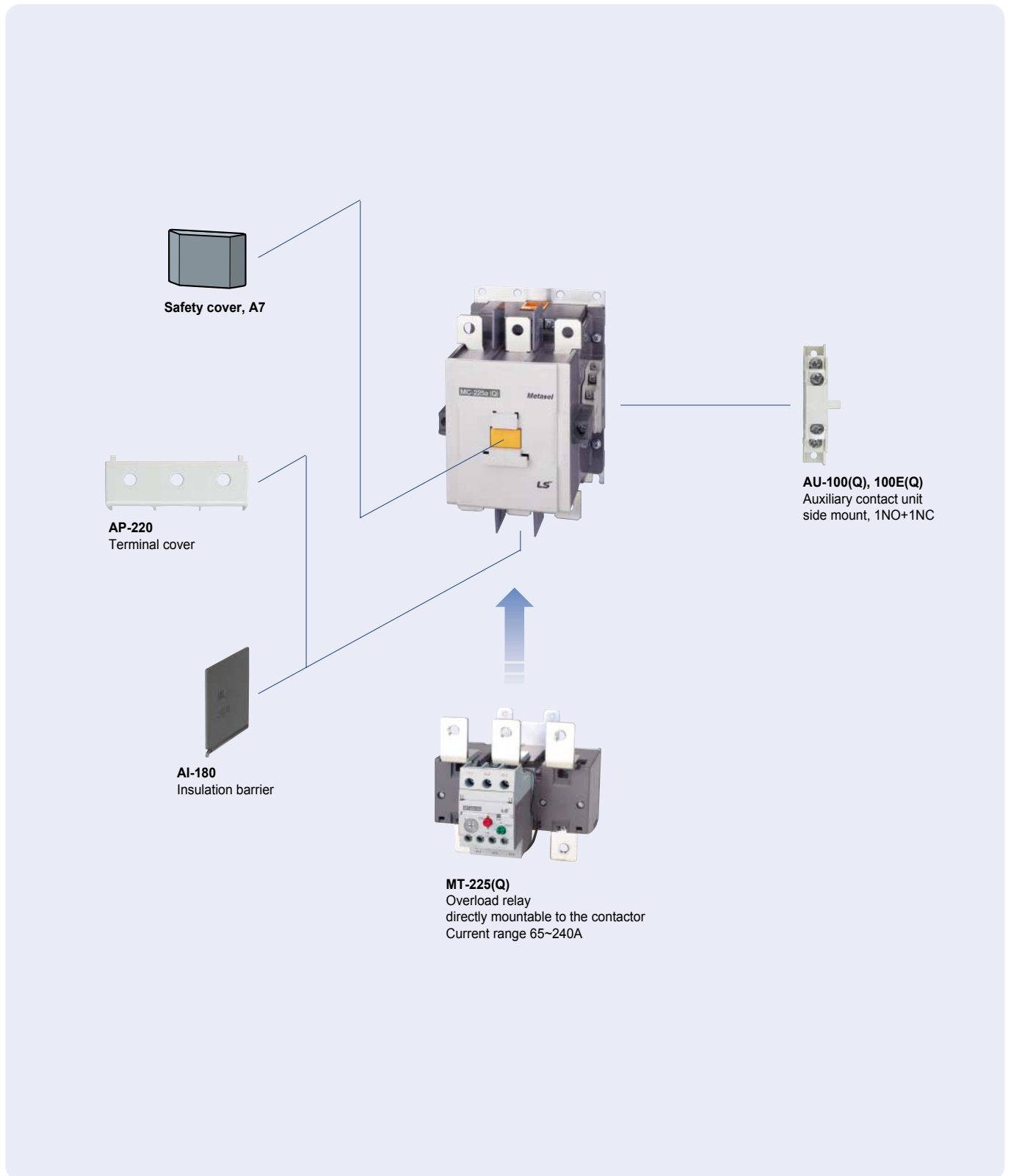
### Coil voltage, AC/DC common

AC	50Hz	120, 220V
	60Hz	

### Certification

- CE(IEC)
- UL508
- CCC

## Accessories



### Description

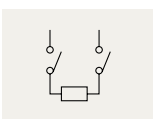
- 3-pole main contact
- AC/DC common use coil built
- Wide coil operation voltage
- Screw mountable
- 2NO+2NC Auxiliary contacts built-in as standard
- Top/side mountable accessories available
- Direct mountable overload relays available

### Rating

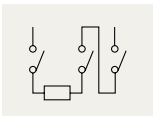


MC-400a(Q)

Contactor type			MC-265a(Q)		MC-330a(Q)		MC-400a(Q)		
			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	-	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			MT-400(Q)						
Conductor size (solid, stranded)	AWG		3/0~500		4/0~500		350~700		
	mm <sup>2</sup>		95~240		95~240		185~370		
Conductor type			75°C Cu stranded wire						



2pole for DC contact



3pole for DC contact



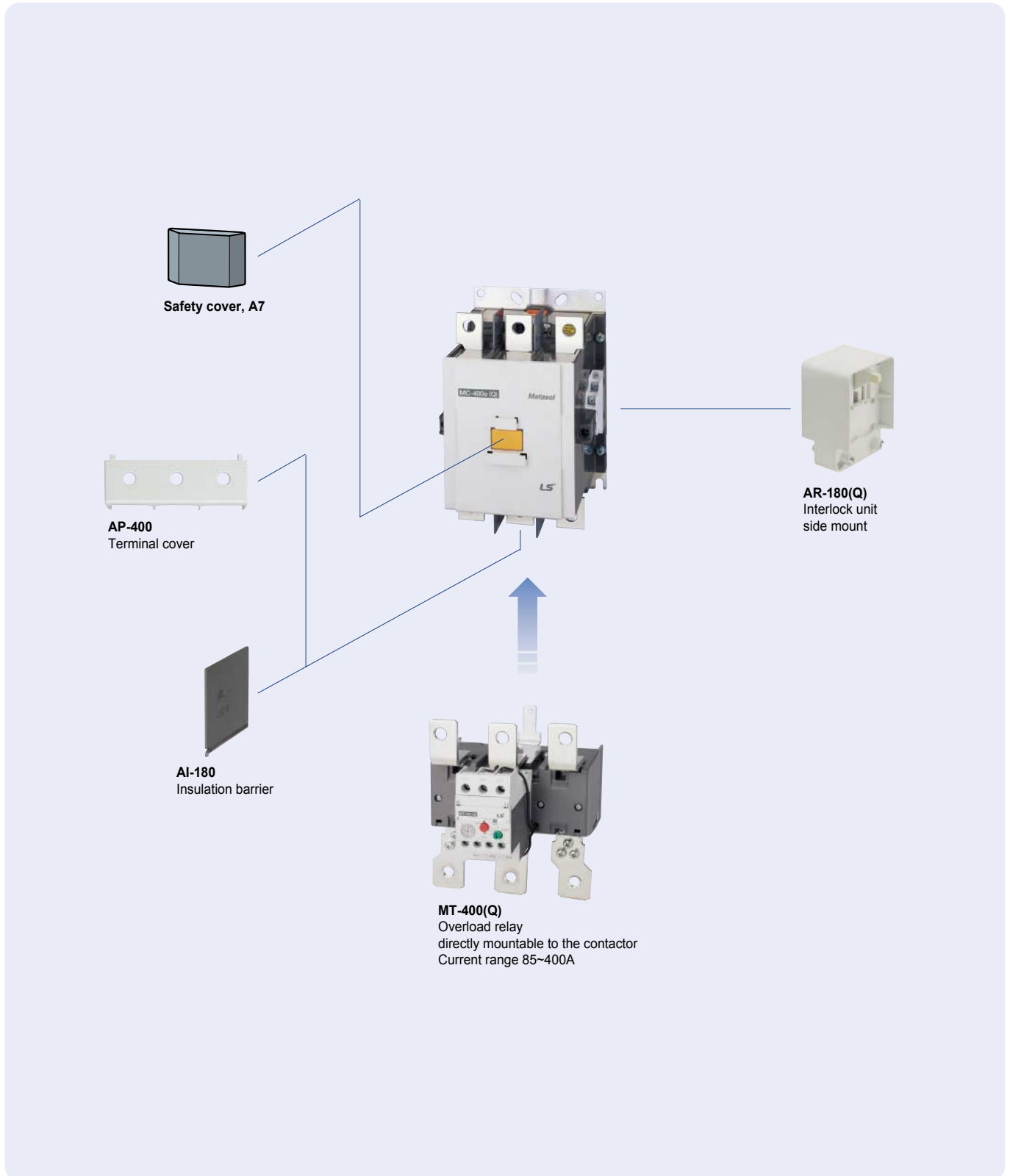
### Coil voltage, AC/DC common

AC	50Hz	120, 220V
	60Hz	

### Certification

- CE(IEC)
- UL508
- CCC

## Accessories



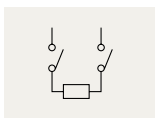
### Description

- 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
- Overload relays available

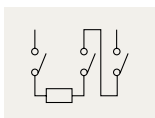


### Rating

Contactor type			MC-500a(Q)		MC-630a(Q)		MC-800a(Q)		
			kW	A	kW	A	kW	A	
AC duty	AC3	200/240V	147	500	190	630	220	800	
		380/440V	265	500	330	630	440	800	
		500/550V	265	400	330	500	500	720	
		690V	300	380	400	420	500	630	
	AC4	200/240V	90	350	110	400	160	630	
		380/440V	176	350	200	400	300	630	
AC1		-	580	-	660	-	900		
DC1 duty (L/R=1ms)	2-pole	24V	-	400	-	630	-	800	
		in series	48V	-	240	-	630	-	800
		110V	-	200	-	630	-	630	
	3-pole	24V	-	400	-	630	-	800	
		in series	48V	-	400	-	630	-	800
		110V	-	400	-	630	-	800	
DC2, 4 duty (L/R=15ms)	2-pole	24V	-	400	-	630	-	800	
		in series	48V	-	200	-	630	-	630
		110V	-	150	-	630	-	630	
	3-pole	24V	-	400	-	630	-	800	
		in series	48V	-	280	-	630	-	630
		110V	-	200	-	630	-	630	
Directly mountable Overload relay			MT-800(Q)						
Conductor size (solid, stranded) (the max. number of conducts: 2)		AWG	350~800		600~2000		1700~Busbar		
		mm <sup>2</sup>	185~480		-		-		
Conductor type			75°C Cu stranded wire						



2pole for DC contact



3pole for DC contact



### Coil voltage, AC/DC common

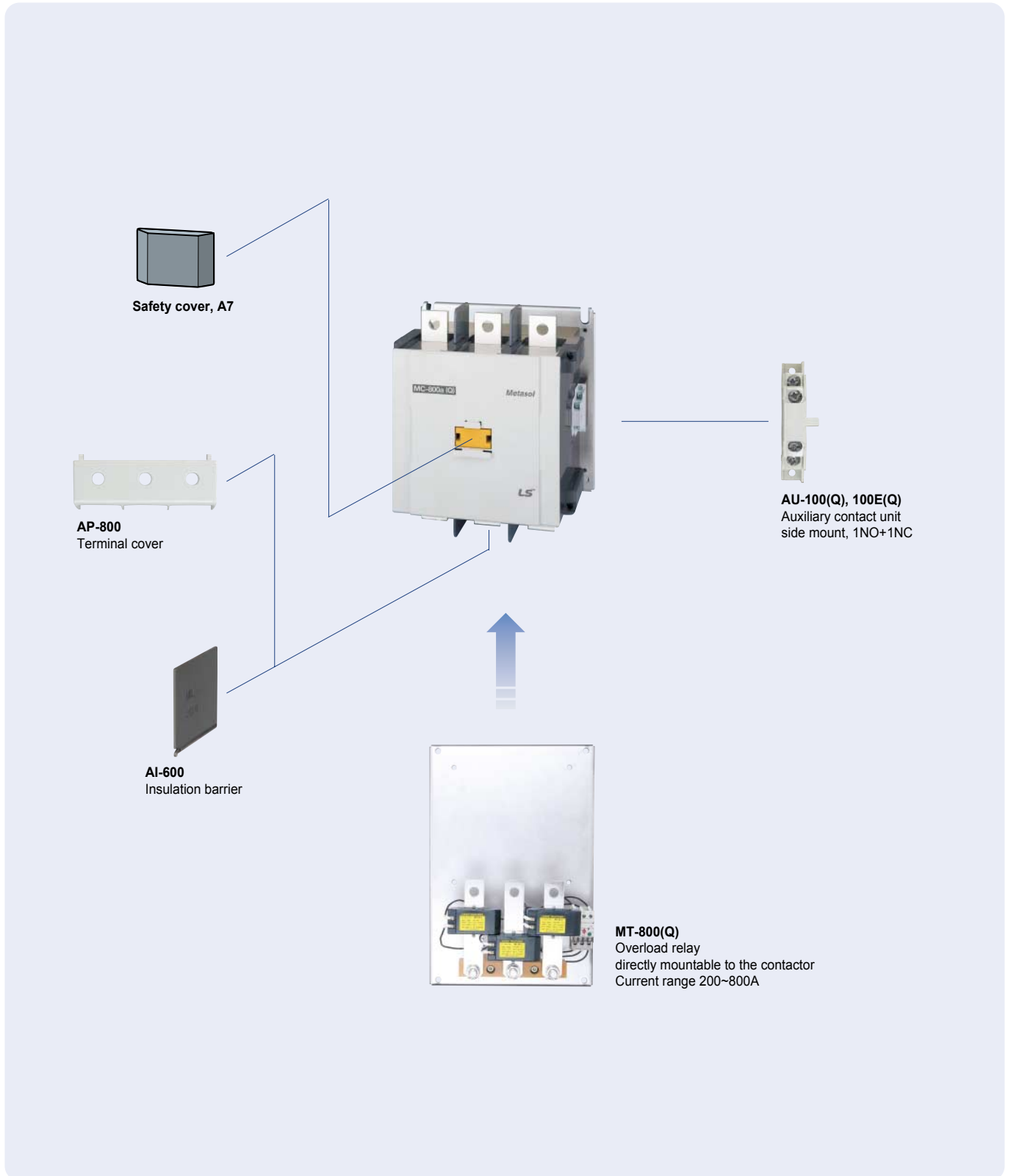
AC	50Hz	220V
	60Hz	

### Certification

- CE(IEC)
- UL508
- CCC



## Accessories



## Description

- 4,6,8 pole units
- AC/DC control voltage
- 16A continuous current, lth
- DIN rail or screw mountable

## Selection



MR-4(Q)



MR-6(Q)



MR-8(Q)

Poles	Composition	Types	Remarks
4 Pole	4NO 3NO1NC 2NO2NC 1NO3NC 4NC	MR-4(Q)	Additional auxiliary contacts can be mounted on the relays.
6 Pole	6NO 5NO1NC 4NO2NC 3NO3NC 2NO4NC	MR-6(Q)	UA-2(Q) is mounted on the MR-4.
8 Pole	8NO 7NO1NC 6NO2NC 5NO3NC 4NO4NC	MR-8(Q)	UA-4(Q) is mounted on the MR-4.

## Ratings

Rated insulation voltage (Ui)		AC 690V					
Continuous current (lth)		16A					
Operating cycle		1800 operations/hour					
Endurance	Mechanical life time	10 mil. Operations					
	Electrical life time	0.25 mil. Operations					
Type			MR-4(Q)	MR-6(Q)	MR-8(Q)		
AC-15	Rated current (A)	120V	6	6	6		
		240V	3	3	3		
		380V	1.9	1.9	1.9		
		480V	1.5	1.5	1.5		
		500V	1.4	1.4	1.4		
		600V	1.2	1.2	1.2		
DC-13	Rated current (A)		MR-4(Q)	MR-4(Q)	UA-2(Q)	MR-4(Q)	UA-4(Q)
		125V	1.1	1.1	0.55	1.1	0.55
		250V	0.55	0.55	0.27	0.55	0.27
		400V	0.31	0.31	0.15	0.31	0.15
		500V	0.27	0.27	0.13	0.27	0.13
	600V	0.2	0.2	0.1	0.2	0.1	

This product is designed for Nuclear power plant.  
You can identify by "Q" sticker on the product, however, the nameplate does NOT contain any information to identify.

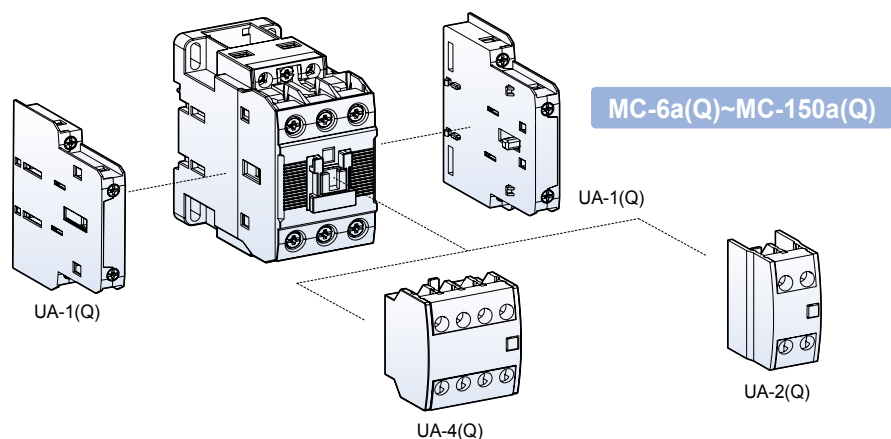


## Coil voltage

AC	50Hz	120, 220V
	60Hz	120, 220V

## Auxiliary contact units

- 2 and 4 pole
- Side and front mountable
- Common use for Metasol contactors from MC-6a(Q) to MC-150a(Q)
- Auxiliary contact meet the requirements for mirror contacts in IEC 60947-4-1. Annex F (A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with a NO main contact)
- Product indicated "Low" is for Low current application



## Selection

Type	Appearance	Pole	Composition		Contact arrangement	Mount	Weight
			NO	NC			
UA-1(Q)		2	1	1	<p>13(43) 21(31) 14(44) 22(32)</p>	Side	53g
UA-2(Q)		2	2 1 -	- 1 2	<p>53 63 51 63 51 61 54 64 52 64 52 62 2a 1a1b 2b</p>	Front	28g
UA-4(Q)		4	4 3 2 1 -	- 1 2 3 4	<p>53 63 73 83 53 61 73 83 53 61 71 83 54 64 74 84 54 62 74 84 54 62 72 84 4a 3a1b 2a2b 51 63 71 81 51 61 71 81 52 64 72 82 52 62 72 82 1a3b 4b</p>	Front	50g

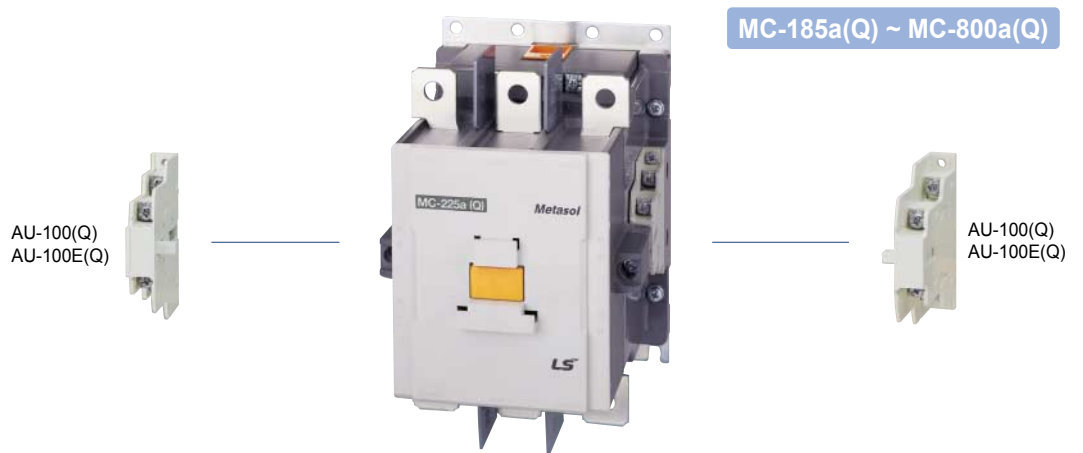
## Maximum combination of contact units

MC-6a(Q)~18a(Q), 9b(Q)~22b(Q) (Max. 3a3b)	MC-32a(Q)~150a(Q) (Max. 4a4b)
UA-4(Q)(on front)+UA-1(Q)×1EA (1EA on one side)	UA-4(Q)(on front)+UA-1(Q)×2EA (1EA on both sides)
UA-2(Q)(on front)+UA-1(Q)×1EA (1EA on one side)	UA-2(Q)(on front)+UA-1(Q)×2EA (1EA on both sides)
UA-1(Q)×2EA (1EA on both sides)	UA-1(Q)×4EA (2EA on both sides) *For AC Coil

\*To use UA-1(Q), MC-9b~22b Type is available on only left side

### Auxiliary contact units

- 2 pole
- Side mountable
- Common use for Metasol contactors from MC-185a(Q) to MC-800a(Q)
- Auxiliary contact meet the requirements for mirror contacts in IEC 60947-4-1. Annex F  
(A mirror contact is an auxiliary NC contact that cannot be closed simultaneously with a NO main contact)



### Selection

Type	Appearance	Pole	Composition		Contact arrangement	Mount	Weight
			NO	NC			
AU-100(Q) AU-100E(Q)		2	1	1		Side	53g

### Maximum combination of contact units

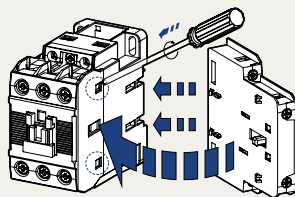
<b>MC-185a(Q) ~ 800a(Q) (Max. 4a4b)</b>
AU-100(Q) × 4EA (2EA on both sides)
AU-100E(Q) × 4EA (2EA on both sides)

## Rating

Type		UA-1(Q)	UA-2, 4(Q)	UA-1, 2, 4 Low(Q)	AU-100(Q)	AU-100E(Q)	
Rated operation voltage (Ue)		600V	600V	600V	600V	60V	
Rated insulation voltage (Ui)		600V	600V	600V	600V	600V	
Rated impulse withstand voltage (Uimp)		6kV	6kV	6kV	6kV	6kV	
Rated frequency		50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	
Contact sensibility							
	Voltage	DC 17V	DC 24V	DC 5V	DC 24V	DC 7V	
	Current	DC 5mA	DC 10mA	DC 3mA	DC 10mA	DC 5mA	
Rated thermal current (Ith, AC12 duty)		10A	16A	16A	16A	1A	
Rated operation current							
AC15 duty (A600)	120V	6A	6A	6A	6A	AC/DC 24V 0.1A AC/DC 50V 0.01A	
	240V	3A	3A	3A	3A		
	380V	1.9A	1.9A	1.9A	1.9A		
	480V	1.5A	1.5A	1.5A	1.5A		
	500V	1.4A	1.4A	1.4A	1.4A		
	600V	1.2A	1.2A	1.2A	1.2A		
	DC13 duty (Q600)	125V	1.1A	1.1A	1.1A		1.1A
		250V	0.55A	0.55A	0.55A		0.55A
		400V	0.31A	0.31A	0.31A		0.31A
		500V	0.27A	0.27A	0.27A		0.27A
	600V	0.2A	0.2A	0.2A	0.2A		
Rated	1s	100A	-	-	100A	-	
Short-time withstand current	0.5s	125A	-	-	120A	-	
	0.1s	145A	-	-	140A	-	
Electrical lifetime (mil. operations)							
AC15 duty	220V	0.25	0.25	0.25	0.25	1	
	440V	0.25	0.25	0.25	0.25		
DC13 duty	220V	0.25	0.25	0.25	0.25		
	440V	0.25	0.25	0.25	0.25		
Maximum operating cycles per hour		1800	1800	1800	1800	1200	
Conductor size (Solid, stranded) (the max. number of conducts: 2)	AWG	18~10	18~10	18~10	18~10	18~10	
	mm <sup>2</sup>	1~2.5	1~2.5	1~2.5	1~2.5	1~2.5	

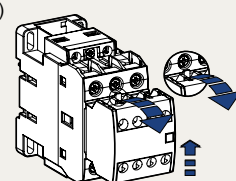
## Installation

UA-1(Q)



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.

UA-2(Q), 4(Q)



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.

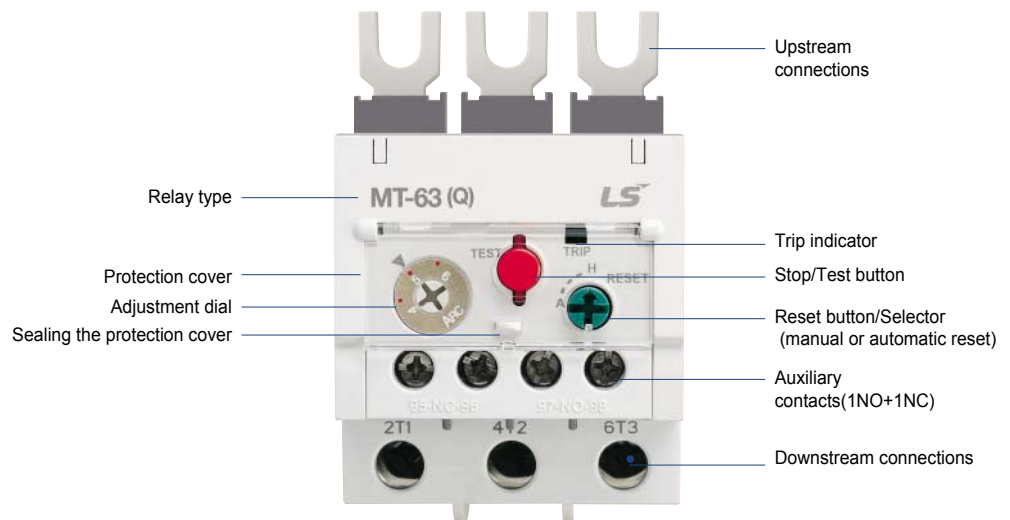
## General descriptions

Type MT, 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.

Four versions are available according to the protection function and trip class as below.

1. Non-differential: 3pole-2bimetal(heater) and trip class 10A
2. Non-differential: 3pole-3bimetal(heater) and trip class 10A
3. Differential: 3pole-3bimetal(heater) and trip class 10A
4. Differential: 3pole-3bimetal(heater) and trip class 20

## Configuration of the front



MT-12(Q)

MT-32(Q)

MT-63(Q)





### Environment and auxiliary circuit

Environment		MT-12(Q) ~ 800(Q)	
Standards		IEC/EN 60947-1, IEC/EN 60947-4-1	
Certifications		CE, CSA, UL, CCC	
Rated operation voltage		Max. 690V	
Rated insulation voltage		690V	
Rated frequency		50/60Hz	
Degree of protection (Conforming to IEC 60 529)		IP 20	
Ambient air temperature	Storage	-55 ~ +80° C	
	Operation	-5 ~ +40° C	
Mounting position		Vertical plane	
Shock resistance (Conforming to IEC 68-2-7)		15gn - 11ms	
Vibration resistance (Conforming to IEC68-2-6)		6G	
Insulation strength (Conforming to IEC 255-5)		6kV	
Rated impulse withstand voltage (Conforming to IEC 801-5)		6kV	
Auxiliary contacts characteristics			
Composition		1NO +1NC	
Rated thermal current		5A	
Rated operation current		C600, R300	
AC15 duty (C600)	120V	1.5A	
	240V	0.75A	
	380V	0.47A	
	480V	0.375A	
	500V	0.35A	
	600V	0.3A	
DC13 duty (R300)	120V	0.22A	
	240V	0.1A	
Connecting conductor	Size	18AWG /1mm <sup>2</sup>	
Connection to screw clamp terminals	Type	65/75° C Cu-wire	

MT-150(Q)



MT-225(Q)



MT-400(Q)



MT-800(Q)



### MT type Thermal Overload Relays



Frame size		
Trip class		
Type	Non-differential(3P-2 heater)	
	Non-differential(3P-3 heater)	
	Differential type	
Terminal type		
Number of poles		
Rated operational voltage (Ue)		
Rated insulation voltage (Ui)		
Rated impulse voltage (Uimp)		
Degree of protection (IEC 60 529)		
Temperature compensation (°C)		
Functions	Trip indicating	
	Stop	
	Test	
	Manual/Automatic Reset	
Setting range(A)		
Nominal current rating	Wire size	
	mm <sup>2</sup>	AWG
0.14	1	18
0.21		
0.33		
0.52		
0.82		
1.3		
2.1		
3.3		
5		
6.5		
7.5	1~1.5	18~16
8.5	1.5~2.5	16~14
11	2.5	14~12
15	2.5~4	12~10
19		
21.5	4~6	10
27		
30		
34	4~10	10~8
42	6~10	10~8
54	10	8
65	16~25	6~4
74		
83		
90	25~35	4~3
Applied contactors		
Separate mounting unit		

18AF	
10A	20
MT-12/2H□(Q)	-
MT-12/3H□(Q)	-
MT-12/3K□(Q)	MT-12/3D□(Q)
Screw clamp	
3	
690V	
Up to 690V	
6kV	
IP 20	
-5~+40°C	
■	
-	
■	
■	
0.1~18A	1~18A
0.1~0.16	
0.16~0.25	
0.25~0.4	
0.4~0.63	
0.63~1	
1~1.6	1~1.6
1.6~2.5	1.6~2.5
2.5~4	2.5~4
4~6	4~6
5~8	5~8
6~9	6~9
7~10	7~10
9~13	9~13
12~18	12~18
MC-6a(Q), 9a(Q), 12a(Q), 18a(Q)	
UZ-12(Q)	



### 40AF

40AF	
10A	20
MT-32/2H□(Q)	-
MT-32/3H□(Q)	-
MT-32/3K□(Q)	MT-32/3D□(Q)
Screw clamp	
3	
690V	
Up to 690V	
6kV	
IP 20	
-5~+40°C	
■	
■	
■	
■	
0.1~40A	1~40A
0.1~0.16	
0.16~0.25	
0.25~0.4	
0.4~0.63	
0.63~1	
1~1.6	1~1.6
1.6~2.5	1.6~2.5
2.5~4	2.5~4
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
22~32	22~32
-	-
28~40	28~40
MC-9b(Q), 12b(Q), 18b(Q), 22b(Q), 32a(Q), 40a(Q)	
UZ-32(Q)	

### 65AF

65AF	
10A	20
MT-63/2H□(Q)	-
MT-63/3H□(Q)	-
MT-63/3K□(Q)	MT-63/3D□(Q)
Screw/Lug clamp	
3	
690V	
Up to 690V	
6kV	
IP 20	
-5~+40°C	
■	
■	
■	
■	
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
MC-50a(Q), 65a(Q)	
UZ-63(Q)	

## MT type Thermal Overload Relays



Frame size		
Trip class		
Type	Non-differential(3P-2 heater)	
	Non-differential(3P-3 heater)	
	Differential type	
Terminal type		
Number of poles		
Rated operational voltage (Ue)		
Rated insulation voltage (Ui)		
Rated impulse voltage (Uimp)		
Degree of protection (IEC 60 529)		
Temperature compensation (°C)		
Functions	Trip indicating	
	Stop	
	Test	
	Manual/Automatic Reset	
Setting range(A)		
Nominal current rating	Wire size	
	mm <sup>2</sup>	AWG
30	4~10	10~8
34	6~10	10~8
42	10	8
55	16	6
65	25	4
74	25	4
80	35	3
93	35	2
107	50	1
113	50	1
130	50	0
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		
Separate mounting unit		

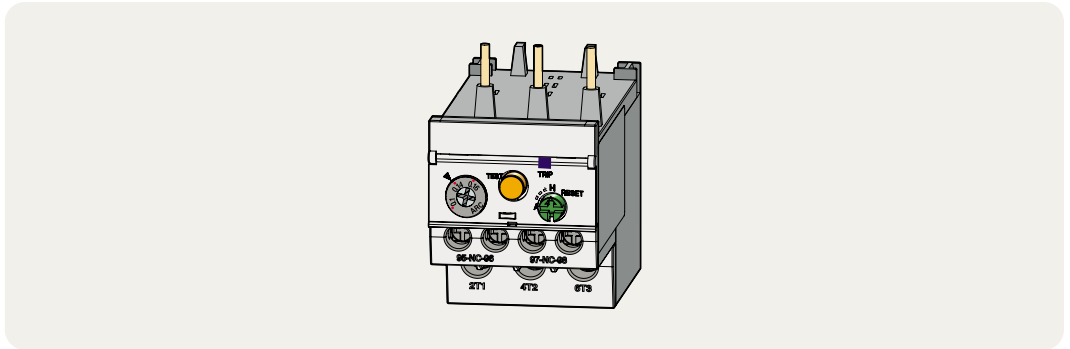
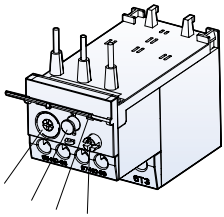
150AF	
10A	20
MT-150/2H□(Q)	-
MT-150/3H□(Q)	-
MT-150/3K□(Q)	MT-150/3D□(Q)
Screw/Lug clamp	
3	
690V	
690V	
6kV	
IP 20	
-5~+40°C	
■	
■	
■	
■	
24~150A	24~150A
24~36	24~36
28~40	28~40
34~50	34~50
45~65	45~65
54~75	54~75
63~85	63~85
-	-
80~105	80~105
-	-
95~130	95~130
110~150	110~150
MC-130a(Q), 150a(Q)	
UZ-150(Q)	



225AF	
10A	20
MT-225/2H□(Q)	-
MT-225/3H□(Q)	-
MT-225/3K□(Q)	MT-225/3D□(Q)
Screw clamp	
3	
690V	
690V	
6kV	
IP 20	
-5~+40°C	
■	
■	
■	
■	
65~240A	65~240A
65~100	65~100
-	-
85~125	85~125
-	-
-	-
100~160	100~160
120~185	120~185
160~240	160~240
MC-185a(Q), 225a(Q)	
-	

400AF	
10A	20
MT-400/2H□(Q)	-
MT-400/3H□(Q)	-
MT-400/3K□(Q)	MT-400/3D□(Q)
Screw clamp	
3	
690V	
690V	
6kV	
IP 20	
-5~+40°C	
■	
■	
■	
■	
85~400A	85~400A
85~125	85~125
-	-
-	-
100~160	100~160
120~185	120~185
160~240	160~240
200~330	200~330
260~400	260~400
MC-265a(Q), 330a(Q), 400a(Q)	
-	

800AF	
10A	20
MT-800/2H□(Q)	-
MT-800/3H□(Q)	-
MT-800/3K□(Q)	MT-800/3D□(Q)
Screw clamp	
3	
690V	
690V	
6kV	
IP 20	
-5~+40°C	
■	
■	
■	
■	
200~800A	200~800A
200~300	200~300
260~400	260~400
400~600	400~600
520~800	520~800
MC-500a(Q), 630a(Q), 800a(Q)	
-	

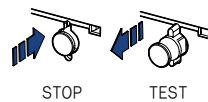


### 1. Adjustment dial



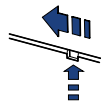
Before adjusting the dial open the protection cover.  
Current setting can be done easily by using (+) or (-) driver.  
Do not rotate the dial out of the setting range.

### 2. Stop/Test button



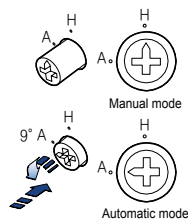
STOP function is executed by pushing the button, which causes the next sequence.  
In case of operation test pull this button.

### 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				

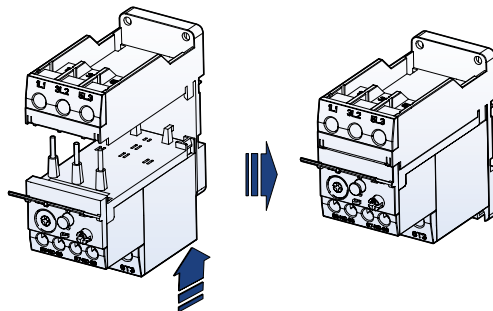


## Separate mounting units

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.



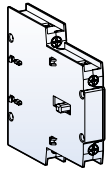
Relay	Unit	
	Type	Weight
MT-12/2H□(Q)	UZ-12(Q)	35g
MT-12/3H□(Q)		
MT-12/3K□(Q)		
MT-12/3D□(Q)		
MT-32/2H□(Q)	UZ-32(Q)	68g
MT-32/3H□(Q)		
MT-32/3K□(Q)		
MT-32/3D□(Q)		
MT-63/2H□(Q)	UZ-63(Q)	134g
MT-63/3H□(Q)		
MT-63/3K□(Q)		
MT-63/3D□(Q)		
MT-150/2H□(Q)	UZ-150(Q)	284g
MT-150/3H□(Q)		
MT-150/3K□(Q)		
MT-150/3D□(Q)		



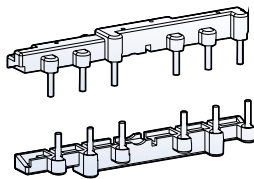
## Terminal cover units for overload relays



Relay	Unit type	Remarks
MT-225(Q)	APT-225	2 pcs included
MT-400(Q)	APT-400	
MT-800(Q)	APT-600	



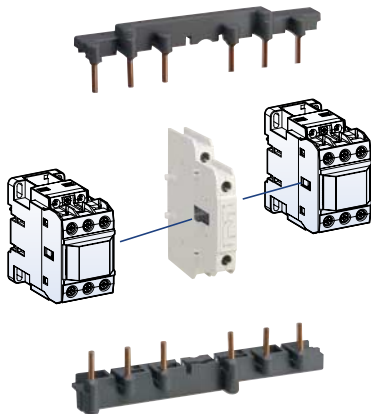
Interlock unit



UW-18(Q)~UW-63(Q)



UW-150(Q)



## Interlocks

Component parts for assembling by customer

### Interlock unit, UR-02(Q)

UR-02 is a mechanical interlock unit and provides 2NC contacts for use in electrical interlocking

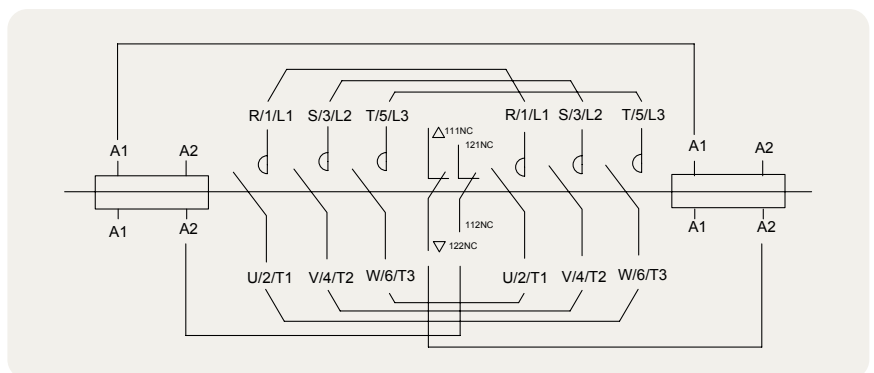
### Wire kit, UW

UW is used for making reversing circuit between two contactors.

Contactor	Wire kit		Interlock unit	
	Type	Weight	Type	Weight
MC-6a(Q)~18a(Q)	UW-18(Q)	0.05kg	UR-02	0.06kg
MC-9b(Q)~22b(Q)	UW-22(Q)	0.04kg		
MC-32a(Q)~40a(Q)	UW-32(Q)	0.05kg		
MC-50a(Q), 65a(Q)	UW-63(Q)	0.12kg		
MC-100a(Q)~150a(Q)	UW-150(Q)	0.61kg		

## 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	120V	6A
(A600)	240V	3A
	380V	1.9A
	480V	1.5A
	500V	1.4A
	600V	1.2A
DC13 duty	125V	0.55A
(Q300)	250V	0.27A



<MC-6a(Q) ~ MC-150a(Q) typical circuit diagram for reversing contactor>

## Interlocks

### Interlock unit, AR-180(Q) and AR-600(Q)

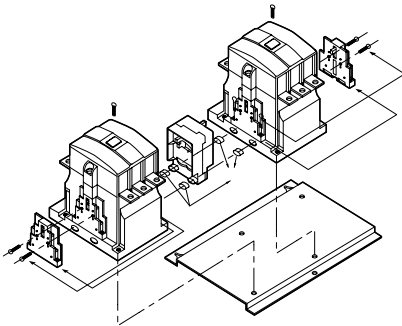
AR-180(Q) and AR-600(Q) are mechanical interlock units in which electrical contacts for use in electrical interlocking are not included. Please use the auxiliary contacts on the sides of the contactors for that purpose.



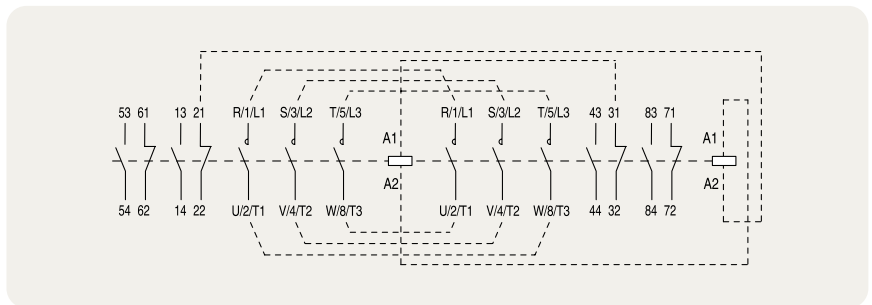
AR-180(Q)



AR-600(Q)

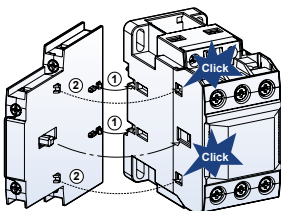


Contactor	Interlock unit	
	Type	Weight
MC-180a(Q)	AR-180(Q)	0.09kg
MC-225a(Q)		
MC-265a(Q)		
MC-330a(Q)		
MC-400a(Q)		
MC-500a(Q)	AR-600(Q)	15.2kg
MC-630a(Q)		
MC-800a(Q)		

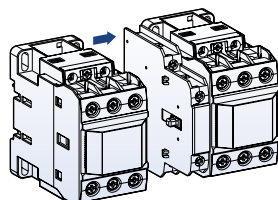


<MC-180aR(Q) ~ MC-800aR(Q) typical circuit diagram for reversing contactor>

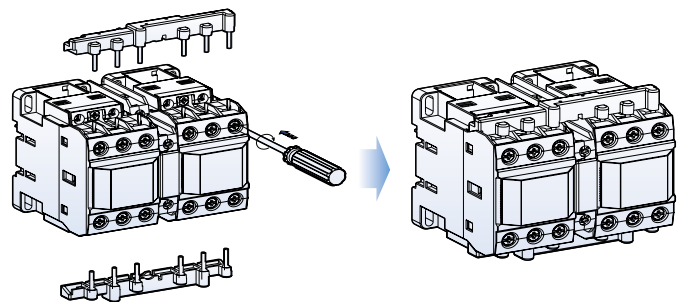
## Installation of Interlock and Wire kits



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.

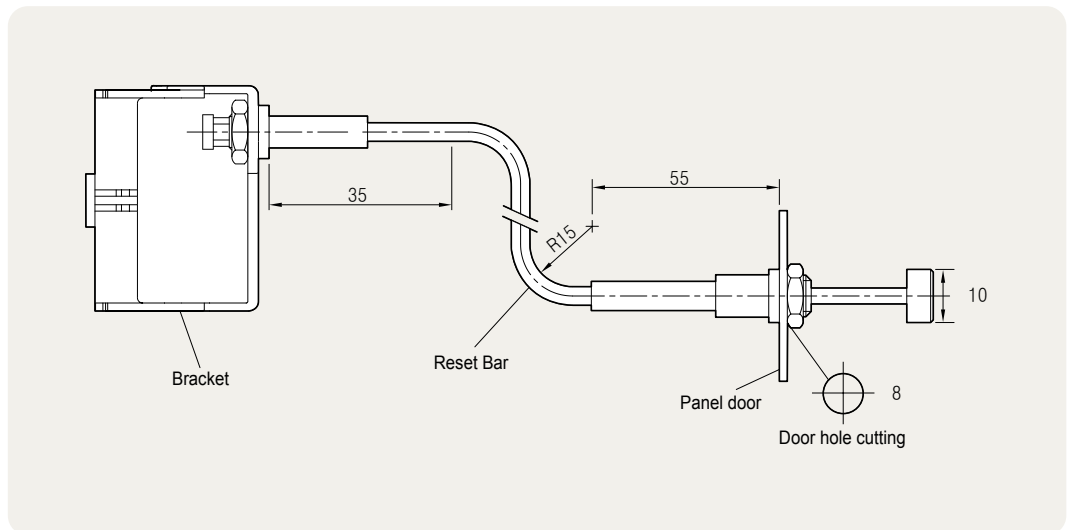
## Remote reset units

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



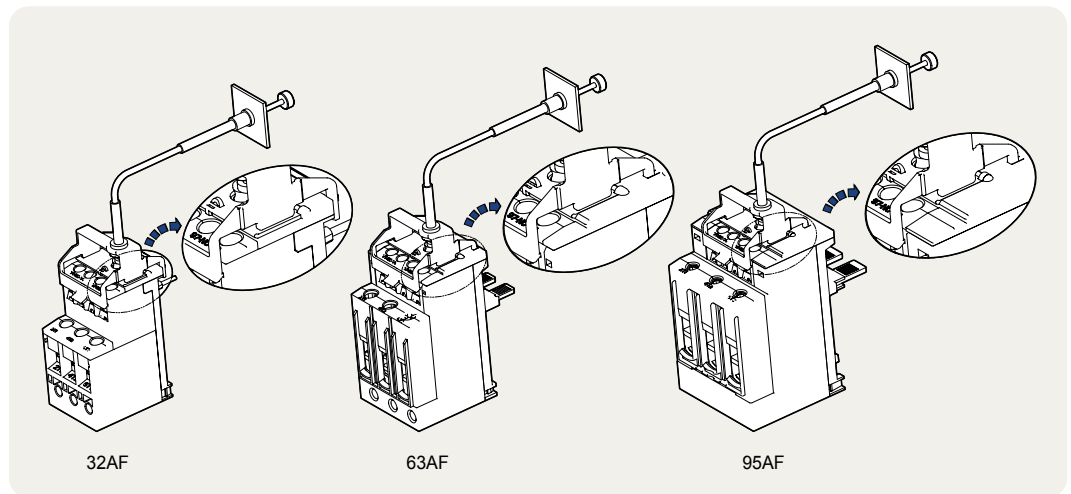
Type	Cable length (L)
UM-4R(Q)	400 mm
UM-5R(Q)	500 mm
UM-6R(Q)	600 mm
UM-7R(Q)	700 mm
UM-9R(Q)	900 mm

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.



### Installation

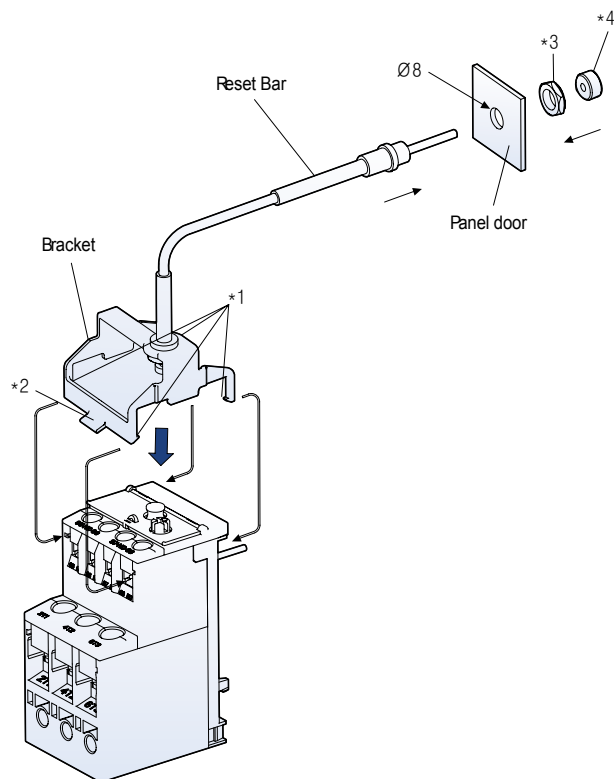
1. Fit the bracket with the relay as indicated(\*1) below.
2. Separate Nut(\*3) and Head cap(\*4) from the reset bar first.  
Insert the reset bar into the panel hole and then fix it with the Nut and Head.
3. To separate the bracket from the relay lift the \*2 part as shown in the fig.



32AF

63AF

95AF



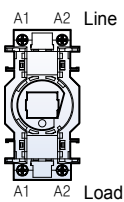


## Class 1E

Frame size	18AF	22AF	40AF	65AF	150AF
Type	MC-6a(Q)	MC-9b(Q)	MC-32a(Q)	MC-50a(Q)	MC-130a(Q)
	MC-9a(Q)	MC-12b(Q)	MC-40a(Q)	MC-65a(Q)	MC-150a(Q)
	MC-12a(Q)	MC-18b(Q)		MD-30a(Q)	
	MC-18a(Q)	MC-22b(Q)			
	MR-4, 6, 8(Q)				
<b>AC coil</b>					
Control voltage					100~240V
50Hz	120V, 220V				
60Hz	120V, 220V				
Voltage limit	75 ~110%				
Drop out voltage	Below 60%				

## Non class 1E

Frame size	18AF	22AF	40AF	65AF	150AF
Type	MC-6a	MC-9b	MC-32a	MC-50a	MC-130a
	MC-9a	MC-12b	MC-40a	MC-65a	MC-150a
	MC-12a	MC-18b		MD-30a	
	MC-18a	MC-22b			
	MR-4, 6, 8				
<b>AC coil</b>					
Control voltage					100~240V
50Hz	120V, 220V				
60Hz	120V, 220V				
Voltage limit	80 ~110%				
Drop out voltage	Below 60%				



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



### Class 1E

Frame size		225AF	400AF	800AF
Type		MC-185a(Q)	MC-265a(Q)	MC-500a(Q)
		MC-225a(Q)	MC-330a(Q) MC-400a(Q)	MC-630a(Q) MC-800a(Q)
<b>AC coil</b>				
Control voltage	[Uc]	120, 220V	120, 220V	220V
	50Hz [V]			
	60Hz [V]			
Voltage limit	[Uc]	75 ~110%		
Drop out voltage		Below 60%		

### Non class 1E

Frame size		225AF	400AF	800AF
Type		MC-185a	MC-265a	MC-500a
		MC-225a	MC-330a MC-400a	MC-630a MC-800a
<b>AC coil</b>				
Control voltage	[Uc]	120, 220V	120, 220V	220V
	50Hz [V]			
	60Hz [V]			
Voltage limit	[Uc]	80 ~110%		
Drop out voltage		Below 60%		



### Trip class 10A

Terminal type: Screw

#### MT-12(Q)



MT-12/□(Q)

Setting range (A)	Ordering type			Contactor	Separate mounting unit
	Non-differential (3P-2 heater)	Non-differential (3P-3 heater)	Differential		
0.1~0.16	MT-12/2H0.14	MT-12/3H0.14	MT-12/3K0.14	MC-6a(Q) MC-9a(Q) MC-12a(Q) MC-18a(Q)	UZ-12
0.16~0.25	MT-12/2H0.21	MT-12/3H0.21	MT-12/3K0.21		
0.25~0.4	MT-12/2H0.33	MT-12/3H0.33	MT-12/3K0.33		
0.4~0.63	MT-12/2H0.52	MT-12/3H0.52	MT-12/3K0.52		
0.63~1	MT-12/2H0.82	MT-12/3H0.82	MT-12/3K0.82		
1~1.6	MT-12/2H1.3	MT-12/3H1.3	MT-12/3K1.3		
1.6~2.5	MT-12/2H2.1	MT-12/3H2.1	MT-12/3K2.1		
2.5~4	MT-12/2H3.3	MT-12/3H3.3	MT-12/3K3.3		
4~6	MT-12/2H5	MT-12/3H5	MT-12/3K5		
5~8	MT-12/2H6.5	MT-12/3H6.5	MT-12/3K6.5		
6~9	MT-12/2H7.5	MT-12/3H7.5	MT-12/3K7.5		
7~10	MT-12/2H8.5	MT-12/3H8.5	MT-12/3K8.5		
9~13	MT-12/2H11	MT-12/3H11	MT-12/3K11		
12~18	MT-12/2H15	MT-12/3H15	MT-12/3K15		

#### MT-32(Q)



MT-32/□(Q)

Setting range (A)	Ordering type			Contactor	Separate mounting unit
	Non-differential (3P-2 heater)	Non-differential (3P-3 heater)	Differential		
0.1~0.16	MT-32/2H0.14	MT-32/3H0.14	MT-32/3K0.14	MC-9b(Q) MC-12b(Q) MC-18b(Q) MC-22b(Q) MC-32a(Q) MC-40a(Q)	UZ-32
0.16~0.25	MT-32/2H0.21	MT-32/3H0.21	MT-32/3K0.21		
0.25~0.4	MT-32/2H0.33	MT-32/3H0.33	MT-32/3K0.33		
0.4~0.63	MT-32/2H0.52	MT-32/3H0.52	MT-32/3K0.52		
0.63~1	MT-32/2H0.82	MT-32/3H0.82	MT-32/3K0.82		
1~1.6	MT-32/2H1.3	MT-32/3H1.3	MT-32/3K1.3		
1.6~2.5	MT-32/2H2.1	MT-32/3H2.1	MT-32/3K2.1		
2.5~4	MT-32/2H3.3	MT-32/3H3.3	MT-32/3K3.3		
4~6	MT-32/2H5	MT-32/3H5	MT-32/3K5		
5~8	MT-32/2H6.5	MT-32/3H6.5	MT-32/3K6.5		
6~9	MT-32/2H7.5	MT-32/3H7.5	MT-32/3K7.5		
7~10	MT-32/2H8.5	MT-32/3H8.5	MT-32/3K8.5		
9~13	MT-32/2H11	MT-32/3H11	MT-32/3K11		
12~18	MT-32/2H15	MT-32/3H15	MT-32/3K15		
16~22	MT-32/2H19	MT-32/3H19	MT-32/3K19		
18~25	MT-32/2H21.5	MT-32/3H21.5	MT-32/3K21.5		
22~32	MT-32/2H27	MT-32/3H27	MT-32/3K27		
28~40	MT-32/2H34	MT-32/3H34	MT-32/3K34		

**Trip class 10A**

Terminal type: Screw

**MT-63(Q)**



MT-63/□(Q)

Setting range (A)	Ordering type			Contactor	Separate mounting unit
	Non-differential (3P-2 heater)	Non-differential (3P-3 heater)	Differential		
4~6	MT-63/2H5	MT-63/3H5	MT-63/3K5	MC-50a(Q) MC-65a(Q)	UZ-63
5~8	MT-63/2H6.5	MT-63/3H6.5	MT-63/3K6.5		
6~9	MT-63/2H7.5	MT-63/3H7.5	MT-63/3K7.5		
7~10	MT-63/2H8.5	MT-63/3H8.5	MT-63/3K8.5		
9~13	MT-63/2H11	MT-63/3H11	MT-63/3K11		
12~18	MT-63/2H15	MT-63/3H15	MT-63/3K15		
16~22	MT-63/2H19	MT-63/3H19	MT-63/3K19		
18~25	MT-63/2H21.5	MT-63/3H21.5	MT-63/3K21.5		
24~36	MT-63/2H30	MT-63/3H30	MT-63/3K30		
28~40	MT-63/2H34	MT-63/3H34	MT-63/3K34		
34~50	MT-63/2H42	MT-63/3H42	MT-63/3K42		
45~65	MT-63/2H55	MT-63/3H55	MT-63/3K55		

**MT-150(Q)**



MT-150/□(Q)

Setting range (A)	Ordering type			Contactor	Separate mounting unit
	Non-differential		Differential		
	(3P-2 heater)	(3P-3 heater)			
24~36	MT-150/2H30	MT-150/3H30	MT-150/3K30	MC-130a(Q) MC-150a(Q)	UZ-150
28~40	MT-150/2H34	MT-150/3H34	MT-150/3K34		
34~50	MT-150/2H42	MT-150/3H42	MT-150/3K42		
45~65	MT-150/2H55	MT-150/3H55	MT-150/3K55		
54~75	MT-150/2H65	MT-150/3H65	MT-150/3K65		
63~85	MT-150/2H74	MT-150/3H74	MT-150/3K74		
80~105	MT-150/2H93	MT-150/3H93	MT-150/3K93		
95~130	MT-150/2H113	MT-150/3H113	MT-150/3K113		
110~150	MT-150/2H130	MT-150/3H130	MT-150/3K130		

### Trip class 10A

Terminal type: Screw

#### MT-225(Q)



MT-225/□(Q)

Setting range (A)	Ordering type			Contactor	Remarks
	Non-differential		Differential		
	(3P-2 heater)	(3P-3 heater)			
65~100	MT-225/2H80	MT-225/3H80	MT-225/3K80	MC-185a(Q) MC-225a(Q)	-
85~125	MT-225/2H107	MT-225/3H107	MT-225/3K107		
100~160	MT-225/2H130	MT-225/3H130	MT-225/3K130		
120~185	MT-225/2H153	MT-225/3H153	MT-225/3K153		
160~240	MT-225/2H200	MT-225/3H200	MT-225/3K200		

#### MT-400(Q)



MT-400/□(Q)

Setting range (A)	Ordering type			Contactor	Remarks
	Non-differential		Differential		
	(3P-2 heater)	(3P-3 heater)			
85~125	MT-400/2H107	MT-400/3H107	MT-400/3K107	MC-265a(Q) MC-330a(Q) MC-400a(Q)	-
100~160	MT-400/2H130	MT-400/3H130	MT-400/3K130		
120~185	MT-400/2H153	MT-400/3H153	MT-400/3K153		
160~240	MT-400/2H200	MT-400/3H200	MT-400/3K200		
200~330	MT-400/2H265	MT-400/3H265	MT-400/3K265		
260~400	MT-400/2H350	MT-400/3H350	MT-400/3K350		

#### MT-800(Q)



MT-800/□(Q)

Setting range (A)	Ordering type			Contactor	Remarks
	Non-differential		Differential		
	(3P-2 heater)	(3P-3 heater)			
200~330	MT-800/2H265	MT-800/3H265	MT-800/3K265	MC-500a(Q) MC-630a(Q) MC-800a(Q)	-
260~400	MT-800/2H350	MT-800/3H350	MT-800/3K350		
400~630	MT-800/2H515	MT-800/3H515	MT-800/3K515		
520~800	MT-800/2H660	MT-800/3H660	MT-800/3K660		

**Trip class 20**

Terminal type: Screw

**MT-12(Q)**



MT-12/3D□(Q)

Setting range (A)	Ordering type	Contactor	Separate mounting unit
	Differential		
1~1.6	MT-12/3D1.3	MC-6a(Q) MC-9a(Q) MC-12a(Q) MC-18a(Q)	UZ-12
1.6~2.5	MT-12/3D2.1		
2.5~4	MT-12/3D3.3		
4~6	MT-12/3D5		
5~8	MT-12/3D6.5		
6~9	MT-12/3D7.5		
7~10	MT-12/3D8.5		
9~13	MT-12/3D11		
12~18	MT-12/3D15		

**MT-32(Q)**



MT-32/3D□(Q)

Setting range (A)	Ordering type	Contactor	Separate mounting unit	
	Differential			
1~1.6	MT-32/3D1.3	MC-9b(Q) MC-12b(Q) MC-18b(Q) MC-22b(Q) MC-32a(Q) MC-40a(Q)	UZ-32	
1.6~2.5	MT-32/3D2.1			
2.5~4	MT-32/3D3.3			
4~6	MT-32/3D5			
5~8	MT-32/3D6.5			
6~9	MT-32/3D7.5			
7~10	MT-32/3D8.5			
9~13	MT-32/3D11			
12~18	MT-32/3D15			
16~22	MT-32/3D19			
18~25	MT-32/3D21.5			
22~32	MT-32/3D27			
28~40	MT-32/3D34			UZ-32(34A)

### Trip class 20

Terminal type: Screw

#### MT-63(Q)



MT-63/□(Q)

Setting range (A)	Ordering type	Contactor	Separate mounting unit
	Differential		
4~6	MT-63/3D5	MC-50a(Q) MC-65a(Q)	UZ-63
5~8	MT-63/3D6.5		
6~9	MT-63/3D7.5		
7~10	MT-63/3D8.5		
9~13	MT-63/3D11		
12~18	MT-63/3D15		
16~22	MT-63/3D19		
18~25	MT-63/3D21.5		
24~36	MT-63/3D30		
28~40	MT-63/3D34		
34~50	MT-63/3D42		
45~65	MT-63/3D55		

#### MT-150(Q)



MT-150/□(Q)

Setting range (A)	Ordering type	Contactor	Separate mounting unit
	Differential		
24~36	MT-150/3D30	MC-130a(Q) MC-150a(Q)	UZ-150
28~40	MT-150/3D34		
34~50	MT-150/3D42		
45~65	MT-150/3D55		
54~75	MT-150/3D65		
63~85	MT-150/3D74		
80~105	MT-150/3D93		
95~130	MT-150/3D113		
110~150	MT-150/3D130		

### Trip class 20

Terminal type: Screw

#### MT-225(Q)



MT-225/3D□(Q)

Setting range (A)	Ordering type	Contactor	Remarks
	Differential		
65~100	MT-225/3D80	MC-185a(Q) MC-225a(Q)	-
85~125	MT-225/3D107		
100~160	MT-225/3D130		
120~185	MT-225/3D153		
160~240	MT-225/3D200		

#### MT-400(Q)



MT-400/3D□(Q)

Setting range (A)	Ordering type	Contactor	Remarks
	Differential		
85~125	MT-400/3D107	MC-265a(Q) MC-330a(Q) MC-400a(Q)	-
100~160	MT-400/3D130		
120~185	MT-400/3D153		
160~240	MT-400/3D200		
200~330	MT-400/3D265		
260~400	MT-400/3D350		

#### MT-800(Q)



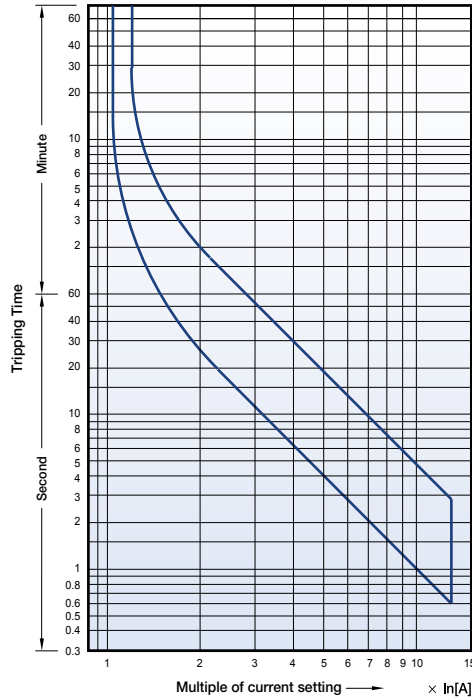
MT-800/3D□(Q)

Setting range (A)	Ordering type	Contactor	Remarks
	Differential		
200~330	MT-800/3D265	MC-500a(Q) MC-630a(Q) MC-800a(Q)	-
260~400	MT-800/3D350		
400~630	MT-800/3D515		
520~800	MT-800/3D660		

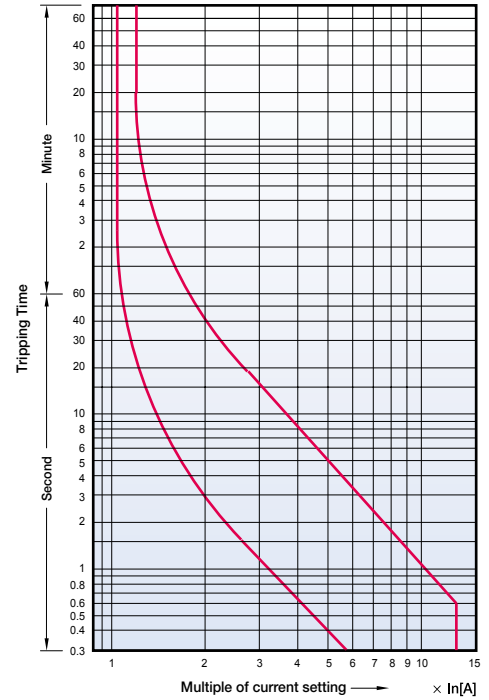
### Class 10A

- MT-12/2H(Q)
- MT-12/3H(Q)
- MT-12/3K(Q)

Cold starting

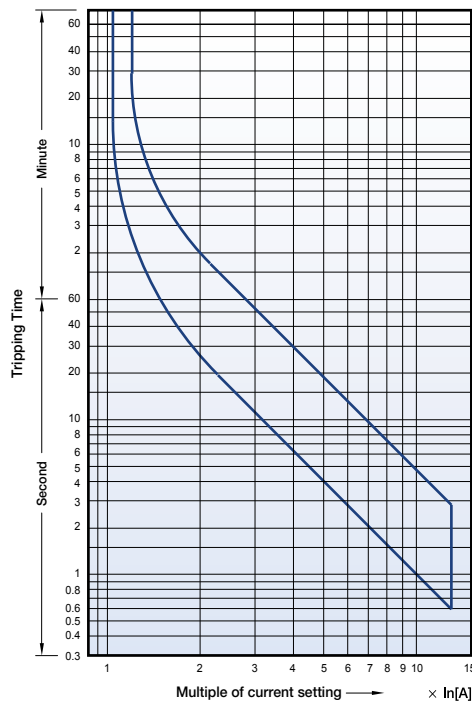


Hot starting

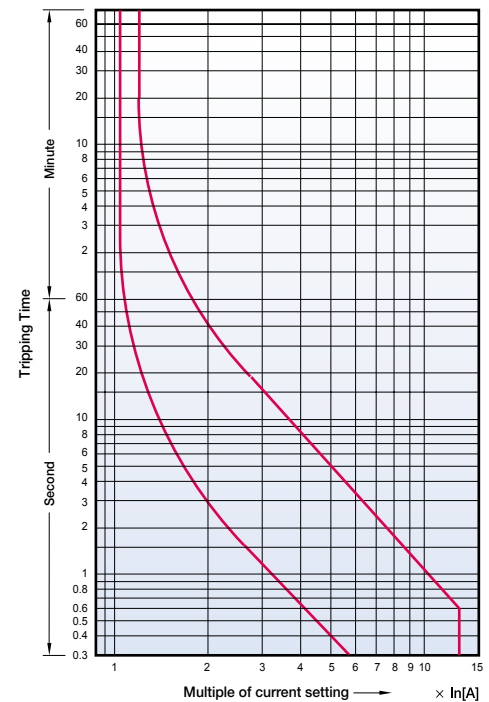


Cold starting

- MT-32/2H(Q)
- MT-32/3H(Q)
- MT-32/3K(Q)



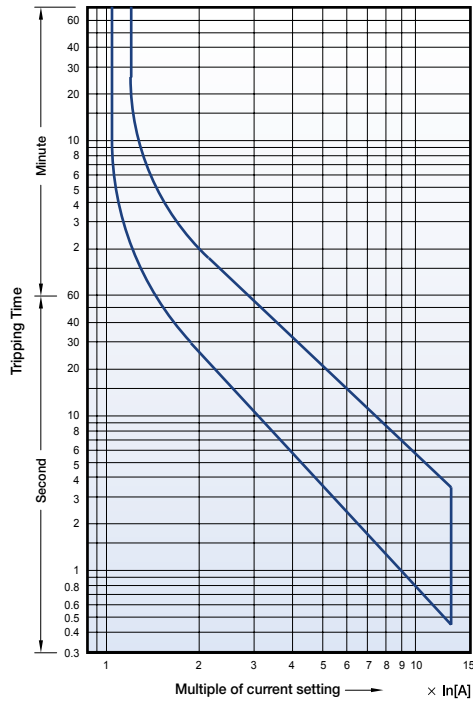
Hot starting



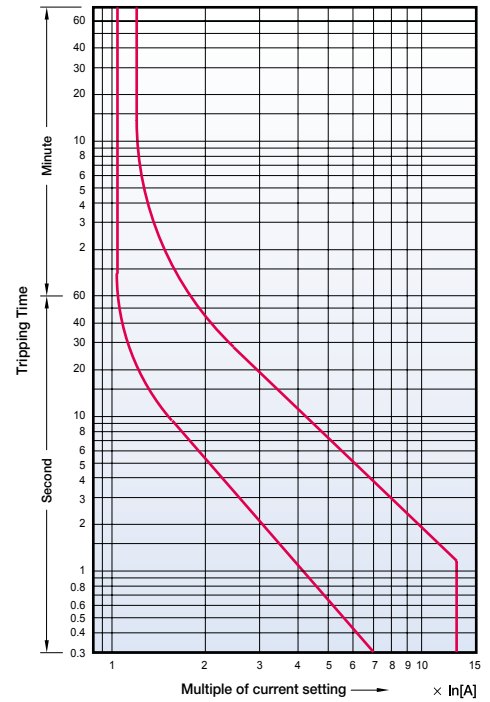
Class 10A

- MT-63/2H(Q)
- MT-63/3H(Q)
- MT-63/3K(Q)

Cold starting

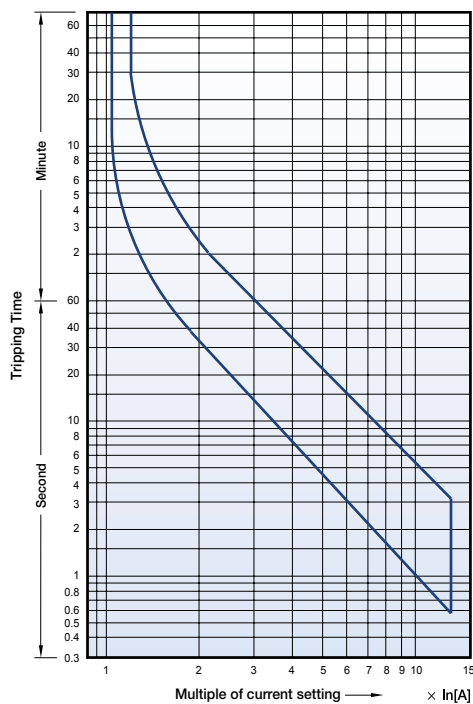


Hot starting

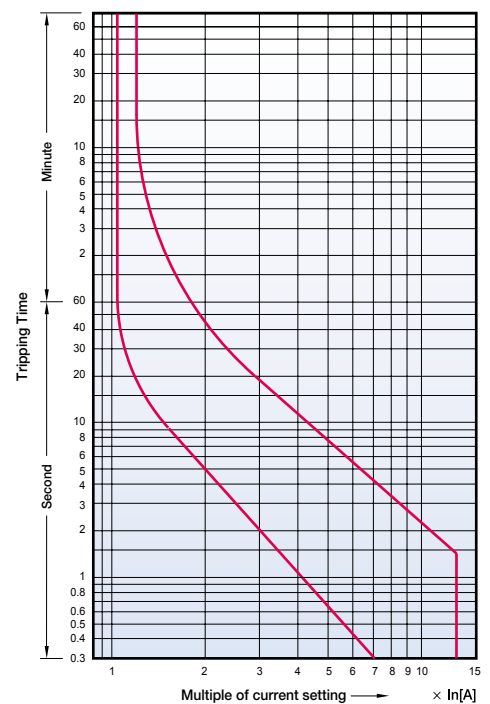


- MT-150/2H(Q)
- MT-150/3H(Q)
- MT-150/3K(Q)

Cold starting



Hot starting

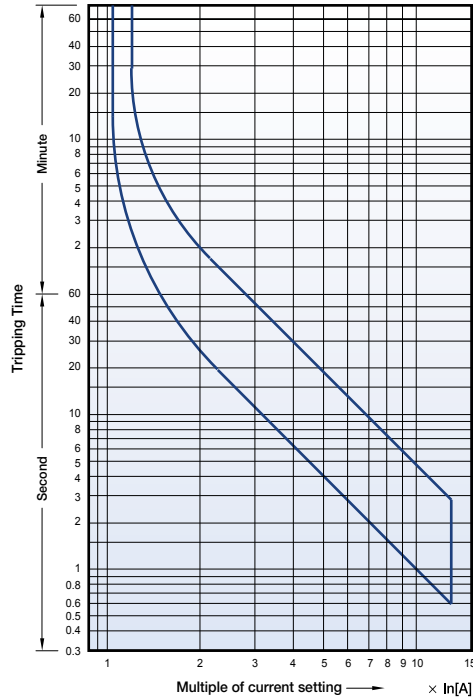




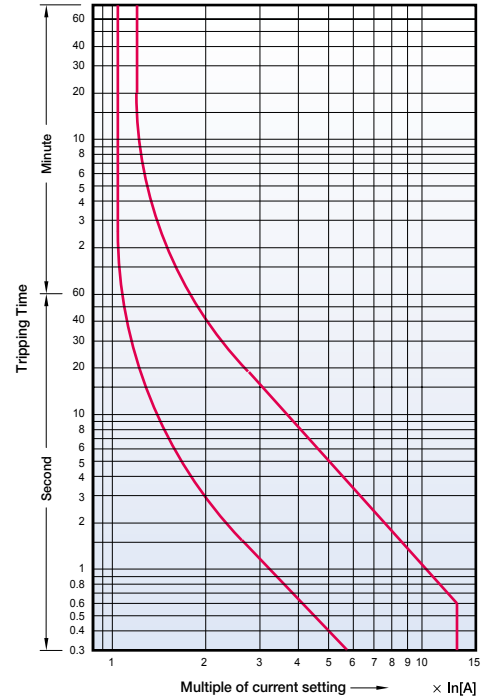
### Class 10A

- MT-225/2H(Q)
- MT-225/3H(Q)
- MT-225/3K(Q)

Cold starting

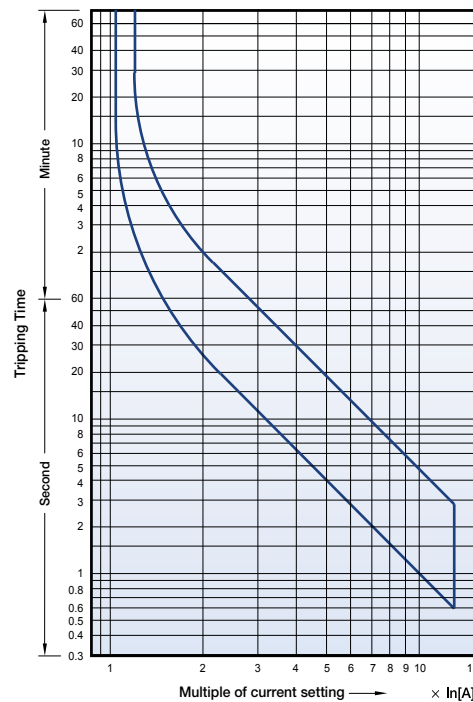


Hot starting

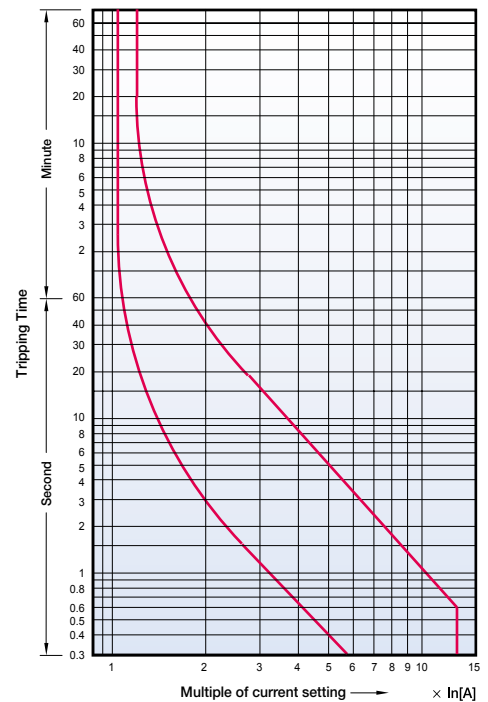


Cold starting

- MT-400/2H(Q)
- MT-400/3H(Q)
- MT-400/3K(Q)



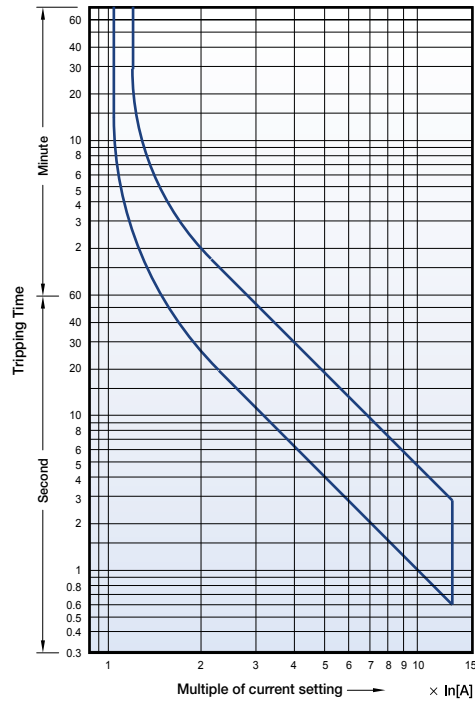
Hot starting



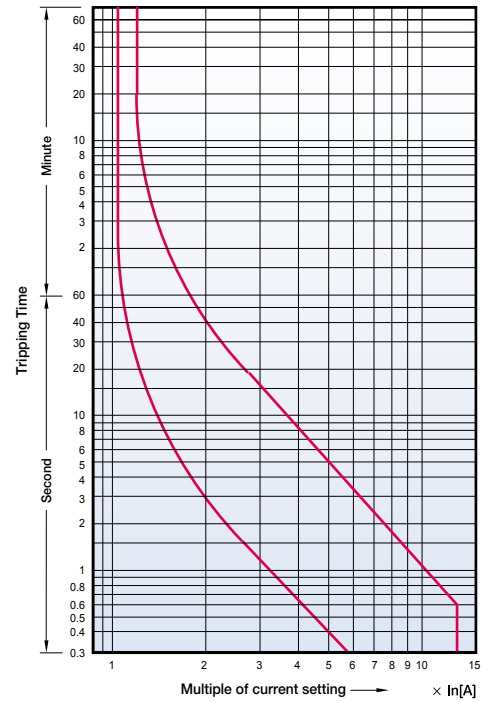
### Class 10A

- MT-800/2H(Q)
- MT-800/3H(Q)
- MT-800/3K(Q)

Cold starting

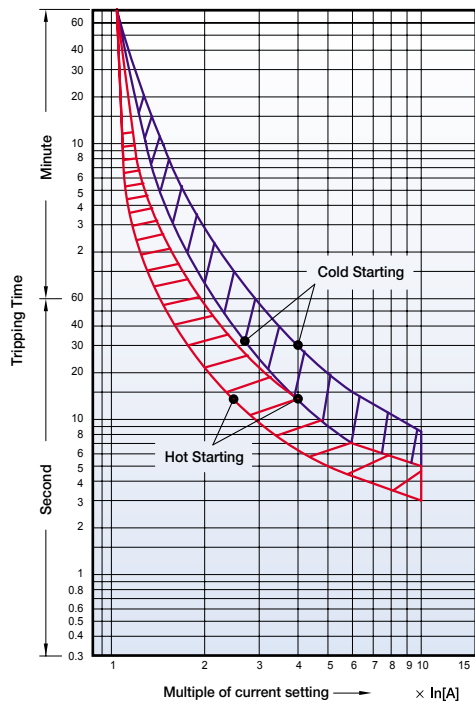


Hot starting



### Class 20A

- MT-12/3D(Q)
- MT-32/3D(Q)
- MT-65/3D(Q)
- MT-150/3D(Q)
- MT-225/3D(Q)
- MT-400/3D(Q)
- MT-800/3D(Q)

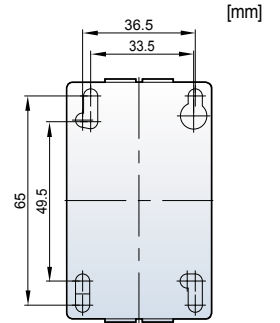
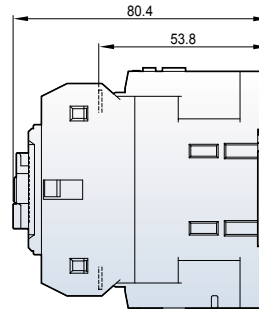
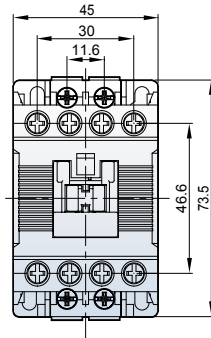


# 3-pole contactors dimension (18AF/22AF)

For Nuclear power plant

Metasol

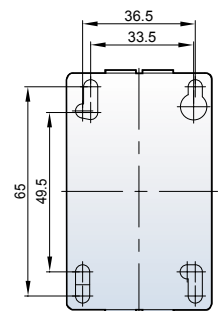
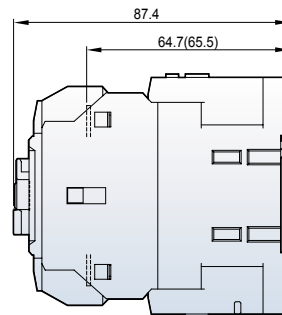
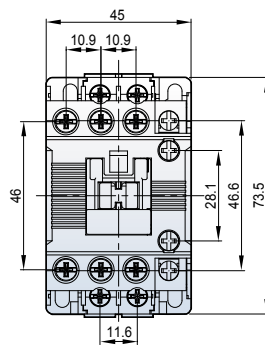
MC-6a(Q) ~ 18a(Q) AC  
1NO or 1NC



[mm]

0.3kg

MC-9b(Q) ~ 22b(Q) AC  
1NO1NC



\* ( ) MC-18b, 22b

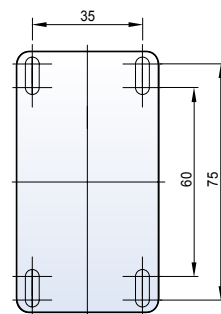
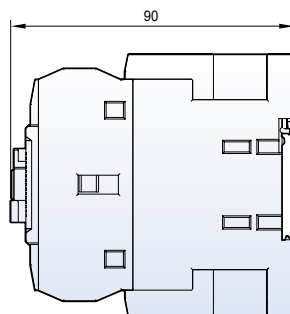
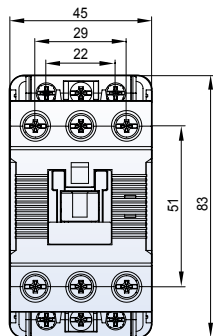
0.3kg

# 3-pole contactors dimension (40AF)

For Nuclear power plant

Metasol

MC-32a(Q) ~ 40a(Q) AC

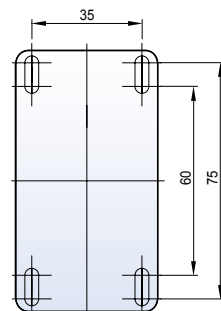
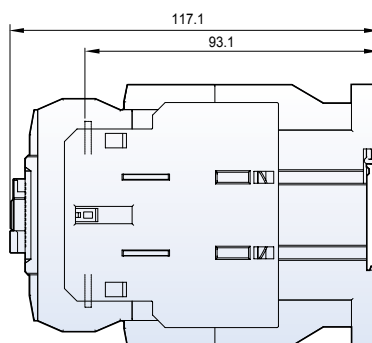
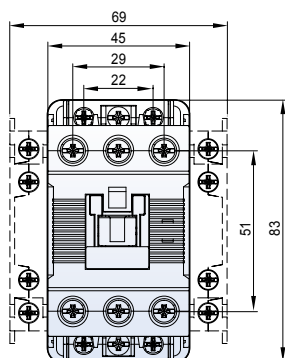


[mm]

0.4kg

MC-32a(Q) ~ 40a(Q) AC

2NO2NC



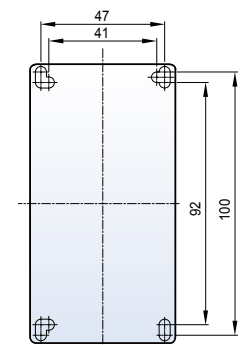
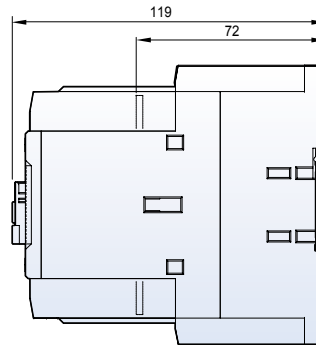
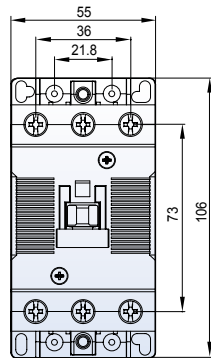
0.8kg

# 3-pole contactors dimension (65AF)

For Nuclear power plant

Metasol

MC-50a(Q) ~ 65a(Q) AC

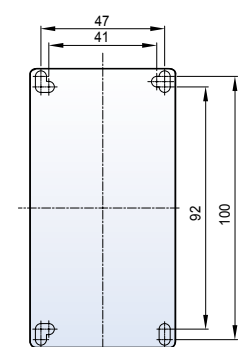
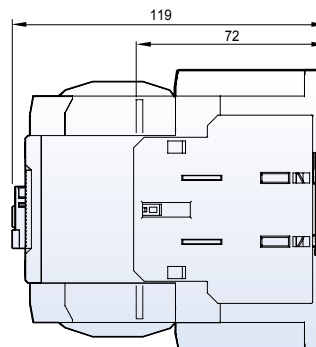
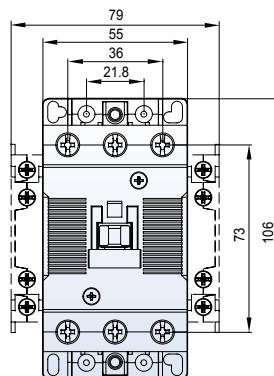


[mm]

0.9kg

MC-50a(Q) ~ 65a(Q) AC

2NO2NC

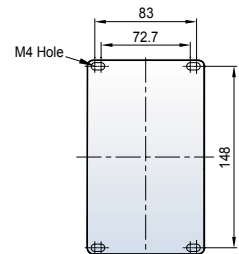
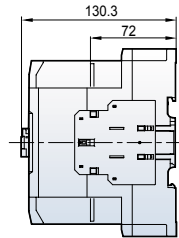
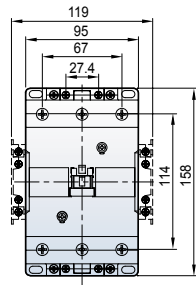


1kg

# 3-pole contactors dimension (150AF~800AF)

For Nuclear power plant

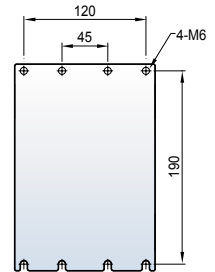
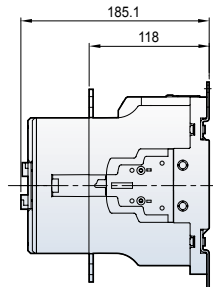
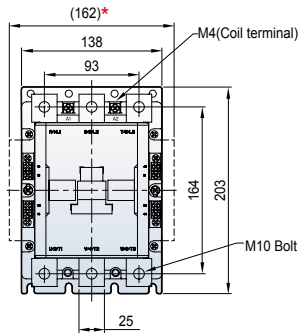
- MC-100a(Q)
- MC-130a(Q)
- MC-150a(Q)



[mm]

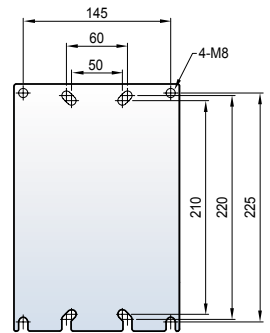
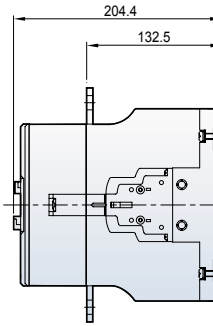
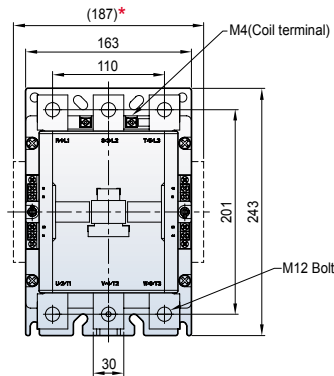
2.4kg

- MC-185a(Q)
- MC-225a(Q)



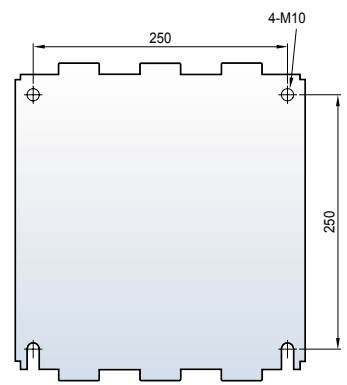
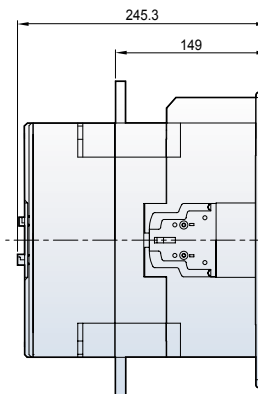
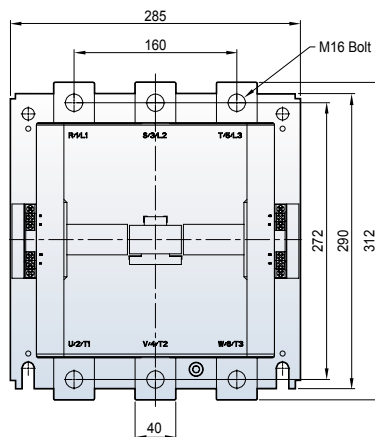
5.4kg

- MC-265a(Q)
- MC-330a(Q)
- MC-400a(Q)



9.2kg

- MC-500a(Q)
- MC-630a(Q)
- MC-800a(Q)



22.4kg

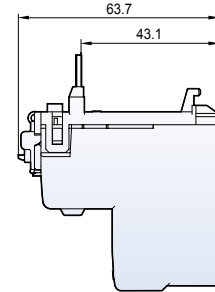
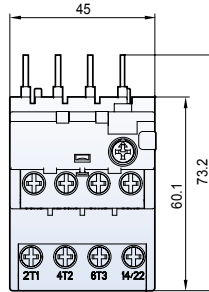
\* Optional auxiliary contact unit ( side mount type )

# Overload relays dimension

For Nuclear power plant

Metasol

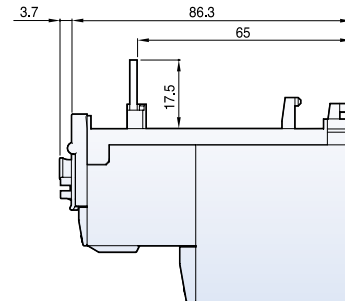
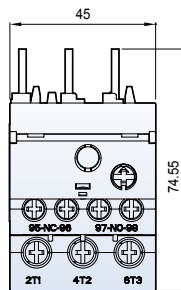
MT-12(Q)



[mm]

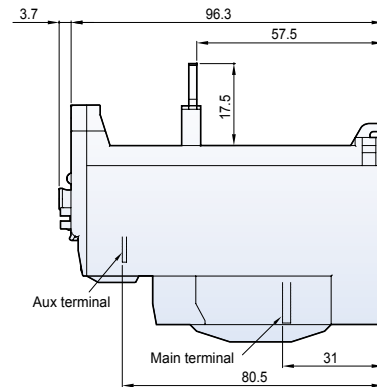
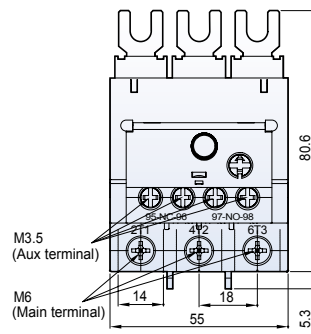
100g

MT-32(Q)



167g

MT-63(Q)



303g

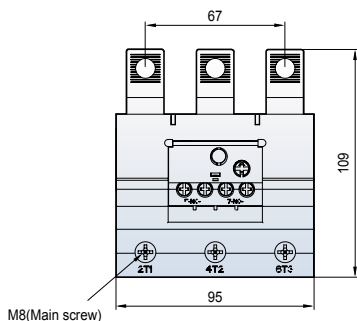
# Overload relays dimension

For Nuclear power plant

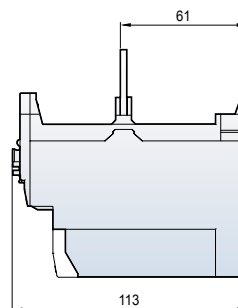
Metasol

[mm]

MT-150(Q)

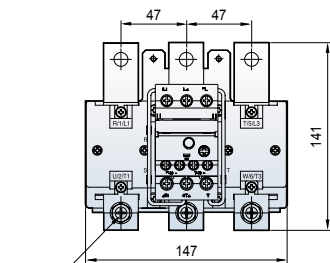


M8(Main screw)

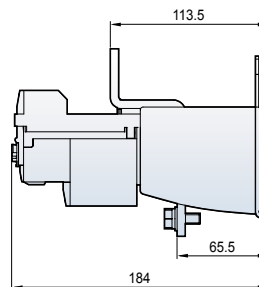


0.7kg

MT-225(Q)

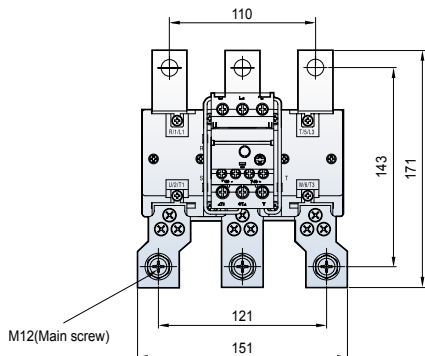


M10(Main screw)

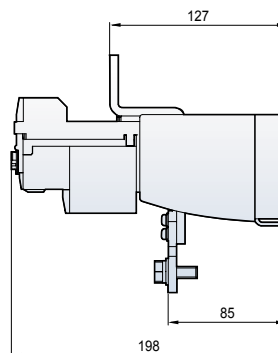


2.5kg

MT-400(Q)

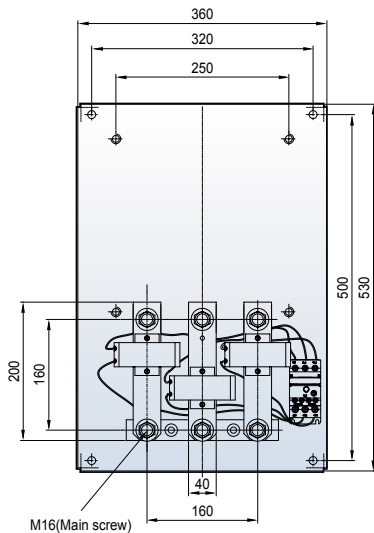


M12(Main screw)

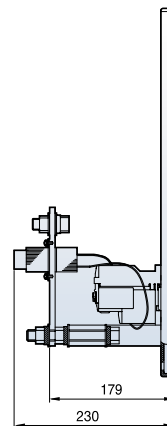


2.6kg

MT-800(Q)



M16(Main screw)



11.5kg

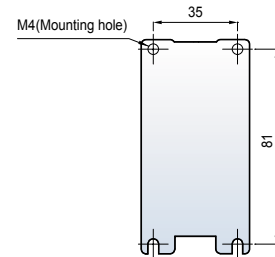
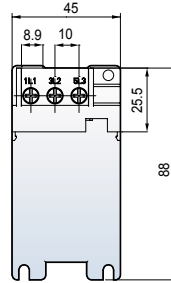
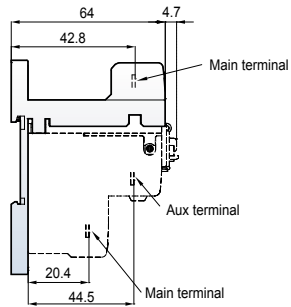


# Overload relays dimension (Separate mount)

For Nuclear power plant

Metasol

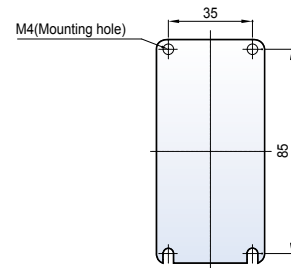
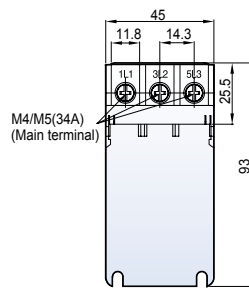
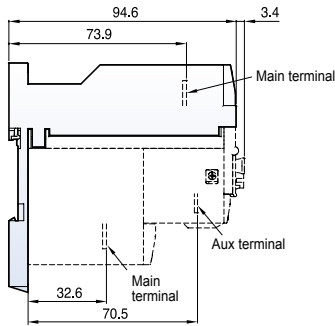
UZ-12(Q)



[mm]

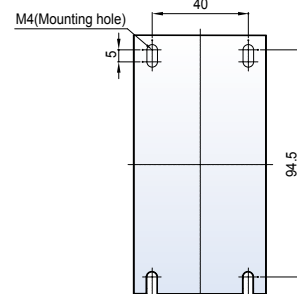
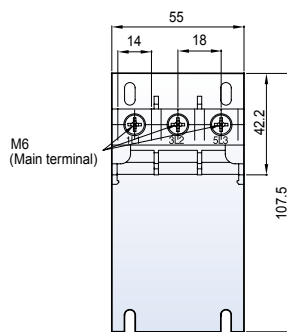
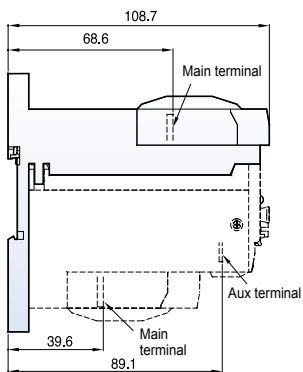
35g

UZ-32(Q)



68g

UZ-63(Q)



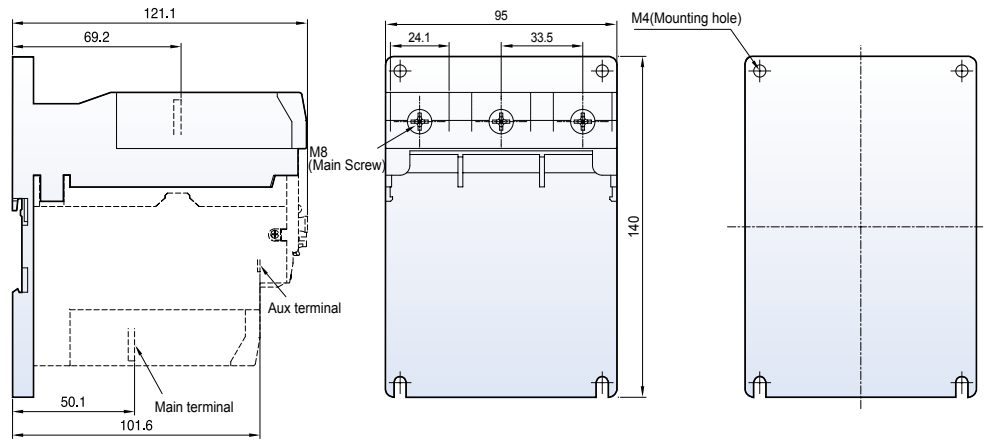
134g

# Overload relays dimension (Separate mount)

For Nuclear power plant

Metasol

UZ-150(Q)



[mm]

284g









## LSMS



<Android>



<IOS>

This application is selection guide of motor starter, overload relays and MCCBs

## Green Innovators of Innovation



### Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact a qualified service technician when you need maintenance. Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.

## LSIS Co., Ltd.

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