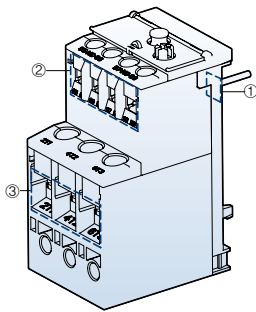


# Overload relay specifications

## MT type Thermal Overload Relays



- ① Main terminals/upstream
- ② Auxiliary terminals
- ③ Main terminals/downstream

Frame size		
Trip class		
Type	Non-differential(3P-2 heater)	
	Non-differential(3P-3 heater)	
	Differential type	
Terminals	Main-upstream	
	Main-downstream	
	Auxiliary	
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		
34	6~10	10~8
42	10	8
54		
65		
74	16~25	6~4
83	25~35	4~3
90		
Applied contactors		
Separate mounting unit		

18AF	
10A	20
MT-12/2H□S	-
MT-12/3H□S	-
MT-12/3K□S	MT-12/3D□S
Screw clamp	
Screw clamp	
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, 9a, 12a, 18a	
UZ-12	

Note : Screw clamp and Lug types are available for the main terminals of 65AF, 100AF and 150AF relays.  
The other AF relays provide Screw clamp types only.



**40AF**

10A	20
MT-32/2H□S	-
MT-32/3H□S	-
MT-32/3K□S	MT-32/3D□S
Screw clamp	
Screw clamp	
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, 12b, 18b, 22b, 32a, 40a  
UZ-32

**65AF**

10A	20
MT-63/2H□S/L	-
MT-63/3H□S/L	-
MT-63/3K□S/L	MT-63/3D□S/L
Screw/Lug clamp	
Screw/Lug clamp	
Screw 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, 65a  
UZ-63S/L

**100AF**

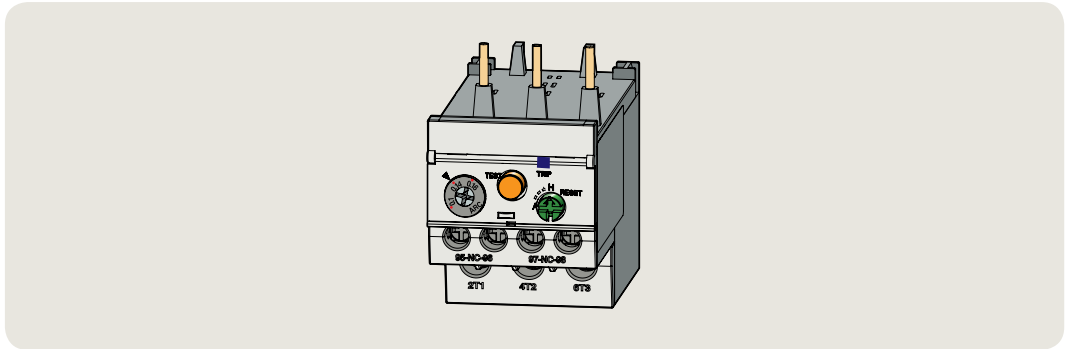
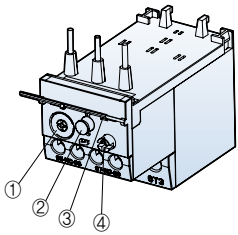
10A	20
MT-95/2H□S/L	-
MT-95/3H□S/L	-
MT-95/3K□S/L	MT-95/3D□S/L
Screw/Lug clamp	
Screw/Lug clamp	
Screw clamp	
3	
690V	
Up to 690V	
6kV	
IP 20	
-5~+40°C	
■	
■	
■	
■	

**7~100A**

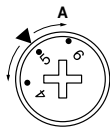
7~10	7~10
9~13	9~13
12~18	12~18
16~22	16~22
18~25	18~25
-	-
24~36	24~36
28~40	28~40
34~50	34~50
45~65	45~65
54~75	54~75
63~85	63~85
70~95	70~95
80~100	80~100

MC-75a, 85a, 100a  
UZ-95S/L

# Overload relay operation

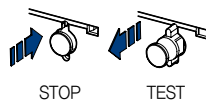


## 1. Adjustment dial



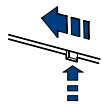
Before adjusting the dial open the protection cover.  
Current setting can be done easily by using (+) or (-) driver and have to be set by dotting or graduations standard.  
Do not rotate the dial out of the setting range.

## 2. Stop/Test button



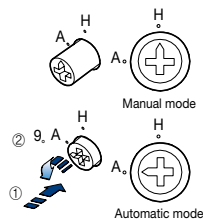
STOP function is executed by pushing the button, which causes the next sequence.  
In case of operation test pull this button.

## 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				

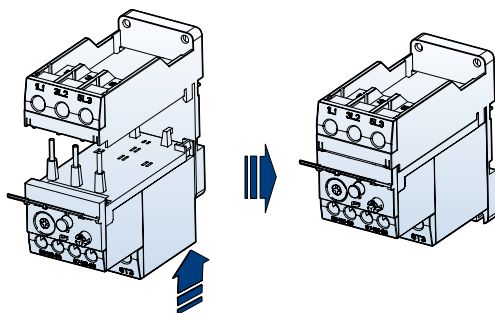
# Accessories for overload relay

## 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□ MT-12/3H□ MT-12/3K□ MT-12/3D□	UZ-12	35g
MT-32/2H□ MT-32/3H□ MT-32/3K□ MT-32/3D□	UZ-32	68g
MT-63/2H□ MT-63/3H□ MT-63/3K□ MT-63/3D□	UZ-63S/L	134g
MT-95/2H□ MT-95/3H□ MT-95/3K□ MT-95/3D□	UZ-95S/L	230g
MT-150/2H□ MT-150/3H□ MT-150/3K□ MT-150/3D□	UZ-150S/L	284g



## Terminal cover units for overload relays



Relay	Remarks
MT-225	2 pcs
MT-400	

# Accessories for overload relay

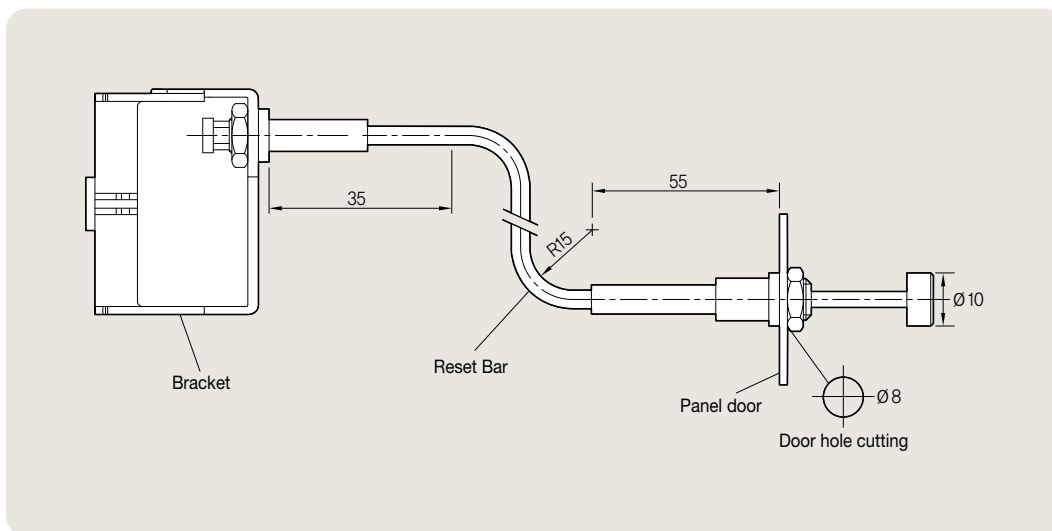
## Remote reset units

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



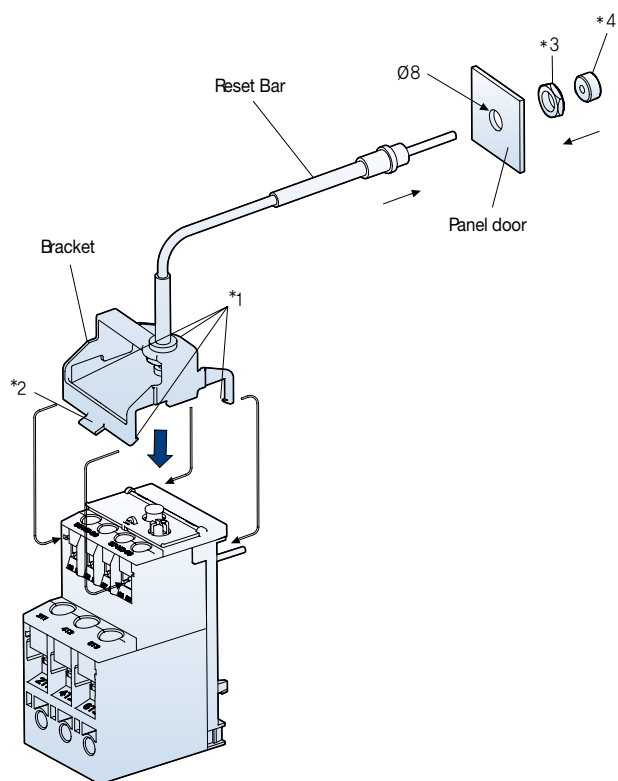
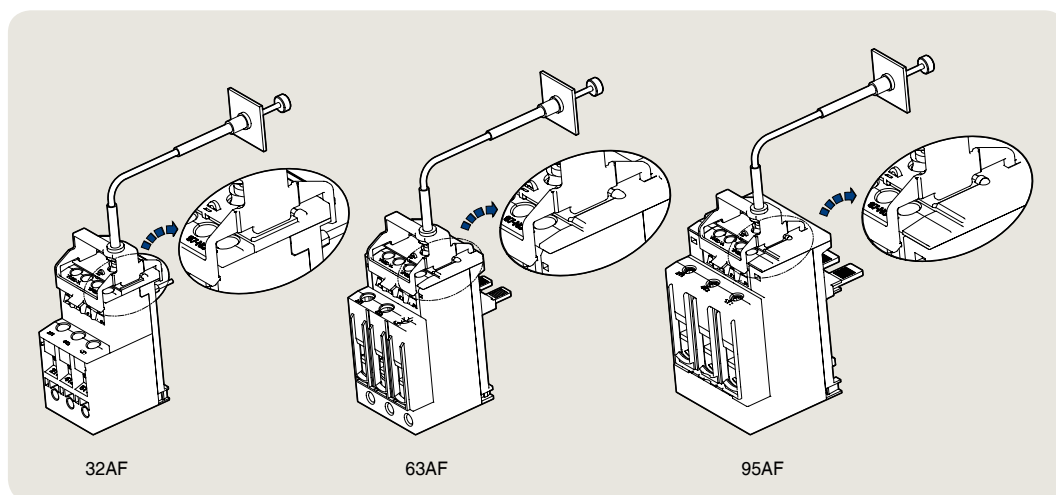
Type	Cable length (L)
UM-4R	400 mm
UM-5R	500 mm
UM-6R	600 mm

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

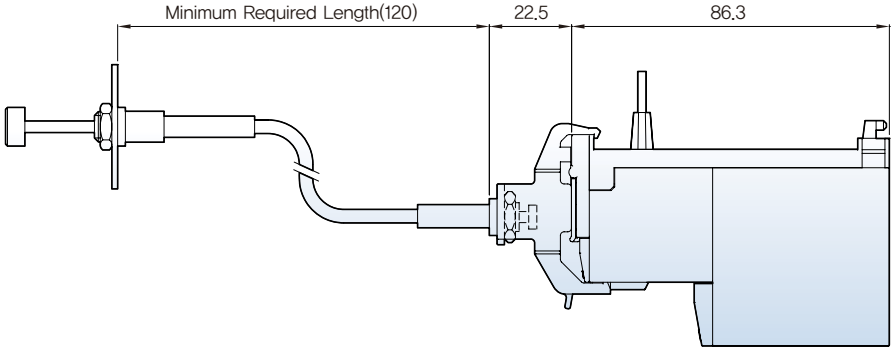
1. Fit the bracket with the relay as indicated(\*1) below.
2. Separate Nut(\*3) and Head cap(\*4) from the reset bar first.  
Insert the reset bar into the panel hole and then fix it with the Nut and Head.
3. To separate the bracket from the relay lift the \*2 part as shown in the fig.



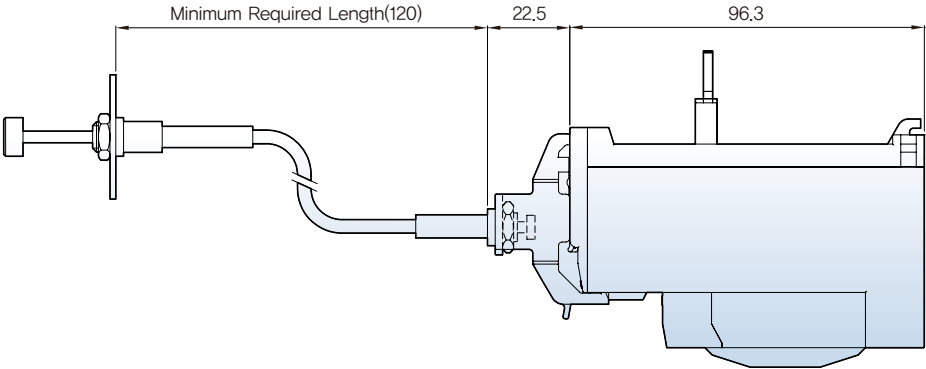
# Accessories for overload relay

## Remote reset units

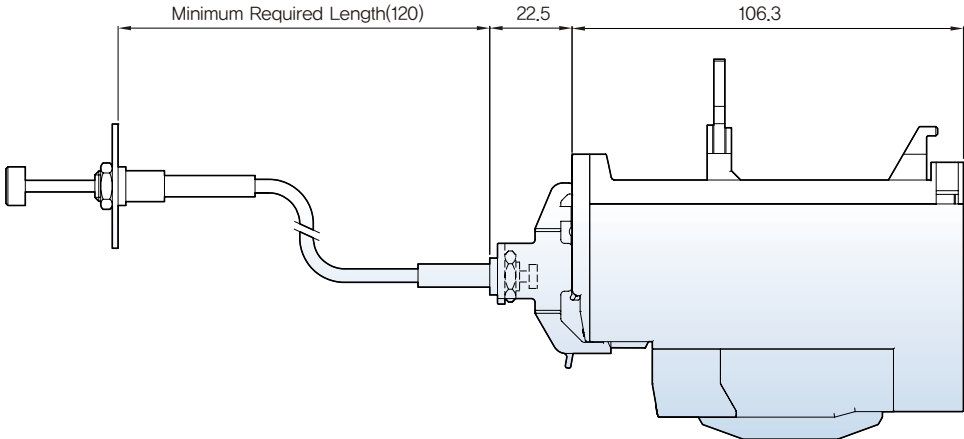
MT-32



MT-63

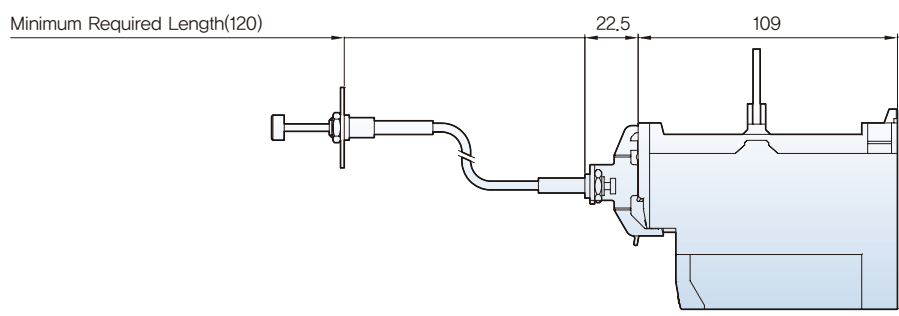


MT-95

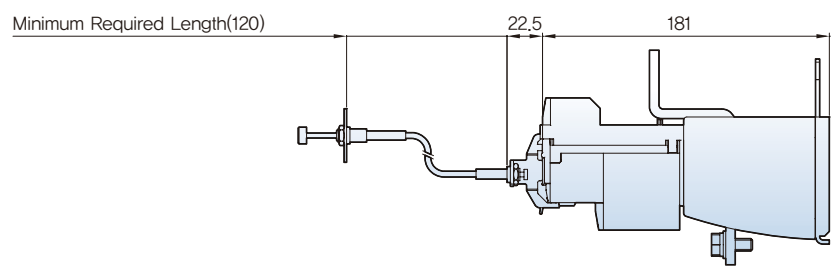


## Remote reset units

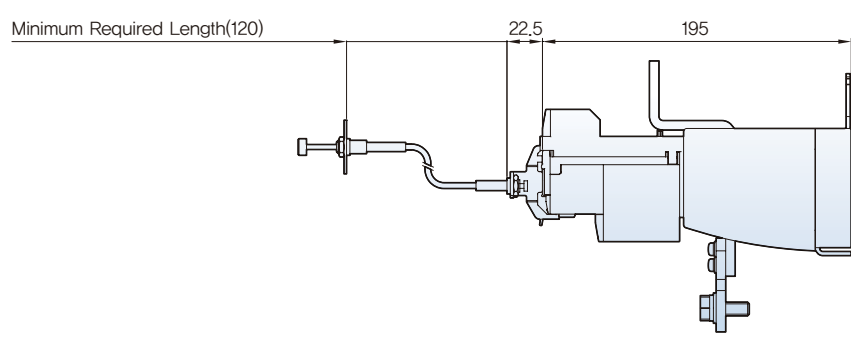
MT-150



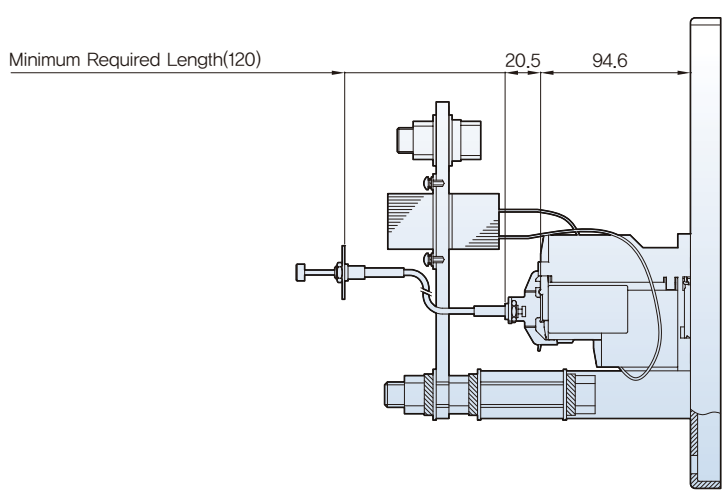
MT-225



MT-400



MT-800





## Trip class 10A

Terminal type: Screw(S), Lug(L)

Degree of protection: IP20

### MT-63



MT-63/S



MT-63/L

Setting range (A)	Ordering type			Contactor	Separate mounting unit
	Non-differential (3P-2 heater)	Non-differential (3P-3 heater)	Differential		
4-6	MT-63/2H5S/L	MT-63/3H5S/L	MT-63/3K5S/L	MC-50a MC-65a	UZ-63S/L
5-8	MT-63/2H6.5S/L	MT-63/3H6.5S/L	MT-63/3K6.5S/L		
6-9	MT-63/2H7.5S/L	MT-63/3H7.5S/L	MT-63/3K7.5S/L		
7-10	MT-63/2H8.5S/L	MT-63/3H8.5S/L	MT-63/3K8.5S/L		
9-13	MT-63/2H11S/L	MT-63/3H11S/L	MT-63/3K11S/L		
12-18	MT-63/2H15S/L	MT-63/3H15S/L	MT-63/3K15S/L		
16-22	MT-63/2H19S/L	MT-63/3H19S/L	MT-63/3K19S/L		
18-25	MT-63/2H21.5S/L	MT-63/3H21.5S/L	MT-63/3K21.5S/L		
24-36	MT-63/2H30S/L	MT-63/3H30S/L	MT-63/3K30S/L		
28-40	MT-63/2H34S/L	MT-63/3H34S/L	MT-63/3K34S/L		
34-50	MT-63/2H42S/L	MT-63/3H42S/L	MT-63/3K42S/L		
45-65	MT-63/2H55S/L	MT-63/3H55S/L	MT-63/3K55S/L		

### MT-95



MT-95/S



MT-95/L

Setting range (A)	Ordering type			Contactor	Separate mounting unit
	Non-differential (3P-2 heater)	Non-differential (3P-3 heater)	Differential		
7-10	MT-95/2H8.5S/L	MT-95/3H8.5S/L	MT-95/3K8.5S/L	MC-75a MC-85a MC-100a	UZ-95S/L
9-13	MT-95/2H11S/L	MT-95/3H11S/L	MT-95/3K11S/L		
12-18	MT-95/2H15S/L	MT-95/3H15S/L	MT-95/3K15S/L		
16-22	MT-95/2H19S/L	MT-95/3H19S/L	MT-95/3K19S/L		
18-25	MT-95/2H21.5S/L	MT-95/3H21.5S/L	MT-95/3K21.5S/L		
24-36	MT-95/2H30S/L	MT-95/3H30S/L	MT-95/3K30S/L		
28-40	MT-95/2H34S/L	MT-95/3H34S/L	MT-95/3K34S/L		
34-50	MT-95/2H42S/L	MT-95/3H42S/L	MT-95/3K42S/L		
45-65	MT-95/2H55S/L	MT-95/3H55S/L	MT-95/3K55S/L		
54-75	MT-95/2H65S/L	MT-95/3H65S/L	MT-95/3K65S/L		
63-85	MT-95/2H74S/L	MT-95/3H74S/L	MT-95/3K74S/L		
70-95	MT-95/2H83S/L	MT-95/3H83S/L	MT-95/3K83S/L		
80-100	MT-95/2H90S/L	MT-95/3H90S/L	MT-95/3K90S/L		

### MT-150



MT-150/S

Setting range (A)	Ordering type			Contactor	Separate mounting unit
	Non-differential		Differential		
	(3P-2 heater)	(3P-3 heater)			
34-50	MT-150/2H42S/L	MT-150/3H42S/L	MT-150/3K42S/L	MC-130a MC-150a	UZ-150S/L
45-65	MT-150/2H55S/L	MT-150/3H55S/L	MT-150/3K55S/L		
54-75	MT-150/2H65S/L	MT-150/3H65S/L	MT-150/3K65S/L		
63-85	MT-150/2H74S/L	MT-150/3H74S/L	MT-150/3K74S/L		
80-105	MT-150/2H93S/L	MT-150/3H93S/L	MT-150/3K93S/L		
95-130	MT-150/2H113S/L	MT-150/3H113S/L	MT-150/3K113S/L		
110-150	MT-150/2H130S/L	MT-150/3H130S/L	MT-150/3K130S/L		

# Overload relay ordering types

## Trip class 20

Terminal type: Screw(S), Lug(L)

Degree of protection: IP20

### MT-63



MT-63/ S



MT-63/ L

Setting range (A)	Ordering type	Contactor	Separate mounting unit
	Differential		
4~6	MT-63/3D5S/L	MC-50a MC-65a	UZ-63S/L
5~8	MT-63/3D6.5S/L		
6~9	MT-63/3D7.5S/L		
7~10	MT-63/3D8.5S/L		
9~13	MT-63/3D11S/L		
12~18	MT-63/3D15S/L		
16~22	MT-63/3D19S/L		
18~25	MT-63/3D21.5S/L		
24~36	MT-63/3D30S/L		
28~40	MT-63/3D34S/L		
34~50	MT-63/3D42S/L		
45~65	MT-63/3D55S/L		

### MT-95



MT-95/ S



MT-95/ L

Setting range (A)	Ordering type	Contactor	Separate mounting unit
	Differential		
7~10	MT-95/3D8.5S/L	MC-75a MC-85a MC-100a	UZ-95S/L
9~13	MT-95/3D11S/L		
12~18	MT-95/3DK15S/L		
16~22	MT-95/3D19S/L		
18~25	MT-95/3D21.5S/L		
24~36	MT-95/3D30S/L		
28~40	MT-95/3D34S/L		
34~50	MT-95/3D42S/L		
45~65	MT-95/3D55S/L		
54~75	MT-95/3D65S/L		
63~85	MT-95/3D74S/L		
70~95	MT-95/3D83S/L		
80~100	MT-95/3D90S/L		

### MT-150



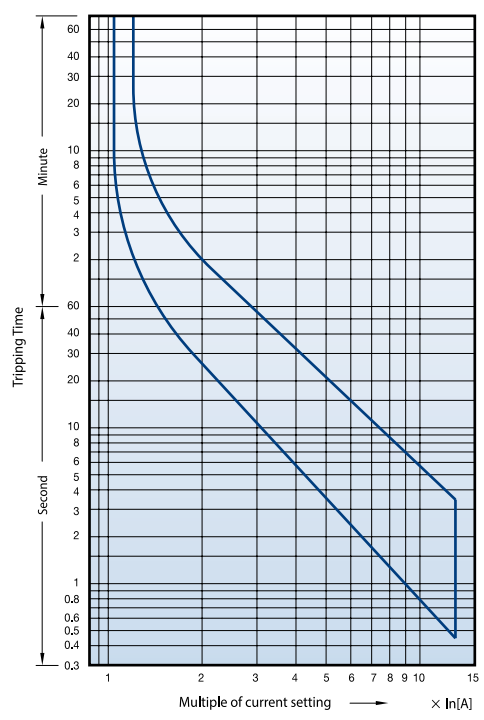
MT-150/ S

Setting range (A)	Ordering type	Contactor	Separate mounting unit
	Differential		
34~50	MT-150/3D42S/L	MC-130a MC-150a	UZ-150S/L
45~65	MT-150/3D55S/L		
54~75	MT-150/3D65S/L		
63~85	MT-150/3D74S/L		
80~105	MT-150/3D93S/L		
95~130	MT-150/3D113S/L		
110~150	MT-150/3D130S/L		

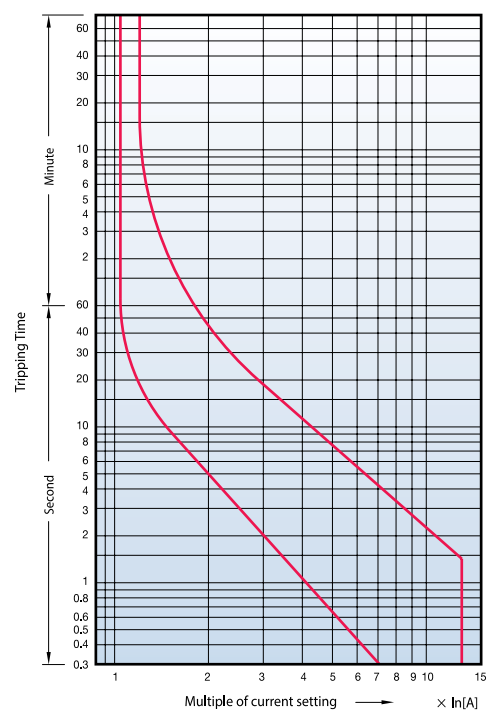
## Class 10A, 100AF

- MT-95/2H
- MT-95/3H
- MT-95/3K

Cold starting



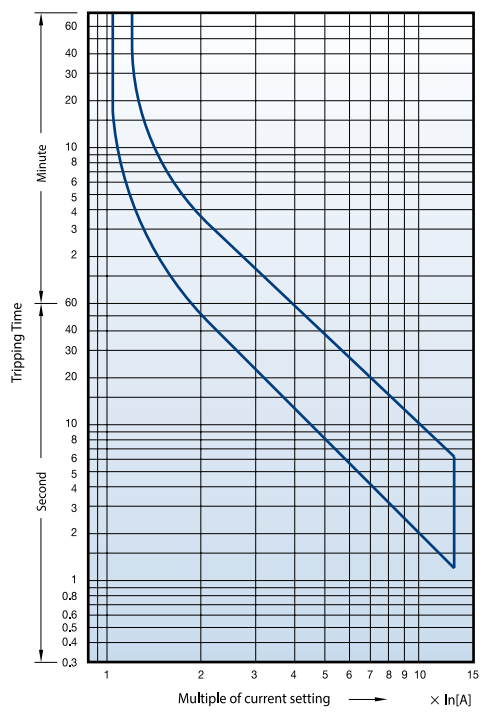
Hot starting



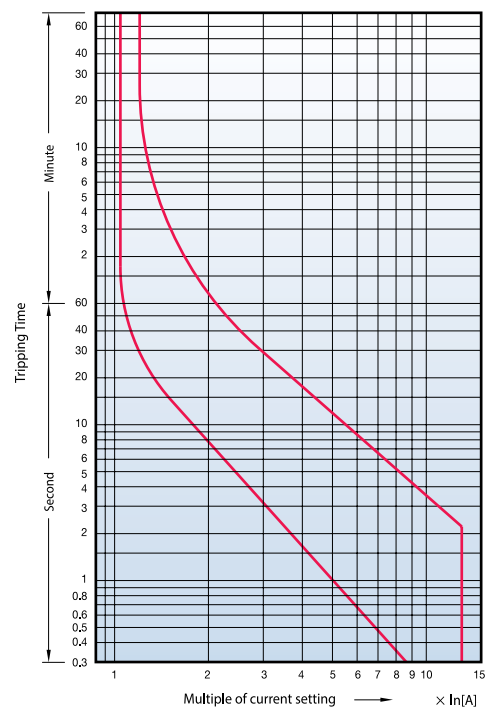
## Class 20, 100AF

- MT-95/3D

Cold starting

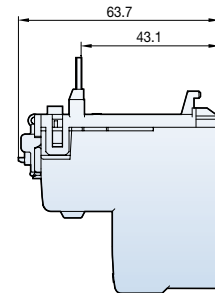
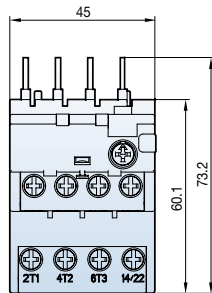


Hot starting



# Overload relays dimension

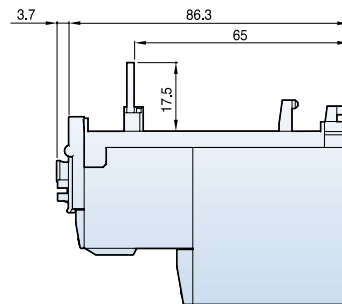
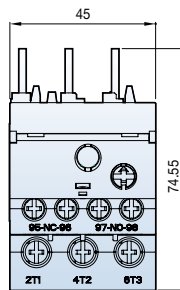
MT-12



[mm]

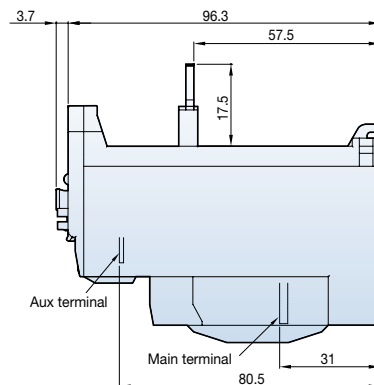
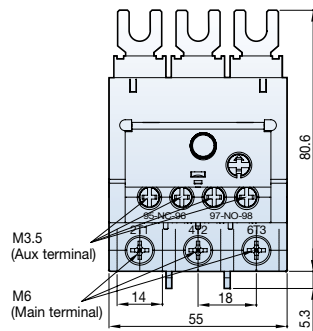
100g

MT-32



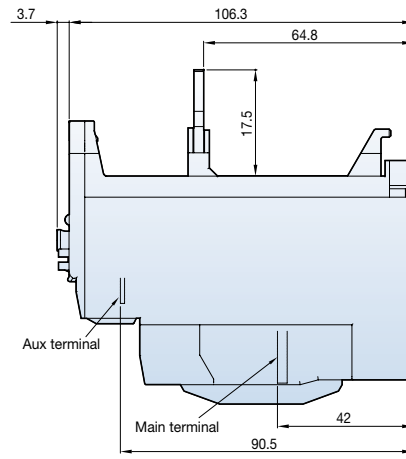
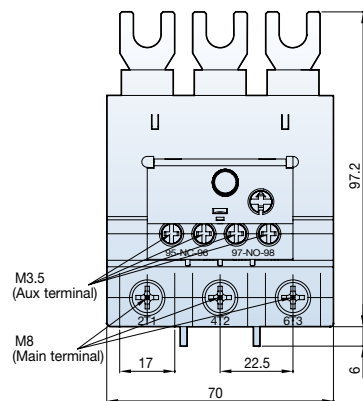
167g

MT-63



303g

MT-95



474g