

## Environment and auxiliary circuit

Environment		MT-12~800
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	-30 ~ +65°C
	Operation	-25 ~ +60°C (MT refer to Graph)
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

MT-150



MT-225



MT-400

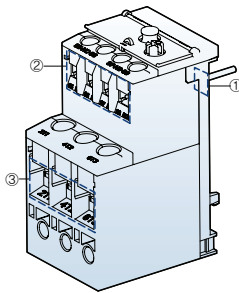


MT-800



# 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		
11	1.5~2.5	16~14
15	2.5	14~12
19	2.5~4	12~10
21.5		
27	4~6	10
30	4~10	10~8
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	
■	
■	
■	
■	

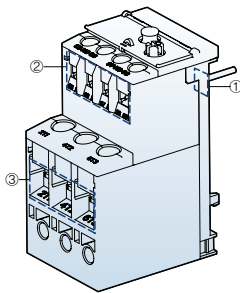
**7-100A**

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 specifications

## MT type Thermal Overload Relays



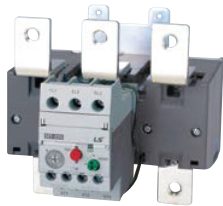
- ① Main terminals/upstream
- ② Auxiliary terminals
- ③ Main terminals/downstream



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
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□S/L	-
MT-150/3H□S/L	-
MT-150/3K□S/L	MT-150/3D□S/L
Screw/Lug clamp	
Screw/Lug clamp	
Screw clamp	
3	
690V	
690V	
6kV	
IP 20	
-5~+40°C	
■	
■	
■	
■	
34-150A	34-150A
34-50	
45-65	
54-75	
63-85	
-	
80-105	
-	
95-130	
110-150	
MC-130a, 150a	
UZ-150S/L	

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.



### 225AF

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

### 400AF

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

### 800AF

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