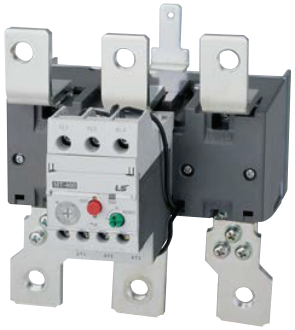
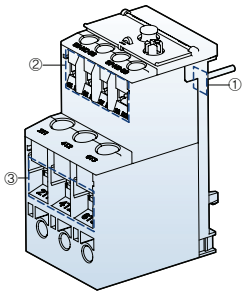
## Environment and auxiliary circuit

| 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℃ |
| | | Operation | -25 ~ +60℃ (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 | 120V | 1.5A |
| | (C600) | 240V | 0.75A |
| | | 380V | 0.47A |
| | | 480V | 0.375A |
| | | 500V | 0.35A |
| | | 600V | 0.3A |
| | DC13 duty | 120V | 0.22A |
| | (R300) | 240V | 0.1A |
| Connecting conductor | | Size | 18AWG /1mm$^2$ |
| Connection to screw clamp terminals | | Type | 65/75℃ Cu-wire |

| 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 | | | 18AF | |
|---|---|---|---|---|
| Trip class | | | 10A | 20 |
| Type | Non-differential(3P-2 heater) | | MT-12/2H□S | - |
| | Non-differential(3P-3 heater) | | MT-12/3H□S | - |
| | Differential type | | MT-12/3K□S | MT-12/3D□S |
| Terminals | Main-upstream | | Screw clamp | |
| | Main-downstream | | Screw clamp | |
| | Auxiliary | | Screw clamp | |
| Number of poles | | | 3 | |
| Rated operational voltage (Ue) | | | 690V | |
| Rated insulation voltage (Ui) | | | Up to 690V | |
| Rated impulse voltage (Uimp) | | | 6kV | |
| Degree of protection (IEC 60 529) | | | IP 20 | |
| Temperature compensation (℃) | | | -5~+40℃ | |
| Functions | Trip indicating | | ■ | |
| | Stop | | - | |
| | Test | | ■ | |
| | Manual/Automatic Reset | | ■ | |
| Setting range(A) | | | 0.1~18A | 1~18A |
| Nominal current rating | Wire size mm² | Wire size AWG | | |
| 0.14 | 1 | 18 | 0.1~0.16 | |
| 0.21 | | | 0.16~0.25 | |
| 0.33 | | | 0.25~0.4 | |
| 0.52 | | | 0.4~0.63 | |
| 0.82 | | | 0.63~1 | |
| 1.3 | | | 1~1.6 | 1~1.6 |
| 2.1 | | | 1.6~2.5 | 1.6~2.5 |
| 3.3 | | | 2.5~4 | 2.5~4 |
| 5 | | | 4~6 | 4~6 |
| 6.5 | | | 5~8 | 5~8 |
| 7.5 | 1~1.5 | 18~16 | 6~9 | 6~9 |
| 8.5 | | | 7~10 | 7~10 |
| 11 | 1.5~2.5 | 16~14 | 9~13 | 9~13 |
| 15 | 2.5 | 14~12 | 12~18 | 12~18 |
| 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 | 16~25 | 6~4 | | |
| 74 | | | | |
| 83 | 25~35 | 4~3 | | |
| 90 | | | | |
| Applied contactors | | | MC-6a, 9a, 12a, 18a | |
| Separate mounting unit | | | 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.

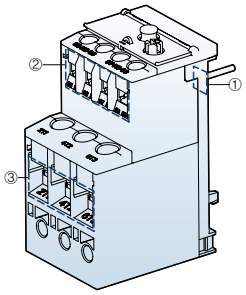
| 40AF | |
|---|---|
| 10A | 20 |
| MT-32/2H□S | - |
| MT-32/3H□S | - |
| MT-32/3K□S | MT-32/3D□S |
| Screw clamp | |
| Screw clamp | |
| Screw clamp | |
| 3 | |
| 690V | |
| Up to 690V | |
| 6kV | |
| IP 20 | |
| -5~+40℃ | |
| ■ | |
| ■ | |
| ■ | |
| ■ | |
| 0.1~40A | 1~40A |
| | |
| 0.1~0.16 | |
| 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℃ | |
| ■ | |
| ■ | |
| ■ | |
| ■ | |
| 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℃ | |
| ■ | |
| ■ | |
| ■ | |
| ■ | |
| 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

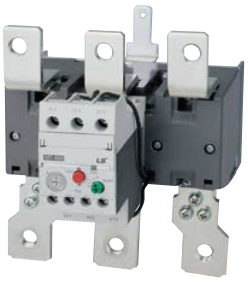



① Main terminals/upstream
② Auxiliary terminals
③ Main terminals/downstream

| Frame size | | 150AF | |
|---|---|---|---|
| Trip class | | 10A | 20 |
| Type | Non-differential(3P-2 heater) | MT-150/2H□S/L | - |
| | Non-differential(3P-3 heater) | MT-150/3H□S/L | - |
| | Differential type | MT-150/3K□S/L | MT-150/3D□S/L |
| Terminals | Main-upstream | Screw/Lug clamp | |
| | Main-downstream | Screw/Lug clamp | |
| | Auxiliary | Screw clamp | |
| Number of poles | | 3 | |
| Rated operational voltage (Ue) | | 690V | |
| Rated insulation voltage (Ui) | | 690V | |
| Rated impulse voltage (Uimp) | | 6kV | |
| Degree of protection (IEC 60 529) | | IP 20 | |
| Temperature compensation (°C) | | -5~+40℃ | |
| Functions | Trip indicating | ■ | |
| | Stop | ■ | |
| | Test | ■ | |
| | Manual/Automatic Reset | ■ | |
| Setting range(A) | | 34~150A | 34~150A |
| Nominal current rating | Wire size mm² | AWG | |
| 42 | 10 | 8 | 34~50 |
| 55 | 16 | 6 | 45~65 |
| 65 | 25 | 4 | 54~75 |
| 74 | 25 | 4 | 63~85 |
| 80 | 35 | 3 | - |
| 93 | 35 | 2 | 80~105 |
| 107 | 50 | 1 | - |
| 113 | 50 | 1 | 95~130 |
| 130 | 50 | 0 | 110~150 |
| 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 | | MC-130a, 150a | |
| Separate mounting unit | | 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 | |
|---|---|
| 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℃ | |
| ■ | |
| ■ | |
| ■ | |
| ■ | |
| 65~240A | 65~240A |
| | |
| | |
| | |
| | |
| | |
| 65~100 | |
| - | |
| 85~125 | |
| - | |
| - | |
| 100~160 | |
| 120~185 | |
| 160~240 | |
| | |
| | |
| | |
| | |
| MC-185a, 225a | |
| - | |



| 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℃ | |
| ■ | |
| ■ | |
| ■ | |
| ■ | |
| 85~400A | 85~400A |
| | |
| | |
| | |
| | |
| | |
| 85~125 | |
| - | |
| - | |
| 100~160 | |
| 120~185 | |
| 160~240 | |
| 200~330 | |
| 260~400 | |
| | |
| | |
| MC-265a, 330a, 400a | |
| - | |

| 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℃ | |
| ■ | |
| ■ | |
| ■ | |
| ■ | |
| 200~800A | 200~800A |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| 200~300 | |
| 260~400 | |
| 400~600 | |
| 520~800 | |
| MC-500a, 630a, 800a | |
| - | |