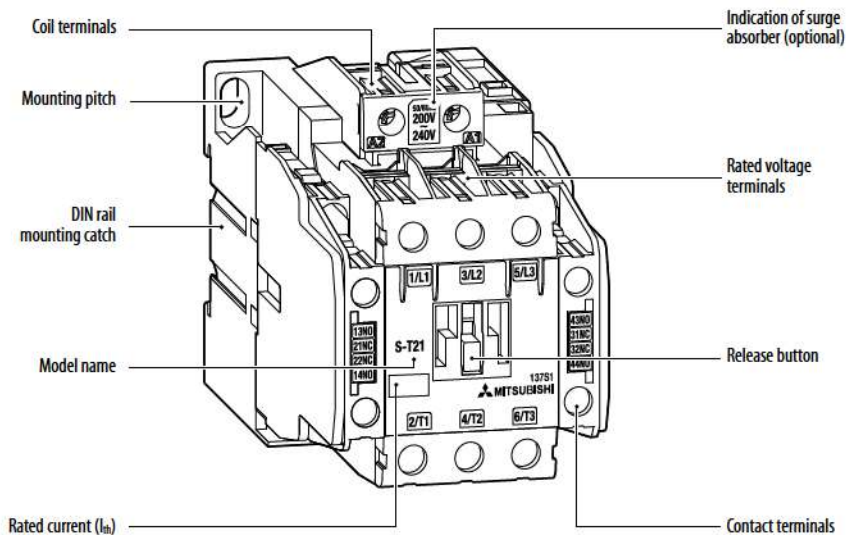


## General purpose contactors

### General purpose contactors



#### The main benefits:

- Easy mounting and wiring
- Easy inspection
- Built-in surge absorber
- Safety and speedy terminal functions
- Thermo plastic improves the barrier strength
- Coil boasts lower coil consumption
- Improvement of Electromagnet (DC electromagnet with AC operation)
- Less noise nor surge from coil
- Conform to IEC947-4-1, EN-Standards
- Mounting of the contactors is described on page 123.

## 4

### Handling of the contactors

S(D)-T10 to S(D)-T85 units can all be mounted on DIN rail (35 mm wide).

A variety of blocks and optional features are available including:

- Standard front clip-on auxiliary contact blocks (4-pole-type and 2-pole-type)
- Low-level signal front-clip-on auxiliary contact blocks
- Side clip-on auxiliary contact blocks

- Surge absorbers (varistor and CR models)
- Surge absorbers with LED operating indicators
- Mechanical interlocks

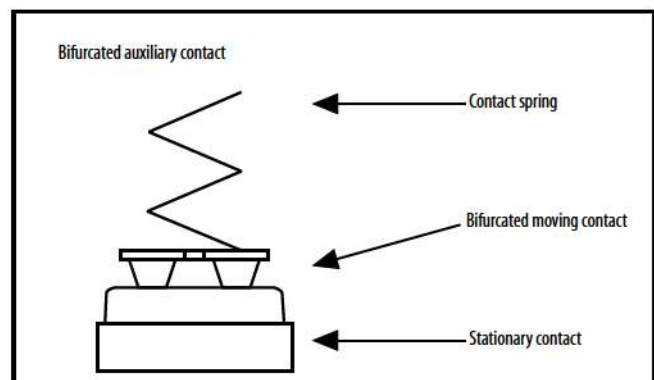
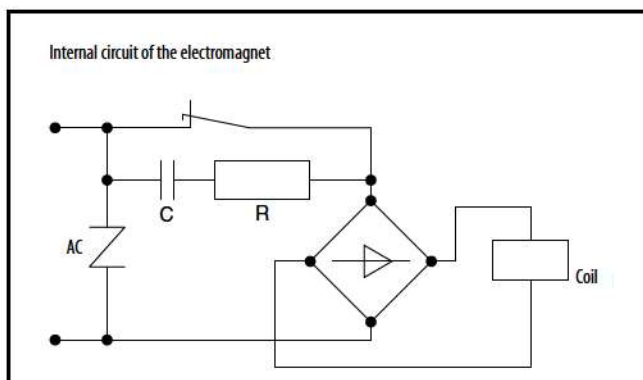
Compact arc quenching and magnet layout greatly reduces installation space.

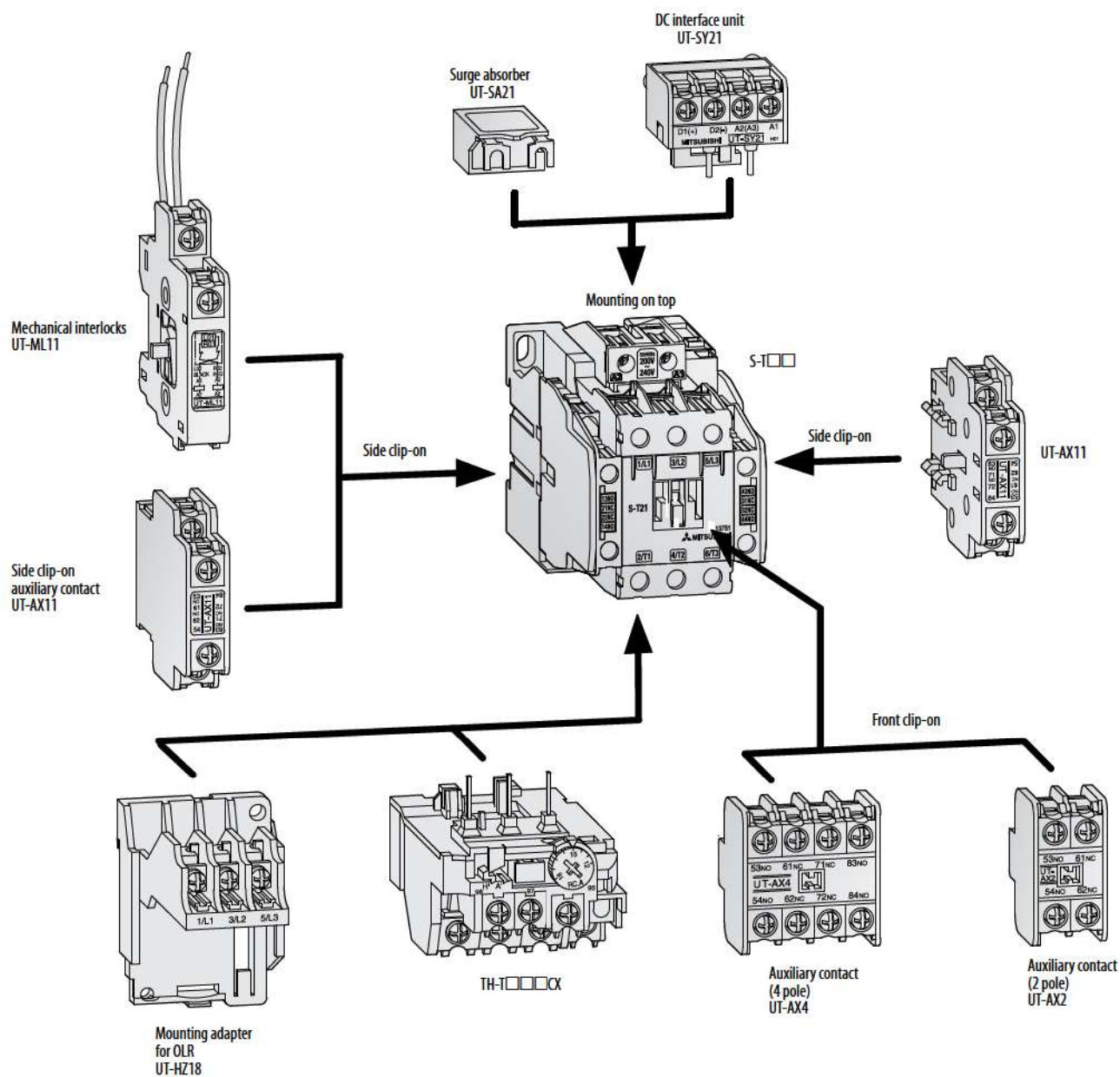
The coil rating is displayed in a location readily visible even after the unit is installed onto the panel.

Contacts are visible when the cover is removed, allowing them to be checked easily.

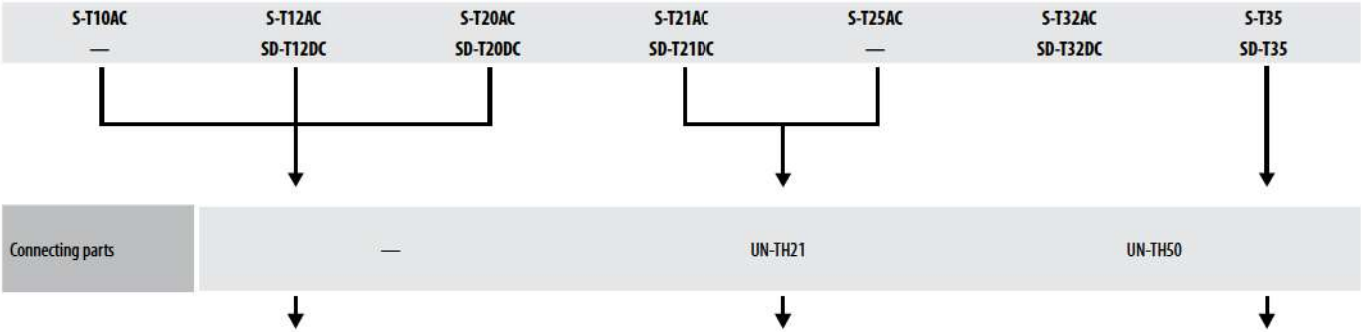
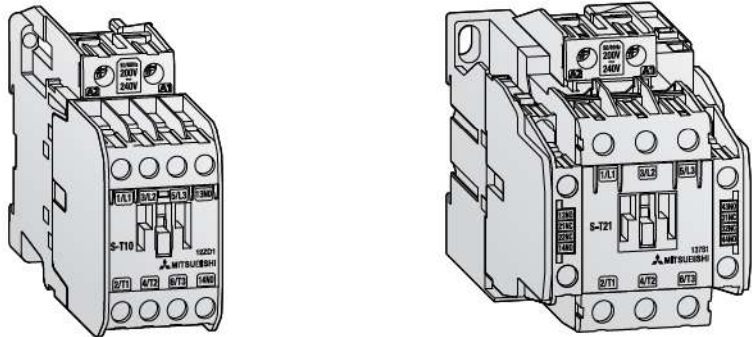
### Contactor coils have ultra-wide range of ratings

The number of coil types has been cut by two-thirds and there is no need to re-wire for different frequencies. The coil also withstands large voltage drops.

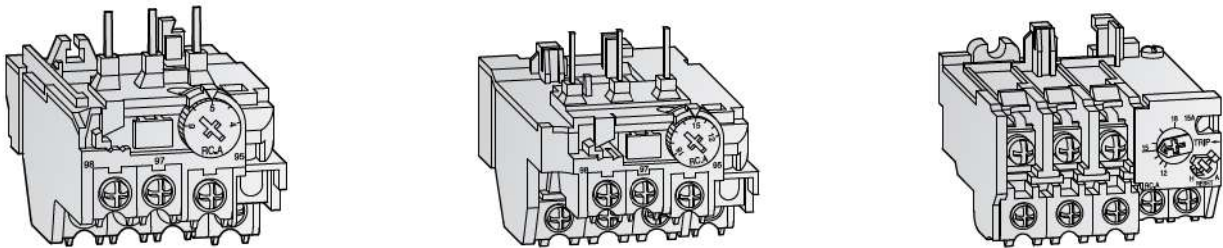




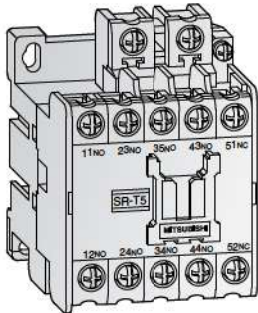
| Three-phase motor ratings IEC category AC3 for contactors |             |              |             |                     |             |             |          |             |
|-----------------------------------------------------------|-------------|--------------|-------------|---------------------|-------------|-------------|----------|-------------|
| Contactor                                                 | AC-operated | S-T10AC      | S-T12AC     | S-T20AC             | S-T21AC     | S-T25AC     | S-T32AC  | S-T35       |
|                                                           | DC-operated | —            | SD-T12DC    | SD-T20DC            | SD-T21DC    | —           | SD-T32DC | SD-T35      |
| AC 380–440 V                                              | kW          | 4            | 5.5         | 7.5                 | 11          | 15          | 15       | 18.5        |
| Rated continuous current Ith                              | A           | 20           | 20          | 20                  | 32          | 32          | 32       | 60          |
| Auxiliary contacts (standard)                             |             | 1 NO or 1 NC | 1 NO + 1 NC | 1 NO + 1 NC or 2 NO | 1 NO + 1 NC | 2 NO + 2 NC | —        | 2 NO + 2 NC |



| Thermal overload relays |            |             |                   |
|-------------------------|------------|-------------|-------------------|
| Type                    | TH-T18KP   | TH-T25KP    | TH-T25KP/TH-T50KP |
| Setting range           | 0.1 – 18 A | 0.24 – 26 A | 0.24 – 34 A       |

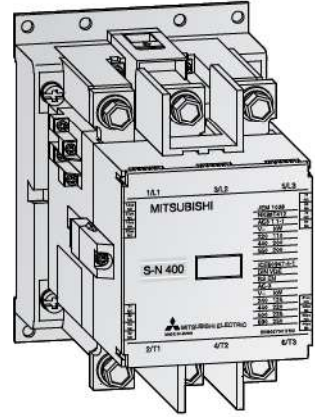
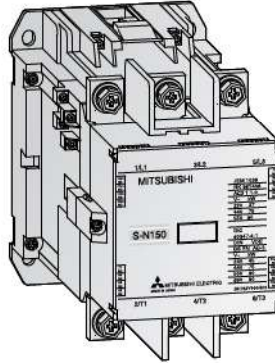
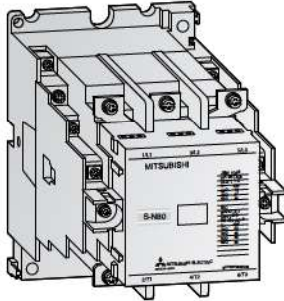


| Contactor relays   |        |            |            |
|--------------------|--------|------------|------------|
| AC-operated type   | SR-T5  | SR-T5      | SR-T5      |
| DC-operated type   | SRD-T5 | SRD-T5     | SRD-T5     |
| Auxiliary contacts | 5 NO   | 4 NO, 1 NC | 3 NO, 2 NC |



Three-phase motor ratings IEC category AC-3

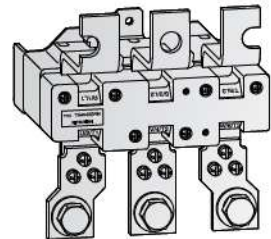
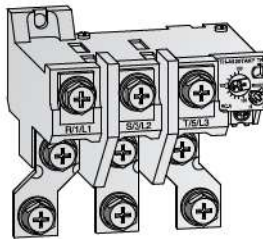
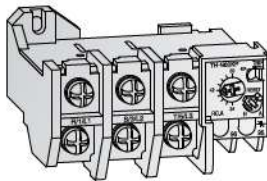
|             |             |             |             |             |             |             |             |             |             |             |             |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| S-T50       | S-T65       | S-T80       | S-T100      | S-N125      | S-N150      | S-N180      | S-N220      | S-N300      | S-N400      | S-N600      | S-N800      |
| SD-T50      | SD-T65      | SD-T80      | SD-T100     | SD-N125     | SD-N150     | —           | SD-N220     | SD-N300     | SD-N400     | SD-N600     | SD-N800     |
| 22          | 30          | 45          | 55          | 60          | 75          | 90          | 132         | 160         | 220         | 330         | 440         |
| 80          | 100         | 120         | 150         | 150         | 200         | 260         | 260         | 350         | 450         | 800         | 1000        |
| 2 NO + 2 NC | 2 NO + 2 NC | 2 NO + 2 NC | 2 NO + 2 NC | 2 NO + 2 NC | 2 NO + 2 NC | 2 NO + 2 NC | 2 NO + 2 NC | 2 NO + 2 NC | 2 NO + 2 NC | 2 NO + 2 NC | 2 NO + 2 NC |



|         |           |                                                        |         |           |           |           |         |         |         |         |         |
|---------|-----------|--------------------------------------------------------|---------|-----------|-----------|-----------|---------|---------|---------|---------|---------|
| S-T50   | S-T65     | S-T80                                                  | S-T100  | S-N125    | S-N150    | S-N180    | S-N220  | S-N300  | S-N400  | S-N600  | S-N800  |
| SD-T50  | SD-T65    | SD-T80                                                 | SD-T100 | SD-N125   | SD-N150   | —         | SD-N220 | SD-N400 | SD-N400 | SD-N600 | SD-N800 |
| ↓       | ↓         | ↓                                                      | ↓       | ↓         | ↓         | ↓         | ↓       | ↓       | ↓       | ↓       | ↓       |
| UT-TH50 | BH559N350 | AC operated:<br>BH569N350<br>DC operated:<br>BH569N352 |         | BH579N355 | BH589N355 | BH589N355 |         |         |         |         |         |
| ↓       | ↓         | ↓                                                      | ↓       | ↓         | ↓         | ↓         | ↓       | ↓       | ↓       | ↓       | ↓       |

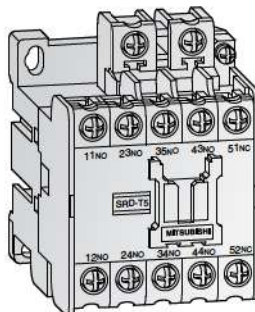
Thermal overload relays

|                       |           |                        |                        |             |             |             |             |
|-----------------------|-----------|------------------------|------------------------|-------------|-------------|-------------|-------------|
| TH-T25KP/<br>TH-T50KP | TH-T65KP  | TH-T65KP/<br>TH-T100KP | TH-T65KP/<br>TH-T100KP | TH-N120TAKP | TH-N220RHKP | TH-N400RHKP | TH-N600KP   |
| 0.24 – 50 A           | 12 – 65 A | 12 – 80 A              | 12 – 100 A             | 34 – 150 A  | 65 – 250 A  | 85 – 400 A  | 200 – 800 A |



Contactor relays

|                    |        |            |            |
|--------------------|--------|------------|------------|
| AC-operated type   | SR-T5  | SR-T5      | SR-T5      |
| DC-operated type   | SRD-T5 | SRD-T5     | SRD-T5     |
| Auxiliary contacts | 5 NO   | 4 NO, 1 NC | 3 NO, 2 NC |



| Specifications                                                                                                           |               |          | S-T10<br>AC□□□V<br>1A                                        | S-T10<br>AC□□□V<br>1B | S-T12<br>AC□□□V<br>1A1B | S-T12<br>AC□□□V<br>2A | S-T12<br>AC□□□V<br>2B | S-T20<br>AC□□□V<br>1A1B | S-T20<br>AC□□□V<br>2A | S-T21<br>AC□□□V<br>2A2B | S-T25<br>AC□□□V<br>2A2B | S-T32<br>AC□□□V |
|--------------------------------------------------------------------------------------------------------------------------|---------------|----------|--------------------------------------------------------------|-----------------------|-------------------------|-----------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|-----------------|
| <b>Rated data</b>                                                                                                        |               |          |                                                              |                       |                         |                       |                       |                         |                       |                         |                         |                 |
| Applicable standard                                                                                                      |               |          | All types: IEC60947-4-1, EN60947-4-1, JIS C8201-4-1          |                       |                         |                       |                       |                         |                       |                         |                         |                 |
| Rated insulation voltage                                                                                                 |               |          | V All types: 690                                             |                       |                         |                       |                       |                         |                       |                         |                         |                 |
| Rated impulse withstand voltage                                                                                          |               |          | kV All types: 6                                              |                       |                         |                       |                       |                         |                       |                         |                         |                 |
| Rated frequency                                                                                                          |               |          | Hz All types: 50/60                                          |                       |                         |                       |                       |                         |                       |                         |                         |                 |
| Pollution degree                                                                                                         |               |          | All types: 3                                                 |                       |                         |                       |                       |                         |                       |                         |                         |                 |
| Rated operational power (current)<br>Category AC-3<br>(Three-phase squirrel-cage motor<br>load, standard responsibility) | 220–240 V     | kW (A)   | 2.5 (11)                                                     | 2.5 (11)              | 3.5 (13)                | 3.5 (13)              | 3.5 (13)              | 4.5 (18)                | 4.5 (18)              | 5.5 (25)                | 7.5 (30)                | 7.5 (32)        |
|                                                                                                                          | 380–440 V     | kW (A)   | 4 (9)                                                        | 4 (9)                 | 5.5 (12)                | 5.5 (12)              | 5.5 (12)              | 7.5 (18)                | 7.5 (18)              | 11 (23)                 | 15 (30)                 | 15 (32)         |
|                                                                                                                          | 500 V         | kW (A)   | 4 (7)                                                        | 4 (7)                 | 5.5 (9)                 | 5.5 (9)               | 5.5 (9)               | 7.5 (17)                | 7.5 (17)              | 11 (17)                 | 15 (24)                 | 15 (24)         |
|                                                                                                                          | 690 V         | kW (A)   | 4 (5)                                                        | 4 (5)                 | 5.5 (7)                 | 5.5 (7)               | 5.5 (7)               | 7.5 (9)                 | 7.5 (9)               | 7.5 (9)                 | 11 (12)                 | 11 (12)         |
| Rated operational power (current)<br>Category AC-4<br>(Three-phase squirrel-cage motor<br>load, inching responsibility)  | 220–240 V     | kW (A)   | 1.5 (8)                                                      | 1.5 (8)               | 2.2 (11)                | 2.2 (11)              | 2.2 (11)              | 3.7 (18)                | 3.7 (18)              | 3.7 (18)                | 4.5 (20)                | 5.5 (26)        |
|                                                                                                                          | 380–440 V     | kW (A)   | 2.2 (6)                                                      | 2.2 (6)               | 4 (9)                   | 4 (9)                 | 4 (9)                 | 5.5 (13)                | 5.5 (13)              | 5.5 (13)                | 7.5 (17)                | 11 (24)         |
|                                                                                                                          | 500 V         | kW (A)   | 2.7 (6)                                                      | 2.7 (6)               | 5.5 (9)                 | 5.5 (9)               | 5.5 (9)               | 5.5 (10)                | 5.5 (10)              | 5.5 (10)                | 7.5 (12)                | 7.5 (13)        |
| Rated operational power (current)<br>Category AC-1<br>(Resistance, heater load)                                          | 100–240 V     | kW (A)   | 20                                                           | 20                    | 20                      | 20                    | 20                    | 20                      | 20                    | 32                      | 32                      | 32              |
|                                                                                                                          | 380–440 V     | kW (A)   | 11                                                           | 11                    | 13                      | 13                    | 13                    | 13                      | 13                    | 32                      | 32                      | 32              |
| Conventional free air thermal current I <sub>th</sub>                                                                    |               |          | 20                                                           | 20                    | 20                      | 20                    | 20                    | 20                      | 20                    | 32                      | 32                      | 32              |
| Minimum applicable load level                                                                                            |               |          | All types: 48 V 200 mA                                       |                       |                         |                       |                       |                         |                       |                         |                         |                 |
| <b>Auxiliary contact rating</b>                                                                                          |               |          |                                                              |                       |                         |                       |                       |                         |                       |                         |                         |                 |
| Contact arrangement                                                                                                      |               |          | Standard                                                     | 1 NO                  | 1 NC                    | 1 NO + 1 NC           | 2 NO                  | 2 NC                    | 1 NO + 1 NC           | 2 NO                    | 2 NC                    | 2 NO + 2 NC —   |
| Max. number of additional<br>options ①                                                                                   | Front clip-on | pcs.     | 1                                                            | 1                     | 1                       | 1                     | 1                     | 1                       | 1                     | 1                       | 1                       | 1               |
|                                                                                                                          | Side clip-on  | pcs.     | 2                                                            | 2                     | 2                       | 2                     | 2                     | 2                       | 2                     | 2                       | 2                       | 2               |
| Rated operational current<br>(Category AC-15 : Alternating<br>current coil load)                                         | 120 V         | A        | 6                                                            | 6                     | 6                       | 6                     | 6                     | 6                       | 6                     | 6                       | 6                       | 6               |
|                                                                                                                          | 240 V         | A        | 3                                                            | 3                     | 3                       | 3                     | 3                     | 3                       | 3                     | 3                       | 3                       | 3               |
| Rated operational current<br>(Category DC-13 : Direct current<br>coil load)                                              | 24 V          | A        | 3                                                            | 3                     | 3                       | 3                     | 3                     | 3                       | 3                     | 3                       | 3                       | 3               |
|                                                                                                                          | 110 V         | A        | 0.6                                                          | 0.6                   | 0.6                     | 0.6                   | 0.6                   | 0.6                     | 0.6                   | 0.6                     | 0.6                     | 0.6             |
| Conventional free air thermal current I <sub>th</sub>                                                                    |               |          | 10                                                           | 10                    | 10                      | 10                    | 10                    | 10                      | 10                    | 10                      | 10                      | 10              |
| Minimum applicable load level                                                                                            |               |          | All types: 20 V 3 mA                                         |                       |                         |                       |                       |                         |                       |                         |                         |                 |
| <b>Performance</b>                                                                                                       |               |          |                                                              |                       |                         |                       |                       |                         |                       |                         |                         |                 |
| Mechanical durability [ten thousand times]                                                                               |               |          | All types: 1,000                                             |                       |                         |                       |                       |                         |                       |                         |                         |                 |
| Electrical durability [ten thousand times]                                                                               |               |          | Please refer to the Electrical durability curve on page 113. |                       |                         |                       |                       |                         |                       |                         |                         |                 |
| Switching frequency<br>[times/hour]                                                                                      | Category AC-3 |          | 1,800                                                        | 1,800                 | 1,800                   | 1,800                 | 1,800                 | 1,800                   | 1,800                 | 1,800                   | 1,800                   | 1,800           |
|                                                                                                                          | Category AC-4 |          | 300                                                          | 300                   | 300                     | 300                   | 300                   | 300                     | 300                   | 300                     | 300                     | 300             |
|                                                                                                                          | Category AC-1 |          | 1,200                                                        | 1,200                 | 1,200                   | 1,200                 | 1,200                 | 1,200                   | 1,200                 | 1,200                   | 1,200                   | 1,200           |
| Coil consumption<br>(at rated coil voltage) ②                                                                            | Inrush        | (VA)     | 45                                                           | 45                    | 45                      | 45                    | 45                    | 45                      | 45                    | 75                      | 75                      | 55              |
|                                                                                                                          | Sealed        | (VA)     | 7                                                            | 7                     | 7                       | 7                     | 7                     | 7                       | 7                     | 6                       | 6                       | 4.5             |
|                                                                                                                          | Watts         | (W)      | 2.2                                                          | 2.2                   | 2.2                     | 2.2                   | 2.2                   | 2.2                     | 2.2                   | 2.4                     | 2.4                     | 1.8             |
| <b>Mechanical data</b>                                                                                                   |               |          |                                                              |                       |                         |                       |                       |                         |                       |                         |                         |                 |
| Dimensions (WxHxD)                                                                                                       |               |          | mm                                                           | 36x75x78              | 36x75x78                | 43x75x78              | 43x75x78              | 43x75x78                | 43x75x78              | 43x75x78                | 63x81x81                | 63x81x81        |
| Order information                                                                                                        | AC 24 V       | Art. no. | 279140                                                       | 279197                | 279204                  | 279211                | 279218                | 279225                  | 279232                | 279239                  | 279246                  | 279253          |
|                                                                                                                          | AC 48 V       |          | 279141                                                       | 279198                | 279205                  | 279212                | 279219                | 279226                  | 279233                | 279240                  | 279247                  | 279254          |
|                                                                                                                          | AC 100 V      |          | 279142                                                       | 279199                | 279206                  | 279213                | 279220                | 279227                  | 279234                | 279241                  | 279248                  | 279255          |
|                                                                                                                          | AC 200 V      |          | 279143                                                       | 279200                | 279207                  | 279214                | 279221                | 279228                  | 279235                | 279242                  | 279249                  | 279256          |
|                                                                                                                          | AC 300 V      |          | 279144                                                       | 279201                | 279208                  | 279215                | 279222                | 279229                  | 279236                | 279243                  | 279250                  | 279257          |
|                                                                                                                          | AC 400 V      |          | 279195                                                       | 279202                | 279209                  | 279216                | 279223                | 279230                  | 279237                | 279244                  | 279251                  | 279258          |
|                                                                                                                          | AC 500 V      |          | 279196                                                       | 279203                | 279210                  | 279217                | 279224                | 279231                  | 279238                | 279245                  | 279252                  | 279259          |

① The maximum number of additional options is equal to the number of auxiliary contact units UT-AX4 mounted on the main unit.  
The main unit and auxiliary contact unit must be separately arranged and additionally mounted by the customer.

② Operational coil input and coil consumption are average values in case of applying 220 V 60 Hz to AC 200 V coil.

| Specifications                                                                                                           |                    | S-T35                                                        | S-T50    | S-T65      | S-T80      | S-T100      | S-N125      | S-N150      | S-N180      | S-N220      | S-N300      | S-N400      | S-N600      | S-N800      |
|--------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------|----------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                                                                                                                          |                    | AC□□□V                                                       | AC□□□V   | AC□□□V     | AC□□□V     | AC□□□V      | AC□□□V      | AC□□□V      | AC□□□V      | AC□□□V      | AC□□□V      | AC□□□V      | AC□□□V      | AC□□□V      |
| <b>Rated data</b>                                                                                                        |                    |                                                              |          |            |            |             |             |             |             |             |             |             |             |             |
| Applicable standard                                                                                                      |                    | All types: IEC60947-4-1, EN60947-4-1, JIS C8201-4-1          |          |            |            |             |             |             |             |             |             |             |             |             |
| Rated insulation voltage                                                                                                 |                    | 690                                                          |          |            |            |             |             |             |             |             |             |             |             |             |
| Rated impulse withstand voltage                                                                                          | kV                 | All types: 6                                                 |          |            |            |             |             |             |             |             |             |             |             |             |
| Rated frequency                                                                                                          | Hz                 | All types: 50/60                                             |          |            |            |             |             |             |             |             |             |             |             |             |
| Pollution degree                                                                                                         |                    | All types: 3                                                 |          |            |            |             |             |             |             |             |             |             |             |             |
| Rated operational power (current)<br>Category AC-3<br>(Three-phase squirrel-cage motor<br>load, standard responsibility) | 220–240 V kW (A)   | 11( 40)                                                      | 15( 55)  | 18.5( 65)  | 22( 85)    | 30( 105)    | 37( 125)    | 45( 150)    | 55( 180)    | 75( 250)    | 90( 300)    | 125( 400)   | 190( 630)   | 220( 800)   |
|                                                                                                                          | 380–440 V kW (A)   | 18.5( 40)                                                    | 22( 48)  | 30( 65)    | 45( 85)    | 55( 105)    | 60( 120)    | 75( 150)    | 90( 180)    | 132( 250)   | 160( 300)   | 220( 400)   | 330( 630)   | 440( 800)   |
|                                                                                                                          | 500 V kW (A)       | 18.5( 32)                                                    | 25( 38)  | 37( 60)    | 45( 75)    | 55( 85)     | 60( 90)     | 90( 140)    | 110( 180)   | 132( 200)   | 160( 250)   | 225( 350)   | 330( 500)   | 500( 720)   |
|                                                                                                                          | 690 V kW (A)       | 15( 17)                                                      | 22( 26)  | 30( 38)    | 45( 52)    | 55( 65)     | 60( 70)     | 90( 100)    | 110( 120)   | 132( 150)   | 200( 220)   | 250( 300)   | 330( 420)   | 500( 630)   |
| Rated operational power (current)<br>Category AC-4<br>(Three-phase squirrel-cage motor<br>load, inching responsibility)  | 220–240 V kW (A)   | 5.5( 26)                                                     | 7.5( 35) | 11( 50)    | 15( 65)    | 19( 80)     | 15          | 18.5        | 22          | 22          | 37          | 45          | 65          | 75          |
|                                                                                                                          | 380–440 V kW (A)   | 11( 24)                                                      | 15( 32)  | 22( 47)    | 30( 62)    | 37( 75)     | 22          | 30          | 37          | 45          | 60          | 75          | 110         | 130         |
|                                                                                                                          | 500 V kW (A)       | 11( 17)                                                      | 15( 24)  | 22( 38)    | 30( 45)    | 37( 55)     | 22          | 37          | 45          | 55          | 60          | 90          | 130         | 150         |
| Rated operational power (current)<br>Category AC-1<br>(Resistance, heater load)                                          | 100–240 V A        | 60                                                           | 80       | 100        | 120        | 150         | 150         | 200         | 260         | 260         | 350         | 450         | 660         | 800         |
|                                                                                                                          | 380–440 V A        | 60                                                           | 80       | 100        | 120        | 150         | 150         | 200         | 260         | 260         | 350         | 450         | 660         | 800         |
| Conventional free air thermal current Ith                                                                                | A                  | 60                                                           | 80       | 100        | 120        | 150         | 150         | 200         | 260         | 260         | 350         | 450         | 800         | 1000        |
| Minimum applicable load level                                                                                            |                    | All types: 48 V 200 mA                                       |          |            |            |             |             |             |             |             |             |             |             |             |
| <b>Auxiliary contact rating</b>                                                                                          |                    |                                                              |          |            |            |             |             |             |             |             |             |             |             |             |
| Contact arrangement                                                                                                      | Standard           | 2NO+2NC                                                      | 2NO+2NC  | 2NO+2NC    | 2NO+2NC    | 2NO+2NC     | 2NO+2NC     | 2NO+2NC     | 2NO+2NC     | 2NO+2NC     | 2NO+2NC     | 2NO+2NC     | 2NO+2NC     | 2NO+2NC     |
| Max. number of additional<br>options                                                                                     | Front clip-on pcs. | 1                                                            | 1        | 1          | 1          | —           | —           | —           | —           | —           | —           | —           | —           | —           |
|                                                                                                                          | Side clip-on pcs.  | 2                                                            | 2        | 2          | 2          | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| Rated operational current<br>(Category AC-15 : Alternating<br>current coil load)                                         | 120 V AC           | 6                                                            | 6        | 6          | 6          | 6           | 6           | 6           | 6           | 6           | 6           | 6           | 6           | 6           |
|                                                                                                                          | 240 V AC           | 3                                                            | 3        | 3          | 3          | 3           | 5           | 5           | 5           | 5           | 5           | 5           | 5           | 5           |
| Rated operational current<br>(Category DC-13 : Direct current<br>coil load)                                              | 24 V DC            | 3                                                            | 3        | 3          | 3          | 3           | 5           | 5           | 5           | 5           | 5           | 5           | 5           | 5           |
|                                                                                                                          | 110 V DC           | 0.6                                                          | 0.6      | 0.6        | 0.6        | 0.6         | 0.6         | 0.6         | 0.6         | 0.6         | 0.6         | 0.6         | 0.6         | 0.6         |
| Conventional free air thermal current Ith                                                                                | [A]                | 10                                                           | 10       | 16         | 16         | 16          | 16          | 16          | 16          | 16          | 16          | 16          | 16          | 16          |
| Minimum applicable load level                                                                                            |                    | All types: 20 V 3 mA                                         |          |            |            |             |             |             |             |             |             |             |             |             |
| <b>Performance</b>                                                                                                       |                    |                                                              |          |            |            |             |             |             |             |             |             |             |             |             |
| Mechanical durability [ten thousand times]                                                                               |                    | 1000                                                         | 1000     | 500        | 500        | 500         | 500         | 500         | 500         | 500         | 500         | 500         | 500         | 500         |
| Electrical durability                                                                                                    |                    | Please refer to the Electrical durability curve on page 113. |          |            |            |             |             |             |             |             |             |             |             |             |
| Switching frequency<br>[times/hour]                                                                                      | Category AC-3      | 1800                                                         | 1200     | 1200       | 1200       | 1200        | 1200        | 1200        | 1200        | 1200        | 1200        | 1200        | 1200        | 1200        |
|                                                                                                                          | Category AC-4      | 300                                                          | 300      | 300        | 300        | 300         | 300         | 300         | 300         | 300         | 300         | 300         | 300         | 300         |
|                                                                                                                          | Category AC-1      | 1200                                                         | 1200     | 1200       | 1200       | 600         | 1200        | 1200        | 1200        | 1200        | 1200        | 1200        | 1200        | 1200        |
| Coil consumption<br>(at rated coil voltage)                                                                              | Inrush (VA)        | 110                                                          | 110      | 115        | 115        | 210         | 320         | 320         | 480         | 480         | 480         | 480         | 800         | 800         |
|                                                                                                                          | Sealed (VA)        | 10                                                           | 10       | 20         | 20         | 23          | 26          | 26          | 44          | 44          | 54          | 54          | 100         | 100         |
|                                                                                                                          | Watts (W)          | 3.8                                                          | 3.8      | 2.2        | 2.2        | 2.8         | 3.5         | 3.5         | 5           | 5           | 7.3         | 7.3         | 15          | 15          |
| <b>Mechanical data</b>                                                                                                   |                    |                                                              |          |            |            |             |             |             |             |             |             |             |             |             |
| Dimensions (WxHxD)                                                                                                       | mm                 | 75x89x91                                                     | 75x89x91 | 88x106x106 | 88x106x106 | 100x124x127 | 100x150x136 | 120x160x145 | 138x204x174 | 138x204x174 | 163x243x195 | 163x243x195 | 290x310x234 | 290x310x234 |
| <b>Order Information</b>                                                                                                 | AC 24 V            | 298658                                                       | 298665   | 298672     | 298679     | 298686      | 113650      | 113654      | —           | —           | —           | —           | —           | —           |
|                                                                                                                          | AC 48 V            | 298661                                                       | 298668   | 298675     | 298682     | 298689      | —           | —           | —           | —           | —           | —           | —           | —           |
|                                                                                                                          | AC 100 V           | 298656                                                       | 298663   | 298670     | 298677     | 298684      | 113647      | 113651      | 113656      | 113659      | 113662      | 113665      | 113668      | 113672      |
|                                                                                                                          | AC 200 V           | 298657                                                       | 298664   | 298671     | 298678     | 298685      | 113648      | 113652      | 113657      | 113660      | 113663      | 113666      | 113669      | 113673      |
|                                                                                                                          | AC 300 V           | 298659                                                       | 298666   | 298673     | 298680     | 298687      | —           | —           | —           | —           | —           | —           | —           | —           |
|                                                                                                                          | AC 400 V           | 298660                                                       | 298667   | 298674     | 298681     | 298688      | 113649      | 113653      | 113658      | 113661      | 113664      | 113667      | 113670      | 113674      |
|                                                                                                                          | AC 500 V           | 298662                                                       | 298669   | 298676     | 298683     | 298370      | —           | —           | —           | —           | —           | —           | —           | —           |

| Specifications                                                                                                           |               |         | SD-T12<br>DC24V<br>1A1B                                      | SD-T20<br>DC24V<br>1A1B | SD-T21<br>DC24V<br>2A2B | SD-T32<br>DC24V |        |
|--------------------------------------------------------------------------------------------------------------------------|---------------|---------|--------------------------------------------------------------|-------------------------|-------------------------|-----------------|--------|
| Rated data                                                                                                               |               |         |                                                              |                         |                         |                 |        |
| Applicable standard                                                                                                      |               |         | All types: IEC60947-4-1, EN60947-4-1, JIS C8201-4-1          |                         |                         |                 |        |
| Rated insulation voltage                                                                                                 |               |         | V                                                            | All types: 690          |                         |                 |        |
| Rated impulse withstand voltage                                                                                          |               |         | kV                                                           | All types: 6            |                         |                 |        |
| Rated frequency                                                                                                          |               |         | Hz                                                           | All types: 50/60        |                         |                 |        |
| Pollution degree                                                                                                         |               |         | All types: 3                                                 |                         |                         |                 |        |
| Rated operational power (current)<br>Category AC-3<br>(Three-phase squirrel-cage motor<br>load, standard responsibility) | 220–240 V     | kW (A)  | 3.5 (13)                                                     | 4.5 (18)                | 5.5 (25)                | 7.5 (32)        |        |
|                                                                                                                          | 380–440 V     | kW (A)  | 5.5 (12)                                                     | 7.5 (18)                | 11 (23)                 | 15 (32)         |        |
|                                                                                                                          | 500 V         | kW (A)  | 5.5 (9)                                                      | 7.5 (17)                | 11 (17)                 | 15 (24)         |        |
| Rated operational power (current)<br>Category AC-4<br>(Three-phase squirrel-cage motor<br>load, inching responsibility)  | 220–240 V     | kW (A)  | 2.2 (11)                                                     | 3.7 (18)                | 3.7 (18)                | 5.5 (26)        |        |
|                                                                                                                          | 380–440 V     | kW (A)  | 4 (9)                                                        | 5.5 (13)                | 5.5 (13)                | 11 (24)         |        |
|                                                                                                                          | 500–550 V     | kW (A)  | 5.5 (9)                                                      | 5.5 (10)                | 5.5 (10)                | 7.5 (13)        |        |
| Rated operational power (current)<br>Category AC-1<br>(Resistance, heater load)                                          | 100–240 V     | kW (A)  | 20                                                           | 20                      | 32                      | 32              |        |
|                                                                                                                          | 380–440 V     | kW (A)  | 13                                                           | 13                      | 32                      | 32              |        |
| Conventional free air thermal current I <sub>th</sub>                                                                    |               |         | A                                                            | 20                      | 32                      | 32              |        |
| Minimum applicable load level                                                                                            |               |         | All types: 48 V 200 mA                                       |                         |                         |                 |        |
| Auxiliary contact rating                                                                                                 |               |         |                                                              |                         |                         |                 |        |
| Contact arrangement                                                                                                      | Standard      |         | 1 NO + 1 NC                                                  | 1 NO + 1 NC             | 2 NC                    | —               |        |
| Max. number of additional<br>options ①                                                                                   | Front clip-on | pcs.    | 1                                                            | 1                       | 1                       | 1               |        |
|                                                                                                                          | Side clip-on  | pcs.    | 2                                                            | 2                       | 2                       | 2               |        |
| Rated operational current<br>(Category AC-15: Alternating<br>current coil load)                                          | 120 V         | A       | 6                                                            | 6                       | 6                       | 6               |        |
|                                                                                                                          | 240 V         | A       | 3                                                            | 3                       | 3                       | 3               |        |
| Rated operational current<br>(Category DC-13: Direct current<br>coil load)                                               | 24 V          | A       | 3                                                            | 3                       | 3                       | 3               |        |
|                                                                                                                          | 110 V         | A       | 0.6                                                          | 0.6                     | 0.6                     | 0.6             |        |
| Conventional free air thermal current I <sub>th</sub>                                                                    |               |         | A                                                            | 10                      | 10                      | 10              |        |
| Minimum applicable load level                                                                                            |               |         | All types: 20 V 3 mA                                         |                         |                         |                 |        |
| Performance                                                                                                              |               |         |                                                              |                         |                         |                 |        |
| Mechanical durability [ten thousand times]                                                                               |               |         | All types: 1,000                                             |                         |                         |                 |        |
| Electrical durability [ten thousand times]                                                                               |               |         | Please refer to the Electrical durability curve on page 113. |                         |                         |                 |        |
| Switching frequency<br>[times/hour]                                                                                      | Category AC-3 |         | 1,800                                                        | 1,800                   | 1,800                   | 1,800           |        |
|                                                                                                                          | Category AC-4 |         | 300                                                          | 300                     | 300                     | 300             |        |
|                                                                                                                          | Category AC-1 |         | 1,200                                                        | 1,200                   | 1,200                   | 1,200           |        |
| Coil consumption<br>(at rated coil voltage) ②                                                                            | Inrush        | VA      | 45                                                           | 45                      | 75                      | 55              |        |
|                                                                                                                          | Sealed        | VA      | 7                                                            | 7                       | 6                       | 4.5             |        |
|                                                                                                                          | Watts         | W       | 2.2                                                          | 2.2                     | 2.4                     | 1.8             |        |
| Mechanical data                                                                                                          |               |         |                                                              |                         |                         |                 |        |
| Dimensions (WxHxD)                                                                                                       |               | mm      | 43x75x100                                                    | 43x75x100               | 63x81x108               | 43x81x108       |        |
| Order information                                                                                                        |               | DC 24 V | Art. no.                                                     | 287431                  | 287519                  | 287527          | 287534 |

① The maximum number of additional options is equal to the number of auxiliary contact units UT-AX4 mounted on the main unit.

The main unit and auxiliary contact unit must be separately arranged and additionally mounted by the customer.

② Operational coil input and coil consumption are average values in case of applying 220 V 60 Hz to AC 200 V coil.

| Specifications                                                                                                           |               |        | SD-T35<br>DC24V                                              | SD-T50<br>DC24V  | SD-T65<br>DC24V | SD-T80<br>DC24V | SD-T100<br>DC24V | SD-N125<br>DC24V | SD-N150<br>DC24V | SD-N220<br>DC24V | SD-N300<br>DC24V | SD-N400<br>DC24V | SD-N600<br>DC24V | SD-N800<br>DC24V |             |            |  |
|--------------------------------------------------------------------------------------------------------------------------|---------------|--------|--------------------------------------------------------------|------------------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------|------------|--|
| Rated data                                                                                                               |               |        |                                                              |                  |                 |                 |                  |                  |                  |                  |                  |                  |                  |                  |             |            |  |
| Applicable standard                                                                                                      |               |        | All types: IEC60947-4-1, EN60947-4-1, JIS C8201-4-1          |                  |                 |                 |                  |                  |                  |                  |                  |                  |                  |                  |             |            |  |
| Rated insulation voltage                                                                                                 |               |        | 690                                                          |                  |                 |                 |                  |                  |                  |                  |                  | 1000             |                  |                  |             |            |  |
| Rated impulse withstand voltage kV                                                                                       |               |        | All types: 6                                                 |                  |                 |                 |                  |                  |                  |                  |                  |                  |                  |                  |             |            |  |
| Rated frequency                                                                                                          |               |        | Hz                                                           | All types: 50/60 |                 |                 |                  |                  |                  |                  |                  |                  |                  |                  |             |            |  |
| Pollution degree                                                                                                         |               |        | All types: 3                                                 |                  |                 |                 |                  |                  |                  |                  |                  |                  |                  |                  |             |            |  |
| Rated operational power (current)<br>Category AC-3<br>(Three-phase squirrel-cage motor<br>load, standard responsibility) | 220—240 V     | kW (A) | 11(40)                                                       | 15(55)           | 18.5(65)        | 22(85)          | 30(105)          | 37 (125)         | 45 (150)         | 75 (250)         | 90 (300)         | 125 (400)        | 190 (630)        | 220 (800)        |             |            |  |
|                                                                                                                          | 380—440 V     | kW (A) | 18.5(40)                                                     | 22(48)           | 30(65)          | 45(85)          | 55(105)          | 60 (120)         | 75 (150)         | 132 (250)        | 160 (300)        | 220 (400)        | 330 (630)        | 440 (800)        |             |            |  |
|                                                                                                                          | 500 V         | kW (A) | 18.5(32)                                                     | 25(38)           | 37(60)          | 45(75)          | 55(85)           | 60 (90)          | 90 (140)         | 132 (200)        | 160 (250)        | 25 (350)         | 330 (500)        | 500 (720)        |             |            |  |
| Rated operational power (current)<br>Category AC-4<br>(Three-phase squirrel-cage motor<br>load, inching responsibility)  | 220—240 V     | kW (A) | 5.5(26)                                                      | 7.5(35)          | 11(50)          | 15(65)          | 19(80)           | 15               | 18.5             | 22               | 37               | 45               | 65               | 75               |             |            |  |
|                                                                                                                          | 380—440 V     | kW (A) | 11(24)                                                       | 15(32)           | 22(47)          | 30(62)          | 37(75)           | 22               | 30               | 45               | 60               | 75               | 110              | 130              |             |            |  |
|                                                                                                                          | 500—550 V     | kW (A) | 11(17)                                                       | 15(24)           | 22(38)          | 30(45)          | 7(55)            | 22               | 37               | 55               | 60               | 90               | 130              | 150              |             |            |  |
| Rated operational power (current)<br>Category AC-1<br>(Resistance, heater load)                                          | 100—240 V     | A      | 60                                                           | 80               | 100             | 120             | 150              | 150              | 200              | 260              | 350              | 450              | 660              | 800              |             |            |  |
|                                                                                                                          | 380—440 V     | A      | 60                                                           | 80               | 100             | 120             | 150              | 150              | 200              | 260              | 350              | 450              | 660              | 800              |             |            |  |
| Conventional free air thermal current Ith                                                                                |               |        | A                                                            | 60               | 80              | 100             | 120              | 150              | 150              | 200              | 260              | 350              | 450              | 800              | 1000        |            |  |
| Minimum applicable load level                                                                                            |               |        | All types: 48 V 200 mA                                       |                  |                 |                 |                  |                  |                  |                  |                  |                  |                  |                  |             |            |  |
| Auxiliary contact rating                                                                                                 |               |        |                                                              |                  |                 |                 |                  |                  |                  |                  |                  |                  |                  |                  |             |            |  |
| Contact arrangement                                                                                                      | Standard      |        | 2NO+2NC                                                      | 2NO+2NC          | 2NO+2NC         | 2NO+2NC         | 2NO+2NC          | 2NO+2NC          | 2NO+2NC          | 2NO+2NC          | 2NO+2NC          | 2NO+2NC          | 2NO+2NC          | 2NO+2NC          |             |            |  |
| Max. number of additional<br>options                                                                                     | Front clip-on | pcs.   | 1                                                            | 1                | 1               | 1               | —                | —                | —                | —                | —                | —                | —                | —                |             |            |  |
|                                                                                                                          | Side clip-on  | pcs.   | 2                                                            | 2                | 2               | 2               | 2                | 2                | 2                | 2                | 2                | 2                | 2                | 2                |             |            |  |
| Rated operational current<br>(Category AC-15: Alternating<br>current coil load)                                          | 120 VAC       |        | 6                                                            | 6                | 6               | 6               | 6                | 6                | 6                | 6                | 6                | 6                | 6                | 6                |             |            |  |
|                                                                                                                          | 240 VAC       |        | 3                                                            | 3                | 3               | 3               | 3                | 5                | 5                | 5                | 5                | 5                | 5                | 5                |             |            |  |
| Rated operational current<br>(Category DC-13: Direct current<br>coil load)                                               | 24 VDC        |        | 3                                                            | 3                | 3               | 3               | 3                | 5                | 5                | 5                | 5                | 5                | 5                | 5                |             |            |  |
|                                                                                                                          | 110 VDC       |        | 0.6                                                          | 0.6              | 0.6             | 0.6             | 0.6              | 0.6              | 0.6              | 0.6              | 0.6              | 0.6              | 0.6              | 0.6              |             |            |  |
| Conventional free air thermal current Ith                                                                                |               |        | 10                                                           | 10               | 16              | 16              | 16               | 16               | 16               | 16               | 16               | 16               | 16               | 16               |             |            |  |
| Minimum applicable load level                                                                                            |               |        | All types: 20 V 3 mA                                         |                  |                 |                 |                  |                  |                  |                  |                  |                  |                  |                  |             |            |  |
| Performance                                                                                                              |               |        |                                                              |                  |                 |                 |                  |                  |                  |                  |                  |                  |                  |                  |             |            |  |
| Mechanical durability [ten thousand times]                                                                               |               |        | 1000                                                         | 1000             | 500             | 500             | 500              | 500              | 500              | 500              | 500              | 500              | 500              | 500              |             |            |  |
| Electrical durability [ten thousand times]                                                                               |               |        | Please refer to the Electrical durability curve on page 113. |                  |                 |                 |                  |                  |                  |                  |                  |                  |                  |                  |             |            |  |
| Switching frequency<br>[times(hour)]                                                                                     | Category AC-3 |        | 1800                                                         | 1200             | 1200            | 1200            | 1200             | 1200             | 1200             | 1200             | 1200             | 1200             | 1200             | 1200             |             |            |  |
|                                                                                                                          | Category AC-4 |        | 300                                                          | 300              | 300             | 300             | 300              | 300              | 300              | 300              | 300              | 300              | 300              | 300              |             |            |  |
|                                                                                                                          | Category AC-1 |        | 1200                                                         | 1200             | 1200            | 1200            | 600              | 1200             | 1200             | 1200             | 1200             | 1200             | 1200             | 1200             |             |            |  |
| Coil consumption (at 24 V DC)                                                                                            |               |        | Watts                                                        | W                | 9               | 9               | 18               | 18               | 24               | 31               | 31               | 41               | 55               | 55               | 75          | 75         |  |
| Mechanical data                                                                                                          |               |        |                                                              |                  |                 |                 |                  |                  |                  |                  |                  |                  |                  |                  |             |            |  |
| Dimensions (WxHxD)                                                                                                       |               |        | mm                                                           | 75x89x123        | 75x89x123       | 88x106x133      | 88x106x133       | 100x134x157      | 100x150x161      | 120x160x170      | 138x204x200      | 163x243x220      | 163x243x220      | 375x310x234      | 375x310x234 |            |  |
| Order information                                                                                                        |               |        | DC 24 V                                                      | Art. no.         | 298622          | 298630          | 298638           | 298646           | 298654           | 113682           | 113683           | 113684           | 113686           | 113687           | 113688      | On request |  |

## ■ Specifications – standard auxiliary contacts

| Rated data of auxiliary contacts |          | S-N                                           | S-T |
|----------------------------------|----------|-----------------------------------------------|-----|
| Rated continuous current $I_m$   |          | A 16                                          | 10  |
| Rated operating current          |          |                                               |     |
| Category AC-15                   | AC 110 V | A 6                                           | 6   |
|                                  | AC 230 V | A 5                                           | 3   |
|                                  | AC 500 V | A 3                                           | 1.5 |
|                                  | AC 660 V | A 1.5                                         |     |
| Category DC-13                   | DC 24 V  | A 5                                           | 3   |
|                                  | DC 48 V  | A 3                                           | 1.5 |
|                                  | DC 110 V | A 0.6 (0.8 for UN-AX2CX, UN-AX4CX, UN-AX11CX) | 0.6 |
|                                  | DC 220 V | A 0.2                                         | 0.3 |

For detailed description please see page 124.

## ■ Environmental conditions

| Environmental conditions for all contactors |          |                                      |
|---------------------------------------------|----------|--------------------------------------|
| Ambient temperature                         | °C       | -25 to +55                           |
| Ambient humidity                            | RH       | 45 to 85 %                           |
| Coil voltage tolerance                      |          | 0.85 to 1.1 times rated coil voltage |
| Vibration resistance                        | 10–55 Hz | G 2                                  |
| Shock resistance                            |          | G 5                                  |

## ■ Coil ratings

### In case of special order:

The following tables show the devices which are additionally available.  
Please contact Mitsubishi Electric for further information.

### AC rated voltage – S-T10 to S-T100

| Coil designation | Range 50/60 Hz [V] | Standard |
|------------------|--------------------|----------|
| AC 24 V          | 24                 | ●        |
| AC 48 V          | 48–50              |          |
| AC 100 V         | 100–127            | ●        |
| AC 200 V         | 200–240            | ●        |
| AC 300 V         | 260–360            |          |
| AC 400 V         | 380–440            | ●        |
| AC 500 V         | 460–550            |          |

For detailed description of the types please see page 108.

### DC rated voltage – SD-N/T types

| Coil designation | Range [V] | Standard |
|------------------|-----------|----------|
| DC 12 V          | 12        |          |
| DC 24 V          | 24        | ●        |
| DC 48 V          | 48        |          |
| DC 100 V         | 100       |          |
| DC 110 V         | 110       |          |
| DC 125 V         | 120–125   |          |
| DC 200 V         | 200       |          |
| DC 220 V         | 220       |          |

For detailed description of the types please see page 110 and 111.

### AC rated voltage – S-N125 to S-N800

| Coil designation | Range 50/60 Hz [V] | Standard |
|------------------|--------------------|----------|
| AC 24 V ①        | 24                 |          |
| AC 48 V ①        | 48–50              |          |
| AC 100 V         | 100–127            | ●        |
| AC 200 V         | 200–240            | ●        |
| AC 300 V         | 260–350            |          |
| AC 400 V         | 380–440            | ●        |
| AC 500 V         | 460–550            |          |

① Available for S-N125 to S-N150 only.

For detailed description of the types please see page 109.

## ■ Performance of MS series contactors

### Electrical life

The electrical life of the main contacts of a contactor is determined mainly by the circuit-opening duty it will perform.

The relationship between electrical life and rated current of Mitsubishi Electric contactors under normal and jogging duties of squirrel-cage motors is shown in the figures.

In the case of a mixture of normal and jogging duties, the expected contactor life can be determined as follows:

$$N = N_r / 1 + \frac{N_r}{100} (N_r / N_i - 1)$$

N: Life in the case of a % jogging duty

N<sub>r</sub>: Life in the case of normal duty

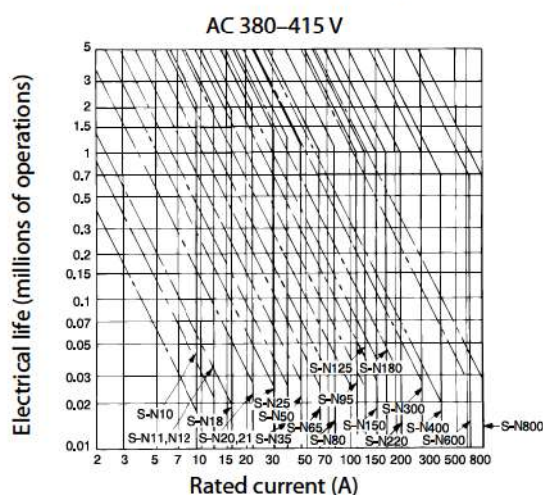
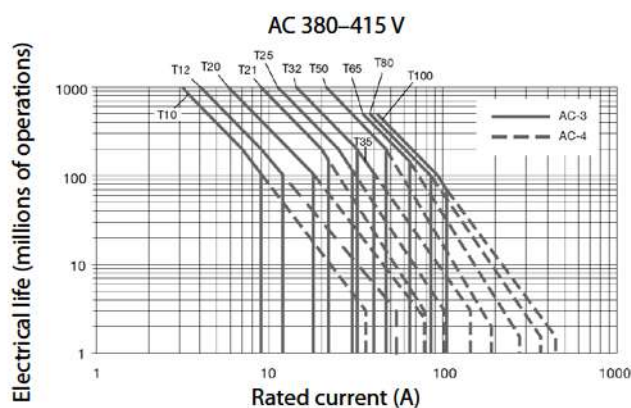
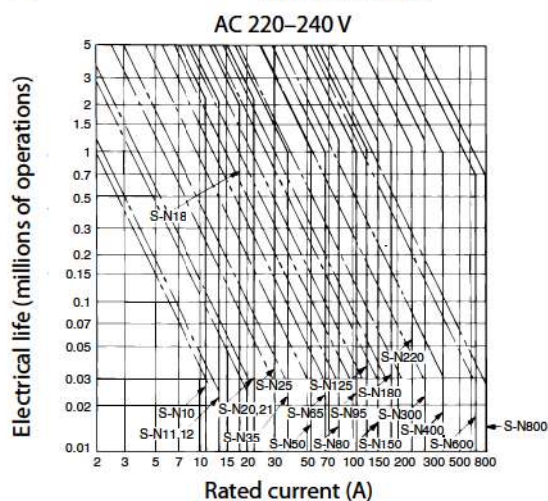
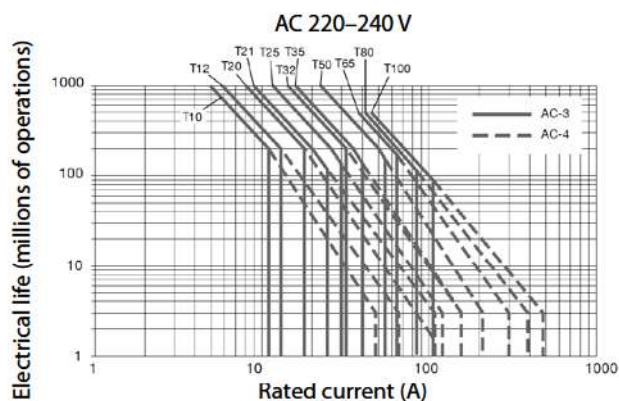
N<sub>i</sub>: Life in the case of 100 % jogging duty

α: Percentage of jogging duty

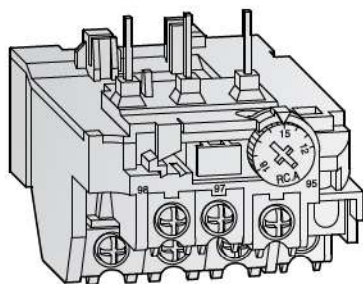
### Electrical life versus rated operating current

— Normal duty, 6 I<sub>e</sub> ON, I<sub>e</sub> OFF, on-load factor 40 %, 1200 operations/hour (AC-3)

--- Jogging duty, 6 I<sub>e</sub> ON, 6 I<sub>e</sub> OFF, on-load factor 7 %, 600 operations/hour (AC-4)-S-T10 to S-N300  
300 operations/hour (AC-4)-S-N400 to S-N600  
150 operations/hour (AC-4)-S-N800



## ■ Thermal overload relays description



TH-T18KP

### A selection of relays for optimum motor protection characteristics

The thermal relay line-up includes the phase failure protection type models (three-element relays).

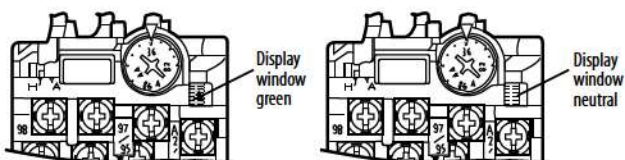
This array of protection characteristics allows you to choose the units suited to your motor protection needs.

#### Benefits:

- An operation indicator makes maintenance and inspection easy.
- 1 NO and 1 NC contact
- Rated current can be set easily
- Finger protection up to TH-N60KPCX
- Trip-free reset bar
- Convenient reset release (optional)

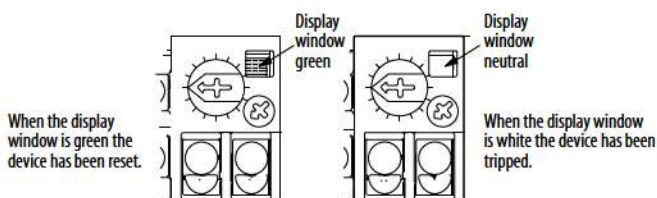
## ■ Display

### TH-T18KP



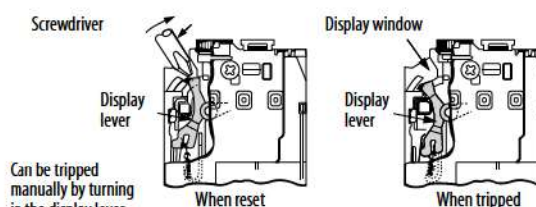
When the green of the display lever can be seen, the device has been reset.

### TH-T25KP – TH-N600KP



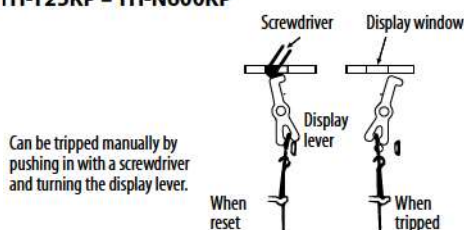
## ■ External trip mechanism

### TH-T18KP



Can be tripped manually by turning in the display lever.

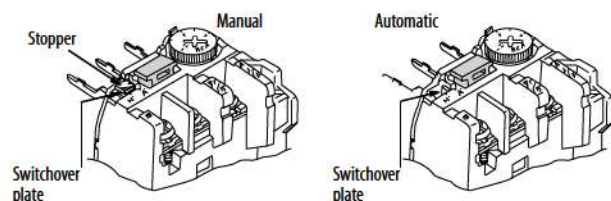
### TH-T25KP – TH-N600KP



Can be tripped manually by pushing in with a screwdriver and turning the display lever.

## ■ Switching between automatic and manual reset

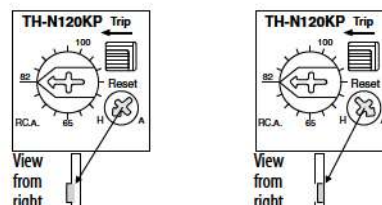
### TH-T18KP



Switching from manual to automatic: Break the stopper off and then, slide the switchover plate to the right (to position A) to immobilize the reset bar.

Switching from automatic to manual: Slide the switchover plate to the left (to position H).

### TH-T25KP – TH-N600KP



Switching from manual to automatic: Flip the stopper on the end of the reset bar down and then, after pushing it all the way in, rotate it counterclockwise 90° (to position A).

Switching from automatic to manual: Rotate the reset bar 90° clockwise (to position H) and the reset bar will pop out

## ■ Specifications

| Specifications                                |              |                 | TH-T18KP<br>□□□ A                  | TH-T25KP<br>□□□ A | TH-T50KP<br>□□□ A | TH-T65KP<br>□□□ A | TH-T100KP<br>□□□ A | TH-N120KP<br>□□□ A | TH-N120TAKP<br>□□□ A | TH-N220RHKP<br>□□□ A | TH-N400RHKP<br>□□□ A | TH-N600KP<br>□□□ A ① |
|-----------------------------------------------|--------------|-----------------|------------------------------------|-------------------|-------------------|-------------------|--------------------|--------------------|----------------------|----------------------|----------------------|----------------------|
| Rated data                                    |              |                 |                                    |                   |                   |                   |                    |                    |                      |                      |                      |                      |
| Max. setting current                          |              | A               | 18                                 | 26                | 50                | 65                | 100                | 100                | 150                  | 220                  | 400                  | 800                  |
| Range of setting current                      |              | A               | 0.12–18                            | 0.24–26           | 24–50             | 12–65             | 54–100             | 34–100             | 85–150               | 65–250               | 85–400               | 200–800              |
| Rated insulation voltage                      |              | V               | 690                                | 690               | 690               | 690               | 690                | 690                | 690                  | 1000                 | 1000                 | 690                  |
| Auxiliary contacts                            |              |                 | For all types: 1 NO + 1 NC         |                   |                   |                   |                    |                    |                      |                      |                      |                      |
| Max. heater dissipation per current path      | Min. setting | W               | 0.8                                | 1.5               | 1.6               | 2.4               | 2.5                | 2.5                | 3.2                  | 2.5                  | 2.5                  | 2.5                  |
|                                               | Max. setting | W               | 1.8                                | 3.0               | 3.2               | 5.5               | 6.0                | 7.1                | 8.6                  | 6.0                  | 6.0                  | 6.0                  |
| Rated operating current of auxiliary contacts |              |                 |                                    |                   |                   |                   |                    |                    |                      |                      |                      |                      |
| Category AC-15                                | NO contact   | 120 V           | A                                  | 2                 | 2                 | 2                 | 2                  | 2                  | 2                    | 2                    | 2                    | 2                    |
|                                               |              | 240 V           | A                                  | 1                 | 1                 | 1                 | 1                  | 1                  | 1                    | 1                    | 1                    | 1                    |
|                                               |              | 500 V           | A                                  | 0.5               | 0.5               | 0.3               | 0.5                | 0.5                | 0.5                  | 0.5                  | 0.5                  | 0.5                  |
|                                               | NC contact   | 120 V           | A                                  | 2                 | 3                 | 3                 | 3                  | 3                  | 3                    | 3                    | 3                    | 3                    |
|                                               |              | 240 V           | A                                  | 1                 | 2                 | 2                 | 2                  | 2                  | 2                    | 2                    | 2                    | 2                    |
|                                               |              | 500 V           | A                                  | 0.5               | 1                 | 0.3               | 1                  | 1                  | 1                    | 1                    | 1                    | 1                    |
| Category DC-13                                | 48 V         |                 | A                                  | 0.4               | 0.5               | 1                 | 1                  | 1                  | 0.5                  | 0.5                  | 0.5                  | 0.5                  |
|                                               | 110 V        |                 | A                                  | 0.2               | 0.2               | 0.2               | 0.2                | 0.2                | 0.2                  | 0.2                  | 0.2                  | 0.2                  |
|                                               | 220 V        |                 | A                                  | 0.1               | 0.1               | 0.1               | 0.1                | 0.1                | 0.1                  | 0.1                  | 0.1                  | 0.1                  |
| Sizes                                         |              |                 |                                    |                   |                   |                   |                    |                    |                      |                      |                      |                      |
| Main terminal screw size                      | Line side    | mm              | —                                  | M4                | M5                | M6                | M6                 | M8                 | M8                   | —                    | —                    | M4                   |
|                                               | Load side    | mm              | M3.5                               | M4                | M5                | M6                | M6                 | M8                 | M8                   | M10                  | M12                  | M4                   |
| Max. conductor size                           | Main         | Line side       | mm <sup>2</sup>                    | —                 | 6                 | 14                | —                  | 38                 | 60                   | —                    | —                    | 6                    |
|                                               |              | Load side       | mm <sup>2</sup>                    | 2.5               | 6                 | 14                | —                  | 38                 | 60                   | 70                   | 240                  | 6                    |
|                                               | Busbar       | Line side       | mm                                 | —                 | 10.2              | —                 | 17                 | 17                 | 20                   | 20                   | —                    | —                    |
|                                               |              | Load side       | mm                                 | 7.5               | 10.2              | 13.3              | 17                 | 15                 | 20                   | 20                   | 25                   | 30                   |
| Auxiliary contacts                            |              | mm <sup>2</sup> | 2.5                                | 2.5               | 2                 | 2                 | 2                  | 4                  | 4                    | 4                    | 4                    | 4                    |
| Bimetal heating                               |              |                 | Direct                             | Direct            | Direct            | Direct            | Direct             | Direct             | Direct               | Via CTs              | Via CTs              | Via CTs ①            |
| Weight                                        |              | kg              | 0.11                               | 0.16              | 0.2               | 0.26              | 0.32               | 0.48               | 0.75                 | 2.5                  | 2.7                  | 0.14                 |
| Dimensions (WxHxD)                            |              | mm              | 45x55x76.5                         | 63x51x69          | 74.3x72x83.5      | 89x57x83.5        | 89x73.5x83.5       | 103x67x105         | 112x87x105           | 144 x114 x180        | 144x160x194          | 63x42x83.5           |
| Order information                             |              | Art. no.        | See page 116 for order information |                   |                   |                   |                    |                    |                      |                      |                      |                      |

① Used with current transformer (to be supplied by the customer), for further information, see table on bottom of the page.

## ■ Selection guide of the current transformers for TH-N600KP

For the TH-N600KP the customer has to use a transformer with specifications as described in the following table.

| Specifications                                                   |         |                      |                      |                      |
|------------------------------------------------------------------|---------|----------------------|----------------------|----------------------|
| Heater designation                                               | A       | 250                  | 330                  | 500                  |
| Setting range                                                    | A       | 200–300              | 260–400              | 400–600              |
| Current transformer ratio                                        |         | 400/5A               | 500/5A               | 750/5A               |
| Current transformer capacity                                     |         | at least 15 VA       | at least 15 VA       | at least 15 VA       |
| Recommended Mitsubishi Electric current transformer model number | Cable   | CW-15L 400/5A 15 VA  | CW-15L 500/5A 15 VA  | CW-15L 750/5A 15 VA  |
|                                                                  | Bus bar | CW-15LM 400/5A 15 VA | CW-15LM 500/5A 15 VA | CW-15LM 750/5A 15 VA |

## Order information for thermal overload relays

| Range (A)                                                                                                                             | Heater designation                             | TH-T18KP<br>□□□ A                                       | TH-T25KP<br>□□□ A                  | TH-T50KP<br>□□□ A                                       | TH-T65KP<br>□□□ A                    | TH-T100KP<br>□□□ A                        | TH-N120KP<br>□□□ A                        | TH-N120TAKP<br>□□□ A          | TH-N220RHKP<br>□□□ A                      | TH-N400RHKP<br>□□□ A                      | TH-N600KP<br>□□□ A ④ |
|---------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------|------------------------------------|---------------------------------------------------------|--------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------|-------------------------------------------|-------------------------------------------|----------------------|
| 0.10–0.16                                                                                                                             | 0.12 A                                         | 279281                                                  |                                    |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 0.14–0.22                                                                                                                             | 0.17 A                                         | 279282                                                  |                                    |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 0.20–0.32                                                                                                                             | 0.24 A                                         | 279283                                                  | 279298                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 0.28–0.42                                                                                                                             | 0.35 A                                         | 279284                                                  | 279299                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 0.40–0.60                                                                                                                             | 0.5 A                                          | 279285                                                  | 279300                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 0.55–0.85                                                                                                                             | 0.7 A                                          | 279286                                                  | 279301                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 0.70–1.10                                                                                                                             | 0.9 A                                          | 279287                                                  | 279302                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 1.00–1.60                                                                                                                             | 1.3 A                                          | 279288                                                  | 279303                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 1.40–2.00                                                                                                                             | 1.7 A                                          | 279289                                                  | 279304                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 1.70–2.50                                                                                                                             | 2.1 A                                          | 279290                                                  | 279305                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 2.00–3.00                                                                                                                             | 2.5 A                                          | 279291                                                  | 279306                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 2.80–4.40                                                                                                                             | 3.6 A                                          | 279292                                                  | 279307                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 4.00–6.00                                                                                                                             | 5 A                                            | 279293                                                  | 279308                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 5.20–8.00                                                                                                                             | 6.6 A                                          | 279294                                                  | 279309                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 7.00–11.0                                                                                                                             | 9 A                                            | 279295                                                  | 279310                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 9.00–13.0                                                                                                                             | 11 A                                           | 279296                                                  | 279311                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 12.0–18.0                                                                                                                             | 15 A                                           | 279297                                                  | 279312                             |                                                         | 298608                               |                                           |                                           |                               |                                           |                                           |                      |
| 16.0–22.0                                                                                                                             | 19 A                                           |                                                         | 279313                             |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 18.0–26.0                                                                                                                             | 22 A                                           |                                                         |                                    |                                                         | 298609                               |                                           |                                           |                               |                                           |                                           |                      |
| 24.0–34.0                                                                                                                             | 29 A                                           |                                                         |                                    | 298605                                                  | 298610                               |                                           |                                           |                               |                                           |                                           |                      |
| 30.0–40.0                                                                                                                             | 35 A                                           |                                                         |                                    | 298606                                                  | 298611                               |                                           |                                           |                               |                                           |                                           |                      |
| 34.0–50.0                                                                                                                             | 42 A                                           |                                                         |                                    | 298607                                                  | 298612                               |                                           | 124425                                    |                               |                                           |                                           |                      |
| 43.0–65.0                                                                                                                             | 54 A                                           |                                                         |                                    |                                                         | 298613                               |                                           | 124426                                    |                               |                                           |                                           |                      |
| 54.0–80.0                                                                                                                             | 67 A                                           |                                                         |                                    |                                                         |                                      | 298614                                    | 124427                                    |                               |                                           |                                           |                      |
| 65.0–100                                                                                                                              | 82 A                                           |                                                         |                                    |                                                         |                                      | 298615                                    | 124428                                    |                               | 124432                                    |                                           |                      |
| 85.0–105                                                                                                                              | 95 A                                           |                                                         |                                    |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| 85.0–125                                                                                                                              | 105 A                                          |                                                         |                                    |                                                         |                                      |                                           |                                           | 124430                        | 124433                                    | 124438                                    |                      |
| 100–150                                                                                                                               | 125 A                                          |                                                         |                                    |                                                         |                                      |                                           |                                           | 124431 ①                      | 124434                                    | 124439                                    |                      |
| 120–180                                                                                                                               | 150 A                                          |                                                         |                                    |                                                         |                                      |                                           |                                           |                               | 124435                                    | 124440                                    |                      |
| 140–220                                                                                                                               | 180 A                                          |                                                         |                                    |                                                         |                                      |                                           |                                           |                               | 124436 ②                                  | 124441                                    |                      |
| 170–250                                                                                                                               | 210 A                                          |                                                         |                                    |                                                         |                                      |                                           |                                           |                               | 124437 ②                                  |                                           |                      |
| 200–300                                                                                                                               | 250 A                                          |                                                         |                                    |                                                         |                                      |                                           |                                           |                               |                                           | 124442                                    | On request           |
| 260–400                                                                                                                               | 330 A                                          |                                                         |                                    |                                                         |                                      |                                           |                                           |                               |                                           | 124443 ③                                  | On request           |
| 400–600                                                                                                                               | 500 A                                          |                                                         |                                    |                                                         |                                      |                                           |                                           |                               |                                           |                                           | On request           |
| 520–800                                                                                                                               | 660 A                                          |                                                         |                                    |                                                         |                                      |                                           |                                           |                               |                                           |                                           | On request ④         |
| Contactors modified with thermal overload relays correspond to motor starter combination (see also the overview on pages 106 and 107) |                                                |                                                         |                                    |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| Contactors<br>—<br>with<br>connecting parts ④                                                                                         | S-T10,<br>S-T12,<br>S-T20,<br>SD-T12<br>SD-T20 | S-T21,<br>S-T25<br>SD-T21<br>SD-T35<br>SD-T35<br>SD-T50 | S-T35<br>SD-T35<br>S-T50<br>SD-T50 | S-T65<br>SD-T65<br>S-T80<br>SD-T80<br>S-T100<br>SD-T100 | S-T80<br>SD-T80<br>S-T100<br>SD-T100 | S-N125,<br>S-N150,<br>SD-N125,<br>SD-N150 | S-N125,<br>S-N150,<br>SD-N125,<br>SD-N150 | S-N180,<br>S-N220,<br>SD-N220 | S-N300,<br>S-N400,<br>SD-N300,<br>SD-N400 | S-N600,<br>S-N800,<br>SD-N600,<br>SD-N800 |                      |
| For connecting parts see page 130.                                                                                                    |                                                |                                                         |                                    |                                                         |                                      |                                           |                                           |                               |                                           |                                           |                      |
| Stand-alone type ⑦                                                                                                                    | ●                                              | ●                                                       | —                                  | ○                                                       |                                      | ○                                         | ○                                         | ○                             | ○                                         | ○                                         | ○                    |
| With connecting part                                                                                                                  | UT-HZ18CX                                      | UN-RM20                                                 | —                                  | —                                                       | —                                    | —                                         | —                                         | —                             | —                                         | —                                         | —                    |

① For all -N150 only.

② For all -N220 only.

③ For all -N400 only.

④ TH-N600KP must be used with the current transformers (to be supplied by the customer), see page 115.

⑤ For all -N800 only.

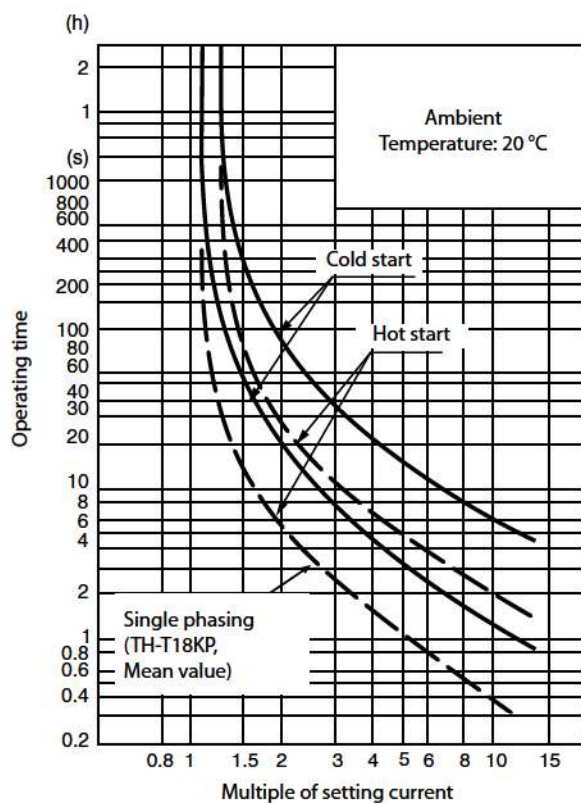
⑥ For the standard operation it is important to use the thermal overload relay with one of the mentioned contactors and if necessary with a connecting part.

⑦ ● Stand-alone with finger protection  
○ Stand-alone without finger protection  
— Stand-alone not possible

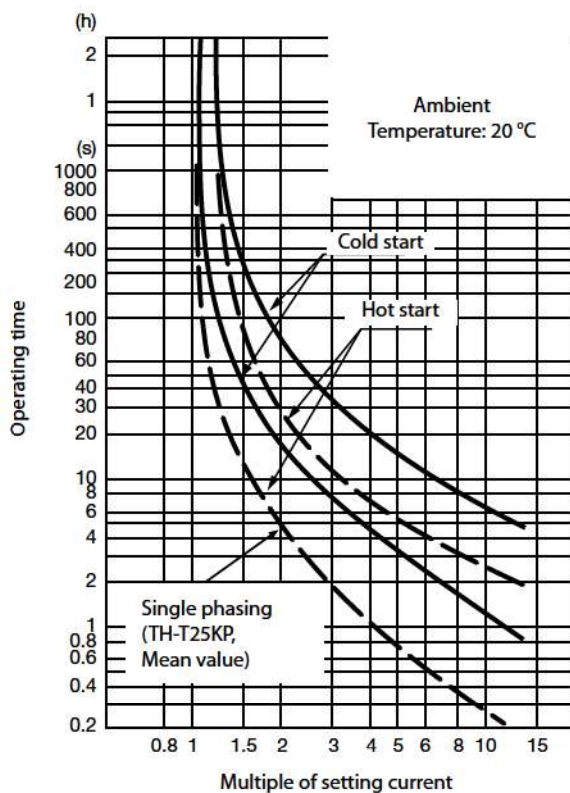
| Range (A) | Heater designation | Max. fuse rating (AC 660 V) IEC 269-1 (A) |      |         | Standard wire size, (mm <sup>2</sup> ) recommended | Motor capacity (three phase 50/60 Hz, based on four poles) (kW) |               |               |          |
|-----------|--------------------|-------------------------------------------|------|---------|----------------------------------------------------|-----------------------------------------------------------------|---------------|---------------|----------|
|           |                    | aM                                        | gG   | gM      |                                                    | AC 220–240 V                                                    | AC 380 V      | AC 400–440 V  | AC 500 V |
| 0.10–0.16 | 0.12 A             | 0.5                                       | 0.5  | —       | 2                                                  |                                                                 |               |               |          |
| 0.14–0.22 | 0.17 A             | 0.5                                       | 1    | —       | 2                                                  |                                                                 |               |               |          |
| 0.20–0.32 | 0.24 A             | 1                                         | 2    | —       | 2                                                  | 0.03                                                            | 0.06          | 0.06          | 0.09     |
| 0.28–0.42 | 0.35 A             | 1                                         | 2    | —       | 2                                                  | 0.05                                                            | 0.09          | 0.09          | 0.12     |
| 0.40–0.60 | 0.5 A              | 1                                         | 2    | —       | 2                                                  | 0.06                                                            | 0.12          | 0.12          | 0.18     |
| 0.55–0.85 | 0.7 A              | 2                                         | 4    | —       | 2                                                  | 0.09                                                            | 0.18          | 0.18          | 0.25     |
| 0.70–1.10 | 0.9 A              | 2                                         | 4    | —       | 2                                                  | 0.12                                                            | 0.25          | 0.25          | 0.37     |
| 1.00–1.60 | 1.3 A              | 2                                         | 4    | —       | 2                                                  | 0.18                                                            | 0.37          | 0.37; 0.55    | 0.55     |
| 1.40–2.00 | 1.7 A              | 4                                         | 6    | —       | 2                                                  | 0.25                                                            | 0.55          | 0.75          | 0.75     |
| 1.70–2.50 | 2.1 A              | 4                                         | 6    | —       | 2                                                  | 0.37                                                            | 0.75          | —             | 1.1      |
| 2.00–3.00 | 2.5 A              | 6                                         | 10   | —       | 2                                                  | 0.55                                                            | 1.1           | 1.1           | 1.5      |
| 2.80–4.40 | 3.6 A              | 6                                         | 10   | —       | 2                                                  | 0.75                                                            | 1.5           | 1.5           | 2.2      |
| 4.00–6.00 | 5 A                | 8                                         | 16   | —       | 2                                                  | 1.1                                                             | 2.2           | 2.2           | 3        |
| 5.20–8.00 | 6.6 A              | 12                                        | 20   | —       | 2                                                  | 1.5                                                             | 3             | 3; 3.7        | 3.7      |
| 7.00–11.0 | 9 A                | 12                                        | 20   | —       | 2                                                  | 2.2                                                             | 3.7; 4        | 3; 3.7        | 5.5      |
| 9.00–13.0 | 11 A               | 16                                        | 25   | 32M35   | 2                                                  | 3                                                               | 5.5           | 5.5           | 7.5      |
| 12.0–18.0 | 15 A               | 20                                        | 32   | 32M50   | 3.5                                                | 3.7                                                             | 7.5           | 7.5; 9        | 9        |
| 16.0–22.0 | 19 A               | 25                                        | 40   | 32M63   | 3.5                                                | 5.5                                                             | 11            | 11            | 11       |
| 18.0–26.0 | 22 A               | 40                                        | 63   | 32M63   | 5.5                                                | 5.5                                                             | 11            | 11            | 15       |
| 24.0–34.0 | 29 A               | 50                                        | 80   | 63M80   | 8                                                  | 7.5                                                             | 15            | 15            | 18.5     |
| 30.0–40.0 | 35 A               | 63                                        | 80   | 63M80   | 8                                                  | 9                                                               | 18.5          | 18.5          | 22       |
| 34.0–50.0 | 42 A               | 63                                        | 100  | 100M100 | 14                                                 | 11                                                              | 22            | 22            | 30       |
| 43.0–65.0 | 54 A               | 80                                        | 125  | 100M125 | 22                                                 | 15                                                              | 30            | 30            | 37       |
| 54.0–80.0 | 67 A               | 100                                       | 160  | 100M160 | 22                                                 | 18.5                                                            | 37            | 37            | 45       |
| 65.0–100  | 82 A               | 125                                       | 200  | 100M200 | 38                                                 | 22                                                              | 45            | 45            | 55       |
| 85.0–105  | 95 A               | —                                         | 200  | 100M200 | 38                                                 | 30                                                              | 55            | 55            | —        |
| 85.0–125  | 105 A              | —                                         | 250  | 200M250 | 50                                                 | 30                                                              | 55            | 55            | 75       |
| 100–150   | 125 A              | —                                         | 250  | 200M250 | 60                                                 | 37                                                              | 75            | 75            | 90       |
| 120–180   | 150 A              | —                                         | 315  | 200M315 |                                                    | 45                                                              | 90            | 90            | 110      |
| 140–220   | 180 A              | —                                         | 400  | —       |                                                    | 55                                                              | 110           | 110           | 132      |
| 170–250   | 210 A              | —                                         | 500  | —       |                                                    | 75                                                              | 132           | 132           | —        |
| 200–300   | 250 A              | —                                         | 630  | —       |                                                    | 75                                                              | 132; 160      | 132; 160      | 160      |
| 260–400   | 330 A              | —                                         | 630  | —       |                                                    | 90; 110                                                         | 200           | 200           | 220; 250 |
| 400–600   | 500 A              | —                                         | 800  | —       |                                                    | 132; 160                                                        | 220; 250; 300 | 220; 250; 300 | 400      |
| 520–800   | 660 A              | —                                         | 1000 | —       |                                                    | 200; 220                                                        | 400           | 400           | 500      |

## Characteristics of thermal overload relays

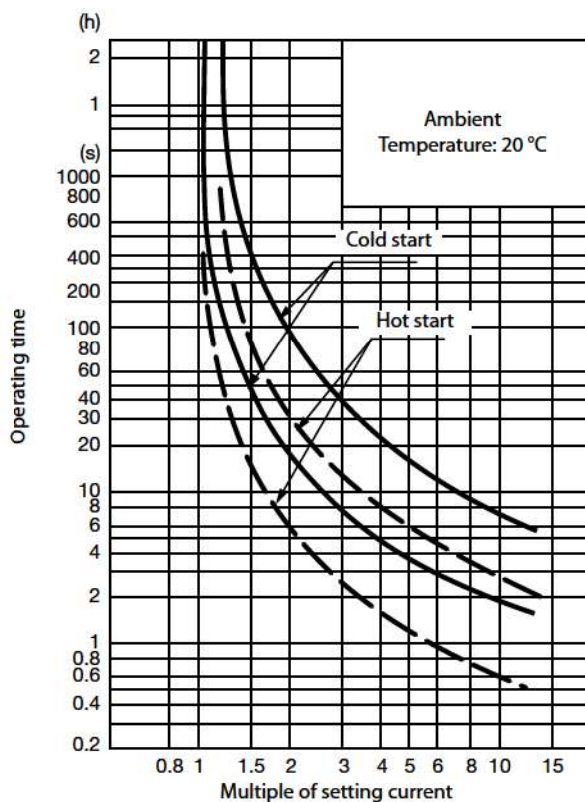
### ■ TH-T18KP



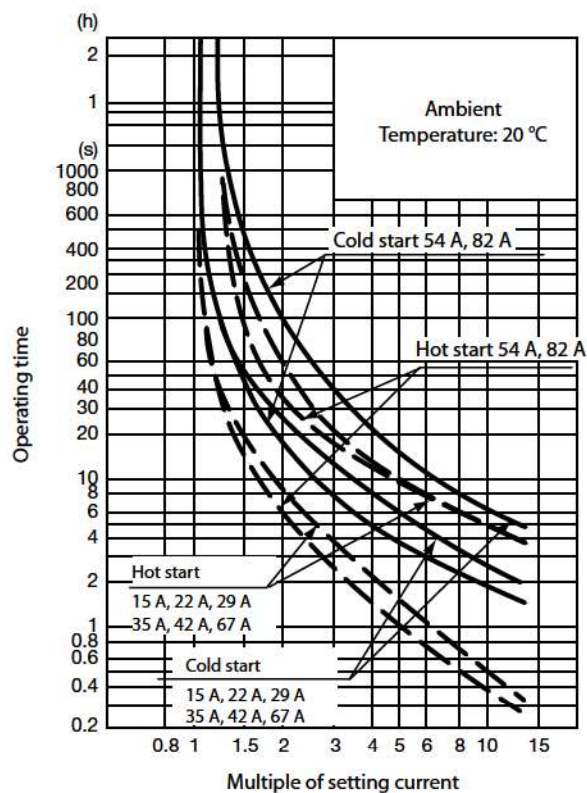
### ■ TH-T25KP



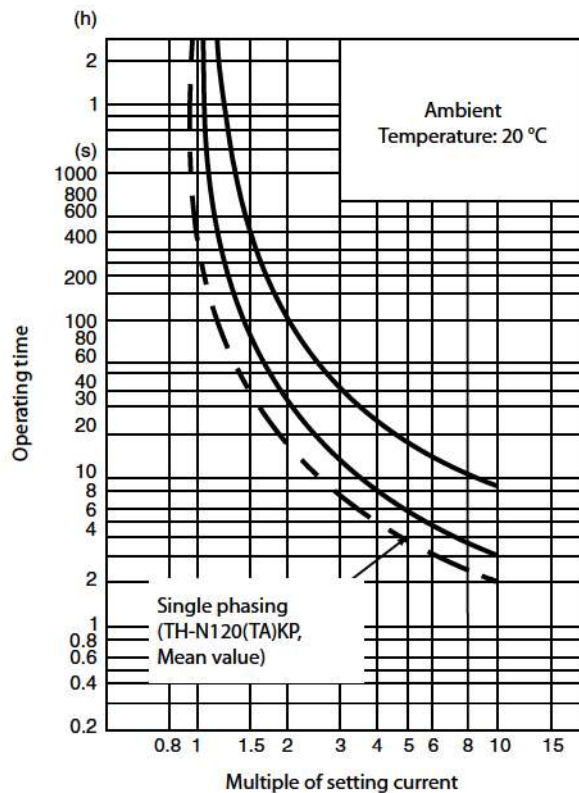
### ■ TH-T50KP



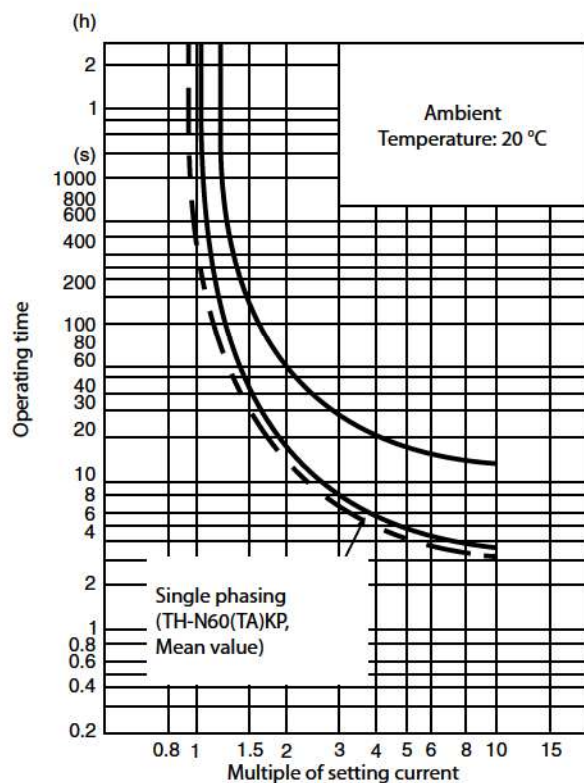
## ■ TH-T65KP, TH-T100KP



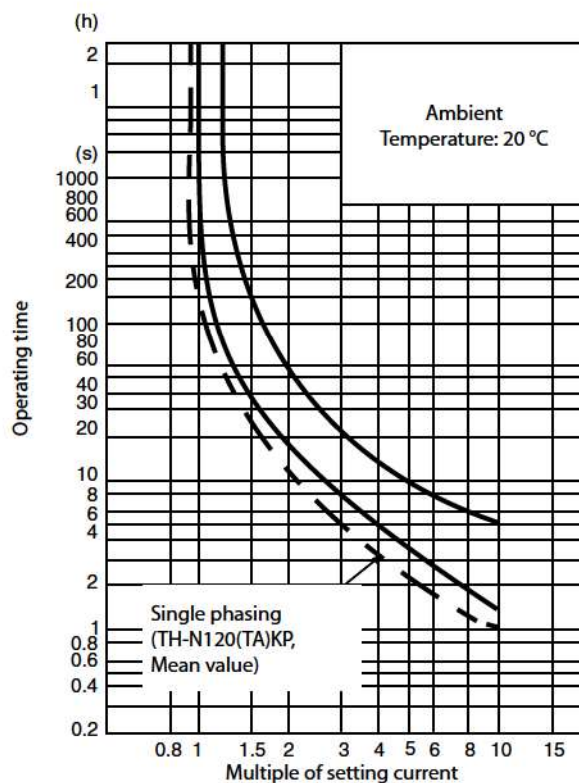
## ■ TH-N120KP, TH-N120TAKP



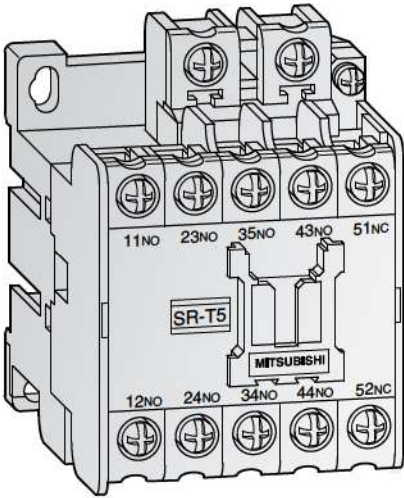
## ■ TH-N220RHKP, TH-N400RHKP



## ■ TH-N600KP



■ Contactor relay features



SR-T5

Contactor relays are designed for use in low voltage control circuit applications.

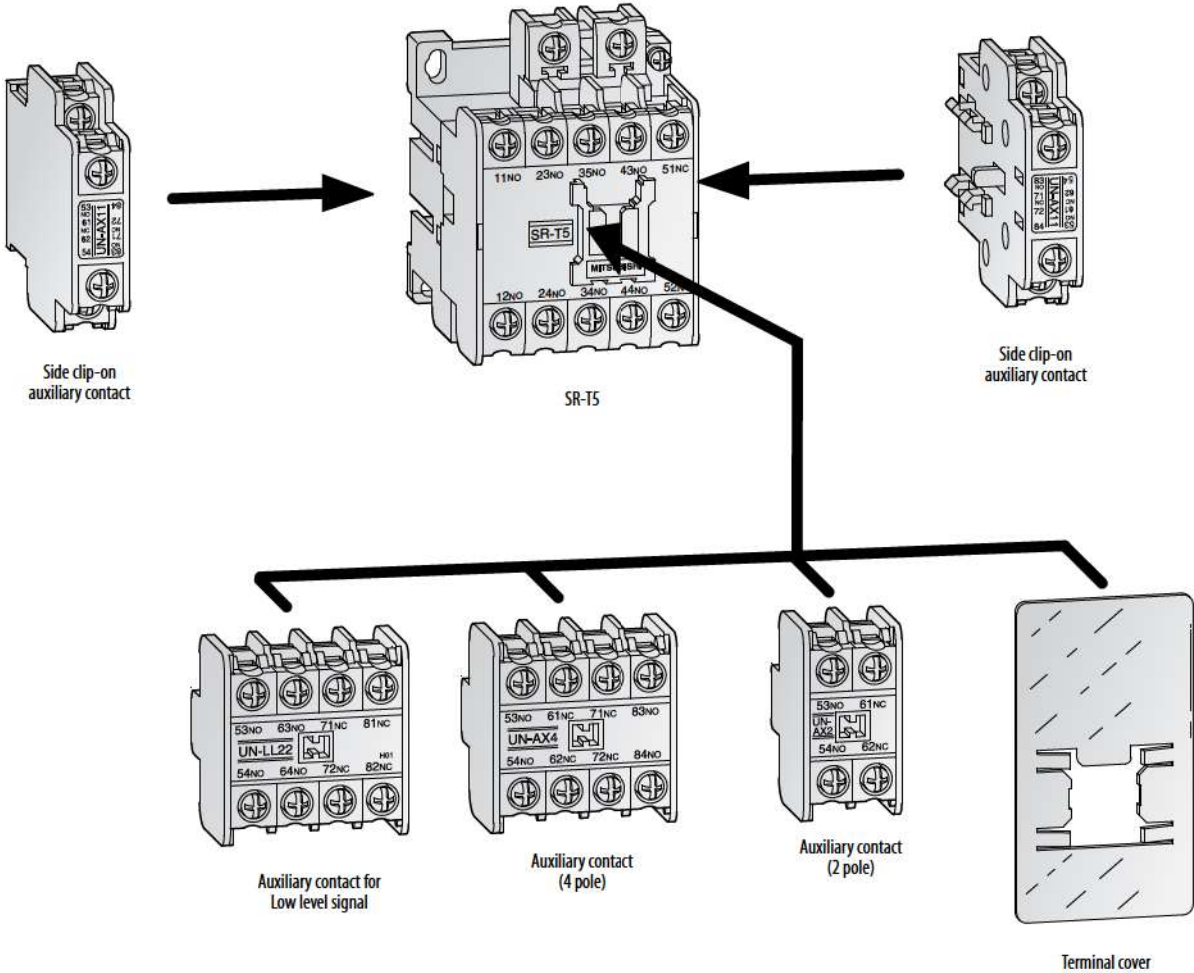
Benefits:

- High reliability: By adopting bifurcated moving contacts and by improving the shape of the contacts, contact performance has been made more reliable than ever.
- Different types as:  
Standard, big capacity or overlap contact
- Long life
- Mountable on 35 mm DIN rails
- Dust-proof construction
- Easily visible coil ratings
- Easy wiring (self-rising terminal screws)
- Various accessories common with the series S-N and S-T contactors (front and side clip-on type additional auxiliary contact blocks, surge absorbers)
- Finger protected types are available (DIN 57106/VDE 0106 Part 100) (Suffix "CX")

Our standard contactor relay version is with 4 auxiliary contacts.

With side clip-on or front clip-on a number of max. 8 auxiliary contacts is possible.

| Type of auxiliary contact | Symbol |   | Code |
|---------------------------|--------|---|------|
| Normally open             | NO     | = | A    |
| Normally closed           | NC     | = | B    |



## ■ Specifications

| Specifications                                                  |          |                    | SR-T5<br>AC□□□V5A | SR-T5<br>AC□□□V4A1B | SR-T5<br>AC□□□V3A2B | SRD-T5<br>DC24V3A2B |
|-----------------------------------------------------------------|----------|--------------------|-------------------|---------------------|---------------------|---------------------|
| Contact arrangement                                             |          |                    |                   |                     |                     |                     |
| Contact arrangement                                             |          |                    | 5 NO              | 4 NO + 1 NC         | 3 NO + 2 NC         | 3 NO + 2 NC         |
| Rated data                                                      |          |                    |                   |                     |                     |                     |
| Rated insulation voltage                                        |          |                    | V 690             | 690                 | 690                 | 690                 |
| Rated continuous current I <sub>th</sub>                        |          |                    | A 16              | 16                  | 16                  | 16                  |
| Rated operating current;<br>Category AC-15<br>(coil load)       | 120 V    | A 6                | 6                 | 6                   | 6                   |                     |
|                                                                 | 240 V    | A 3                | 3                 | 3                   | 3                   |                     |
|                                                                 | 440 V    | A 1.5              | 1.5               | 1.5                 | 1.5                 |                     |
|                                                                 | 550 V    | A 1.2              | 1.2               | 1.2                 | 1.2                 |                     |
| Rated operating current;<br>Category AC-12<br>(coil load)       | 120 V    | A 10               | 10                | 10                  | 10                  |                     |
|                                                                 | 240 V    | A 8                | 8                 | 8                   | 8                   |                     |
|                                                                 | 440 V    | A 5                | 5                 | 5                   | 5                   |                     |
|                                                                 | 550 V    | A 5                | 5                 | 5                   | 5                   |                     |
| Rated operating current;<br>Category DC-13<br>(large coil load) | 24 V     | A 3                | 5                 | 5                   | 5                   |                     |
|                                                                 | 48 V     | A 1.5              | 3                 | 3                   | 3                   |                     |
|                                                                 | 110 V    | A 0.6 (2) ①        | 0.6 (2) ①         | 0.6 (2) ①           | 0.6 (2) ①           |                     |
|                                                                 | 220 V    | A 0.3 (0.8) ①      | 0.3 (0.8) ①       | 0.3 (0.8) ①         | 0.3 (0.8) ①         |                     |
| Rated operating current;<br>Category DC-12<br>(resistive load)  | 24 V     | A 10               | 10                | 10                  | 10                  |                     |
|                                                                 | 48 V     | A 8                | 8                 | 8                   | 8                   |                     |
|                                                                 | 110 V    | A 5 (8) ①          | 5 (8) ①           | 5 (8) ①             | 5 (8) ①             |                     |
|                                                                 | 220 V    | A 1 (3) ①          | 1 (3) ①           | 1 (3) ①             | 1 (3) ①             |                     |
| Electrical data                                                 |          |                    |                   |                     |                     |                     |
| Coil consumption<br>(at rated coil voltage)                     | Inrush   | VA 45              | 45                | 45                  | —                   |                     |
|                                                                 | Sealed   | VA 7               | 7                 | 7                   | —                   |                     |
|                                                                 | Watts    | W 2.2              | 2.2               | 2.2                 | 3.3 (2.2)           |                     |
| Switching frequency                                             |          |                    | Oper./h 1,800     | 1,800               | 1,800               | 1,800               |
| Operating time<br>(average)                                     | Making   | ms 15              | 15                | 15                  | 50                  |                     |
|                                                                 | Breaking | ms 10              | 10                | 10                  | 10                  |                     |
| Mechanical data                                                 |          |                    |                   |                     |                     |                     |
| Electrical life                                                 |          | Oper.<br>(million) | 0.5               | 0.5                 | 0.5                 | 0.5                 |
| Mechanical life                                                 |          |                    | 10                | 10                  | 10                  | 10                  |
| Conductor size                                                  |          | mm <sup>2</sup>    | 1–2.5             | 1–2.5               | 1–2.5               | 1–2.5               |
| Weight                                                          |          | kg                 | 0.3               | 0.3                 | 0.3                 | 0.62                |
| Dimensions (WxHxD) ②                                            |          | mm                 | 43x78x78          | 43x78x78            | 43x78x78            | 43x78x110           |
| Order information                                               | AC24V    | Art. no.           | 279260            | 279267              | 279274              | —                   |
|                                                                 | AC48V    |                    | 279261            | 279268              | 279275              | —                   |
|                                                                 | AC100V   |                    | 279262            | 279269              | 279276              | —                   |
|                                                                 | AC200V   |                    | 279263            | 279270              | 279277              | —                   |
|                                                                 | AC300V   |                    | 279264            | 279271              | 279278              | —                   |
|                                                                 | AC400V   |                    | 279265            | 279272              | 279279              | —                   |
|                                                                 | AC500V   |                    | 279266            | 279273              | 279280              | —                   |
| Order information                                               | DC24V    | Art. no.           | —                 | —                   | —                   | 287541              |

① Parenthesized rated operating current is for switching the load in 2-pole series connection.

② Dimensions on request.

## ■ Environmental conditions

| Environmental conditions for all contactor relays |          |                                      |   |
|---------------------------------------------------|----------|--------------------------------------|---|
| Ambient temperature                               | °C       | -25 to +55                           |   |
| Ambient humidity                                  | RH       | 45 to 85 %                           |   |
| Coil voltage tolerance                            |          | 0.85 to 1.1 times rated coil voltage |   |
| Vibration resistance                              | 10–55 Hz | G                                    | 2 |
| Shock resistance                                  |          | G                                    | 5 |

## ■ Coil ratings

### In case of special order:

The following tables show the devices which are additionally available.  
Please contact Mitsubishi Electric for further information.

### AC rated voltage (for SR-N)

| 50 Hz   | 60 Hz   | Ordering designation | Standard |
|---------|---------|----------------------|----------|
| 24      | 24      | AC 24 V              | ●        |
| 48–50   | 48–50   | AC 48 V              | ●        |
| 100     | 100–110 | AC 100 V             |          |
| 110–120 | 115–120 | AC 120 V             | ●        |
| 125–127 | 127     | AC 127 V             |          |
| 200     | 200–220 | AC 200 V             |          |
| 208–220 | 220     | AC 220 V             |          |
| 220–240 | 230–240 | AC 230 V             | ●        |
| 240–260 | 260–280 | AC 260 V             |          |
| 346–380 | 380     | AC 380 V             |          |
| 380–415 | 400–440 | AC 400 V             | ●        |
| 415–440 | 460–480 | AC 440 V             |          |
| 500     | 500–550 | AC 500 V             |          |

For detailed description of the types please see page 121.

### AC rated voltage (for SR-T)

| 50 Hz   | 60 Hz   | Ordering designation | Standard |
|---------|---------|----------------------|----------|
| 24      | 24      | AC 24 V              |          |
| 48–50   | 48–50   | AC 48 V              |          |
| 100–127 | 100–127 | AC 100 V             |          |
| 200–240 | 200–240 | AC 200 V             |          |
| 260–300 | 260–300 | AC 300 V             |          |
| 380–440 | 380–440 | AC 400 V             |          |
| 460–550 | 460–550 | AC 500 V             |          |

For detailed description of the types please see page 121.

### DC rated voltage (for SRD-N)

|         | Ordering designation | Standard |
|---------|----------------------|----------|
| 24      | AC 24 V              | ●        |
| 48      | AC 48 V              |          |
| 100     | AC 100 V             |          |
| 110     | AC 120 V             |          |
| 120–125 | AC 127 V             |          |
| 200     | AC 200 V             |          |
| 220     | AC 220 V             |          |

For detailed description of the types please see page 121.

### DC rated voltage (for SRD-T)

| Coil designation | Rated voltage (= Ordering designation) | Standard |
|------------------|----------------------------------------|----------|
| DC 12 V          | DC 12 V                                |          |
| DC 24 V          | DC 24 V                                |          |
| DC 48 V          | DC 48 V                                |          |
| DC 100 V         | DC 100 V                               |          |
| DC 110 V         | DC 110 V                               |          |
| DC 120–125 V     | DC 120–125 V                           |          |
| DC 200 V         | DC 200 V                               |          |
| DC 220 V         | DC 220 V                               |          |

For detailed description of the types please see page 121.

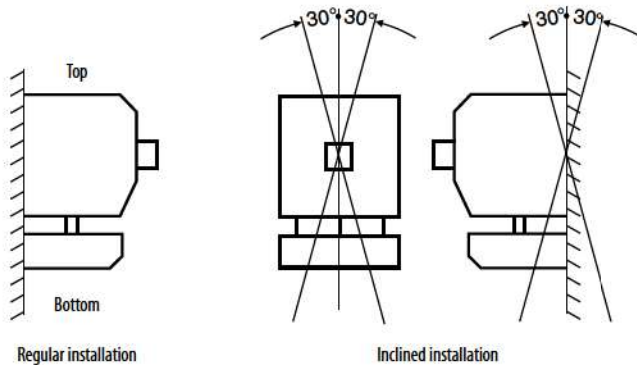
## ■ Mounting

### Mounting attitude of contactors and contactor relays

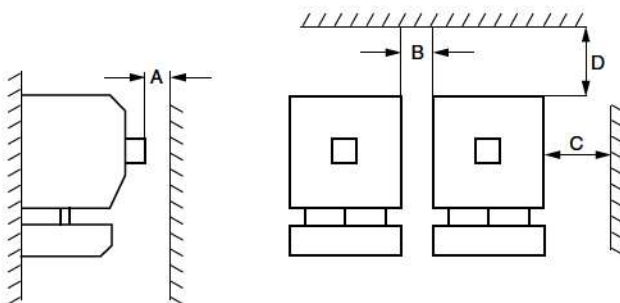
The construction and characteristics of contactors and contactor relays require that they be installed at the correct attitude. This attitude should not be changed, as the operating characteristics will be affected.

To assure proper performance, Mitsubishi Electric contactors and contactor relays should be mounted on a vertical supporting surface with the line terminals upwards and the load terminals downwards. The supporting surface may have a maximum inclination of  $30^\circ$  from the vertical in any direction.

Instruction in detail also for horizontal installation on request.



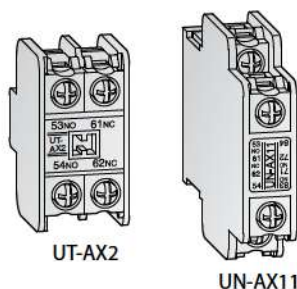
### Minimal gaps for installation of contactor and contactor relays



| Frame size     | A  | B  | C  | D  |
|----------------|----|----|----|----|
| S-T10, S-T12   | 5  | 5  | 10 | 15 |
| S-T20, S-T21   | 5  | 5  | 10 | 15 |
| S-T25, S-T32   | 5  | 5  | 10 | 15 |
| S-T35          | 5  | 5  | 10 | 15 |
| S-T50, S-T65   | 5  | 10 | 10 | 25 |
| S-T80, S-T100  | 10 | 10 | 16 | 25 |
| S-N125         | 10 | 12 | 16 | 25 |
| S-N150         | 10 | 12 | 16 | 30 |
| S-N180, S-N220 | 10 | 12 | 16 | 50 |
| S-N300, S-N400 | 10 | 12 | 16 | 90 |
| S-N600, S-N800 | 10 | 15 | 20 | 90 |

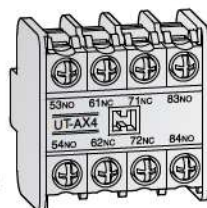
All dimensions in mm

## Auxiliary contact blocks



UT-AX2

UN-AX11



UT-AX4

### Application

All contactors can be extended by additional contacts which are available as a compact module.

The auxiliary contacts are simple and safe to extend by means of front or side clips.

When ordering please check that the auxiliary contact fits for your magnetic contactor.

| Type of auxiliary contact | Symbol | Code |
|---------------------------|--------|------|
| Normally open             | NO =   | A    |
| Normally closed           | NC =   | B    |

### Auxiliary contact blocks for S-T10 to S-T50, SD-T12 to SD-T50, SR-T5, SRD-T5

| Specifications      | UT-AX2<br>2A    | UT-AX2<br>1A1B | UT-AX2<br>2B | UT-AX4<br>4A | UT-AX4<br>2A2B | UT-AX4<br>3A1B | UT-AX11    |
|---------------------|-----------------|----------------|--------------|--------------|----------------|----------------|------------|
| Contact arrangement | 2 NO            | 1 NO+ 1 NC     | 2 NC         | 4 NO         | 2 NO+ 2 NC     | 3 NO+1 NC      | 1 NO+ 1 NC |
| Order information   | Art. no. 279316 | 279315         | 279317       | 279320       | 279318         | 279319         | 279314     |

### Auxiliary contact blocks for S-T65, S-T85, SD-T65 and SD-T80

| Specifications      | UN-AX2CX<br>2A | UN-AX2CX<br>1A1B | UN-AX2CX<br>2B | UN-AX4CX<br>4A | UN-AX4CX<br>2A2B | UN-AX4CX<br>3A1B | UN-AX11CX  |
|---------------------|----------------|------------------|----------------|----------------|------------------|------------------|------------|
| Contact arrangement | 2 NO           | 1 NO+ 1 NC       | 2 NC           | 4 NO           | 2 NO+ 2 NC       | 3 NO+1 NC        | 1 NO+ 1 NC |
| Order information   | Art. no. 52625 | 52626            | 52627          | 52628          | 52629            | 52630            | 52631      |

| Specifications                      | For all types on this page           |                     |
|-------------------------------------|--------------------------------------|---------------------|
| Clip-on type                        | Front ②③ / UT-AX11 and UN-AX11: Side |                     |
| Rated cont. curr. Ith               | 16                                   |                     |
| Rated insulation voltage            | 690                                  |                     |
| Category AC-15<br>(coil load)       | AC 110 V                             | A 6                 |
|                                     | AC 230 V                             | A 5 (3 for UT-AX)   |
|                                     | AC 440 V                             | A 3 (1.5 for UT-AX) |
| Category DC-13<br>(large coil load) | DC 48 V                              | A 3                 |
|                                     | DC 110 V                             | A 0.8               |
|                                     | DC 220 V                             | A 0.2               |
| Mechanical life                     | oper.                                | 10 mill.            |
| Electrical life                     | oper.                                | 0.5 mill.           |
| Switching frequency                 | opr./hour                            | 1.800               |
| Perm. amb. temperature              | °C                                   | -25—+55             |
| Perm. amb. humidity                 | RH                                   | 45–85 %             |
| Conductor size                      | mm <sup>2</sup>                      | 1.0–2.5             |

- ① Contact reliability may be decreased if it is operated more than 1 million operations.
- ② Front clip-on and side clip-on should not be mounted both.
- ③ Maximum 1 piece of auxiliary contact block can be mounted on a contactor/relay.
- ④ Maximum 2 pieces of auxiliary contact blocks can be mounted on a contactor/relay.

## Auxiliary contact blocks (continued)

### Auxiliary contact blocks for S-T100, S-N125 to S-N800

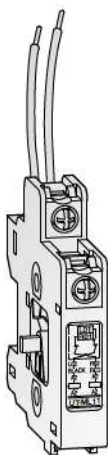
| Specifications                   | UN-AX80                                         | UN-AX150                                                                                              | UN-AX600                               |
|----------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------|
| Contactors                       | S-T100<br>SD-T100<br>S-N125<br>SD-N125          | S-N150<br>S-N180<br>S-N220<br>S-N300<br>S-N400<br>SD-N150<br>SD-N180<br>SD-N220<br>SD-N300<br>SD-N400 | S-N600<br>S-N800<br>SD-N600<br>SD-N800 |
| Contact arrangement              | 1 NO + 1 NC                                     | 1 NO + 1 NC                                                                                           | 2 NO + 2 NC                            |
| Clip-on type                     | Side                                            | Side                                                                                                  | Side                                   |
| Rated cont. curr. lth            | A 16                                            | 16                                                                                                    | 16                                     |
| Rated insulation voltage         | V 690                                           | 690                                                                                                   | 690                                    |
| Category AC-15 (Coil load)       | AC 110 V A 6<br>AC 230 V A 5<br>AC 440 V A 3    | 6<br>5<br>3                                                                                           | 6<br>5<br>3                            |
| Category DC-13 (large coil load) | DC 48 V A 3<br>DC 110 V A 0.8<br>DC 220 V A 0.2 | 3<br>0.8<br>0.2                                                                                       | 3<br>0.8<br>0.2                        |
| Mechanical life                  | oper. 10 mill.                                  | 10 mill.                                                                                              | 10 mill.                               |
| Electrical life                  | oper. 0.5 mill.                                 | 0.5 mill.                                                                                             | 0.5 mill.                              |
| Switching frequency              | opr./hour For all types: 1,800                  |                                                                                                       |                                        |
| Perm. amb. temperature           | °C For all types: -25 to +55                    |                                                                                                       |                                        |
| Perm. amb. humidity              | RH For all types: 45 % to 85 %                  |                                                                                                       |                                        |
| Conductor size                   | mm <sup>2</sup> For all types: 1.0 to 2.5       |                                                                                                       |                                        |
| Order information                | Art. no. 113691                                 | 113702                                                                                                | 113703                                 |

Maximum 2 pieces of auxiliary contact blocks can be mounted on a contactor/relay.

4

MS – Contactors &amp; thermal overload relays

## Mechanical interlocks



### Application

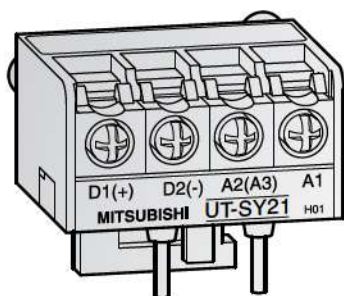
Two contactors are safely and simply secured against one another through mechanical interlocking.

The mechanical interlocks are simple and safe to mount by means of side clips.

On UT-ML11 the relevant interlock status can also be obtained through an electric query.

| Specifications    | UT-ML11                 | UT-ML20          | UN-ML21                                                                                     | UN-ML80                        | UN-ML150          | UN-ML220                                                              |
|-------------------|-------------------------|------------------|---------------------------------------------------------------------------------------------|--------------------------------|-------------------|-----------------------------------------------------------------------|
| Contactors        | S-T10<br>S-T12<br>S-T20 | SD-T12<br>SD-T20 | S-T21<br>S-T25<br>S-T32<br>SD-T21<br>SD-T32<br>S(D)-T35<br>S(D)-T50<br>S(D)-T65<br>S(D)-T80 | S(D)-T100<br>S-N125<br>SD-N125 | S-N150<br>SD-N150 | S-N180<br>S-N220<br>S-N300<br>S-N400<br>SD-N220<br>SD-N300<br>SD-N400 |
| Order information | Art. no. 279321         | 295824           | 52634                                                                                       | 124294                         | 125992            | 124293                                                                |

## ■ DC interface modules



### Application

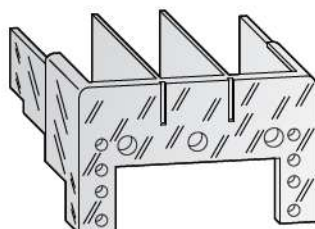
Despite the low current requirements of our contactors and contactor relays, a number of PLC types with transistor outlets only allow direct control via the DC interface module.

In accordance to the used contactor it can be mounted directly on the contactor or on a separate location.

| Specifications        | UT-SY21                                                              | UT-SY22                                                              | UN-SY31        | UN-SY32        | UN-SY11                                                  | UN-SY12                                                  |
|-----------------------|----------------------------------------------------------------------|----------------------------------------------------------------------|----------------|----------------|----------------------------------------------------------|----------------------------------------------------------|
| Contactors            | S-T10<br>S-T12<br>S-T20<br>S-T21<br>S-T25<br>S-T32<br>S-T50<br>SR-T5 | S-T10<br>S-T12<br>S-T20<br>S-T21<br>S-T25<br>S-T32<br>S-T50<br>SR-T5 | S-T65<br>S-T80 | S-T65<br>S-T80 | S-N125<br>S-N150<br>S-N180<br>S-N220<br>S-N300<br>S-N400 | S-N125<br>S-N150<br>S-N180<br>S-N220<br>S-N300<br>S-N400 |
| Output                | Solid state                                                          | Relay                                                                | Solid state    | Relay          | Solid state                                              | Relay                                                    |
| Mounting to contactor | Direct                                                               | Direct                                                               | Direct         | Direct         | Separate                                                 | Separate                                                 |
| Order information     | Art. no. On request                                                  | On request                                                           | On request     | On request     | On request                                               | On request                                               |

4

## ■ Terminal covers



### Application

The terminal covers warrant protection against contacts being accidentally touched.

These covers are to retrofit contactors which do not have a terminal cover (like types without "CX" designation).

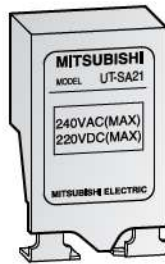
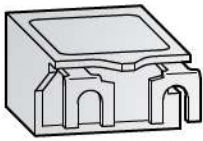
| Specifications    | UN-CZ500 ①           | UN-CZ800 ① | UN-CZ1250 ①        | UN-CZ1500 ①        | UN-CZ2200 ①             | UN-CZ3000 ①                  |
|-------------------|----------------------|------------|--------------------|--------------------|-------------------------|------------------------------|
| Contactors        | S(D)-T65<br>S(D)-T80 | S(D)-T100  | S-N125,<br>SD-N125 | S-N150,<br>SD-N150 | S-N180/N220,<br>SD-N220 | S-N300/N400,<br>SD-N300/N400 |
| Order information | Art. no. 127116      | 113704     | 113705             | 113706             | 113707                  | 113708                       |

① 2 pcs. are required for one contactor.

| Specifications                       | UN-CZ501 ②            | UN-CZ801 ②         | UN-CZ1251 ②      | UN-CZ1501 ②      | UN-CZ2201 ②           | UN-CZ3001 ②           |
|--------------------------------------|-----------------------|--------------------|------------------|------------------|-----------------------|-----------------------|
| Contactor and Thermal Overheat Relay | S(D)-T65/T80,<br>TH-T | S(D)-T100,<br>TH-T | SD-N125,<br>TH-N | SD-N150,<br>TH-N | SD-N180/N220,<br>TH-N | SD-N300/N400,<br>TH-N |
| Order information                    | Art. no. 127117       | 125994             | 125995           | 125996           | 125997                | 125998                |

② This part is only for the load side (1 piece). For the line side one UN-CZ□□0 is required.

## ■ Surge absorbers



### Application

Surge absorbers serve the purpose of avoiding currency surges when coils are switched off.

They can be mounted safely and easily behind the terminal strips.

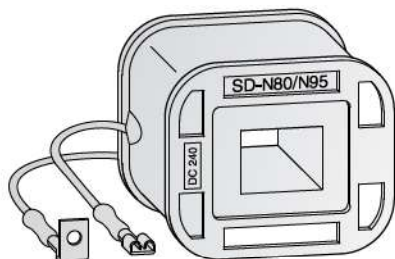
Contactors and relays with built-in surge absorbers, varistor-type are available on your request.

For S-T65 up to S-T100 and S-N125 up to S-N800 the surge absorber are implemented as standard.

| Specifications                          | UT-SA21<br>AC□□□V                                                                                                                                   | UT-SA22<br>AC□□□V                                                                                                                                   | UT-SA23<br>AC□□□V                                                             | UT-SA25<br>AC□□□V                                                                                                                          | UT-SA13<br>DC□□□V                                                  |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Contactors                              | S-T10<br>S-T12<br>S-T20<br>S-T21<br>S-T25<br>S-T32<br>S-T35<br>S-T50<br>SD-T12<br>SD-T20<br>SD-T21<br>SD-T32<br>SD-T35<br>SD-T50<br>SR-T5<br>SRD-T5 | S-T10<br>S-T12<br>S-T20<br>S-T21<br>S-T25<br>S-T32<br>S-T35<br>S-T50<br>SD-T12<br>SD-T20<br>SD-T21<br>SD-T32<br>SD-T35<br>SD-T50<br>SR-T5<br>SRD-T5 | S-T10<br>S-T12<br>S-T20<br>S-T21<br>S-T25<br>S-T32<br>S-T35<br>S-T50<br>SR-T5 | S-T10<br>S-T20<br>S-T21<br>S-T25<br>S-T32<br>S-T35<br>S-T50<br>SD-T12<br>SD-T20<br>SD-T21<br>SD-T32<br>SD-T35<br>SD-T50<br>SR-T5<br>SRD-T5 | SD-T12<br>SD-T20<br>SD-T21<br>SD-T32<br>SD-T35<br>SD-T50<br>SRD-T5 |
| Voltage range                           | For AC 48 V<br>AC 24–50 V<br>DC 24–48 V                                                                                                             | For AC 200 V<br>AC 50–240 V<br>DC 60–220 V                                                                                                          | For AC 200 V<br>AC 24–240 V                                                   | For AC 048 V<br>AC 24–50 V<br>DC 24–60 V                                                                                                   | For DC 200 V<br>DC 24–220 V                                        |
|                                         | For AC 200 V<br>AC 24–240 V<br>DC 24–220 V                                                                                                          |                                                                                                                                                     |                                                                               | For AC 200 V<br>AC 24–240 V<br>DC 24–220 V                                                                                                 |                                                                    |
|                                         | For AC 400 V<br>AC 24–480 V                                                                                                                         |                                                                                                                                                     |                                                                               |                                                                                                                                            |                                                                    |
| Varistor                                | ●                                                                                                                                                   | —                                                                                                                                                   | —                                                                             | —                                                                                                                                          | —                                                                  |
| Varistor with operating indicator (LED) | —                                                                                                                                                   | ●                                                                                                                                                   | —                                                                             | —                                                                                                                                          | —                                                                  |
| Varistor and CR                         | —                                                                                                                                                   | —                                                                                                                                                   | —                                                                             | ●                                                                                                                                          | —                                                                  |
| CR                                      | —                                                                                                                                                   | —                                                                                                                                                   | ●                                                                             | —                                                                                                                                          | ●                                                                  |
| Order information                       | AC 48 V                                                                                                                                             | 279322                                                                                                                                              | —                                                                             | 279327                                                                                                                                     | —                                                                  |
|                                         | AC 100 V                                                                                                                                            | —                                                                                                                                                   | —                                                                             | —                                                                                                                                          | —                                                                  |
|                                         | AC 200 V                                                                                                                                            | 279323                                                                                                                                              | 279325                                                                        | 279326                                                                                                                                     | 279328                                                             |
|                                         | AC 400 V                                                                                                                                            | 279324                                                                                                                                              | —                                                                             | —                                                                                                                                          | —                                                                  |
|                                         | DC 200 V                                                                                                                                            | —                                                                                                                                                   | —                                                                             | —                                                                                                                                          | On request                                                         |

Note: For other voltage ranges please contact Mitsubishi Electric.

## ■ Replacement coils



### Application

If, for technical or logistic reasons, a coil needs to be replaced, then this can be done fast and safely, as it involves very simple operations.

When ordering please check for the right voltage classification.

Changing procedure is done for

- S-T35 up to S-T100 by loosening a number of screws
- S-N125 to S-N800, SD-N125 to SD-N800 by replacing the coil cartridge.

### AC-operated coils

| Specifications       |          | S-T35-COIL<br>AC□□□V | S-T65-COIL<br>AC□□□V                                                    | S-T100-COIL<br>AC□□□V | S-N125-COIL<br>AC□□□V | S-N180-COIL<br>AC□□□V | S-N300-COIL<br>AC□□□V | S-N600-COIL<br>AC□□□V |
|----------------------|----------|----------------------|-------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Contactors           |          | S-T35<br>S-T50       | S-T65<br>S-T80                                                          | S-T100                | S-N125<br>S-N150      | S-N180<br>S-N220      | S-N300<br>S-N400      | S-N600<br>S-N800      |
| Weight               | kg       | 0.08                 | 0.27                                                                    | 0.6                   | 0.46                  | 0.6                   | 0.9                   | 2.0                   |
| Order<br>information | AC 24 V  | Art. no.             |                                                                         |                       | 125895                | —                     | —                     | —                     |
|                      | AC 48 V  |                      |                                                                         |                       | 125899                | —                     | —                     | —                     |
|                      | AC 100 V |                      |                                                                         |                       | 125893                | 125900                | 125915                | 125920                |
|                      | AC 120 V |                      |                                                                         |                       | —                     | —                     | —                     | —                     |
|                      | AC 127 V |                      |                                                                         |                       | —                     | —                     | —                     | —                     |
|                      | AC 200 V |                      |                                                                         |                       | 125894                | 125901                | 125916                | 125921                |
|                      | AC 220 V |                      | For article numbers of S-T coils<br>please contact Mitsubishi Electric. |                       | —                     | —                     | —                     | —                     |
|                      | AC 230 V |                      |                                                                         |                       | —                     | —                     | —                     | —                     |
|                      | AC 260 V |                      |                                                                         |                       | —                     | —                     | —                     | —                     |
|                      | AC 300 V |                      |                                                                         |                       | 125896                | 125912                | 125917                | 125922                |
|                      | AC 380 V |                      |                                                                         |                       | —                     | —                     | —                     | —                     |
|                      | AC 400 V |                      |                                                                         |                       | 125897                | 125913                | 125918                | 125923                |
|                      | AC 440 V |                      |                                                                         |                       | —                     | —                     | —                     | —                     |
|                      | AC 500 V |                      |                                                                         |                       | 125898                | 125914                | 125919                | 125924                |

For information about the voltage range refer to page 122.

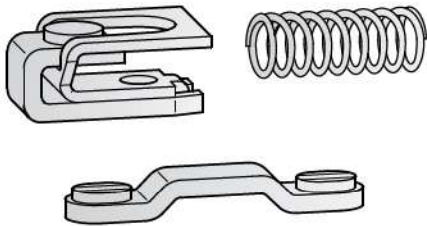
Note: For other voltage ranges please contact Mitsubishi Electric.

### DC-operated coils

| Specifications       |          | SD-T35-COIL<br>DC□□□V | SD-T65-COIL<br>DC□□□V                                                    | SD-T100-COIL<br>DC□□□V | SD-N125-COIL<br>DC□□□V | SD-N220-COIL<br>DC□□□V | SD-N300-COIL<br>DC□□□V | SD-N600-COIL<br>DC□□□V |
|----------------------|----------|-----------------------|--------------------------------------------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Contactors           |          | SD-T35<br>SD-T50      | SD-T65<br>SD-T80                                                         | SD-T100                | SD-N125<br>SD-N150     | SD-N220                | SD-N300<br>SD-N400     | SD-N600<br>SD-N800     |
| Weight               |          | kg 0.23               | 0.8                                                                      | 0.6                    | 0.9                    | 1.4                    | 2.0                    | 6.0                    |
| Order<br>information | DC 12 V  | Art. no.              |                                                                          |                        | —                      | —                      | —                      | —                      |
|                      | DC 24 V  |                       |                                                                          |                        | 125945                 | 125952                 | 125959                 | 125966                 |
|                      | DC 48 V  |                       |                                                                          |                        | 125946                 | 125953                 | 125960                 | 125967                 |
|                      | DC 100 V |                       | For article numbers of SD-T coils<br>please contact Mitsubishi Electric. |                        | 125939                 | 125947                 | 125954                 | 125961                 |
|                      | DC 110 V |                       |                                                                          |                        | 125940                 | 125948                 | 125955                 | 125962                 |
|                      | DC 125 V |                       |                                                                          |                        | 125941                 | 125949                 | 125956                 | 125963                 |
|                      | DC 200 V |                       |                                                                          |                        | 125943                 | 125950                 | 125957                 | 125964                 |
|                      | DC 220 V |                       |                                                                          |                        | 125944                 | 125951                 | 125958                 | 125965                 |

## Replacement contact kits

### Main contact kit



#### Application

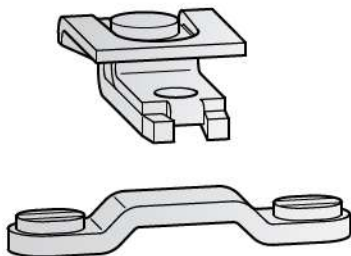
If used correctly, the contact kit does not need replacing during the lifetime stated in the documentation. However, should this still be required, then it can be done fast and without any problems, as it involves no more than a few simple operations.

The kits consist of 3 moving contacts and 6 stationary contacts.

| Specifications    | BHA-49N300 | BHA-49N302 | BHA-49N301 | BHA-49N303 | BH-759N300 | BHA-59N301 | BHA-59N300 | BHA-59N302 | BH-769N301 | BH-769N303    |
|-------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|
| Contactors        | S-T35      | SD-T35     | S-T50      | SD-T50     | S-T65      | SD-T65     | S-T80      | SD-T80     | S-T100     | SD-T100       |
| Weight            | kg         | 0.07       | 0.07       | 0.11       | 0.11       | 0.11       | 0.1        | 0.1        | 0.1        | 0.1           |
| Order information | Art. no.   | On request | On request | On request | On request | 125971     | On request | On request | On request | 125977 125980 |

| Specifications    | BH-779N300 | BH-779N301 | BH-789N300        | BH-799N300 | BH-799N301        | BH-609N300        | BH-609N301        | BH-619N300        | BH-619N301        |
|-------------------|------------|------------|-------------------|------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Contactors        | S-N125     | SD-N125    | S-N150<br>SD-N150 | S-N180     | S-N220<br>SD-N220 | S-N300<br>SD-N300 | S-N400<br>SD-N400 | S-N600<br>SD-N600 | S-N800<br>SD-N800 |
| Weight            | kg         | 0.1        | 0.2               | 0.4        | 0.4               | 0.8               | 0.8               | 2.5               | 2.5               |
| Order information | Art. no.   | 125981     | 125982            | 125983     | 125984            | 125985            | 125986            | 125987            | 125988 125989     |

### Auxiliary contact kit



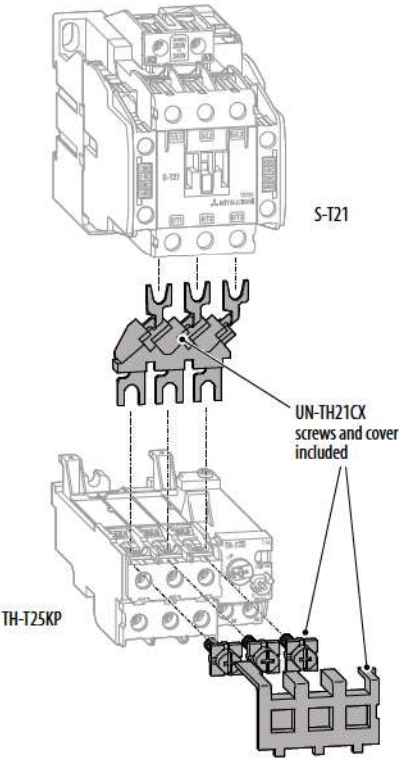
#### Application

If used correctly, the bifurcated moving contact warrants a maximum of contact safety and the longest possible lifetime.

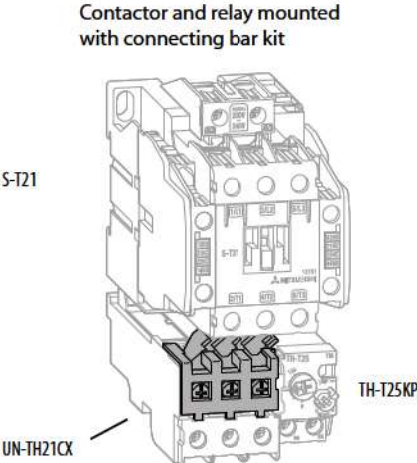
Nevertheless, auxiliary contacts can be replaced safely and without any problems.

| Specifications      | BHA-49N304                 | BH-539N315                                    | BH-579N312        | UN-AX150                                           | UN-AX600                               |
|---------------------|----------------------------|-----------------------------------------------|-------------------|----------------------------------------------------|----------------------------------------|
| Contactors          | S-T35/50<br>SD-T35/50      | S-T65 to<br>S-T100<br>SD-T65<br>to<br>SD-T100 | S-N125<br>SD-N125 | S-N150<br>to<br>S-N400<br>SD-N150<br>to<br>SD-N400 | S-N600<br>S-N800<br>SD-N600<br>SD-N800 |
| Kit contents        | Bifurcated moving contacts | 4                                             | 4                 | —                                                  | —                                      |
|                     | Stationary contacts        | 8                                             | 8                 | —                                                  | —                                      |
|                     | Contact block              | —                                             | —                 | 1                                                  | 1                                      |
| Contact arrangement | 2 NO 2 NC                  | 2 NO 2 NC                                     | 2 NO + 2 NC       | 1 NO + 1 NC                                        | 2 NO + 2 NC                            |
| Weight              | kg                         | 0.03                                          | 0.02              | 0.04                                               | 0.1                                    |
| Order information   | Art. no.                   | On request                                    | On request        | On request                                         | 113702 113703                          |

■ Connecting parts for contactors to thermal overload relays



**Application**  
For connection between the contactor and the thermal overload relay.  
Connecting bars and mounting plate are included in the OLR of TH-N220RHKP and TH-N400RHKP for S-N180, S-N220, SD-N220, S-N300, SD-N300, S-N400, SD-N400.

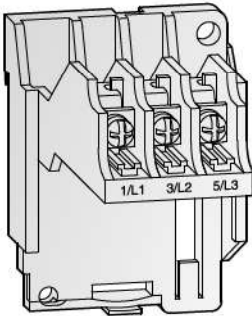


4

Connecting bar kit

| Specifications         | UN-TH21CX                | UT-TH50              | BH559N350            | BH569N350             | BH569N352             | BH579N355                 | BH589N355                 |
|------------------------|--------------------------|----------------------|----------------------|-----------------------|-----------------------|---------------------------|---------------------------|
| Contactor              | S-T21<br>S-T25<br>SD-T21 | S(D)-T35<br>S(D)-T50 | S(D)-T65<br>S(D)-T80 | S(D)-T80<br>S-T100    | SD-T100               | S-N125<br>SD-N125         | S-N150<br>SD-N150         |
| Thermal overload relay | TH-T25KP                 | TH-T25KP<br>TH-T50KP | TH-T65KP<br>TH-T100  | TH-T65KP<br>TH-T100KP | TH-T65KP<br>TH-T100KP | TH-N120KP,<br>TH-N120TAKP | TH-N120KP,<br>TH-N120TAKP |
| Weight                 | kg 0.02                  | 0.02                 | 0.02                 | 0.04                  | 0.04                  | 0.36                      | 0.36                      |
| Order information      | Art. no. 141108          | 307329               | 126000               | 126001                | 126002                | 126003                    | 126004                    |

■ Separate mounting adapter



**Application**  
For the stand-alone application the thermal overload relay TH-T18KP must be use with the separate mounting adapter UT-HZ18.

| Specifications          | UT-HZ18         | UN-RM20  |
|-------------------------|-----------------|----------|
| Thermal overload relays | TH-T18KP        | TH-T25KP |
| Order information       | Art. no. 293229 | 293220   |