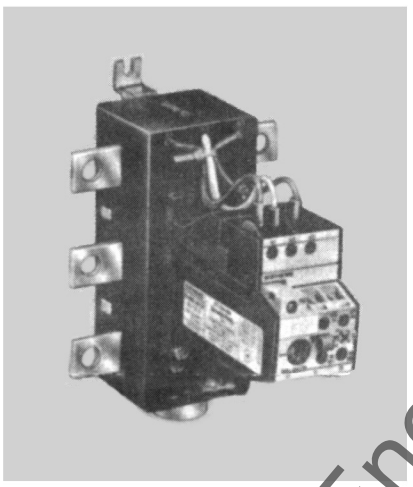
SIEMENS

**⚠ WARNING:**
**HAZARDOUS VOLTAGE CAN CAUSE ELECTRIC SHOCK AND BURNS.**
DISCONNECT POWER BEFORE PROCEEDING WITH ANY WORK ON THIS EQUIPMENT

**Operating Instructions**

# C.T. Operated Bimetal Relay with Single Phasing Protection feature

## Type 3UA62 30



The Siemens 3UA62 30 current transformer operated bi-relays provide accurate overload and accelerated single phasing protection for three phase motors having rated currents upto 400A.

3UA62 30 comprise of current transformer and a bimetallic tripping unit. The tripping unit makes use of dual slider principal for faster tripping under single phasing.

### Technical Data

Rated insulation voltage : 1000 V AC for main circuit

Ambient temperature compensation : -25°C to + 55°C

Rated operating current : Ranges upto 400A.

Frequency of operation : 15 operations per hour.

Table 1

| Type | Min Setting "AMP" | Max. Setting "AMP" | Fuse rating Type 3NA1 "AMP" | Load current corresponding to marking 0.625/0.63 "AMP" | 0.7 "AMP" | 0.8 "AMP" | 0.9 "AMP" | 1.0 "AMP" |
|---|---|---|---|---|---|---|---|---|
| 3UA62 30 | 85 | 135 | 224 | 85 | 94.5 | 108 | 121.5 | 135 |
| | 115 | 180 | 250 | 115 | 126 | 144 | 162 | 180 |
| | 160 | 250 | 355 | 160 | 175 | 200 | 225 | 250 |
| | 200 | 320 | 400 | 200 | 224 | 256 | 288 | 320 |
| | 250 | 400 | 500 | 250 | 280 | 320 | 360 | 400 |

### Selection (Setting ranges)

Bi-relays are available in 5 different ranges. The minimum and maximum setting of each range is listed in table 1.

### Short Circuit Protection

The bi-relays have to be protected from short circuits. It is mandatory to use back-up HRC fuses. The maximum permissible ratings of Siemens fuses as per IS: 13947 pt-4 (Type 3NA1) corresponding to type 2 co-ordination for each relay range are listed in table 1.

Maximum back-up fuse rating for auxiliary circuit : 6 Amps.

### Operating instructions/setting

Set scale so that ratio corresponds to the rated load current.

### Example :

Relay range selected : 115-180A
Load current : 162A
Maximum setting : 180A

$$\text{Ratio} : \frac{\text{Load Current}}{\text{Max. Setting}}$$

$$: \frac{162}{180} = 0.9$$

i.e. scale on tripping unit should be set at 0.9 marking. Refer table 1 for further details.

### Installation

Bi-relays are independent mounting type. Permitted mounting position is as shown in fig. 1. Care should be taken to avoid shocks and prolonged vibrations.

Bi-relays are suitable for screw mounting on flat vertical surface. Use 2 nos M5 screw with plain and spring washers.

Maximum tightening torque = 6.2 Nm. Refer fig. 2 for dimensions.

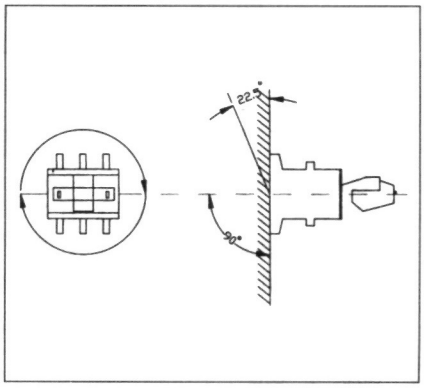
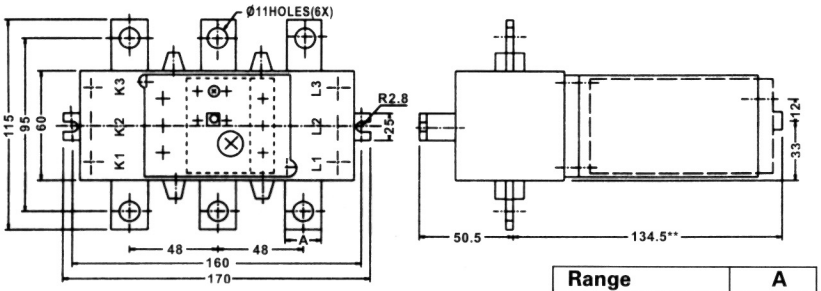



Fig. 1




| Range | A |
|---|---|
| 85 - 135A<br>115 - 180A | 20 |
| 160 - 250A<br>200 - 320A<br>250 - 400A | 25 |

** Dimension – For square OFF button (Stroke 3mm)
– For Round RESET button (Stroke 2.5mm) less 2.5mm

Fig: 2

### Connection diagram

Refer fig. 3.

In case of single phase loads the three main poles should be connected in series. Refer Fig. 4.

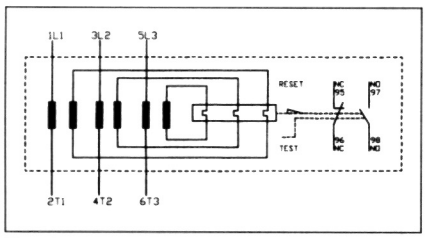



Fig: 3

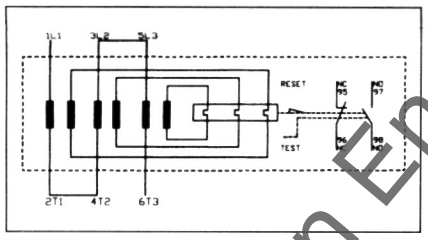



Fig: 4

### Auxillary contacts

Refer fig. 3.

Contact configuration is 1NO+1NC.

1NC is trip contact. For switching capacities refer table 2.

Table 2.

| AC 15 | | DC13 | |
|---|---|---|---|
| Ue. | Ie | Ue | Ie |
| V | A | V | A |
| 24 | 2 | 24 | 2 |
| 60 | 1.5 | 60 | 0.5 |
| 125 | 1.25 | 110 | 0.3 |
| 220 | 1.15 | 220 | 0.2 |
| 380 | 1.1 | | |
| 415 | 1 | | |
| 500 | 1 | | |
| 690 | 0.8 | | |

### Allowable Conductor cross sections

#### Main circuits

| Ranges | 85-135A & 115-180A | 160-250A | 200-320A & 250-400A |
|---|---|---|---|
| Round Conductor with Cable lug | : 120sqmm | 185sqmm | 240sqmm |
| Terminal screw | : M-10 | M-10 | M-10 |
| Tightening torque | : 14-24 Nm | 14-24 Nm | 14-24 Nm |

#### Auxillary Circuit

| | |
|---|---|
| Solid/Standard | : 2 X (1 to 2.5 sqmm) |
| Flexible with end sealing ferrule | : 2 X (0.75 to 1.5sqmm) |
| Terminal screw | : M3.5 |
| Tightening Torque | : 0.8 - 1.2 Nm |

### Connection of Main conductors

Refer Fig. 5

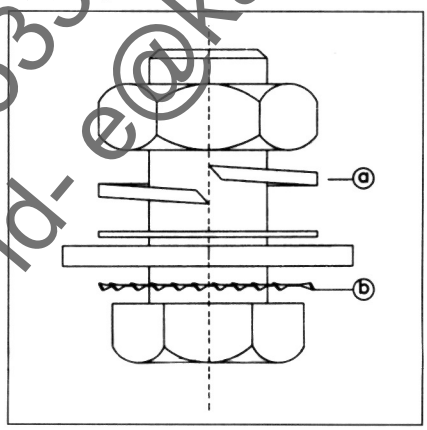



Fig: 5

The spring washer (a) is required to lock the screw. The serrated washer (b) facilitates fitting and prevents screw from turning. There is thus no need to hold the screw head. The serrated washer does not reduce the locking effect of the spring washer (Refer Fig. 5) (These are supplied loose in a plastic bag.)

For operational details Refer fig. 6.

### Dial Setting (P1)

Set the Scale (P1) on tripping relay at marking corresponding to the load current as indicated in table 1.

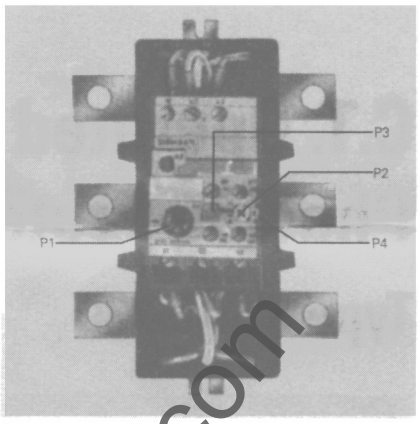



Fig: 6

### Reset Button (P2)

Before putting the relay into operation, press the blue coloured reset button (P2). The auxillary contacts are preset in the factory for Manual resetting. This can be converted to 'Automatic Resetting' by pressing the reset button (P2) with screw driver and turning it anti-clockwise from H (Manual) to A (Automatic) upto limit.

### Test (Off) button (P3)

When this button is actuated, the NC contact opens and the NO contact closes.

### Trip Indicator (P4)

Tripping of 'Manual-resetting' relay is indicated by popping-up of the green coloured pin (P4) from the front plate. Press the reset button to reset the relay. There is no indication in case of automatic resetting.

### Tripping Characteristics

The average tripping characteristics for 3 phase overload and single phasing i.e. 2 phase overloads is given in data sheet.

Individual characteristics for each range are available on request. Please get in touch with the nearest Siemens office.



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