

Type: 45TCR

PT100 Temperature Control Relay

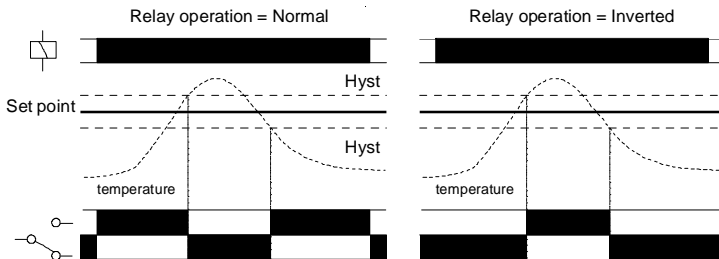
- ❑ 2 or 3 wire PT100 input
- ❑ Monitoring or control of temperature -50°C to 300°C (5 ranges)
- ❑ Adjustable set point and hysteresis
- ❑ Relay Operation Inversion switch - Normal/Inverted
- ❑ Analogue output (0 - 10V DC) relative to set point or measured temperature
- ❑ Dual voltage supply (AC only)
- ❑ LED indication of relay, probe and supply status



Dims:
W. 45mm

Terminal Protection to IP20

FUNCTION DIAGRAM



INSTALLATION AND SETTING



Installation work must be carried out by qualified personnel.

- BEFORE INSTALLATION, ISOLATE THE SUPPLY.
- Connect the unit as shown in the diagram below. (Ensure the correct terminals are used when connecting the supply).
- Select the required temperature range. (N.B. fit link between terminals "Y1" and "Z" for 200 to 300°C range)
- Set the relay inversion switch to either "N" (Normal) or "I" (Inverted).
- Apply power (green LED on).

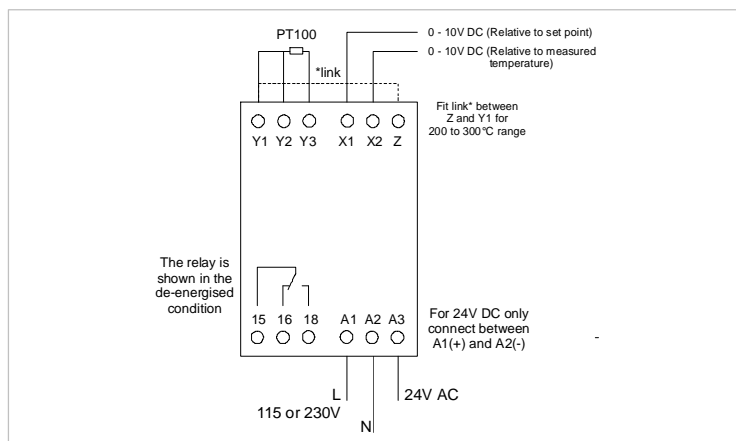
Analogue outputs (0 - 10V DC)

- Connecting between terminals "Y1" and "X1" provides DC voltage relative to the set point (i.e. set point @ 20% = 2V DC out).
- Connecting between terminals "Y1" and "X2" provides DC voltage relative to the measured temperature within any range selected.

Troubleshooting

- Check wiring and voltage present.
- If the red LED flashes, check PT100 connections

CONNECTION DIAGRAM



TECHNICAL SPECIFICATION

| | |
|--------------------------|--|
| Supply voltage Un: | 24V DC 24V / 115V AC 45 - 65Hz* 24V / 230V AC 45 - 65Hz* *Integral transformer |
| Supply variation: | 85 - 115% of Un |
| Isolation: | 3.75kV (N.B. There is no isolation between input and analogue output) |
| Power consumption: | ≈ 4.5VA (27.6V AC), 4.8VA (264V AC) (@ 115% x Un) ≈ 1W (27.6V DC) |
| Input: | PT100 2 or 3-wire (to DIN 43760) |
| Temperature ranges: | -50 to 50°C, 0 to 50°C, 0 to 100°C, (selectable) 100 to 200°C, 200 to 300°C |
| Set point: | 0 - 100% of selected temperature range |
| Hysteresis: | 0.5 - 20% |
| Temperature drift: | 0.05%/°C (max.) |
| Time delay: | 200ms (worst case 5 x τ) |
| Ambient temp: | -20 to + 50°C |
| Relative humidity: | + 95% |
| Output: | 1 x SPDT |
| Output rating: | AC 1 250V AC 8A (2000VA) AC 15 250V AC 5A (no), 3A (nc) DC 1 25V DC 8A (200W) |
| Electrical life: | ≥ 150,000 ops at rated load |
| Analogue output: | 0 - 10V DC (relative to set point or measured temperature) I _{max} = 2mA R _{load} ≥ 5KΩ |
| Housing: | to UL94 VO |
| Weight: | ≈ 200g |
| Mounting option: | On to 35mm symmetric DIN rail to BS5584:1978 (EN50 002, DIN 46277-3) |
| Terminal conductor size: | ≤ 2 x 1.5mm ² stranded wire ≤ 2 x 2.5mm ² solid wire |
| Approvals: | Conforms to UL, CUL, CSA & IEC CE and Compliant |

MOUNTING DETAILS

