



48 x 48mm

## Features :

- ▶ 4+4 digits, 7 segment LED dual display
- ▶ TC / RTD input
- ▶ PID / ON - OFF control
- ▶ Two set points
- ▶ °C / °F selectable
- ▶ Field selectable control output (Relay or SSR)
- ▶ Auxiliary output : Relay

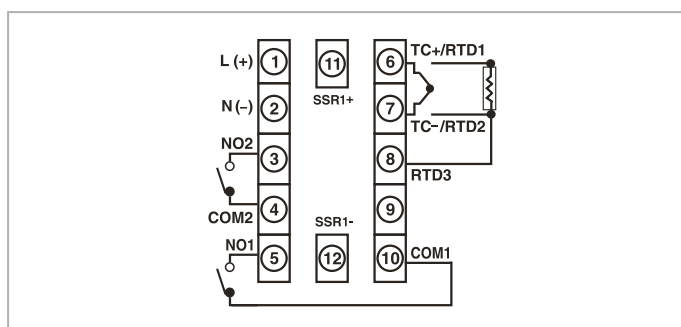
Certifications :  

## Technical specifications

| Display specifications                               |                                                                                                                                                                                |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Display                                              | 4+4 digits, 7 Segment LED dual display                                                                                                                                         |
| Height of display                                    | Upper display : 10mm, Lower display : 7mm                                                                                                                                      |
| LED indication                                       | 1. Output 1 ON                      T : Auto tune<br>2. Output 2 ON                      S : Dwell timer                                                                       |
| Input specifications                                 |                                                                                                                                                                                |
| Inputs                                               | Thermocouple (J, K, T, R, S) / RTD (PT100)                                                                                                                                     |
| Resolution                                           | 0.1 / 1° for TC / RTD input (fixed 1° for R & S type TC input)                                                                                                                 |
| Indication accuracy                                  | For J, K & T inputs : 0.25% of F.S. ±1°<br>For R & S inputs : 0.5% of F.S. ±2° (20 min of warm up time for TC inputs)<br>For RTD inputs : 0.1% of F.S. ±1° (F.S. = Full scale) |
| Temperature unit                                     | °C / °F selectable                                                                                                                                                             |
| Input filter (FTC)                                   | 0.2 to 10.0sec                                                                                                                                                                 |
| Sampling time                                        | 250 ms                                                                                                                                                                         |
| Output specifications                                |                                                                                                                                                                                |
| <b>Control output</b> (Relay or SSR user selectable) |                                                                                                                                                                                |
| Relay contact (SPST)                                 | 5A resistive @ 230V AC / 30V DC                                                                                                                                                |
| SSR drive                                            | 12V DC, 50 mA                                                                                                                                                                  |
| <b>Auxiliary output</b>                              |                                                                                                                                                                                |
| Relay contact (SPST)                                 | 5A resistive @ 230V AC / 30V DC                                                                                                                                                |
| Functional specifications                            |                                                                                                                                                                                |
| Control action                                       | 1) PID Control with auto tuning<br>2) ON-OFF control                                                                                                                           |
| Proportional band (P)                                | 1.0 to 400.0°C                                                                                                                                                                 |
| Integral time (I)                                    | 0 to 9999 sec                                                                                                                                                                  |
| Derivative time (D)                                  | 0 to 9999 sec                                                                                                                                                                  |
| Cycle time                                           | 0.1 to 99.9 sec                                                                                                                                                                |
| Hysteresis width                                     | 0.1 to 99.9°                                                                                                                                                                   |
| Manual reset value                                   | -19.9 to 19.9°                                                                                                                                                                 |
| <b>Heat-cool</b>                                     |                                                                                                                                                                                |
| Control action                                       | PID                                                                                                                                                                            |
| Proportional band-cool                               | 1.0 to 400.0°C                                                                                                                                                                 |
| Cycle time-cool                                      | 0.1 to 99.9 sec                                                                                                                                                                |
| Dead band                                            | Programmable from set point low limit to set point high limit.                                                                                                                 |
| <b>Settings for alarm output</b>                     |                                                                                                                                                                                |
| Modes                                                | Deviation, Absolute                                                                                                                                                            |
| Hysteresis                                           | 0.1 to 99.9°                                                                                                                                                                   |

| Auxiliary supply specifications |                                                                   |
|---------------------------------|-------------------------------------------------------------------|
| Supply voltage                  | 90 to 270V AC / DC (50 / 60Hz) Optional - 24V AC / DC, $\pm 10\%$ |
| Power consumption               | 6 VA max @ 230V AC                                                |
| Environment specifications      |                                                                   |
| Temperature                     | Operating : 0°C to 50°C; Storage : -20°C to 75°C                  |
| Humidity (non - condensing)     | 95% RH                                                            |
| Mechanical specifications       |                                                                   |
| Mounting                        | Panel                                                             |
| Weight                          | 142 gms                                                           |

## Terminal connections



## Dimensions (All are in mm)

|        |     | Front bezel |    | Side view |    | Panel Cutout |    |
|--------|-----|-------------|----|-----------|----|--------------|----|
|        |     | A           | B  | C         | D  | E            | F  |
| MODELS | DIM | A           | B  | C         | D  | E            | F  |
| TC544A |     | 52          | 52 | 76        | 45 | 4            | 46 |

## Compliance

| Applicable EMI / EMC Standards |               |                                                                                 |
|--------------------------------|---------------|---------------------------------------------------------------------------------|
| Product Standard : IEC 61326-1 |               |                                                                                 |
| Category                       |               | Standards Compliance                                                            |
| ESD Immunity                   | IEC 61000-4-2 | Level III                                                                       |
| Surge Immunity                 | IEC 61000-4-5 | +/- 2 kV common mode,<br>+/- 1 kV differential mode                             |
| Radiated Susceptibility        | IEC 61000-4-3 | Level III, 80 to 1000MHz<br>Level II, 1.4GHz to 2GHz<br>Level I, 2GHz to 2.7GHz |
| Conducted Susceptibility       | IEC 61000-4-6 | Level II                                                                        |

| Applicable EMI / EMC Standards |                |                                                                                                                                                                                                                                                                                                  |
|--------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Standard : IEC 61326-1 |                |                                                                                                                                                                                                                                                                                                  |
| Category                       |                | Standards Compliance                                                                                                                                                                                                                                                                             |
| Voltage Dips and Interruptions | IEC 61000-4-11 | <b>Dips</b> : 0% residual voltage / 1 cycle (Criteria B), 40% residual voltage / 10 cycles 50Hz / 12 cycles 60Hz (Criteria C) 70% residual voltage / 25 cycles 50Hz / 30 cycles 60Hz (Criteria C)<br><b>Interruptions</b> : 0% residual voltage / 250 cycles 50Hz / 300 cycles 60Hz (Criteria C) |
| Conducted Emission             | CISPR-11       | Class A (150KHz to 30MHz)                                                                                                                                                                                                                                                                        |
| Radiated Emission              | CISPR-11       | Class A (30MHz to 1GHz)                                                                                                                                                                                                                                                                          |
| Electrical Fast Transient      | IEC 61000-4-4  | Level III                                                                                                                                                                                                                                                                                        |

## Ordering information

| Product Code | Output 1   |              | Output 2   | Supply Voltage     | Certification                                                                            |
|--------------|------------|--------------|------------|--------------------|------------------------------------------------------------------------------------------|
|              | Relay      | SSR          |            |                    |                                                                                          |
| TC544A-CU    | RELAY (5A) | SSR (12V DC) | RELAY (5A) | 90 to 270V AC / DC | CE  |