



48 x 48mm

72 x 72mm

96 x 96mm

**Features :**

- 3 Digits, 7 Segment LED single display
- TC / RTD Inputs
- ON - OFF / PID Control
- Single Set Point
- °C / °F Selectable
- Field selectable Control Output (Relay or SSR)

Certifications :

**Display Specifications**

|                 |   |
|-----------------|---|
| Display         | 3 Digits, 7 Segment LED single display<br>TC513 : Height of Display 0.3785"<br>TC203 : Height of Display 0.5385"<br>TC303 : Height of Display 0.5510" |
| LED Indications | Control output ON   |

**Input Specifications**

|                     |  |
|---------------------|--|
| Inputs              | Thermocouple (J, K, T, R, S) / RTD (PT100)   |
| Resolution          | Fixed 1°   |
| Indication Accuracy | For J, K & T inputs : 0.25% of F.S. ±1°<br>For R & S inputs : 0.5% of F.S. ±2°<br>(20 min of warm up time for TC inputs)<br>For RTD inputs : 0.1% of F.S. ±1°<br>(F.S. = Full Scale) |
| Temperature Unit    | °C / °F selectable   |
| Input Filter (FTC)  | 0.2 to 10.0 sec  |
| Sampling time       | 250 ms   |

**Output Specifications**

|  |   |
|--|---|
| <b>Control Output</b> (Relay or SSR user selectable) |   |
| Relay contact (SPST)                                 | 10A resistive @ 250V AC / 30V DC<br>(For TC221A, TC303A)            |
| Relay contact (SPDT)                                 | 10A resistive @ 250V AC / 30V DC<br>(For TC513AX, TC203AX, TC303AX) |
| SSR drive (Voltage Pulse)                            | 12V DC, 50 mA   |

**Functional Specifications**

|                       |  |
|-----------------------|--|
| Control Action        | 1) PID Control with auto tuning<br>2) ON - OFF Control |
| Proportional Band (P) | 1 to 400°  |
| Integral Time (I)     | 0.0 to 99.9 min  |
| Derivative Time (D)   | 0 to 999 sec   |
| Cycle Time            | 0.1 to 99.9 sec  |
| Hysteresis Width      | 0.1 to 99.9°   |
| Manual Reset Value    | -19.9 to 19.9°   |

**Auxiliary Supply Specifications**

|                   |                                       |
|-------------------|---------------------------------------|
| Supply Voltage    | 85 to 270V AC / DC (AC : 500 / 60 Hz) |
| Power Consumption | 5 VA max @ 230V AC                    |

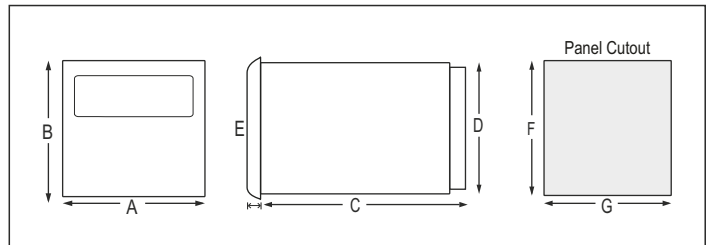
**Environmental Specifications**

|                           |  |
|---------------------------|--|
| Temperature               | Operating : 0 to 50°C (32 to 122°F)<br>Storage : -20 to 75°C (-4 to 167°F) |
| Humidity (non-condensing) | 95% RH   |

**Mechanical Specifications**

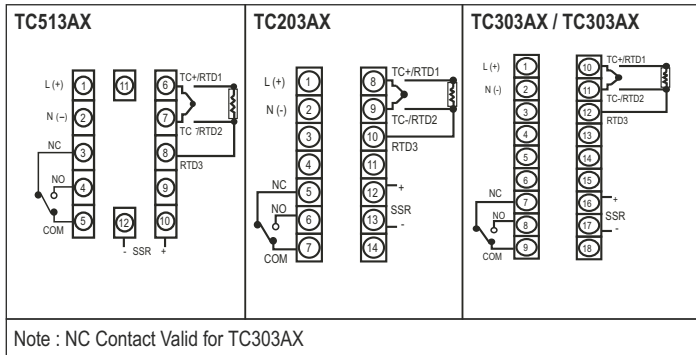
|          |   |
|----------|---|
| Mounting | Panel   |
| Weight   | TC513 : 129gms / TC203 : 180gms /<br>TC303 : 240gms |

**Dimensions**



| MODELS                   | DIM | A  | B  | C    | D    | E   | F  | G  |
|--------------------------|-----|----|----|------|------|-----|----|----|
| TC513AX                  |     | 52 | 52 | 94   | 45   | 4   | 46 | 46 |
| TC203AX                  |     | 72 | 72 | 83.7 | 67   | 4.5 | 69 | 69 |
| TC303AX / TC303A         |     | 96 | 96 | 73   | 90.5 | 5   | 92 | 92 |
| All dimensions are in mm |     |    |    |      |      |     |    |    |

Terminal Connections



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  |
| Voltage Dips and Interruptions | IEC 61000-4-11 | <b>Dips</b> : 0% residual voltage /<br>1 cycle (Criteria B), 40% residual voltage /<br>10 cycles 50Hz / 12 cycles 60Hz<br>(Criteria C) 70% residual voltage /<br>25 cycles 50Hz / 30 cycles 60Hz<br>(Criteria C)<br><b>Interruptions</b> : 0% residual voltage /<br>250 cycles 50Hz / 300 cycles 60Hz<br>(Criteria C) |
| Conducted Emission             | CISPR-11       |   |
| Radiated Emission              | CISPR-11       |   |
| Electrical Fast Transient      | IEC 61000-4-4  | Level III   |

Ordering Information

| PRODUCT CODE | OUTPUT    | SUPPLY VOLTAGE  | CERTIFICATION |
|--------------|-----------|-----------------|---------------|
| TC513AX      | RELAY SSR | 85-270V AC / DC | CE            |
| TC513AX-CE   | RELAY SSR | 85-270V AC / DC | CE            |
| TC513AX-CU   | RELAY SSR | 85-270V AC / DC | CE, RoHS      |
| TC203AX      | RELAY SSR | 85-270V AC / DC | CE            |
| TC203AX-CE   | RELAY SSR | 85-270V AC / DC | CE            |
| TC203AX-CU   | RELAY SSR | 85-270V AC / DC | CE, RoHS      |
| TC303AX      | RELAY SSR | 85-270V AC / DC | CE            |
| TC303AX-CE   | RELAY SSR | 85-270V AC / DC | CE            |
| TC303AX-CU   | RELAY SSR | 85-270V AC / DC | CE, RoHS      |
| TC303A       | RELAY SSR | 85-270V AC / DC | CE            |

Accessories (Optional)

Standard SELEC accessories that can be used with this product.

Adapter plate

- 1) AP7248 : Plastic adapter plate, used to mount 1 / 16 DIN (cutout size 48 x 48) Instrument into existing (72 x 72) cutout size.
- 2) AP9648 : Plastic adapter plate, used to mount 1 / 16 DIN (cutout size 48 x 48) Instrument into existing (96 x 96) cutout size.
- 3) AP9672 : Plastic adapter plate, used to mount 72 x 72mm size instrument into existing (96 x 96) cutout size.
- 4) AP4896-4848-G-C : Plastic adapter plate, used to mount 1 / 16 DIN (cutout size 48 x 48) Instrument into existing (48 x 96) cutout size.

Mounting Accessories (Supplied with units)

For TC513 : 48 x 48 Collar clamp ACL4802

For TC203 / TC303 : Clamp side with screw assembled

Input Sensor Ranges

| Sensor type | Resolution | Ranges      |
|-------------|------------|-------------|
|             |            | 1           |
| Pt100       | °C         | -150 to 850 |
|             | °F         | -199 to 999 |
| J           | °C         | -199 to 750 |
|             | °F         | -199 to 999 |
| K           | °C         | -199 to 999 |
|             | °F         | -199 to 999 |
| T           | °C         | -199 to 400 |
|             | °F         | -199 to 750 |
| R & S       | °C         | 0 to 999    |
|             | °F         | 32 to 999   |