

# TEMPERATURE CONTROLLER TC-443



## TECH SPECS

|                             |   |
|-----------------------------|---|
| <b>Model</b>                | TC-443  |
| <b>Dimension (HxWxD) mm</b> | 48 x 48 x 70  |
| <b>Panel Cutout</b>         | 45 x 45   |
| <b>Input</b>                | J & K Type Thermocouple                                       |
| <b>Range</b>                | J: 0 to 400° C, K: 0 to 500° C                                |
| <b>Output</b>               | 3 Relay (NO-C), 5A 230V AC & 1st Relay Parallel to SSR 12V DC |
| <b>Control Action</b>       | PID / TP / ON-OFF ( Configurable )                            |
| <b>Mode</b>                 | Heating / Cooling ( Configurable )                            |
| <b>Power Supply</b>         | 100-270V AC, 50/60 HZ   |

## APPLICATIONS

Packaging Machinery

Extrusion Machinery

Furnace & Boilers

Ovens & Incubators

Food Industry

# Technical Specifications

| Input                  |                         |
|------------------------|-------------------------|
| Input Type             | Thermocouple : ( J, K ) |
| Display Range          | Refer ( Table 1 )       |
| Accuracy               | ± 1% of FSD             |
| ADC Resolution         | 10 Bits                 |
| Display Resolution     | Thermocouple : 1 °C     |
| Sample Rate            | 6 Sample / Sec          |
| CJC Error              | ± 2 °C                  |
| Sensor Open            | All Input               |
| Sensor Burnout Current | 1.10uA                  |
| RTD Excitation Current | 0.2mA                   |
| CMRR                   | >120 db ( Typical )     |
| Input Impedance        | >1M                     |
| Max Voltage            | 20V DC                  |

| Output                           |                               |
|----------------------------------|-------------------------------|
| <b>Control Output</b>            |                               |
| Control Type                     | On-Off, Auto tune PID,TP      |
| Proportional Band                | 0.0 to 99.9                   |
| Integral Time                    | 0 to 999                      |
| Derivative Time                  | 0 to 999                      |
| Cycle Time                       | 4 sec to 99 sec               |
| <b>Relay Control Output</b>      |                               |
| Relay                            | 3Relay (NO-C)                 |
| Rating                           | 5A @230V AC<br>Resistive Load |
| <b>SSR Control Output</b>        |                               |
| 1st Relay Parallel to SSR 12V DC |                               |

| Physical            |   |
|---------------------|---|
|                     | <b>TC-443</b>   |
| Enclosure           | Molded ABS  |
| Weight              | 180gm   |
| Color               | Black   |
| Front Bezel ( mm )  | 48 x 48   |
| Panel cutout ( mm ) | 45 x 45   |
| Depth behind panel  | 70 mm   |
| Accessories         | 1 pair of Mounting clamp                                    |
| Terminal Cable Size | Barrier Type terminal<br>Cable Size ( 2.5 mm <sup>2</sup> ) |

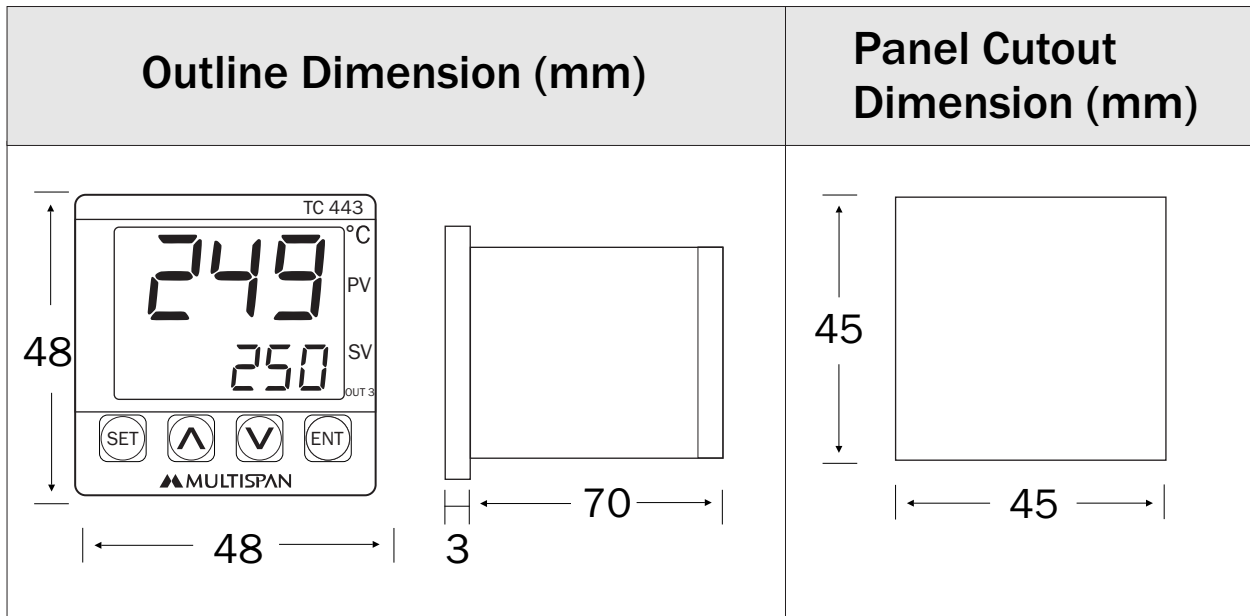
| Environmental         |                       |
|-----------------------|-----------------------|
| Operating Temperature | 0 to 55 °C            |
| Storage Temperature   | 0 to 70 °C            |
| Humidity              | 95% RH Non-condensing |
| Protection            | IP 54 ( Front Side )  |

| Power Supply |                          |
|--------------|--------------------------|
| Standard     | 100 - 270V AC @ 50/60 Hz |
| Optional     | 24V DC                   |
| Consumption  | 4VA                      |

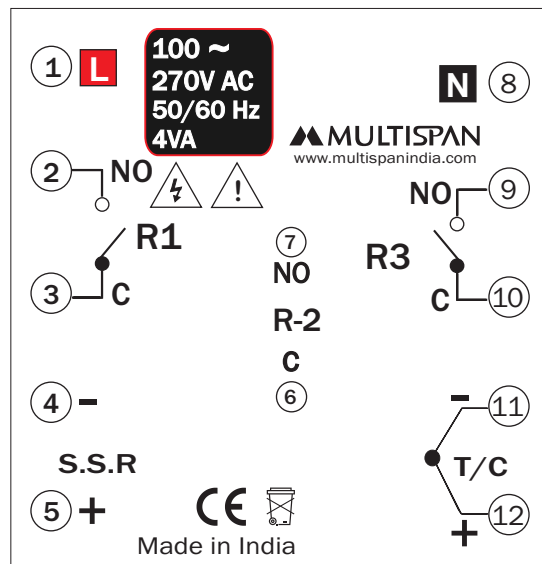
| Display (Table 1 ) |  |
|--------------------|--|
|                    | <b>TC-443</b>  |
| Process Value      | UPPER: 3 Digit 7 seg 0.63",RED/<br>WHITE LED Display |
| Set Value          | LOWER: 3 Digit 7 seg 0.30",GREEN<br>LED Display      |
| Keys               | SET, INC, DEC, ENT                                   |

| Table 1 ( Sensor Range ) |             |
|--------------------------|-------------|
| J                        | 0 to 400 °C |
| K                        | 0 to 500 °C |

## Mechanical Dimension



## Terminal Diagram



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