



# PROCESS TEMPERATURE CONTROLLER

PTC-1202-M1

## APPLICATIONS

Pharmaceutical Industries

---

Extrusion Machinery

---

Furnace & Boilers

---

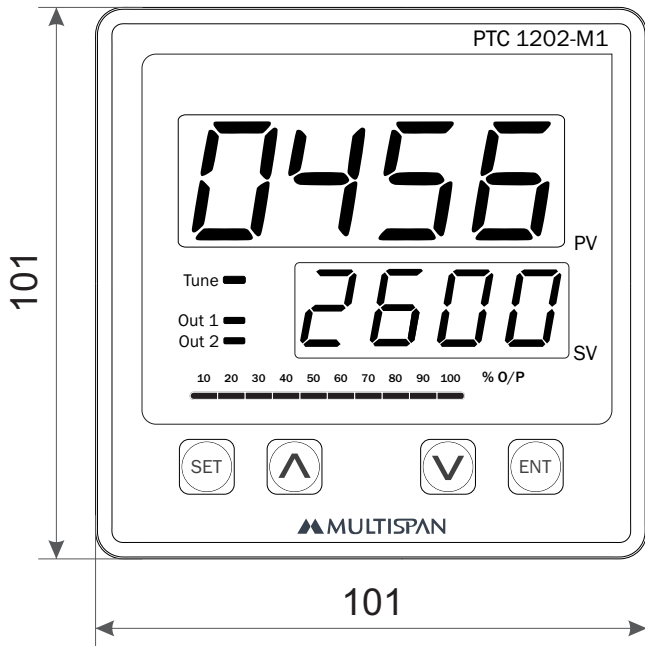
Ovens & Incubators

---

Process Industry

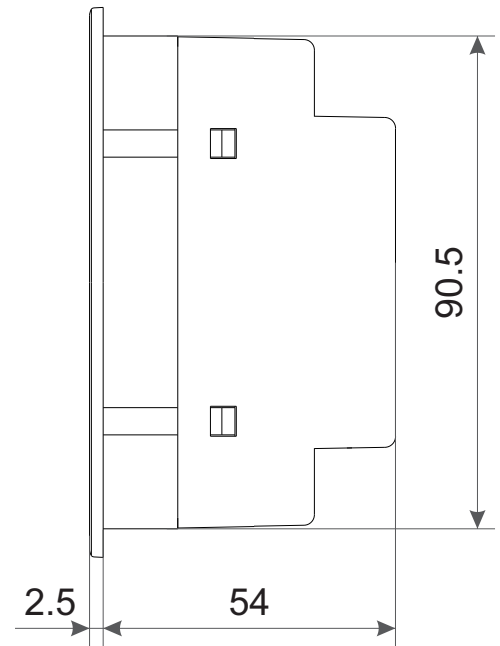
# Mechanical Dimensions

## Body Dimensions



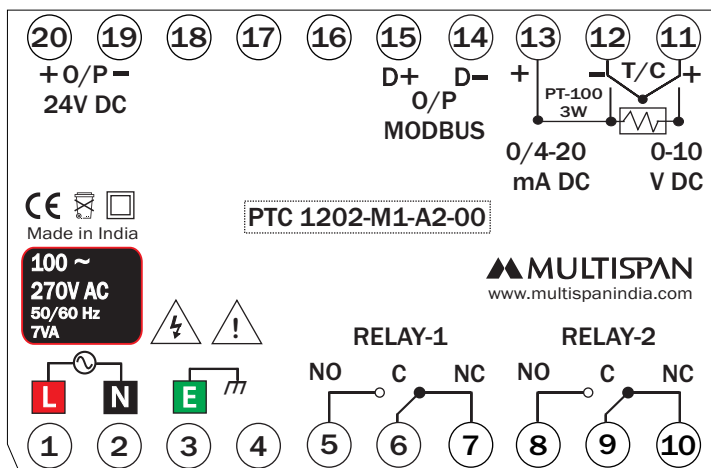
**FRONT VIEW**

All dimensions are in mm

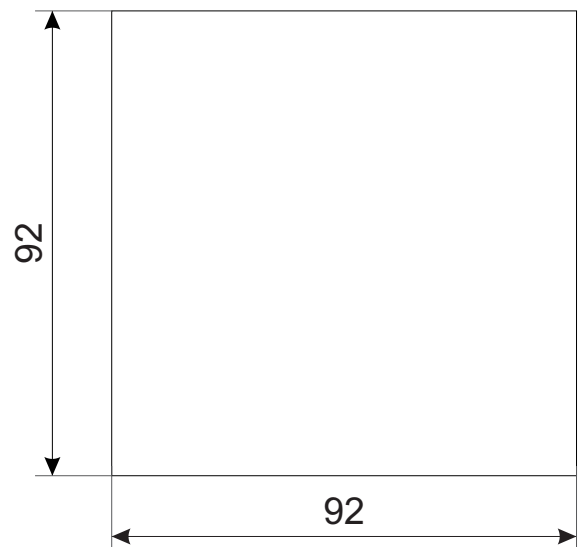


**RIGHT SIDE VIEW**


## Connection Diagram



## Panel Cutout



# TECHNICAL DATA

<b>Input</b>	<b>Thermocouple</b>	J / K (Configurable)
	<b>RTD</b>	PT-100 / 2 Wire / 3 Wire (Configurable)
	<b>Analog</b>	0-10V DC, 0-20mA DC, 4-20mA DC (Configurable)
<b>Range</b>	<b>Thermocouple</b>	J: (0 to 600 °C), K: (0 to 1200 °C)
	<b>RTD</b>	PT-100: (-99 to 400 °C)/ PT.1: (-99.9 to 400.0 °C)
	<b>Analog</b>	(-1999 to 9999)
<b>Output</b>	<b>Output 1</b>	Relay 1 C/O, 5A@230V AC For Resistive Load or SSR 12V DC,20mA
	<b>Output 2</b>	Relay 1 C/O, 5A@230V AC For Resistive Load or SSR 12V DC,20mA
	<b>Output 3</b>	RS-485 RTU MODBUS Communication Protocol
	<b>Output 4</b>	24V DC Transmitter supply
<b>Control Action</b>		Heating : PID / ON-OFF ( Configurable ) Cooling : ON-OFF / Blower TP ( Configurable )
<b>Power Supply</b>		100-270V AC, 50/60 HZ, Approx 7VA
<b>Certification</b>		

**Table 1 (Input range)**

<b>J</b>	0 to 600 °C
<b>K</b>	0 to 1200 °C
<b>PT-100</b>	-99 to 400 °C
<b>PT.1</b>	-99.9 to 400.0 °C
<b>0-10V DC</b>	-1999 to 9999
<b>4-20mA DC</b>	-1999 to 9999
<b>0-20mA DC</b>	-1999 to 9999

**Power Supply**

<b>Standard</b>	100-270V AC @ 50/60 Hz
<b>Optional</b>	24V DC
<b>Consumption</b>	7VA

**Display & Keys**

<b>Upper:-</b> 4 Digit, 7 seg. 0.8" RED LED Display
<b>Lower:-</b> 4 Digit, 7 seg. 0.56" White LED Display
SET , INC , DEC , ENT

**Communication**

<b>Type</b>	RS 485
<b>Protocol</b>	MODBUS RTU
<b>Baud Rate</b>	2400 , 4800, 9600 , 19200 , 38400
<b>Isolation</b>	2500 V <sub>RMS</sub> Isolation as per UL 1577

### Input

<b>Input Type</b>	Thermocouple : J, K RTD : PT-100, PT.1 Analog : 0-10V DC 4-20mA DC 0-20mA DC
<b>Display Range</b>	Refer ( Table 1 )
<b>Accuracy</b>	± 1% of FSD
<b>ADC Resolution</b>	12 Bit
<b>Display Resolution</b>	Thermocouple :- 1° C RTD :- For PT: 1° C For PT.1: 0.1° C
<b>Sample Time</b>	600 msec
<b>Sample Rate For Analog I/P</b>	0.1 Sec To 10 Sec (Configurable)
<b>CJC Error</b>	± 2° C
<b>Sensor Open</b>	Thermocouple:- J, K, RTD:- PT, Analog: 4 to 20mA ( Over )
<b>Sensor Burnout Current</b>	1.10uA
<b>RTD Excitation Current</b>	0.2mA
<b>CMRR</b>	>120 dB ( Typical )
<b>Max Voltage</b>	20V DC
<b>Response Time</b>	675mS

### Output

Control Output	
<b>Control Type</b>	ON-OFF, Auto tune PID
<b>Proportional Band</b>	0000 to 999.9
<b>Integral Time</b>	0000 to 9999
<b>Derivative Time</b>	0000 to 9999
<b>Cycle Time For SSR and Relay</b>	4 sec to 99 sec
Relay Control Output	
<b>Relay</b>	2 Nos, 1 C/O ( NO-C-NC )
<b>Rating</b>	Relay 1: 5A @230V AC/ 28V DC Resistive Load Relay 2: 5A @230V AC / 28V DC Resistive Load
SSR Control Output (Optional)	
<b>Rating</b>	12V DC @20mA

### Environmental Characteristics

<b>Operating Temperature</b>	0 to 55° C
<b>Storage Temperature</b>	0 to 70° C
<b>Humidity</b>	95% RH Non-condensing
<b>Ingress Protection</b>	IP 65 ( Front Side )

### Mechanical Characteristics

<b>Mounting Type</b>	Panel Mount
<b>Dimension (HxWxD) mm</b>	101 x 101 x 54
<b>Panel Cutout (HxW) mm</b>	92 x 92
<b>Material</b>	Front Enclosure Polycarbonate (PC) ABS
<b>Terminal Screw Size</b>	M3.5
<b>Screw Torque (N.m)</b>	1
<b>Wire Gauge (AWG)</b>	26-14
<b>Weight (Approx) gms</b>	Unpacked : 260 Packed : 315
<b>Accessories</b>	1 Pair of Clamps