



PROCESS TEMPERATURE CONTROLLER

PTC-4202-M1

APPLICATIONS

Pharmaceutical Industries

Extrusion Machinery

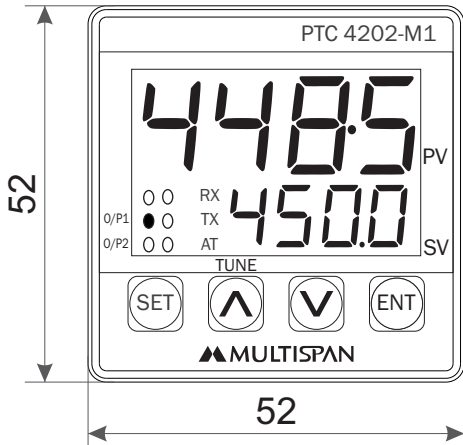
Furnace & Boilers

Ovens & Incubators

Process Industry

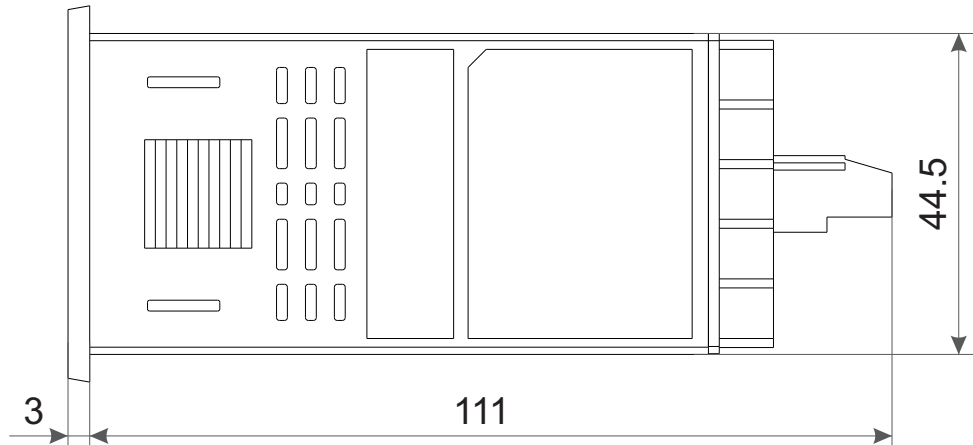
Mechanical Dimensions

Body Dimensions



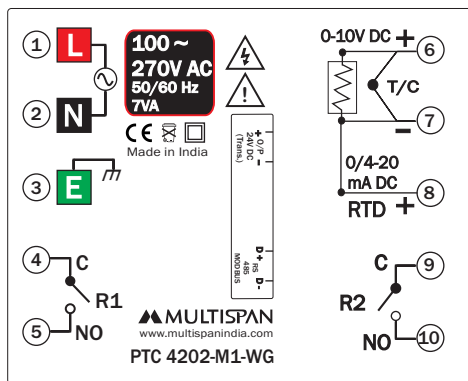
FRONT VIEW

All dimensions are in mm

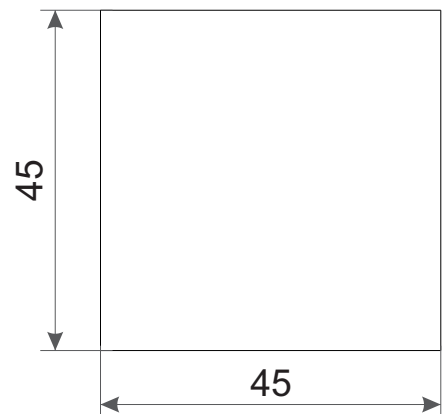


RIGHT SIDE VIEW

Connection Diagram



Panel Cutout



TECHNICAL DATA


| | | |
|-----------------------|---------------------|---|
| Input | Thermocouple | J / K (Configurable) |
| | RTD | PT-100/ 2 Wire / 3 Wire (Configurable) |
| | Analog | 0-10V DC, 0-20mA DC, 4-20mA DC (Configurable) |
| Range | Thermocouple | J: (0 to 600 °C), K: (0 to 1200 °C) |
| | RTD | PT-100: (-99 to 400 °C)/ PT.1: (-99.0 to 400.0 °C) |
| | Analog | (-999 to 9999) |
| Output | Output 1 | Relay 1 C/O, 5A@230V AC For Resistive Load or SSR 12V DC,20mA (1 st Set point) |
| | Output 2 | Relay 1 C/O, 5A@230V AC For Resistive Load or SSR 12V DC,20mA (2 nd Set point) |
| | Output 3 | 24V DC Transmitter Supply |
| | Output 4 | RS-485 RTU MODBUS Communication Protocol |
| Control Action | | Heating : PID / ON-OFF (Configurable) Cooling : ON-OFF / Blower TP (Configurable) |
| Power Supply | | 100-270V AC, 50/60 HZ, Approx 7VA |
| Certification | |  |

Table 1 (Input range)

| | |
|------------------|-------------------|
| J | 0 to 600 °C |
| K | 0 to 1200 °C |
| PT-100 | -99 to 400 °C |
| PT.1 | -99.0 to 400.0 °C |
| 0-10V DC | -999 to 9999 |
| 4-20mA DC | -999 to 9999 |
| 0-20mA DC | -999 to 9999 |

Display & Keys

| | |
|--|--|
| Display | Upper:- 4 Digit, 7 seg. 0.56" White LED Display |
| | Lower:- 4 Digit, 7 seg. 0.33" Green LED Display |
| LED Status | Relay Indication LED |
| 4 Controlling Keys for configuration and operation SET, UP, DOWN, ENT | |

Power Supply

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

Communication

| | |
|------------------|--|
| Type | RS 485 |
| Protocol | MODBUS RTU |
| Baud Rate | 2400 , 4800, 9600, 19200 , 38400 |
| Isolation | 2500 V _{RMS} Isolation as per UL 1577 |

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

| Output | |
|-------------------------------|---|
| Control Output | |
| Control Type | ON-OFF,Auto tune PID |
| Proportional Band | 0000 to 999.9 |
| Integral Time | 0000 to 9999 |
| Derivative Time | 0000 to 9999 |
| Cycle Time For SSR and Relay | 4 sec to 99 sec |
| Relay Control Output | |
| Relay | 2 (NO - C) |
| Rating | Relay 1: 5A @230V AC/ 28V DC Resistive Load Relay 2: 5A @230V AC / 28V DC Resistive Load |
| SSR Control Output (Optional) | |
| Rating | 12V DC @25mA |

| Environmental Characteristics | |
|-------------------------------|-----------------------|
| Operating Temperature | 0 to 55 °C |
| Storage Temperature | 0 to 70 °C |
| Humidity | 95% RH Non-condensing |
| Protection | IP 65 (Front Side) |

| Mechanical Characteristics | |
|----------------------------|--|
| Mounting Type | Panel Mount |
| Dimension (HxWxD) mm | 52 x 52 x 111 |
| Panel Cutout (HxW) mm | 45 x 45 |
| Material | Enclosure Back Polycarbonate (PC) ABS |
| Terminal Screw Size | M3.5 |
| Screw Torque (N.m) | 1 |
| Wire Gauge (AWG) | 26-14 |
| Weight (Approx) gms | Unpacked : 165 Packed : 195 |
| Accessories | 1 Pair of Clamps |