

# TEMPERATURE CONTROLLER

## PTC-L12AR-M1



## TECH SPECS

<b>Dimension</b> (HxWxD) mm	96 x 96 x 54						
<b>Panel Cutout</b>	92 x 92						
<b>Input</b>	<table border="0"> <tr> <td><b>Thermocouple</b></td> <td>J / K / PT-100 3W (Configurable)</td> </tr> <tr> <td><b>Analog</b></td> <td>0-10V DC, 0-20mA DC, 4-20mA DC (Configurable)</td> </tr> </table>	<b>Thermocouple</b>	J / K / PT-100 3W (Configurable)	<b>Analog</b>	0-10V DC, 0-20mA DC, 4-20mA DC (Configurable)		
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<b>Range</b>	<table border="0"> <tr> <td><b>Thermocouple</b></td> <td>J :- ( 0°C to 600°C ), K :- ( 0°C to 1200°C )</td> </tr> <tr> <td><b>RTD</b></td> <td>PT-100 : ( -99.9°C to 400.0°C )</td> </tr> <tr> <td><b>Analog</b></td> <td>( -999 to 9999 )</td> </tr> </table>	<b>Thermocouple</b>	J :- ( 0°C to 600°C ), K :- ( 0°C to 1200°C )	<b>RTD</b>	PT-100 : ( -99.9°C to 400.0°C )	<b>Analog</b>	( -999 to 9999 )
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<b>Output 2</b>	4 to 20mA DC						
<b>Output 3</b>	RS-485 RTU MODBUS Communication Protocol						
<b>Control Action</b>	PID / ON-OFF ( Configurable )						
<b>Power Supply</b>	100-270V AC, 50/60 HZ						
<b>Certification</b>							

## APPLICATIONS

Pharmaceutical Industries

Extrusion Machinery

Furnace & Boilers

Ovens & Incubators

Process Industries

# Technical Specifications

Input	
Input Type	Thermocouple : (J, K) RTD : PT-100, PT.1 0-10V DC 4-20mA DC 0-20mA DC
Display Range	<b>Refer ( Table 1 )</b>
Accuracy	± 1% of FSD
ADC Resolution	12 Bit
Display Resolution	Thermocouple : 1°C RTD : 1°C / 0.1°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 )
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 - NC )
Rating	5A @230V AC / 28V DC Resistive Load
SSR Control Output	
Rating	12V DC @25mA
Analog Output	
Current	4-20mA@500Ω max
Voltage	0-10V @800Ω min

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

Power Supply	
Standard	100 - 250V AC @ 50/60 Hz
Optional	24V DC
Consumption	4VA

Display & Keys
128 X 64 3.0" inch backlit graphical LCD Display
4 controlling keys for configuration and operation SET, UP, DOWN, ENT

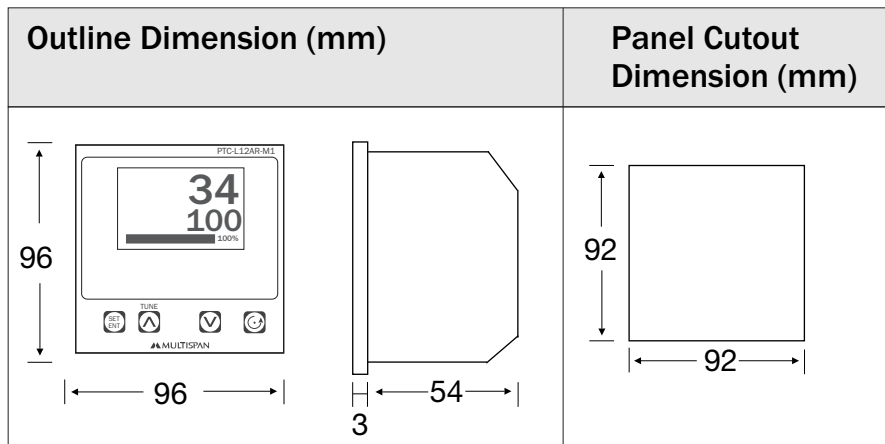
Environmental	
Operating Temperature	0 to 55°C
Storage Temperature	0 to 70°C
Humidity	95% RH Non-condensing
Protection	IP 54 ( Front Side )

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

## Physical

PTC L12AR-M1	
Mount	Panel
Enclosure	Molded ABS
Weight	315gm
Color	Black
Front Bezel ( mm )	96 x 96
Panel cutout ( mm )	92 x 92
Depth behind panel	50 mm
Accessories	1 pair of Mounting clamp
Terminal Cable Size	Barrier Type terminal Cable Size ( 2.5 mm <sup>2</sup> )

## Mechanical Dimension



## Connection Diagram

