



# TEMPERATURE CONTROLLER

TC-221P

## APPLICATIONS

Packaging Machinery

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Extrusion Machinery

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Furnaces & Boilers

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Ovens & Incubators

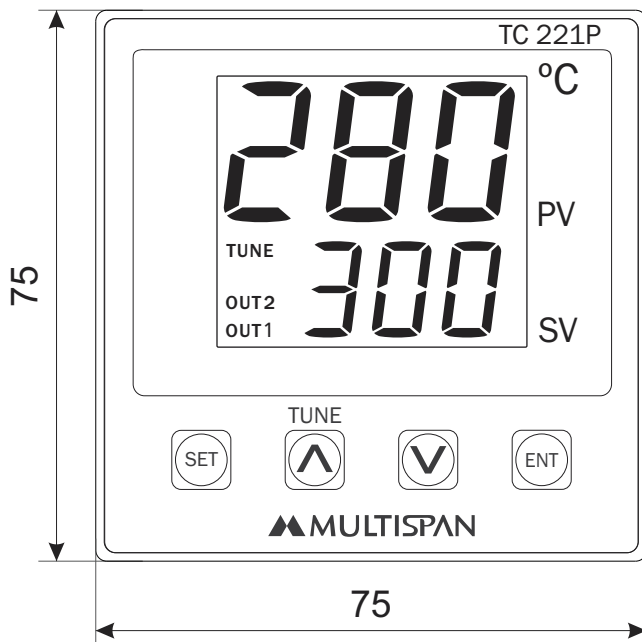
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Food Industry

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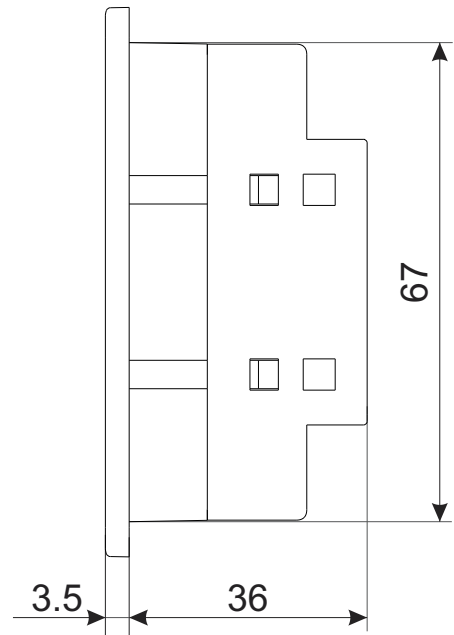
# Mechanical Dimensions

## Body Dimensions



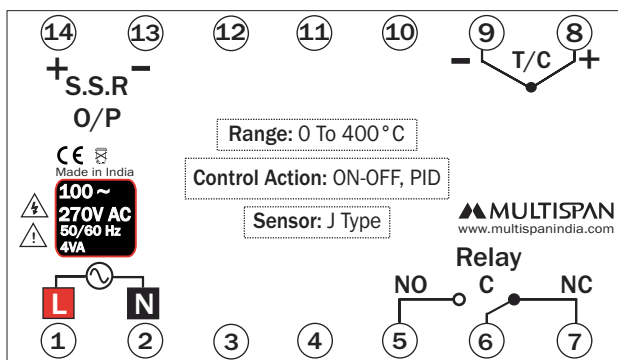
**FRONT VIEW**

All dimensions are in mm

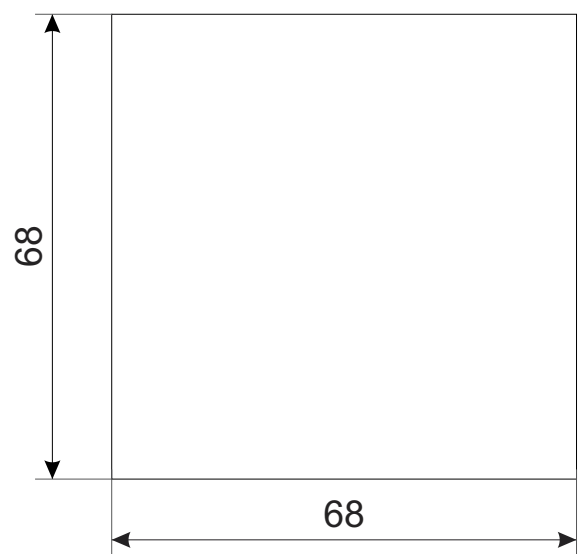


**RIGHT SIDE VIEW**

## Connection Diagram



## Panel Cutout



# TECHNICAL DATA

<b>Input Current</b>	Thermocouple:- J / K (Configurable) RTD :- PT-100 3Wire /2Wire
<b>Range</b>	Thermocouple:- J: 0 - 400 °C, K: 0 to 500 °C RTD :- PT-100: -50 to 400 °C/ PT.1: -19.9 to 400.0 °C
<b>Output</b>	1 Relay 1 C/O, 5A, 230V AC & SSR 12V DC Parallel ( 1 Set point )
<b>Control Action</b>	PID / ON-OFF ( Configurable )
<b>Mode</b>	Heating / Cooling ( Configurable )
<b>Power Supply</b>	100-270V AC, 50/60 HZ
<b>Certification</b>	<b>CE</b>

Input	
<b>Input Type</b>	Thermocouple : J, K RTD : PT-100, PT.1
<b>Display Range</b>	Refer ( Table 1 )
<b>Accuracy</b>	± 1% of FSD
<b>ADC Resolution</b>	10 Bits
<b>Display Resolution</b>	J/K,PT-100 = 1 °C PT.1 = 0.1 °C
<b>Sample Rate</b>	6 Sample / Sec
<b>CJC Error</b>	± 2 °C
<b>Sensor Open</b>	All Input
<b>Sensor Burnout Current</b>	1.10uA
<b>RTD Excitation Current</b>	0.2mA
<b>CMRR</b>	>120 db ( Typical )
<b>Input Impedance</b>	>1M
<b>Max Voltage</b>	20V DC

Output	
Control Output	
<b>Control Type</b>	On-Off,Auto Tune PID
<b>Proportional Band</b>	0.0 to 999.9
<b>Integral Time</b>	0 to 9999
<b>Derivative Time</b>	0 to 9999
<b>Cycle Time For SSR For Relay</b>	4 sec to 99 sec
Relay Control Output	
<b>Relay</b>	1 Nos.
<b>Rating</b>	5A @230V AC / 28V DC Resistive Load
SSR Control Output	
<b>Rating</b>	12V DC @30mA

Display (Table 1)	
<b>Process Value</b>	Upper: 3 Digit 7 seg 0.80" Red / White LED Display
<b>Set value</b>	Lower: 3 Digit 7 seg 0.40" Green LED Display
<b>Key</b>	SET, UP, DOWN, ENT
<b>LED Indication</b>	Relay , SSR

Power Supply	
<b>Power Supply</b>	100 to 270V AC, 50/60Hz
<b>Optional</b>	24V DC
<b>Consumption</b>	4VA

**Table 1 ( Sensor Range )**

J	0 to 400°C
k	0 to 500°C
PT-100	-50 to 400°C,
PT.1	-19.9 to 99.9°C

**Environmental Characteristics**

Working Temperature	0 to 55°C
Storage Temperature	0 to 55°C
Relative Humidity	95% RH Non-condensing
Protection	IP 65 (Front Side)

**Mechanical Characteristics**

Mounting Type	Panel Mount
Dimension (HxWxD) mm	75 x 75 x 36
Panel Cutout (HxW) mm	45 x 45
Material	Front Enclosure
	Polycarbonate (PC) ABS
Terminal Screw Size	M3.5
Screw Torque (N.m)	0.5
Wire Gauge (AWG)	26-14
Weight (Approx) gms	Unpacked : 115 Packed : 145
Accessories	1 Pair of Mounting Clamps