

# Temperature Controllers

Models TEC-901 & TEC-902 1/16 DIN



Models TEC-901 & TEC-902 (with Hi-Low LED Indicators) 1/16 DIN Temperature Controllers



Non-Indicating Control!



Shows Process Temperature Deviation with Hi/Low LEDs!

Hardware Code: TEC-901-

1  2  3  4  5  6 **0**  7  8

A Part Number based on the hardware code and any software pre-programming will be issued at time of order.

**Standard lead time is stock to 2 weeks.**

With Hi-Low LEDs

Hardware Code: TEC-902-

1  2  3  4  5  6 **0**  7  8

A Part Number based on the hardware code and any software pre-programming will be issued at time of order.

**Standard lead time is stock to 2 weeks.**

**Power Input** BOX 1

**1** = 100-130 VAC, 50/60 Hz  
**2** = 200-240 VAC, 50/60 Hz

**Signal Input** BOX 2

**1** = Thermocouple: Type J  
**2** = Thermocouple: Type K  
**3** = RTD: 100 ohm PT, DIN 0.00385  
**4** = RTD: 100 ohm PT, JIS 0.00392  
**9** = Other

**Standard Range Code** BOX 3

**4** = 0 to 300°C    **C** = 50 to 550°F  
**6** = 0 to 600°C    **E** = 50 to 850°F

*Below available for large volume orders.  
Consult Tempco for more information.*

**2** = 0 to 100°C    **A** = 50 to 200°F  
**3** = 0 to 200°C    **B** = 50 to 400°F  
**5** = 0 to 400°C    **D** = 50 to 750°F  
**7** = 0 to 800°C    **F** = 50 to 1100°F  
**8** = 0 to 1200°C    **G** = 50 to 1400°F  
**9** = Other            **H** = 0 to 2200°F

**Control Mode** BOX 4

**1** = On - Off (used for valves & solenoids)  
**2** = Proportional (common for electric heaters)

**Output 1** BOX 5

**1** = Relay: 5A / 240 VAC  
**2** = Pulse DC for SSR drive: 20 VDC (20 mA max)  
**3** = 4-20 mA, linear (max load 500 ohms)  
**4** = 0-20 mA, linear (max load 500 ohms)  
**5** = 0-10 VDC, linear (min. impedance 500K ohms)  
**9** = Other

**Output 2** BOX 6

**Alarm** BOX 7

**Communication** BOX 8

**0** = Not Available

### Power Input

100 - 130 VAC, 50/60 Hz, 5VA

200 - 240 VAC, 50/60 Hz, 5VA

### Signal Input

Accuracy:  $\pm 2.0\%$  of full scale at 77°F/25°C

Thermocouple: Type J or K

RTD: 3-wire Pt100 DIN or JIS

Sampling Rate: 3 samples / second

Cold Junction Compensation:  $\pm 0.1^\circ\text{C}$  /  $1^\circ\text{C}$

Common Mode Rejection Ratio (CMRR): 120 dB

Normal Mode Rejection Ratio (NMRR): 60 dB

Sensor Break Protection: Upscale

### Output 1

Relay Rating: 240 VAC, 5 Amp

SSR drive: Pulsed DC, 20 V at 20 mA maximum

Current Loop: 4 - 20 mA, 0 - 20 mA, maximum load: 500Ω

Voltage: 0 - 10 VDC, minimum load 500KΩ

### Control

Proportional Band: 2.2% of span

ON-OFF Hysteresis: 1% of span

Cycle time: 20 seconds for relay output, 1 second for pulsed voltage output, 0.02 second for linear current or voltage output

Control Action: Reverse Action

### Approval Standards

Safety Standard: UL3121-1

Protective Class: Front panel: IP 30

Housing and Terminals: IP 20

EMC: EN61326

### Adjustment

Setpoint: Single turn wirewound potentiometer

Setpoint Resolution: 0.2% of span

Accuracy of Setpoint:  $\pm 2\%$  of span

Repeatability of Setpoint:  $\pm 0.1\%$  of span

### Display

Process Indicator: TEC-902: Hi/Lo LED indicators

TEC-901: None

Status Indicator: ON (red) LED lamp, OFF (green) LED lamp

### Environmental and Physical

Operating Temperature: 32 to 122°F (0 to 50°C)

Humidity: 0 to 90% RH, non-condensing

Dielectric Strength: 2000 VAC, 50/60 Hz for 1 minute

Vibration: 10 - 55 Hz, amplitude 1 mm

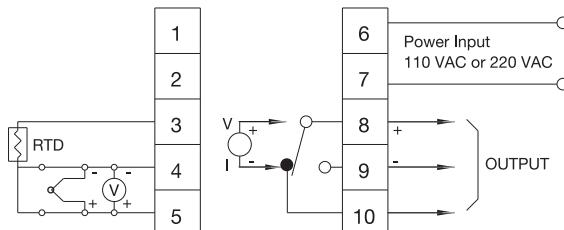
Shock: 200 m/s<sup>2</sup> (20g)

Dimensions: 1-7/8" x 1-7/8" x 3-3/4" (48 x 48 x 94 mm) HxWxD  
Depth behind panel: 3-3/8" (86 mm)

Panel Cutout: 1-25/32" x 1-25/32" (45 x 45 mm) HxW

Weight: 0.42 lb. (190 grams)

### Rear Terminal Connections



### Non-Indicating TEC-901 Stock and Common Part Numbers (Power Input: 200-240 VAC, Proportional mode)

Part Number	Signal Input	Range	Output
TEC17101	J tc	50-850°F	relay
TEC17102	J tc	50-550°F	relay
TEC17103	K tc	50-850°F	relay
TEC17104	K tc	50-550°F	relay
TEC17105	RTD	50-550°F	relay
TEC17106	J tc	0-300°C	relay
TEC17107	J tc	0-600°C	relay
TEC17108	K tc	0-300°C	relay
TEC17109	K tc	0-600°C	relay

### With Hi/Low LEDs TEC-902 Stock and Common Part Numbers (Power Input: 200-240 VAC, Proportional mode)

Part Number	Signal Input	Range	Output
TEC17201	J tc	50-850°F	relay
TEC17202	J tc	50-550°F	relay
TEC17203	K tc	50-850°F	relay
TEC17204	K tc	50-550°F	relay
TEC17205	RTD	50-550°F	relay
TEC17206	J tc	0-300°C	relay
TEC17207	J tc	0-600°C	relay
TEC17208	K tc	0-600°C	relay
TEC17209	RTD	0-300°C	relay