

## Model TEC-805 1/8 DIN Temperature Controller



*Simple Setpoint and Display!*

Agency Approvals:



### Design Features

- \* 1/8 DIN size – 48 mm × 96 mm
- \* Short panel depth – only 2-9/16" (65 mm) required
- \* Laser trimmed ASIC components
- \* On-off or time proportional selection
- \* Digital input by pushwheel switch
- \* Digital display on 0.4" (10 mm)
- \* Wide selection of output options
- \* Universal power input, 90-264 VAC
- \* Sensor break protection
- \* Good performance at a very low price

Hardware Code: TEC-805- 1 2 3 4 5 0 7 0

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

#### Power Input BOX 1

**4** = 90-264 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

#### Range code BOX 3

- X** = 0 to 499°F      **C** = 0 to 299°C
- V** = 0 to 999°F      **E** = 0 to 499°C
- W** = 0 to 1999°F    **H** = 0 to 999°C

*Other ranges are available for large volume orders. Consult Tempco for more information.*

#### 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

**0** = Not Available

#### Alarm BOX 7

- 0** = None
- 1** = Relay: 2A / 240 VAC Deviation alarm

#### Communication BOX 8

**0** = Not Available

### Power Input

**Standard:** 90 - 264 VAC, 50/60 Hz, 5VA

### Signal Input

**Accuracy:**  $\pm 1.0\%$  of full scale at 77°F/25°C

**Thermocouple:** Type J or K

**RTD:** 3-wire Pt100 DIN or JIS

**Sampling Rate:** 3 samples per 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

**Relay Rating:** 240 VAC, 5 Amp

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

**Current:** 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:** 3-digit or 4-digit pushwheel switch

**Manual Reset:** Adjustable up to 2.6% of span

**Setpoint Resolution:**  $\pm 1$  Least Significant Digit

**Accuracy of Setpoint:**  $\pm 1\%$  of span

**Repeatability of Setpoint:**  $\pm 1$  Least Significant Digit

### Alarm

**Type:** Deviation  $\pm 10\%$  of span **Relay:** 2A / 240 VAC

### Display

**Process Indicator:** 3-1/2 digit, 0.4" / 10 mm red LED display

**Output Status Indicator:** Red LED lamp

**Alarm Status Indicator:** Red 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

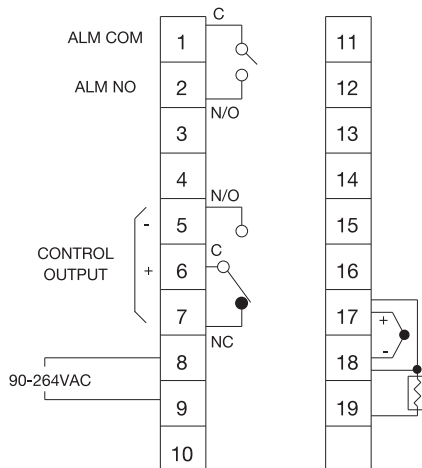
**Shock:** 200 m/s<sup>2</sup> (20g)

**Dimensions:** 3-3/4 × 1-7/8 × 3-1/8" (96 × 48 × 80 mm) H×W×D  
Depth behind panel: 2-9/16" (65 mm)

**Panel Cutout:** 3-5/8" × 1-25/32" (92 × 45 mm) H×W

**Weight:** 0.42 lb. (190 grams)

### Rear Terminal Connections



### Stock and Common Part Numbers (Power Input: 90-264 VAC, Proportional Mode)

Part Number	Signal Input	Range	Output	Alarm
TEC35521	J tc	0-999°F	relay	none
TEC35522	J tc	0-499°F	relay	none
TEC35523	K tc	0-1999°F	relay	none
TEC35524	K tc	0-999°F	relay	none
TEC35525	J tc	0-499°C	relay	none
TEC35526	J tc	0-299°C	relay	none
TEC35527	K tc	0-999°C	relay	none
TEC35528	K tc	0-499°C	relay	none
TEC35529	RTD	0-999°F	relay	none
TEC35530	RTD	0-499°C	relay	none