


SERIES 544

Thermocouple Sensing Temperature Controller

FEATURES

- *Low Cost*
- *Field Selectable Voltage Inputs*
- *Compact Size*
- *UL Component Recognized* 

APPLICATIONS

- *Plastic Packaging*
- *Ovens and Chambers*
- *Drying and Curing*
- *Medical*
- *Dental*
- *Textiles*
- *Food Processing*
- *Film Processing*
- *Marking Equipment*
- *Heat Sealing*

DESCRIPTION

The Series 544 Thermocouple Sensing Temperature Controller is a low cost, nonindicating thermocouple controller designed for the Original Equipment Manufacturer (OEM).

The controller is available with a choice of control modes: on/off or time proportioning. The on/off controller has a relay output. The time proportioning controller is available with a relay output or an output to drive a solid state relay.

Both controllers are printed circuit board-type with 1/4 inch quick connect terminals for all power, load, and remote set point adjustment potentiometer connections. Mounting is accomplished quickly and with ease using a plastic mounting channel. The thermocouple and set point potentiometer are remote mounted for convenience and safety.

SPECIFICATIONS

Control Mode On/Off or Time Proportioning

Temperature Ranges 0 to 400°F, 0 to 800°F

Sensor Type J Thermocouple

Ambient Temperature Limits

Operating: 32 and 150°F (0 and 65°C)

Storage: -40 and +165°F (-40 and +75°C)

Ambient Temperature Effect

The control point will remain within 4 μ V per °C (typical) for temperature changes within the ambient temperature limits.

Supply Voltage

120, 208, or 240 VAC \pm 15%, 50/60 Hz, field selectable

Supply Voltage Effect

The control point will remain within \pm 0.25% of span for line voltage variations of \pm 15% from nominal.

Power Dissipation 3 Watts nominal

Relay Output

Relay: SPST, rated 7.5 A at 120 VAC or 28 VDC;
5 A at 240 VAC

Pilot Duty: 360 VA at 240 VAC, 180 VA at
120 VAC

Output to Drive Solid State Relay

Output drives solid state relay with an isolated 3-32 VDC control signal input. De-energized output is less than 1 VDC. Energized output is greater than 3 VDC into a 500 Ω load.

Set point Accuracy \pm 3% of span

Repeatability 0.5% of span

Control Point Drift

Less than \pm 1% of span in 1000 hours of operation

Cycle Time (Time Proportioning Models)

Relay Output: 25 seconds nominal

SSR Driver Output: 1.5 seconds nominal

Bandwidth (Time Proportioning Models)

15 F° nominal

Differential (On/Off Models) 3 F° typical

Lead Break Protection

The relay will de-energize upon an open (thermocouple 500 kΩ or greater)

Thermocouple Lead Length

Accuracy will remain within specifications for thermocouple lead length up to the equivalent of 50 ohms resistance [300 ft (100 m) 16-gauge ISA J wire].

Mounting Plastic Channel

Connections

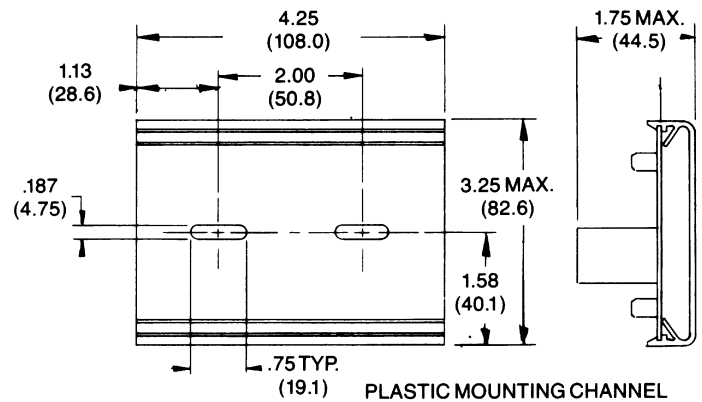
Power and Load: 1/4 inch quick connects

Thermocouple: #8 screw terminals

Vibration Meets MIL STD 202E, Method 201A

Weight 6 oz (170 g) maximum

OUTLINE DIMENSIONS



Specifications subject to change without notice

Warning: Operation outside specifications could result in failure of the Fenwal product and other equipment with injury to people and property.

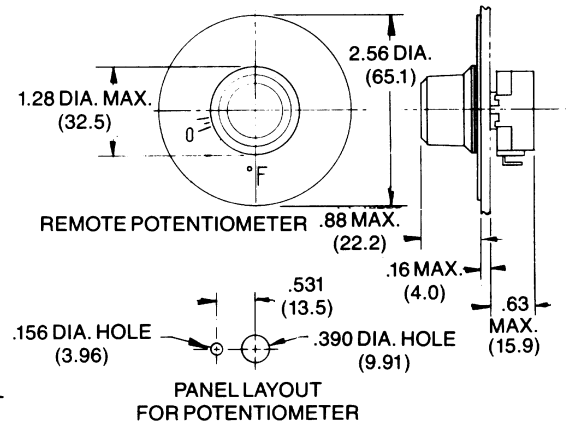
OPTIONS

Note: Options are subject to minimum quantity restrictions; consult Fenwal.

Local Uncalibrated Potentiometer

Either single or multiturn local potentiometer replaces remote potentiometer for temperature setting. May be preset at customer's option.

SPDT Output Relay 7.5 A at 120 VAC, 5 A at 240 VAC



HOW TO ORDER

To order:

1. Specify Quantity.
2. Specify catalog number of controller by selecting control mode, output, and temperature range.
3. Specify Options

Control	Output	Temperature	
		0 to 400°F	0 to 800°F
On/Off	SPST Relay	54-401653-102	54-401653-103
	SSR Driver	-	-
Prop.	SPST Relay	54-403653-102	54-403653-103
	SSR Driver	54-403253-102	54-403253-103

EXAMPLE: 1000 54-401653-103
 (Quantity) (Series 544 On/Off Controller with SPST relay output and temperature range of 0 to 800°F)



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The literature is provided for informational purposes only. KIDDE-FENWAL, INC. assumes no responsibility for the products suitability for a particular application. The product must be properly applied to perform as described herein. If you need more information on this product, or if you have a question, contact KIDDE-FENWAL, INC., Ashland, MA 01721 (508) 881-2000.