

# Temperature Controller E5C2

## 1/16 DIN Sized, Analog-Set Controller Features Dual Scale Dial

- Proportional control (P) or ON/OFF control models.
- Front panel offset adjustment on P controllers.
- Choose contact or voltage outputs.
- Type J or K thermocouples, platinum RTD and thermistor input models.
- Panel mounting hardware included.
- Sockets, protective cover, and other accessories may be ordered separately.



## Ordering Information

### ■ Temperature Controllers

#### Type K Thermocouple Input

**Stock Note:** Shaded models are normally stocked.

Control type	Input type	Output type	Temperature range	Model
ON/OFF	Type K	Relay	32°F - 1112°F	E5C2-R20K-32/1112F-AC120
				E5C2-R20K-32/1112F-AC240
		Voltage	32°F - 1112°F	E5C2-Q20K-32/1112F-AC120
				E5C2-Q20K-32/1112F-AC240
Proportional	Type K	Relay	32°F - 1112°F	E5C2-R40K-32/1112F-AC120
				E5C2-R40K-32/1112F-AC240
		Voltage	32°F - 1112°F	E5C2-Q40K-32/1112F-AC120
				E5C2-Q40K-32/1112F-AC240

**Note:** Other temperature ranges and scales available.

#### Type J Thermocouple Input

**Stock Note:** Shaded models are normally stocked.

Control type	Input type	Output type	Temperature range	Model
ON/OFF	Type J	Relay	0°C - 200°C and 32°F - 392°F	E5C2-R20J-0200C/32392F-AC120
				E5C2-R20J-0200C/32392F-AC240
			0°C - 400°C and 32°F - 752°F	E5C2-R20J-0400C/32752F-AC120
				E5C2-R20J-0400C/32752F-AC240
Proportional	Type J	Voltage	32°F - 752°F	E5C2-Q20J-32/752F-AC120
				E5C2-Q20J-32/752F-AC240
		Relay	32°F - 572°F	E5C2-R40J-32/572F-AC120
				E5C2-R40J-32/572F-AC240
Proportional	Type J	Voltage	32°F - 572°F	E5C2-Q40J-32/572F-AC120
				E5C2-Q40J-32/572F-AC240

**Note:** Other temperature ranges and scales available.

## RTD Input

**Stock Note:** Shaded models are normally stocked.

Control type	Input type	Output type	Temperature range	Model
ON/OFF	RTD	Relay	32°F - 572°F	E5C2-R20P-32/572F-AC120
				E5C2-R20P-32/572F-AC240
		Voltage	32°F - 212°F	E5C2-Q20P-32/212F-AC240
				E5C2-Q20P-32/212F-AC120

**Note:** Other temperature ranges and scales available.

## Thermistor Input

**Stock Note:** Shaded models are normally stocked.

Control type	Input type	Output type	Temperature range	Model
ON/OFF	Thermistor	Relay	32°F - 212°F	E5C2-R20G-32/212F-AC120
				E5C2-R20G-32/212F-AC240
		Voltage	32°F - 212°F	E5C2-Q20G-32/212F-AC120
				E5C2-Q20G-32/212F-AC240

**Note:** Other temperature ranges and scales available.

## Accessories

**Stock Note:** Shaded models are normally stocked.

Description		Model
Sockets	Bottom surface or track mounting, top screw terminals	P2CF-08
	Back mounting, for use with Y92F-30 mounting adapter supplied, bottom screw terminals	P3G-08
	Back mounting plug type, for use with Y92F-30 mounting adapter supplied	US08
Protective cover	Hard plastic cover protects against accidental resetting	Y92A-48B
Mounting track	DIN rail, 50 cm (1.64 ft) length	PFP-50N
	DIN rail, 1 m (3.28 ft) length	PFP-100N
	End plate	PFP-M
	Spacer	PFP-S

## Replacement Part

**Stock Note:** Shaded models are normally stocked.

Description	Model
Panel mounting bracket; one supplied with each controller	Y92F-30

# Specifications

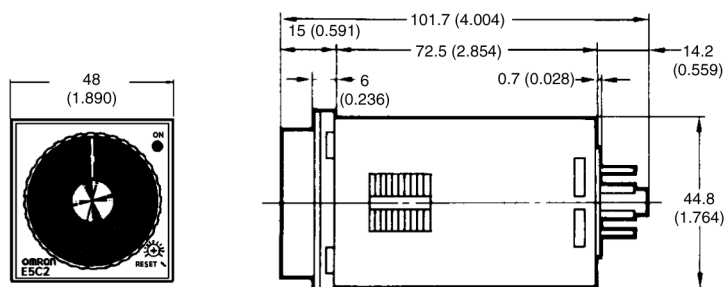
Model			E5C2-□□□K	E5C2-□□□J	E5C2-□□□P-DIN	E5C2-□□□G
Sensor input types			Thermocouple type K	Thermocouple type J	Platinum RTD	Thermistor
Supply voltage			100/120 VAC, 50/60 Hz or 220/240 VAC, 50/60 Hz			
Operating voltage			90% to 110% of rated supply voltage			
Power consumption			Approx. 2 VA			
Control	Number		One output, built-in			
	Type	Relay	SPDT, 3 A, 250 VAC (resistive load), switching capacity of 330 VA			
		Voltage	5 VDC, 10 mA with short-circuit protection			
	Hysteresis		0.5% max. of full scale (fixed)			
	Service life		100,000 electrical operations minimum for relay output 10 million mechanical operations minimum for relay output			
Alarm output			Not available			
Setting accuracy			±2% maximum of full scale			
Control modes	Type		ON/OFF (E5C2-□20□) or P (E5C2-□40□)			
	Proportional band		3% of full scale (fixed)			
	Reset		3% minimum of full scale (variable); front panel potentiometer adjustment			
	Control period		Approx. 20 seconds, where ratio of ON to OFF is 1:1			
Memory protection			Not available			
Indicators			Operation indicator (red LED)			
Materials			Plastic case			
Mounting			Fits 1/16 DIN panel cutouts; includes panel mounting adapter Y92F-30			
Connections			Terminals for standard 8-pin round connectors			
Weight			Approx. 200 f (7 oz.)			
Enclosure ratings			Front panel: IEC IP40, NEMA 4 with optional cover Y92A-48N Housing: IEC IP20 Terminals: IEC IP00			
Approvals	UL	Recognized, File No. E200593, approved control output rating 1.5 A, 250 VAC				
	CSA	Certified, File No. LR59623, approved control output rating 1.5 A, 250 VAC				
Ambient temperature	Use	-10° to 55°C (14° to 131°F)				
	Other	-25° to 65°C (-13° to 149°F)				
Humidity			35 to 85% RH			
Insulation resistance			20 M minimum at 500 VDC			
Dielectric strength			2,000 VAC, 50/60 Hz for 1 minute			
Vibration	Mechanical	10 to 55 Hz 0.75 mm (0.03 in) in X, Y, and Z directions for 2 hours each				
	Malfunction	2 to 55 Hz, 2 G, in X, Y, and Z directions for 10 minutes each				
Shock	Mechanical	300 m/s <sup>2</sup> in 6 directions, 3 times each				
	Malfunction	200 m/s <sup>2</sup> in 6 directions, 3 times each				

# Dimensions

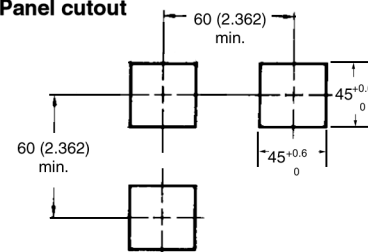
Unit: mm (inch)

## ■ Temperature Controller

### E5C2

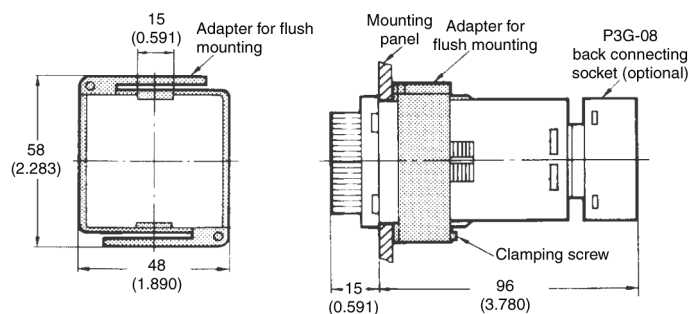


Panel cutout



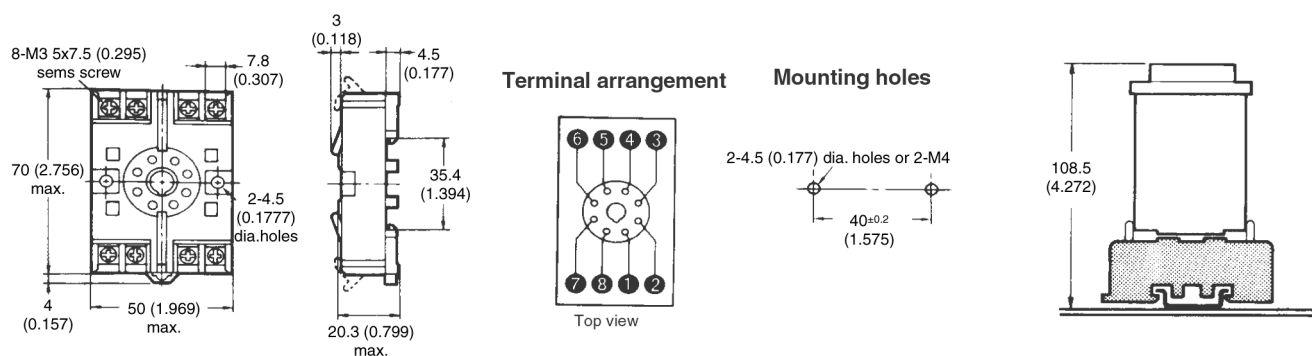
**Note:** Recommended panel thickness is 1 mm to 4 mm (0.039 to 0.157).

### E5C2 Temperature Controller Mounted in Y92F-30 Panel Mounting Adapter (supplied)

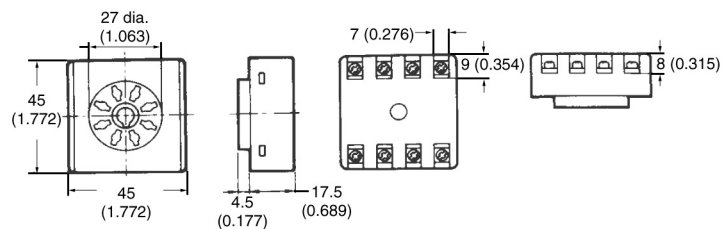


## ■ Sockets

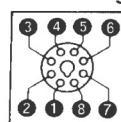
### P2CF-08 Bottom Surface or Track Mounting Socket



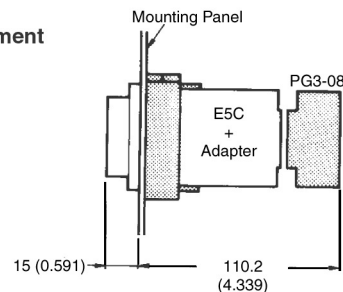
## P3G-08 Back Mounting Socket



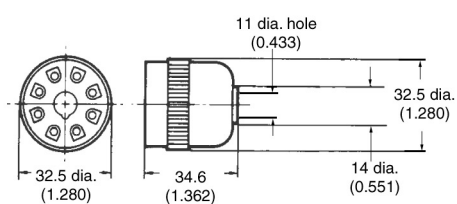
Terminal arrangement



Bottom view



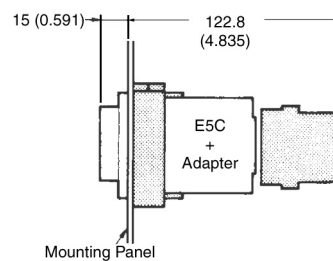
## US08 Back-Mounting Socket



Terminal arrangement



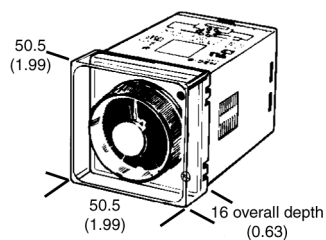
Bottom View



## ■ Protective Cover

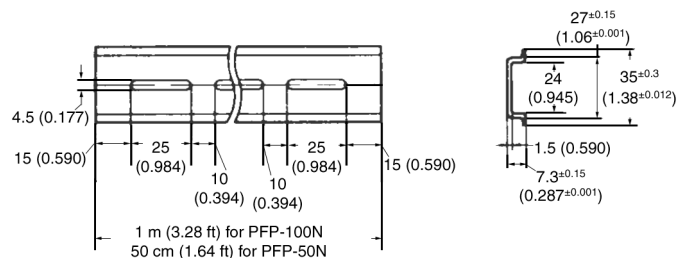
### Y92A-48B

Hard plastic cover Y92A-48B snaps onto the front of the temperature controller to prevent accidental resetting. It also shields the front panel from dirt and water. The cover is intended for use in areas where unusual service conditions do not exist.

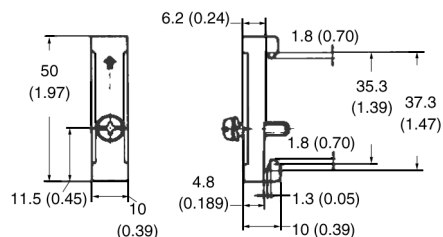


## ■ Mounting Track and Accessories

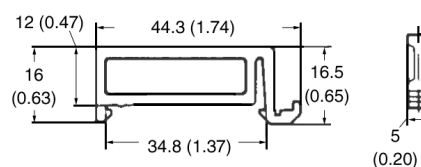
### PFP-100N/PFP-50N DIN Rail



### PFP-M End Plate

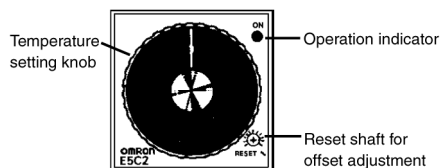


### PFP-S Spacer

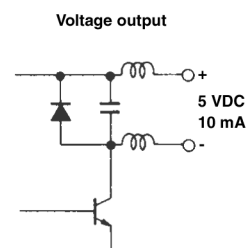
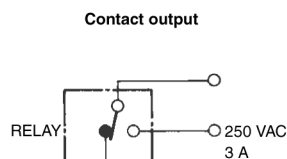
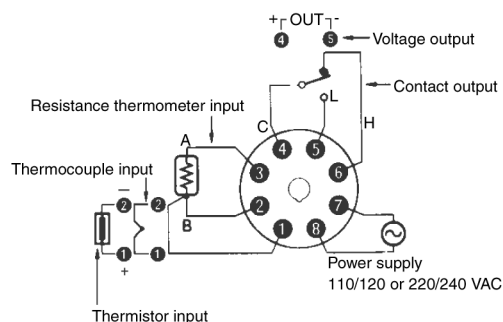


## Nomenclature

### ■ E5C2



## Connections



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To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.



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