

# 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	
		Voltage	32°F - 1112°F	E5C2-R20K-32/1112F-AC240	
Proportional		Relay	32°F - 1112°F	E5C2-Q20K-32/1112F-AC120	
		Voltage	32°F - 1112°F	E5C2-Q20K-32/1112F-AC240	
		Relay	32°F - 1112°F	E5C2-R40K-32/1112F-AC120	
		Voltage	32°F - 1112°F	E5C2-Q40K-32/1112F-AC120	
		Relay	32°F - 1112°F	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	
			0°C - 400°C and 32°F - 752°F	E5C2-R20J-0200C/32392F-AC240	
Proportional		Voltage	32°F - 752°F	E5C2-Q20J-0400C/32752F-AC120	
		Relay	32°F - 572°F	E5C2-Q20J-0400C/32752F-AC240	
		Voltage	32°F - 572°F	E5C2-R40J-32/752F-AC120	
		Relay	32°F - 572°F	E5C2-R40J-32/752F-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
				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

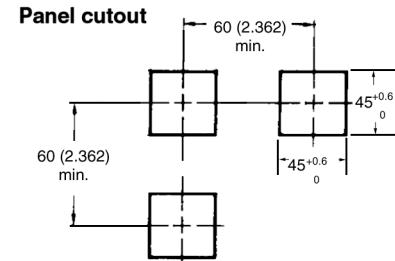
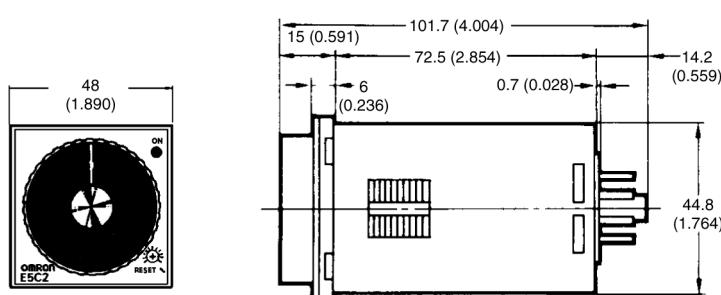
Model	E5C2-□□□K		E5C2-□□□J	E5C2-□□□P-DIN	E5C2-□□□G			
Sensor input types	Thermocouple type K		Thermocouple type J	Platinum RTD	Thermistor			
Supply voltage	100/120 VAC, 50/60 Hz or 220/240 VAC, 50/60 Hz							
Operating voltage	90% to 110% of rated supply voltage							
Power consumption	Approx. 2 VA							
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 g (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 ohm 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)

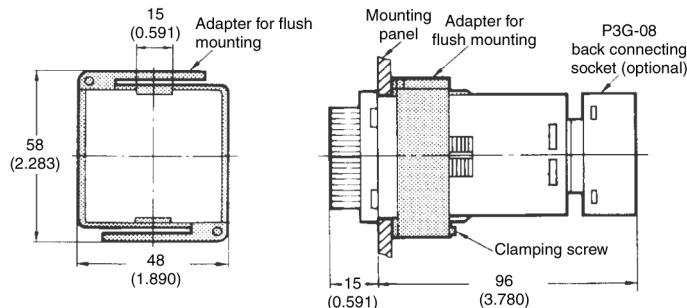
## ■ Temperature Controller

### E5C2



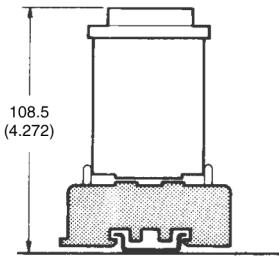
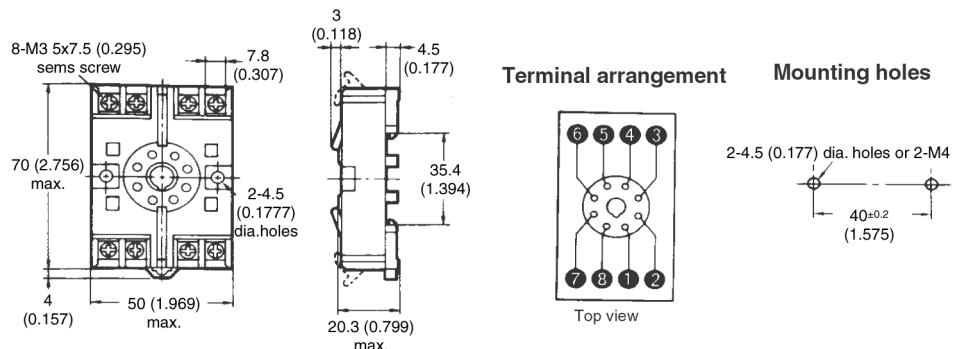
Note: Recommended panel thickness is 1 mm to 4 mm (0.039 to 0.157).

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

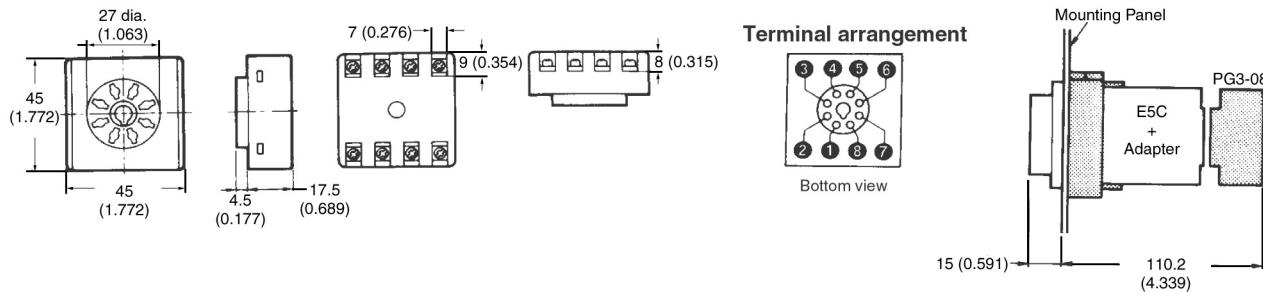


## ■ Sockets

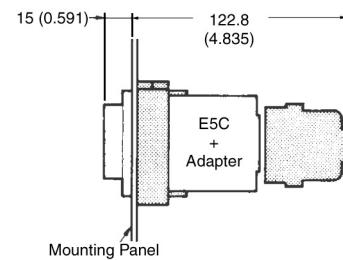
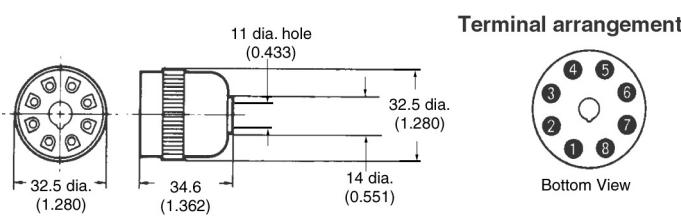
### P2CF-08 Bottom Surface or Track Mounting Socket



## P3G-08 Back Mounting Socket



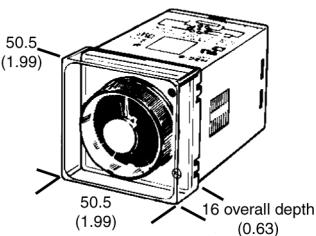
## US08 Back-Mounting Socket



## ■ Protective Cover

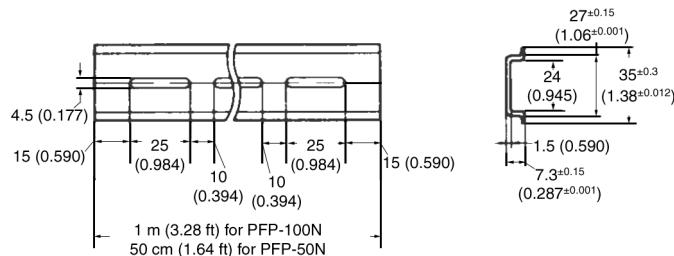
### Y92A-48B

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.

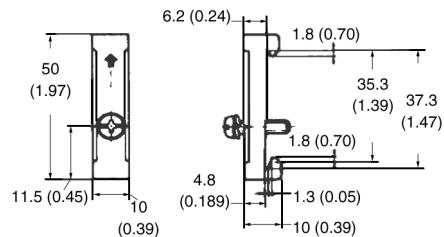


## ■ Mounting Track and Accessories

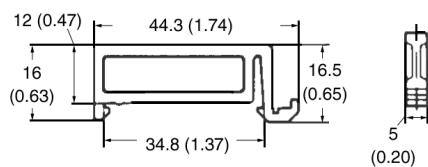
### PFP-100N/PFP-50N DIN Rail



### PFP-M End Plate

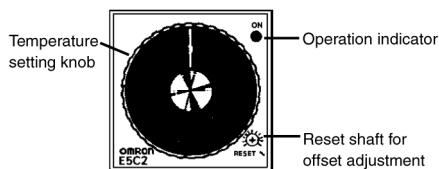


### PFP-S Spacer

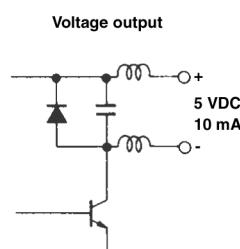
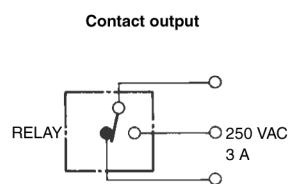
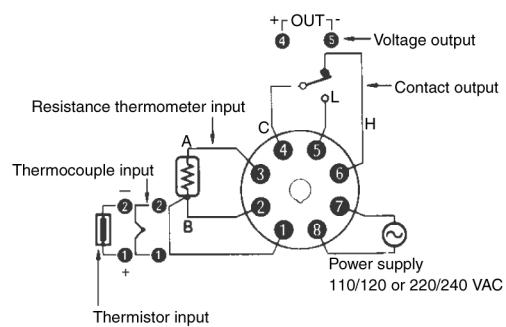


## Nomenclature

### ■ 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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