

Temperature Controller

E5C2

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

- Proportional-derivative (PD) control or ON/OFF control models
- Front panel offset adjustment on PD controllers
- Choose contact or voltage outputs
- Type J or K thermocouples, platinum RTD and thermistor input models
- Fits standard 8-pin round sockets
- Panel mounting hardware included
- Sockets, protective cover, and other accessories may be ordered separately



Ordering Information

■ TEMPERATURE CONTROLLERS

Add the temperature range and supply voltage to the part number when you order. The minimum scale division is in parentheses. For example, **E5C2-R20K-32° to 392°F-AC120**.

Control type	Output type	Input type (specify temperature range from choices below)	
		Thermocouple type K	Thermocouple type J
ON/OFF	Contact	E5C2-R20K	E5C2-R20J
	Voltage	E5C2-Q20K	E5C2-Q20J
PD	Contact	E5C2-R40K	E5C2-R40J
	Voltage	E5C2-Q40K	E5C2-Q40J
Temperature ranges		32° to 392°F (10)/0° to 200°C (5) 32° to 572°F (20)/0° to 300°C (10) 32° to 752°F (20)/0° to 400°C (10) 32° to 1112°F (50)/0° to 600°C (20) 32° to 1472°F (50)/0° to 800°C (20) 32° to 1832°F (50)/0° to 1000°C (25) 32° to 2192°F (50)/0° to 1200°C (25)	32° to 392°F (10)/0° to 200°C (5) 32° to 572°F (20)/0° to 300°C (10) 32° to 752°F (20)/0° to 400°C (10)
Supply voltages		110/120 VAC, 50/60 Hz or 220/240 VAC, 50/60 Hz	

Control type	Output type	Input type (specify the temperature range from choices below)	
		Platinum RTD	Thermistor
ON/OFF	Contact	E5C2-R20P-DIN	E5C2-R20G
	Voltage	E5C2-Q20P-DIN	E5C2-Q20G
PD	Contact	E5C2-R40P-DIN	—
	Voltage	E5C2-Q40P-DIN	—
Temperature ranges		-58° to 122°F (5)/-50° to 50°C (2) -4° to 176°F (5)/-20° to 80°C (2) 32° to 122°F (2)/0° to 50°C (1) 32° to 212°F (5)/0° to 100°C (2) 32° to 392°F (10)/0° to 200°C (5) 32° to 572°F (20)/0° to 300°C (10) 32° to 752°F (20)/0° to 400°C (10)	-58° to 122°F (5)/-50° to 50°C (2) 32° to 212°F (5)/0° to 100°C (2) 122° to 302°F (5)/50° to 150°C (2) 212° to 392°F (5)/100° to 200°C (2) 302° to 572°F (10)/150° to 300°C (5)
Supply voltages		110/120 VAC, 50/60 Hz or 220/240 VAC, 50/60 Hz, or 24 VDC	

■ ACCESSORIES

Description		Part number
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

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

Specifications

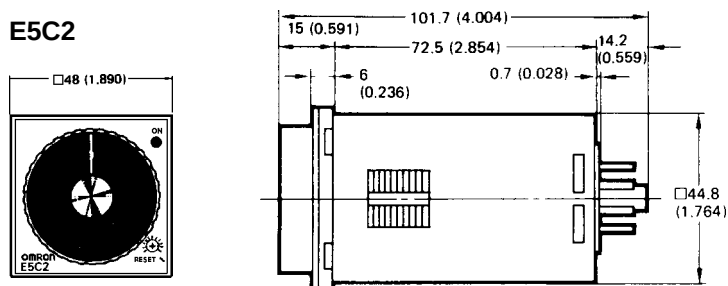
Part number			E5C2-□□□K	E5C2-□□□J	E5C2-□□□P-DIN	E5C2-□□□G
Sensor input types			Thermocouple type K	Thermocouple type J	Platinum RTD	Thermistor
Supply voltage			100/120 VAC, 50/60 Hz or 220/240 VAC, 50/60 Hz			
Operating voltage			90 to 110% of rated supply voltage			
Power consumption			Approx. 2 VA			
Control output	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 PD (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. E68481, approved control output rating 1.5 A, 250 VAC			
		CSA	Certified, File No. LR59623, approved control output rating 1.5 A, 250 VAC			
		Other	SEV, File No. D4.11/634			
Ambient temperature	Use	-10° to 55°C (14° to 131°F)				
	Storage	-25° to 65°C (-13° to 149°F)				
Humidity			35 to 85% RH			
Insulation resistance			20 MΩ 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 ² in 6 directions, 3 times each				
	Malfunction	200 m/s ² in 6 directions, 3 times each				

Dimensions

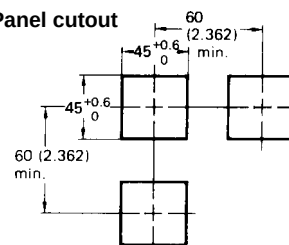
Unit: mm (inch)

■ TEMPERATURE CONTROLLER

E5C2

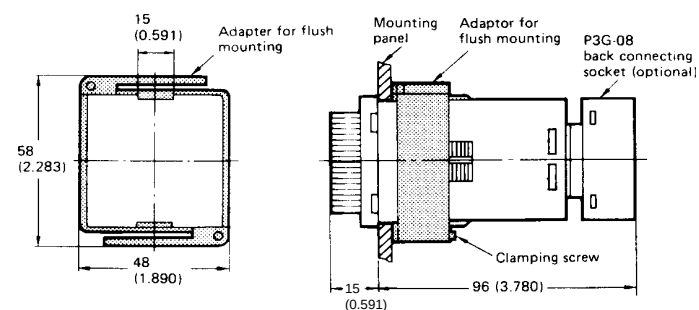


Panel cutout



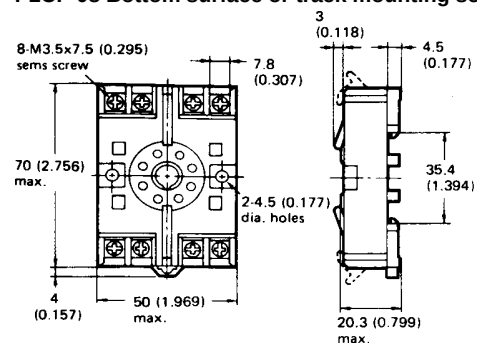
NOTE: Recommended panel thickness is 1 to 4 (0.039 to 0.157).

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

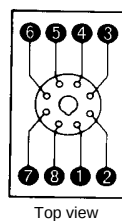


■ SOCKETS

P2CF-08 Bottom surface or track mounting socket

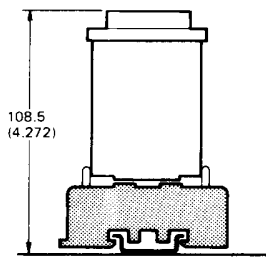
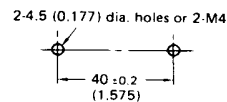


Terminal arrangement

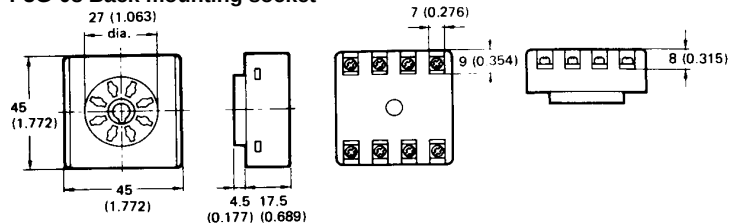


Top view

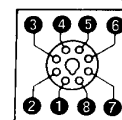
Mounting holes



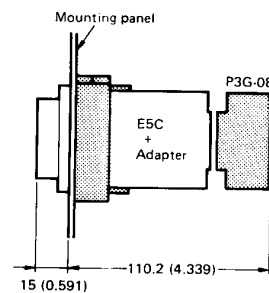
P3G-08 Back mounting socket



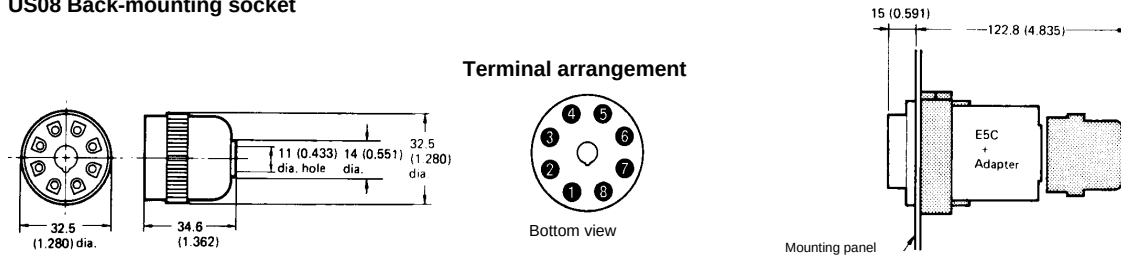
Terminal arrangement



Bottom view

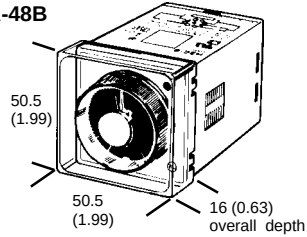


US08 Back-mounting socket



PROTECTIVE COVER

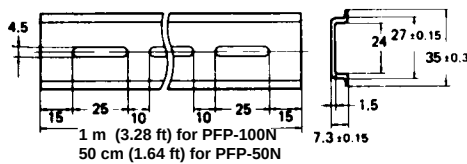
Y92A-48B



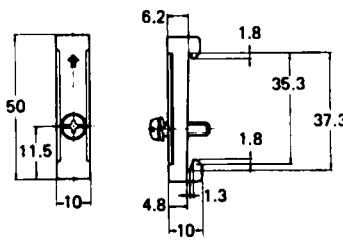
Hard plastic cover Y92A-48B snaps onto the front of the temperature controller to prevent accidental resetting. It also shields the front panel from dirt and water. The cover is intended for use in areas where unusual service conditions do not exist.

MOUNTING TRACK AND ACCESSORIES

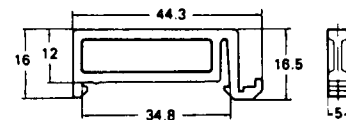
PFP-100N/PFP-50N DIN Rail



PFP-M End Plate

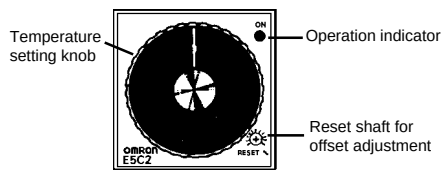


PFP-S Spacer

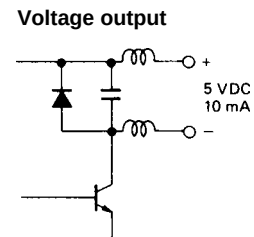
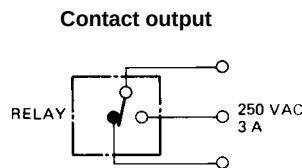
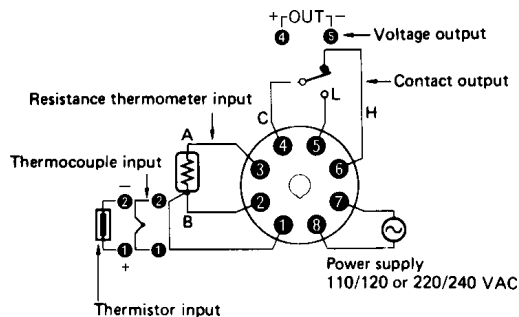


Nomenclature

E5C2



Connections





OMRON ELECTRONICS, INC.
One East Commerce Drive
Schaumburg, IL 60173
1-800-55-OMRON

OMRON CANADA, INC.
885 Milner Avenue
Scarborough, Ontario M1B 5V8
416-286-6465