

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

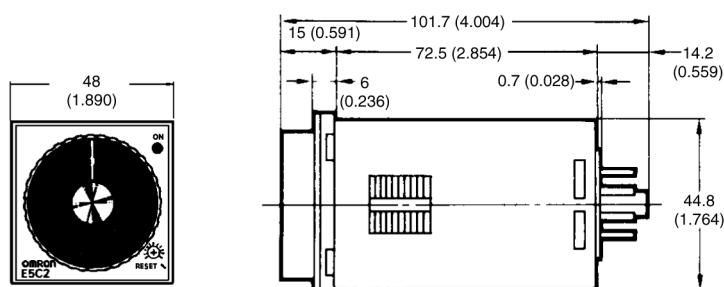
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|-----------------------|-------------------|---|---|---------------------|---------------|------------|
| Model | | | E5C2-□□□K | E5C2-□□□J | E5C2-□□□P-DIN | E5C2-□□□G |
| Sensor input types | | | Thermocouple type K | Thermocouple type J | Platinum 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 ² in 6 directions, 3 times each | | | | |
| | Malfunction | 200 m/s ² in 6 directions, 3 times each | | | | |

Dimensions

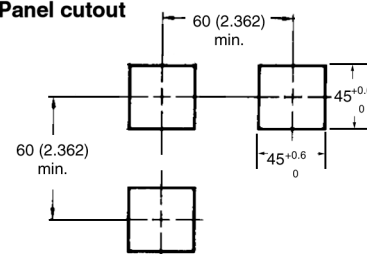
Unit: mm (inch)

■ Temperature Controller

E5C2

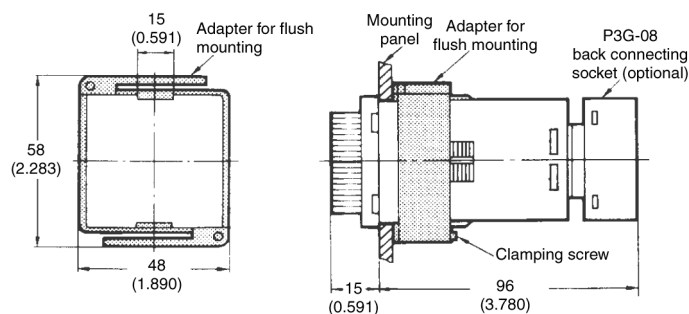


Panel cutout



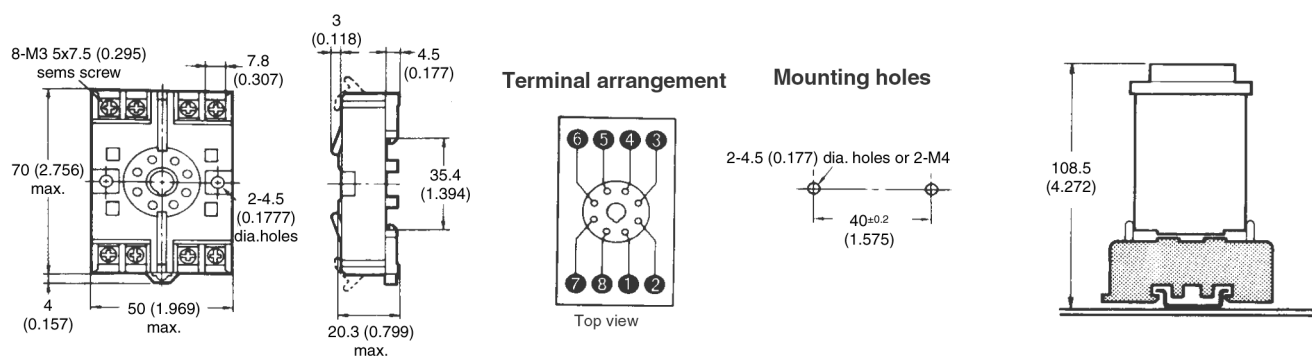
Note: Recommended panel thickness is 1 mm to 4 mm (0.039 to 0.157).

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

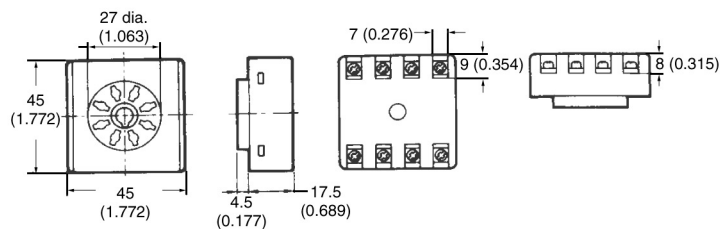


■ Sockets

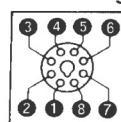
P2CF-08 Bottom Surface or Track Mounting Socket



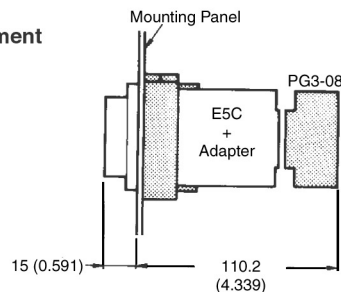
P3G-08 Back Mounting Socket



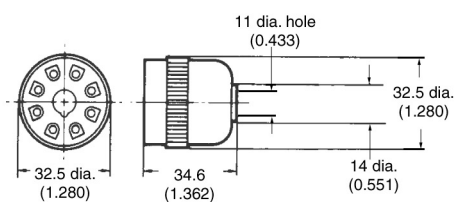
Terminal arrangement



Bottom view



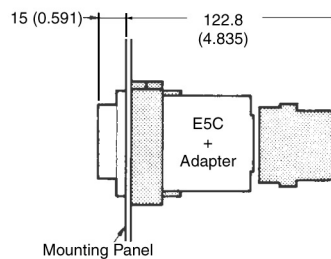
US08 Back-Mounting Socket



Terminal arrangement



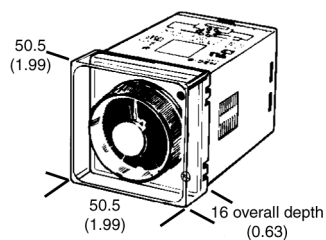
Bottom View



■ Protective Cover

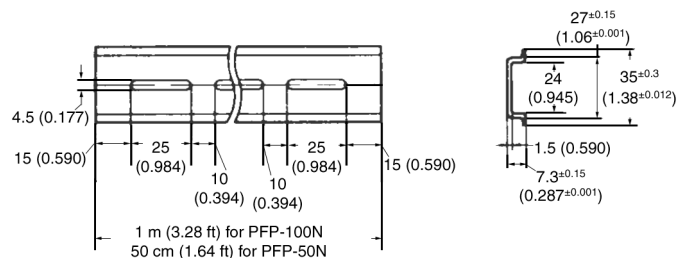
Y92A-48B

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.

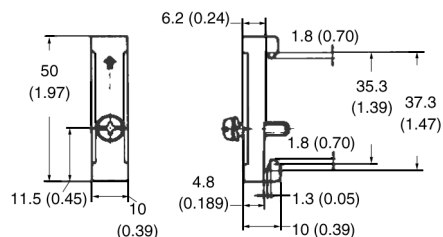


■ Mounting Track and Accessories

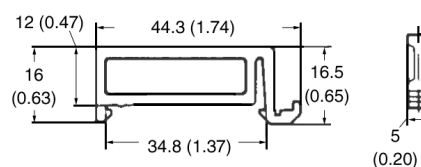
PFP-100N/PFP-50N DIN Rail



PFP-M End Plate

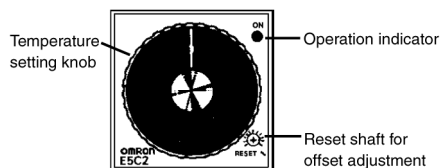


PFP-S Spacer

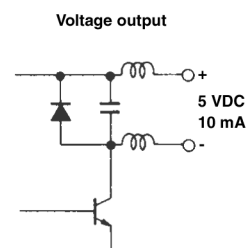
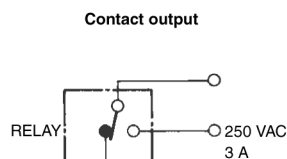
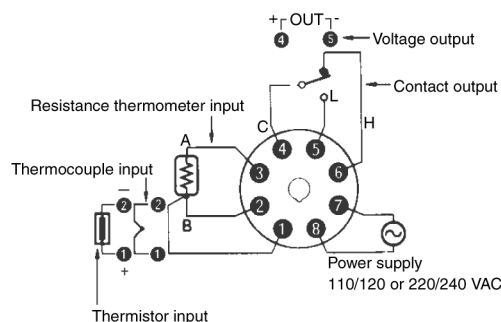


Nomenclature

■ E5C2



Connections



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