

# Temperature Controller E5C2

CSM\_E5C2\_DS\_E\_7A\_1



## DIN-sized (48 x 48 mm) Temperature Controller with Analog Setting

- Compact, low-cost Temperature Controller.
- Incorporates proportional control and reset adjustment function.
- Consecutive mounting possible using mounting adapter.
- Incorporates a plug-in socket, thus allows to DIN-track and flush mounting.

⚠ Refer to *Safety Precautions for All Temperature Controllers*.



For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

## Ordering Information

### ■ Temperature Controllers

#### Standard Models

Indication method		No indication		
Control mode		ON/OFF		
Input		Output	Relay	
Thermo-couple	K (CA)	0 to 200	E5C2-R20K	E5C2-R20K-W
		0 to 300	E5C2-R20K	E5C2-R20K-W
		0 to 400	E5C2-R20K	--
		0 to 600	E5C2-R20K	--
		0 to 800	E5C2-R20K	E5C2-R20K-W
		0 to 1000	E5C2-R20K	E5C2-R20K-W
		0 to 1200	E5C2-R20K	E5C2-R20K-W
	J (IC)	0 to 200	E5C2-R20J	E5C2-R20K-W
		0 to 300	E5C2-R20J	E5C2-R20K-W
0 to 400		E5C2-R20J	E5C2-R20K-W	
Control mode		Proportional		
Input		Output	Relay	
Thermo-couple	K (CA)	0 to 200	E5C2-R40K	E5C2-R40K-W
		0 to 300	E5C2-R40K	E5C2-R40K-W
		0 to 400	E5C2-R40K	--
		0 to 600	E5C2-R40K	--
		0 to 800	E5C2-R40K	--
		0 to 1000	--	--
		0 to 1200	--	E5C2-R40K-W
	J (IC)	0 to 200	--	E5C2-R40J-W
		0 to 300	--	E5C2-R40J-W
0 to 400		--	E5C2-R40J-W	

Indication method		No indication	
Control mode		ON/OFF	
Input	Output	Relay	
Input/standard scale (°C)	Resistance Thermometer	Platinum resistance thermometer Pt100	-50 to 50 E5C2-R20P-D
			-20 to 80 E5C2-R20P-D
			0 to 50 E5C2-R20P-D
			0 to 100 E5C2-R20P-D
			0 to 200 E5C2-R20P-D
			0 to 300 E5C2-R20P-D
			0 to 400 E5C2-R20P-D
	Thermistor	THE (replaceable element)	-50 to 50 E5C2-R20G
			0 to 100 E5C2-R20G
			50 to 150 E5C2-R20G
			100 to 200 E5C2-R20G
			150 to 300 E5C2-R20G

### ■ Accessories (Order Separately)

#### Protective Cover

Type	Model
Hard Protective Cover	Y92A-48B

#### Sockets

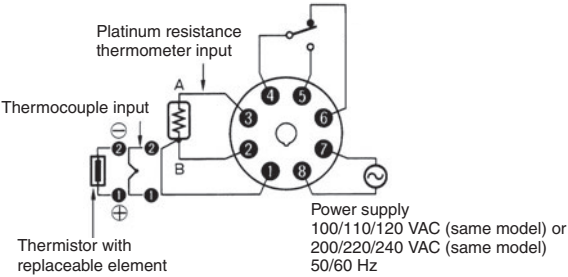
Name	Model
Front Connecting Socket	P2CF-08
Back Connecting Socket	P3G-08
Front Connecting Socket with Finger Protection	P2CF-08-E
Protective Cover (for finger protection)	Y92A-48G



# Connections

## Connecting the Input

- Connect a thermocouple, the E52-THE□ Thermistor (replaceable element) or a platinum resistance thermometer to terminals 1 (positive) and 2 (negative) on the E5C2 as shown in the following illustration.



- On the E52-□□1D, the lead wires are thermocouple element wires, making them difficult to solder because solder will not stick to them easily. Remove the crimp terminal and polish the ends before attempting to solder them.

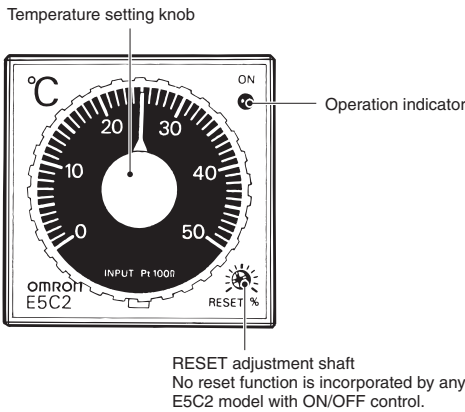
## Output

- If the load circuit is a heating control system, be sure to connect the load to terminals 4 and 5. If the load circuit is a cooling control system, be sure to connect the load to terminals 4 and 6.
- We recommend using an external relay to extend the electrical life of internal relays when driving a large capacity load. This is particularly important when the output relay is switched frequently (e.g., with proportional control).

## Power Supply

- If a single power supply is used for the E5C2 and the load, the supply voltage of the power supply may vary greatly when the load is open or closed if the capacity of the power supply is not large enough. Make sure that the capacity of the power supply is large enough so that the supply voltage range will be always from 90% to 110% of the rated supply voltage.
- The E5C2 operates at either 50 or 60 Hz.

# Nomenclature



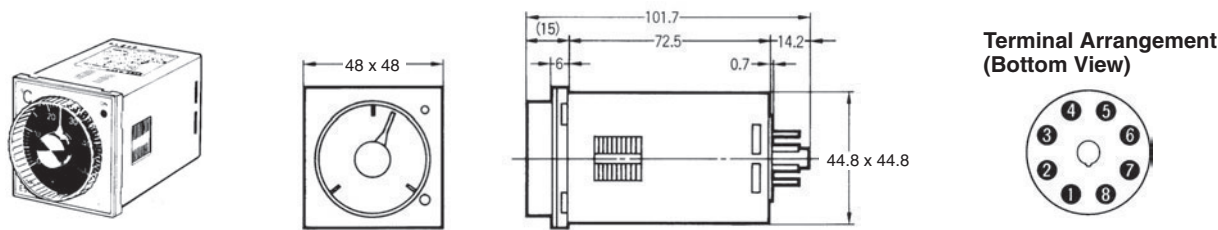
RESET adjustment shaft  
No reset function is incorporated by any E5C2 model with ON/OFF control.

## Operation Indicator

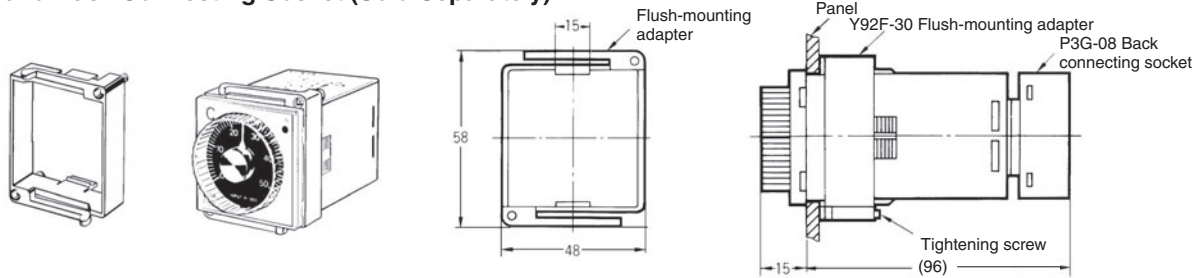
Indicator	Output	
	NO contacts (4 and 5)	NC contacts (4 to 6)
Red Lit	ON	OFF
Not lit	OFF	ON

# Dimensions

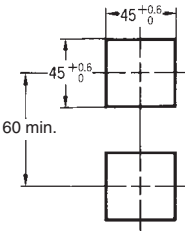
**Note:** All units are in millimeters unless otherwise indicated.



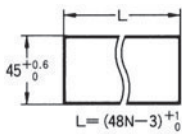
## Dimensions with Flush-mounting Adapter (Accessory), and Back Connecting Socket (Sold Separately)



### Panel Cutout



### Side-by-side Mounting of N Controllers



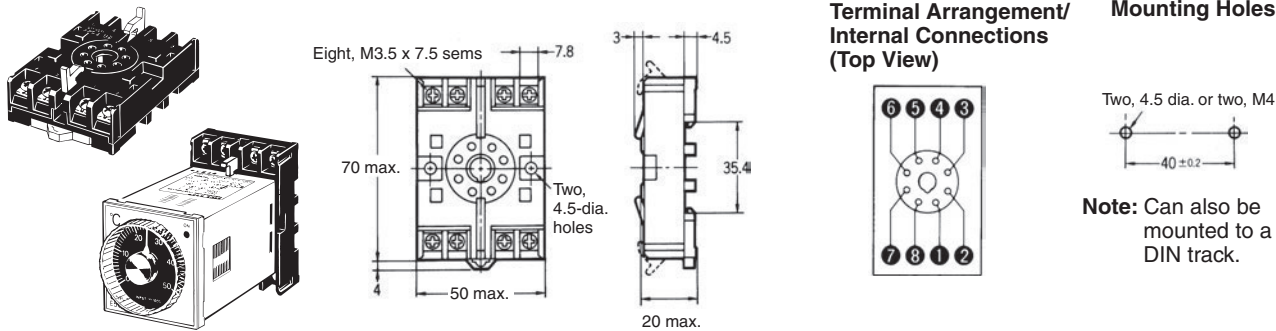
Qty.	2	3	4	5	6
L	93 <sup>+1</sup> <sub>0</sub>	141 <sup>+1</sup> <sub>0</sub>	189 <sup>+1</sup> <sub>0</sub>	237 <sup>+1</sup> <sub>0</sub>	285 <sup>+1</sup> <sub>0</sub>

- Note:** 1. Recommended panel thickness is 1 to 4 mm.  
2. Close side-by-side mounting is possible (in a single direction).

# Accessories (Order Separately)

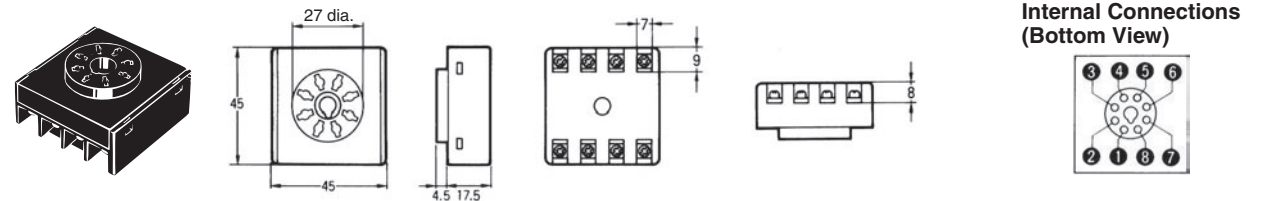
## Connection Sockets

### P2CF-08 Front Connecting Socket



**Note:** A finger-protection model (P2CF-08-E) is also available.

### P3G-08 Back Connecting Socket (for Flush Mounting)

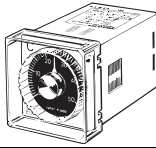


**Note:** A Protective Cover for finger protection (Y92A-48G) is also available.

Hard Protective Cover

A Hard Protective Cover (Y92A-48B) is available. It can be used in the following cases.

- To protect the setting section, against dust and dirt
- To prevent accidentally changing settings by touching the front of the Controller.
- To protect the Controller from water drips

Appearance	
Model	Y92A-48B

Applicable Thermistor

Connect a Thermistor with a replaceable element (E52-THE5A, E52-THE6D, or E52-THE6F) to the E5C2-R20G. Refer to E52 for details.

Safety Precautions

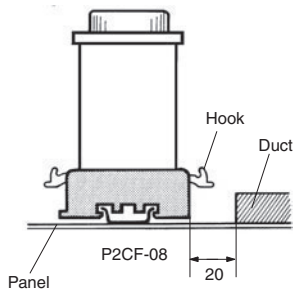
Refer to *Safety Precautions for All Temperature Controllers*.

■ Correct Use

Mounting

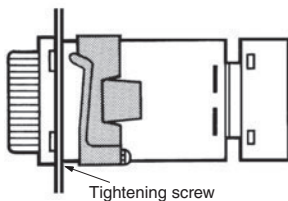
Track Mounting (E5C2 with P2CF-08)

When mounting two or more E5C2 models with track-mounting sockets, leave a space of approximately 20 mm on both sides of the sockets where hooks are located.

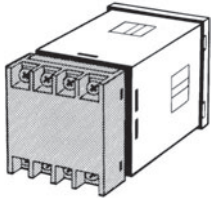


Flush Mounting

Insert E5C2 into the square hole of the panel and insert an adapter from the back so that there will be no space between E5C2 and the panel. Then, secure the E5C2 with a screw.

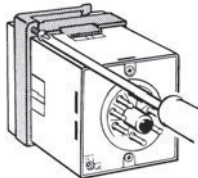


The P3G-08 can be wired in the same way as the P2CF-08.



Dismounting

If flush mounted, loosen the screw of the adapter and disengage the hooks for dismounting.



Temperature Setting

Do not turn the temperature setting knob of the E5C2 with excessive force, otherwise the stopper of the knob may break.

Others

- Do not remove the housing of the E5C2, otherwise the housing may break.
- To clean the surface of the E5C2, use a soft cloth wet with neutral detergent or alcohol. Do not use any organic solvent, such as paint thinner or benzine, strong acid or strong alkali to clean the surface of the E5C2, otherwise the surface of the E5C2 will become damaged.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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

In the interest of product improvement, specifications are subject to change without notice.

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