

# Digital Temperature Controller (Simple Type)

# E5CC-800 (48 × 48 mm)

Large White PV Display That's Easier to Read.

Easy to Use, from Model Selection to Setup and Operation.

A Complete Range of I/O Capacities, Functions, and Performance.

Handles More Applications.

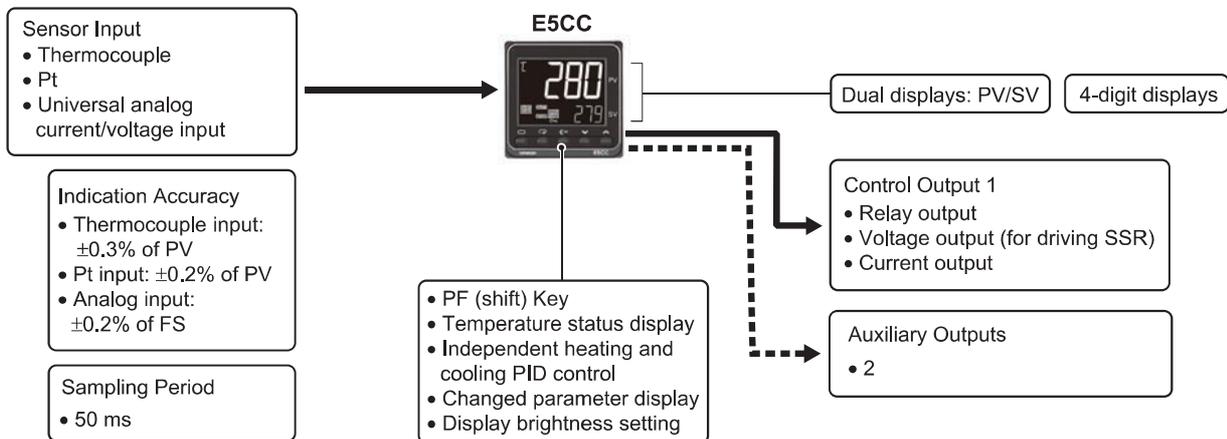
- The white PV display with a height of 15.2 mm improves visibility.
- Only 48 × 48 mm (C size) and provides five keys.  
As easy to operate as 48 × 96 mm (E size) models.
- High-speed sampling at 50 ms.
- Short body with depth of only 60 mm.



48 × 48 mm  
E5CC

Refer to Safety Precautions on page 29.

## Main I/O Functions



## Model Number Legend and Standard Models

### Model Number Legend

#### E5CC 48x48mm

Control output 1	Auxiliary output	Communications	Heater burnout	Event inputs	Power supply voltage	Model				
Relay output	Two	-	-	-	100 to 240 VAC	E5CC-RX2ASM-800				
Voltage output						E5CC-QX2ASM-800				
Current output						E5CC-CX2ASM-800				
Relay output					24 VAC/VDC	E5CC-RX2DSM-800				
Voltage output						E5CC-QX2DSM-800				
Current output						E5CC-CX2DSM-800				
Relay output		-	One	-	Two	100 to 240 VAC	E5CC-RX2ASM-801			
Voltage output							E5CC-QX2ASM-801			
Relay output							24 VAC/VDC	E5CC-RX2DSM-801		
Voltage output						E5CC-QX2DSM-801				
Relay output						-		-	-	100 to 240 VAC
Voltage output							E5CC-QX2ASM-802			
Relay output	24 VAC/VDC	E5CC-RX2DSM-802								
Voltage output		E5CC-QX2DSM-802								
Current output		-	Two	100 to 240 VAC	E5CC-CX2ASM-804					
Current output	24 VAC/VDC				E5CC-CX2DSM-804					

### Heating and Cooling Control

#### ● Using Heating and Cooling Control

##### ① Control Output Assignment

An auxiliary output is used as the cooling control output.

##### ② Control

If PID control is used, you can set PID control separately for heating and cooling.

This allows you to handle control systems with different heating and cooling response characteristics.

### Optional Products (Order Separately)

#### Terminal Covers

Model
E53-COV17
E53-COV23

**Note:** The E53-COV10 cannot be used.  
Refer to page 10 for the mounted dimensions.

#### Waterproof Packing

Model
Y92S-P8

**Note:** This Waterproof Packing is provided with the Digital Temperature Controller.

#### Current Transformers (CTs)

Hole diameter	Model
5.8 mm	E54-CT1
12.0 mm	E54-CT3

#### Adapter

Model
Y92F-45

**Note:** Use this Adapter when the panel has already been prepared for an E5B□ Controller.

#### Waterproof Cover

Model
Y92A-48N

**Note:** This Cover complies with IP66 and NEMA 4X waterproofing.  
Front panel: IP66 protection.

#### Mounting Adapter

Model
Y92F-49

**Note:** This Mounting Adapter is provided with the Digital Temperature Controller.

#### Front Covers

Type	Model
Hard Front Cover	Y92A-48H
Soft Front Cover	Y92A-48D

# E5CC-800

## Specifications

### Ratings

<b>Power supply voltage</b>		A in model number: 100 to 240 VAC, 50/60 Hz D in model number: 24 VAC, 50/60 Hz; 24 VDC
<b>Operating voltage range</b>		85% to 110% of rated supply voltage
<b>Power consumption</b>		5.2 VA max. at 100 to 240 VAC, and 3.1 VA max. at 24 VDC or 1.6 W max. at 24 VDC
<b>Sensor input</b>		Models with temperature inputs Thermocouple: K, J, T, E, L, U, N, R, S, B, W, or PL II Platinum resistance thermometer: Pt100 or JPt100 Infrared temperature sensor: 10 to 70°C, 60 to 120°C, 115 to 165°C, or 140 to 260°C Analog input Current input: 4 to 20 mA or 0 to 20 mA Voltage input: 1 to 5 V, 0 to 5 V, or 0 to 10 V
<b>Input impedance</b>		Current input: 150 Ω max., Voltage input: 1 MΩ min. (Use a 1:1 connection when connecting the ES2-HB/THB.)
<b>Control method</b>		ON/OFF control or 2-PID control (with auto-tuning)
<b>Control output</b>	<b>Relay output</b>	SPST-NO, 250 VAC, 3 A (resistive load), electrical life: 100,000 operations, minimum applicable load: 5 V, 10 mA
	<b>Voltage output (for driving SSR)</b>	Output voltage: 12 VDC ±20% (PNP), max. load current: 21 mA, with short-circuit protection circuit
	<b>Current output</b>	4 to 20 mA DC/0 to 20 mA DC, load: 500 Ω max., resolution: approx. 10,000
<b>Auxiliary output</b>	<b>Number of outputs</b>	2
	<b>Output specifications</b>	N.O. relay outputs, 250 VAC, Models with 2 outputs: 3 A (resistive load), Electrical life: 100,000 operations, Minimum applicable load: 10 mA at 5 V
<b>Event input</b>	<b>Number of inputs</b>	2 or 4 (depends on model)
	<b>External contact input specifications</b>	Contact input: ON: 1 kΩ max., OFF: 100 kΩ min. Non-contact input: ON: Residual voltage: 1.5 V max., OFF: Leakage current: 0.1 mA max. Current flow: Approx. 7 mA per contact
<b>Setting method</b>		Digital setting using front panel keys
<b>Indication method</b>		11-segment digital display and individual indicators Character height: PV: 15.2 mm, SV: 7.1 mm
<b>Multi SP</b>		Up to eight set points (SP0 to SP7) can be saved and selected using event inputs, key operations, or serial communications.
<b>Other functions</b>		Manual output, heating/cooling control, loop burnout alarm, SP ramp, other alarm functions, 40% AT, 100% AT, MV limiter, input digital filter, self tuning, PV input shift, run/stop, protection functions, extraction of square root, MV change rate limit, temperature status display, moving average of input value, and display brightness setting
<b>Ambient operating temperature</b>		-10 to 55°C (with no condensation or icing), for 3-year warranty: -10 to 50°C (with no condensation or icing)
<b>Ambient operating humidity</b>		25% to 85%
<b>Storage temperature</b>		-25 to 65°C (with no condensation or icing)