

Model Number Legend and Standard Models

Model Number Legend

E5EC-□□ □□□□-□□□□ (Example: E5EC-RX4A5M-000)

① ② ③ ④ ⑤ ⑥

E5AC-□□ □□□□-□□□□ (Example: E5AC-RX4A5M-000)

① ② ③ ④ ⑤ ⑥

Model	①		②	③	④	⑤	⑥	Meaning						
	Control outputs 1 and 2		No. of auxiliary out-puts	Power supply voltage	Terminal type	Input type	Options							
E5EC								48 × 96 mm						
E5AC								96 × 96 mm						
								Control output 1			Control output 2			
	RX							Relay output			None			
	QX							Voltage output (for driving SSR)			None			
	CX							Linear current output			None			
	QQ							Voltage output (for driving SSR)			Voltage output (for driving SSR)			
	QR							Voltage output (for driving SSR)			Relay output			
	RR							Relay output			Relay output			
	*2 CC							Linear current output			Linear current out-put			
	*2 CQ							Linear current output			Voltage output (for driving SSR)			
	PR							Position-proportional relay output			Position-proportion-al relay output			
			*3	4					4 (auxiliary outputs 1 and 2 with same common and auxiliary outputs 3 and 4 with same common)					
					A				100 to 240 VAC					
					D				24 VAC/DC					
			Control outputs 1 and 2			5			Screw terminals (with cover)					
Option selection conditions *1	For RX, QX, QQ, QR, RR, or CQ		For CX or CC	For PR		M		Universal input						
	Selectable	Selectable	Selectable				000	HB alarm and HS alarm	Communications	Event inputs	Remote SP Input	Transfer output		
		Selectable	Selectable				004	---	RS-485	2	---	---		
		Selectable					005	---	---	4	---	---		
	Selectable						009	2 (for 3-phase heaters)	RS-485	2	---	---		
	Selectable						010	1	---	4	---	---		
	Selectable						011	1	---	6	Provided.	Provided.		
		Selectable					013	---	---	6	Provided.	Provided.		
		Selectable	Selectable				014	---	RS-485	4	Provided.	Provided.		

*1. The options that can be selected depend on the type of control output.

*2. The control output cannot be used as a transfer output.

*3. A model with four auxiliary outputs must be selected.

Heating and Cooling Control

I Using Heating and Cooling Control

① Control Output Assignment

If there is no control output 2, an auxiliary output is used as the cooling control output.

If there is a control output 2, the two control outputs are used for heating and cooling.

(It does not matter which output is used for heating and which output is used for cooling.)

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)

USB-Serial Conversion Cable

Model
E58-CIFQ2

Communications Conversion Cable

Model
E58-CIFQ2-E

Note: Always use this product together with the E58-CIFQ2.
This Cable is used to connect to the front-panel Setup Tool port.

Terminal Covers

Model
E53-COV24

Waterproof Packing

Applicable Controller	Model
E5EC	Y92S-P9
E5AC	Y92S-P10

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

Waterproof Cover

Applicable Controller	Model
E5EC	Y92A-49N
E5AC	Y92A-96N

Front Port Cover

Model
Y92S-P7

Note: This Front Port Cover is provided with the Digital Temperature Controller.

Mounting Adapter

Model
Y92F-51

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

Current Transformers (CTs)

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

CX-Thermo Support Software

Model
EST2-2C-MV4

Note: CX-Thermo version 4.5 or higher is required for the E5EC.
For the system requirements for the CX-Thermo, refer to information on the EST2-2C-MV4 on the OMRON website (www.ia.omron.com).

Specifications

Ratings

Power supply voltage		A in model number: 100 to 240 VAC, 50/60 Hz D in model number: 24 VAC, 50/60 Hz; 24 VDC
Operating voltage range		85% to 110% of rated supply voltage
Power consumption	E5EC	Models with option selection of 000: 6.6 VA max. at 100 to 240 VAC, and 4.1 VA max. at 24 VAC or 2.3 W max. at 24 VDC All other models: 8.3 VA max. at 100 to 240 VAC, and 5.5 VA max. at 24 VAC or 3.2 W max. at 24 VDC
	E5AC	Models with option selection of 000: 7.0 VA max. at 100 to 240 VAC, and 4.2 VA max. at 24 VAC or 2.4 W max. at 24 VDC All other models: 9.0 VA max. at 100 to 240 VAC, and 5.6 VA max. at 24 VAC or 3.4 W max. at 24 VDC
Sensor input		Temperature input Thermocouple: K, J, T, E, L, U, N, R, S, B, W, or PL II Platinum resistance thermometer: Pt100 or JPt100 Infrared temperature sensor (ES1B): 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
Input impedance		Current input: 150 Ω max., Voltage input: 1 MΩ min. (Use a 1:1 connection when connecting the ES2-HB/THB.)
Control method		ON/OFF or 2-PID control (with autotuning)
Control output	Relay output	SPST-NO, 250 VAC, 5 A (resistive load), electrical life: 100,000 operations, minimum applicable load: 5 V, 10 mA
	Voltage output (for driving SSR)	Output voltage: 12 VDC ±20% (PNP), max. load current: 40 mA, with short-circuit protection circuit (The maximum load current is 21 mA for models with two control outputs.)
	Linear current output	4 to 20 mA DC/0 to 20 mA DC, load: 500 Ω max., resolution: approx. 10,000
Auxiliary output	Number of outputs	4
	Output specifications	SPST-NO. relay outputs, 250 VAC, Models with 4 outputs: 2 A (resistive load), Electrical life: 100,000 operations, Minimum applicable load: 10 mA at 5 V
Event input	Number of inputs	2, 4 or 6 (depends on model)
	External contact input specifications	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
Transfer output	Number of outputs	1 (only on models with a transfer output)
	Output specifications	Current output: 4 to 20 mA DC, Load: 500 Ω max., Resolution: Approx. 10,000 Linear voltage output: 1 to 5 VDC, load: 1 kΩ max, Resolution: Approx. 10,000
Remote SP input		Current input: 4 to 20 mA DC or 0 to 20 mA DC (input impedance: 150 Ω max.) Voltage input: 1 to 5 V, 0 to 5 V, or 0 to 10 V (input impedance: 1 MΩ min.)
Potentiometer input		100 Ω to 10 kΩ
Setting method		Digital setting using front panel keys
Indication method		11-segment digital display and individual indicators Character height: E5EC: PV: 18.0 mm, SV: 11.0 mm, MV: 7.8 mm E5AC: PV: 25.0 mm, SV: 15.0 mm, MV: 9.5 mm Three displays Contents: PV/SV/MV, PV/SV/Multi-SP, or PV/SV/Remaining soak time Numbers of digits: 4 digits each for PM, SV, and MV displays
Multi SP		Up to eight set points (SP0 to SP7) can be saved and selected using event inputs, key operations, or serial communications.
Bank switching		None
Other functions		Manual output, heating/cooling control, loop burnout alarm, SP ramp, other alarm functions, heater burnout (HB) alarm (including SSR failure (HS) alarm), 40% AT, 100% AT, MV limiter, input digital filter, self tuning, robust tuning, PV input shift, run/stop, protection functions, extraction of square root, MV change rate limit, simple calculations, temperature status display, simple programming, moving average of input value, and display brightness setting
Ambient operating temperature		-10 to 55°C (with no condensation or icing), for 3-year warranty: -10 to 50°C (with no condensation or icing)
Ambient operating humidity		25% to 85%
Storage temperature		-25 to 65°C (with no condensation or icing)