OMRON

Digital temperature and process controllers

E5_C Series

- Feature-rich and high speed temperature controller
- User-friendly set-up and operation
- Programmable types for processing applications

industrial.omron.eu/e5_c

Next generation of controllers

Our E5_C series raises the bar of temperature control. This next generation controller sets a new global standard in user-friendliness, precision and control performance. It will save you setup and operation time and will comfortably enable faster, more accurate monitoring of control processes. It's high visibility interface offers exceptional clarity, virtually eliminating the possibility for human error. The E5_C improves on our existing temperature controllers, incorporating our patented PID control system, intuitive operation and an increased ability to handle multi-functional in- and output types. In a class of it's own, the E5_C can cover virtually any general-purpose demand.

Auto-tuning

Changes in ambient or processing conditions can be both planned and unforeseen. In either case, a responsive auto-tuning algorithm will manage these variations quickly. This precision auto-tuning finds the right PID settings and reacts fast to any fluctuations.

PID control

The E5_C series by design has been developed for high-sampling speeds. It uses a powerful algorithm to enhance control stability.

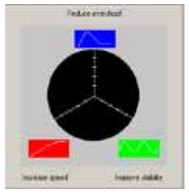
This 2-PID innovation offers high precision advantages over standard controllers, providing greater security and safeguarding of product quality.

High-contrast

Control rooms are generally known to have subdued lighting conditions. This is a key factor on which the E5_C outperforms. It's large, high-contrast, white LCD display enables clear visibility. View settings comfortably from greater distances and wider viewing angles. Be assured of accurate readings thanks to our clear data display.

Technologies

The EC_5 leads the way in reducing error, high-speed precision and accelerated performance. Our patent PID system provides many advantages.



- Different PID algorithms allow you to conveniently set the PID parameters, even under changing environmental conditions.
- With a simple software tool you can optimise controller behaviour. Have greater control over speed increases overshoot limitation, and stability improvement.
- Discover sealing quality increases due to faster response times to temperature anomalies.
- Auto-tuned rapid responsiveness positively influences machine availability, enabling practically no production loss.
- Unparalleled regulation performance virtually eliminates overshoot, helping machines to run smoothly and effectively.

Bright LCD display

- The compact E5_C display has been developed for optimum user-comfort and clear, unhindered viewing.
- The white LCD offers higher contrast on black panel instrumentation backgrounds, allowing clear and distinctive definition.
- Bright, oversized LCD technology means that the 15-18 mm display height gives maximum clarity for its size, ensuring accuracy and ease of use every time.

Intuitive software - quick setup and operation

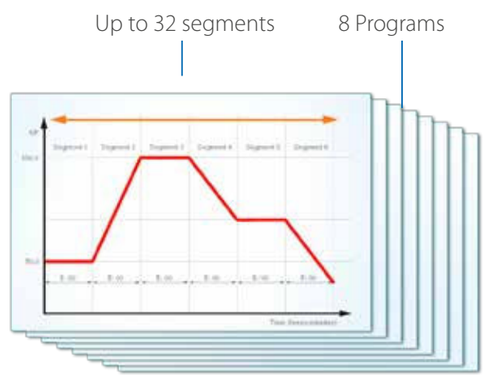
Our CX-Thermo software gives you the fastest possible parameter setting, instant device adjustment and simpler maintenance. And you don't even need to connect a power supply to the controller – the USB bus to your laptop takes care of that. Also, if you need to log your temperature curves on an external PC, the CX-Thermo software tracks your data in an organised and understandable way.

Programmable process control

The E5_C-T Ramp/Soak temperature controllers expands the E5_C family to handle process applications.

Capable of addressing up to 6 event inputs and up to 4 auxiliary outputs all in a compact 60 mm (depth) housing, makes this controller series one of Omron's most powerful and versatile temperature controllers.

Set up to 8 programs with 32 segments totaling 256 program segments simply via CX-Thermo software.



Free-up space in your panel

Compact, space-saving body

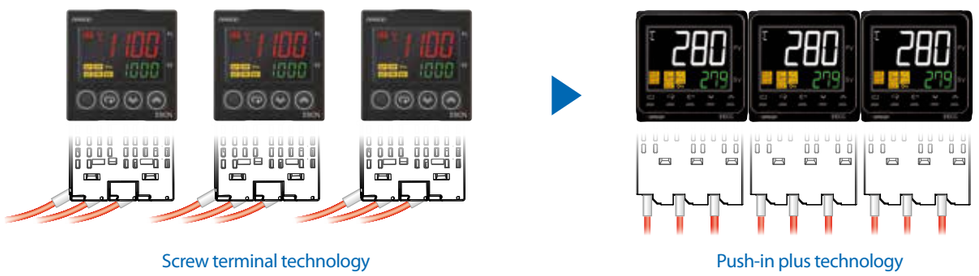
With a depth of just 60 mm, the E5_C is especially ideal for panels with limited space. And since it has a push-in plus technology, wiring is performed from the back, enabling horizontal group mounting to achieve compact panel surfaces.

E5CC
E5EC
E5AC

Push-in plus technology enables side-by-side mounting

Because push-in plus technology allows you to wire straight into the back of the terminals, it is now no longer necessary to plan the sequence of products in the panel. This allows side-by-side mounting, making your panel cleaner and more space efficient.

E5CC-B
E5EC-B



Screw terminal technology

Push-in plus technology

Faster design, assembly and setup

Fast wiring via push-in plus technology

Just insert the wires – no tools required. Do all your wiring in less than half the time needed with screw type terminals.

Temperature sensors

Our push-in plus technology assures contact reliability even with a very small signal such as Pt100 and Thermocouple

No retightening required

Retightening screws is often necessary for screw terminals, but with push-in plus, there is no (re) tightening.

Easy to insert

Our push-in plus technology is as easy as inserting to an earphone jack – reducing your work load and improving wiring quality at the same time.

E5CC-B
E5EC-B

approx.
60%
reduction

Held firmly in place

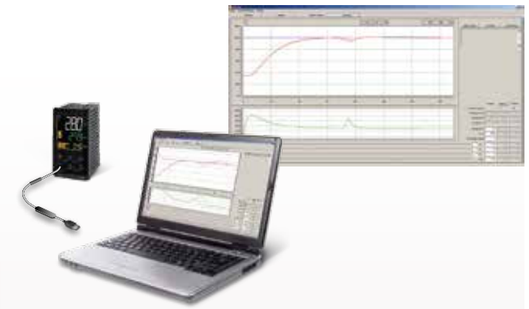
Even though less insertion force is required than other temperature controllers with push-in technology, the wires are held firmly in place – thanks to the advanced mechanism design and manufacturing technology.

IEC standard	**Push-in plus technology**	Screw technology
20 N	**125 N***	112 N*

* Data from our own research.

Just 3 steps - no PLC communications program

In addition to communications with PLCs, you can share target temperatures and copy parameter settings with other E5_C series controllers.



Perfect control behaviour in seconds

To find the ideal temperature control behaviour you tune your temperature controller and then manually adjust the PID in the field. This could take 30 minutes for start-up and another 40 for cooling. With our Thermac simulation software you can create a model of your process on your PC and test an adjustment in just one second.

Family E5_C

“We are family”

E5_C Standard

E5_C –T Programmer

Model name	DIN size	Dimensions	ON-/In-Panel	Terminal type
E5GC	1/32 DIN	(24 x 48 x 90) mm	On-Panel	screwless and screw
E5CC	1/16 DIN	(48 x 48 x 60) mm	On-Panel	push-in plus and screw
E5EC	1/8 DIN	(48 x 96x 60) mm	On-Panel	push-in plus and screw
E5AC	¼ DIN	(96 x 96x 60) mm	On-Panel	screw
E5CC-U	1/16 DIN	(48 x 48 x 60) mm	On-Panel	screw
E5DC	22,5 mm DIN rail	(22,5x 96 x 85) mm	In-Panel	screw
E5CC-T	1/16 DIN	(48 x 48 x 60) mm	On-Panel	screw
E5EC-T	1/8 DIN	(48 x 96x 60) mm	On-Panel	screw
E5AC-T	¼ DIN	(96 x 96x 60) mm	On-Panel	screw

Closing the (Control) loop ...

Temperature controller + Solid State Relay + Temperature Sensor in one

Good regulation results don’t necessarily need to be expensive.
To achieve the best results in the regulation process we’d recommend you to purchase the complete package from Omron. All parts of the control loop harmonise and assure stable conditions for many years.

We offer you a wide range of Solid State Relays with different driving currents and zero/ non-zero crossing functions. Add to that multiple simple temperature sensors of various shapes and temperature ranges, allowing you to get all the relevant parts at once for a quick machine setup.

Special tube lengths and cable confectioning can also be provided without needing to order large quantities.

Temperature controller
E5_C / -T

Solid state relays
G3PE/G3NA/
G3PJ

Temperature sensors
E52-E

High performance & simplicity

The next generation E5_C temperature controller is setting a new global standard in terms of precision and user-friendly design. Best control performance, easy set-up and outstanding visibility of the white IP66 LCD display have been integrated into a space-saving housing only 60 mm deep.

- Fast and precise regulation: 50 ms sampling loop period time
- Easy to set up, and operate intuitively via CX-Thermo without power supply
- Best contrast display using white LCD technology which is visible from a far distance and from any angle
- Useful alarm and diagnosis functions for secure operation
- Practical timer and logic operation functions eliminating the need of a PLC
- Additional models with different features are available. Please check related product catalogue.

Ordering information

E5CC (48 × 48 mm) Screw terminals

Control Output	Option no	Option description	Alarm outputs	Order code	
				100 to 240 VAC	24 VAC/DC
Out1: Relay Out2: non	000	No option	3	E5CC-RX3A5M-000	E5CC-RX3D5M-000
	001	HB/HS alarm for 1-phase heaters, 2 EV inputs	3	E5CC-RX3A5M-001	E5CC-RX3D5M-001
	003	HB/HS alarm for 3-phase heaters, RS485	3	E5CC-RX3A5M-003	E5CC-RX3D5M-003
	006	2 EV inputs, transfer output	3	E5CC-RX3A5M-006	E5CC-RX3D5M-006
	007	2 EV inputs, remote SP	3	E5CC-RX3A5M-007	E5CC-RX3D5M-007
Out1: Voltage (pulse) Out2: non	000	No option	3	E5CC-QX3A5M-000	E5CC-QX3D5M-000
	001	HB/HS alarm for 1-phase heaters, 2 EV inputs	3	E5CC-QX3A5M-001	E5CC-QX3D5M-001
	003	HB/HS alarm for 3-phase heaters, RS485	3	E5CC-QX3A5M-003	E5CC-QX3D5M-003
	006	2 EV inputs, transfer output	3	E5CC-QX3A5M-006	E5CC-QX3D5M-006
	007	2 EV inputs, remote SP	3	E5CC-QX3A5M-007	E5CC-QX3D5M-007
Out1: Linear current Out2: non	000	No option	3	E5CC-CX3A5M-000	E5CC-CX3D5M-000
	004	RS485, 2 EV inputs	3	E5CC-CX3A5M-004	E5CC-CX3D5M-004
	006	2 EV inputs, transfer output	3	E5CC-CX3A5M-006	E5CC-CX3D5M-006
	007	2 EV inputs, remote SP	3	E5CC-CX3A5M-007	E5CC-CX3D5M-007

Note: Other models with 2 control outputs, 4 EV inputs or with different kind of option combination are available on request. Please contact the local sales office for special request.

E5CC (48 × 48 mm) Push-in plus terminals

Control Output	Option no	Option description	Alarm outputs	Order code	
				100 to 240 VAC	24 VAC/DC
Out1: Relay Out2: non	0	No option	2	E5CC-RX2ABM-000	E5CC-RX2DBM-000
	1	HB/HS alarm for 1-phase heaters, 2 EV inputs	2	E5CC-RX2ABM-001	E5CC-RX2DBM-001
	2	HB/HS alarm for 1-phase heaters, RS485	2	E5CC-RX2ABM-002	E5CC-RX2DBM-002
	4	RS485, 2 EV inputs	2	E5CC-RX2ABM-004	E5CC-RX2DBM-004
	6	2 EV inputs, Tranfer output	2	E5CC-RX2ABM-006	E5CC-RX2DBM-006
Out1: Voltage (pulse) Out2: non	0	No option	2	E5CC-QX2ABM-000	E5CC-QX2DBM-000
	1	HB/HS alarm for 1-phase heaters, 2 EV inputs	2	E5CC-QX2ABM-001	E5CC-QX2DBM-001
	2	HB/HS alarm for 1-phase heaters, RS485	2	E5CC-QX2ABM-002	E5CC-QX2DBM-002
	4	RS485, 2 EV inputs	2	E5CC-QX2ABM-004	E5CC-QX2DBM-004
	6	2 EV inputs, Tranfer output	2	E5CC-QX2ABM-006	E5CC-QX2DBM-006

E5EC (48 × 96 mm)/E5AC (96 × 96 mm) Screw terminals

Control Output	Option no	Option description	Alarm outputs	Order code	
				100 to 240 VAC	24 VAC/DC
Out1: Relay Out2: non	000	No option	4	E5_C-RX4A5M-000	E5_C-RX4D5M-000
	009	HB/HS alarm for 3-phase heaters, RS485, 2 EV inputs	4	E5_C-RX4A5M-009	E5_C-RX4D5M-009
	010	HB/HS alarm for 1-phase heaters, 4 EV inputs	4	E5_C-RX4A5M-010	E5_C-RX4D5M-010
	011	HB/HS alarm for 1-phase heaters, 6 EV inputs, remote SP, transfer output	4	E5_C-RX4A5M-011	E5_C-RX4D5M-011
Out1: Voltage (pulse) Out2: non	000	No option	4	E5_C-QX4A5M-000	E5_C-QX4D5M-000
	009	HB/HS alarm for 3-phase heaters, RS485, 2 EV inputs	4	E5_C-QX4A5M-009	E5_C-QX4D5M-009
	010	HB/HS alarm for 1-phase heaters, 4 EV inputs	4	E5_C-QX4A5M-010	E5_C-QX4D5M-010
	011	HB/HS alarm for 1-phase heaters, 6 EV inputs, remote SP, transfer output	4	E5_C-QX4A5M-011	E5_C-QX4D5M-011
Out1: Linear current Out2: non	000	No option	4	E5_C-CX4A5M-000	E5_C-CX4D5M-000
	004	2 EV inputs, RS485	4	E5_C-CX4A5M-004	E5_C-CX4D5M-004
	014	RS485, 4 EV inputs, remote SP, transfer output	4	E5_C-CX4A5M-014	E5_C-CX4D5M-014
Out1: Relay Out2: Relay Positional proportional control model	000	No option	4	E5_C-PR4A5M-000	E5_C-PR4D5M-000
	004	2 EV inputs, RS485	4	E5_C-PR4A5M-004	E5_C-PR4D5M-004
	014	RS485, 4 EV inputs, remote SP, transfer output	4	E5_C-PR4A5M-014	E5_C-PR4D5M-014

Note: Other models with 2 control outputs or with different kind of option combination are available on request. Please contact the local sales office for special request. Replace "_" with "A" for E5AC or "E" for E5EC

E5EC (48x96mm) Push-in plus terminals

Control Output	Option no	Option description	Alarm outputs	Order code	
				100 to 240 VAC	24 VAC/DC
Out1: Relay Out2: non	0	No option	4	E5EC-RX4ABM-000	E5EC-RX4DBM-000
	8	HB/HS alarm for 1-phase heaters, RS485, 2 EV inputs	4	E5EC-RX4ABM-008	E5EC-RX4DBM-008
	10	HB/HS alarm for 1-phase heaters, 4 EV inputs	4	E5EC-RX4ABM-010	E5EC-RX4DBM-010
	11	HB/HS alarm for 1-phase heaters, 6 EV inputs, remote SP, transfer output	4	E5EC-RX4ABM-011	E5EC-RX4DBM-011
Out1: Voltage (pulse) Out2: non	0	No option	4	E5EC-QX4ABM-000	E5EC-QX4DBM-000
	8	HB/HS alarm for 1-phase heaters, RS485, 2 EV inputs	4	E5EC-QX4ABM-008	E5EC-QX4DBM-008
	10	HB/HS alarm for 1-phase heaters, 4 EV inputs	4	E5EC-QX4ABM-010	E5EC-QX4DBM-010
	11	HB/HS alarm for 1-phase heaters, 6 EV inputs, remote SP, transfer output	4	E5EC-QX4ABM-011	E5EC-QX4DBM-011

Note: Other models with 2 Alarm outputs are available on request. Please contact the local sales office for special request.

E5GC (48 × 24 mm)

Control Output	Terminal type	Option no	Option description	Alarm outputs	Order code	
					100 to 240 VAC	24 VAC/DC
Out1: Relay	Screwless clamp	000	No option	1	E5GC-RX1ACM-000	E5GC-RX1DCM-000
		015	RS485	1	E5GC-RX1ACM-015	E5GC-RX1DCM-015
		024	2 EV inputs	1	E5GC-RX1ACM-024	E5GC-RX1DCM-024
Out1: Voltage (pulse)	Screwless clamp	000	No option	1	E5GC-QX1ACM-000	E5GC-QX1DCM-000
		015	RS485	1	E5GC-QX1ACM-015	E5GC-QX1DCM-015
		024	2 EV inputs	1	E5GC-QX1ACM-024	E5GC-QX1DCM-024
Out1: Linear current	Screwless clamp	000	No option	1	E5GC-CX1ACM-000	E5GC-CX1DCM-000
		015	RS485	1	E5GC-CX1ACM-015	E5GC-CX1DCM-015
		024	2 EV inputs	1	E5GC-CX1ACM-024	E5GC-CX1DCM-024

Note: Other models with screw terminals, 0 or 2 Alarm outputs, 1 Event input or HBA alarm are available on request. Please contact the local sales office for special request.

E5DC (In-panel mounting)

Control Output	Option no	Option description	Alarm outputs	Order code	
				100 to 240 VAC	24 VAC/DC
Out1: Relay	000	No option	2	E5DC-RX2ASM-000	E5DC-RX2DSM-000
	002	HB/HS alarm for 1-phase heaters, RS485	2	E5DC-RX2ASM-002	E5DC-RX2DSM-002
	017	HB/HS alarm for 1-phase heaters, 1 EV input	2	E5DC-RX2ASM-017	E5DC-RX2DSM-017
Out1: Voltage (pulse)	000	No option	2	E5DC-QX2ASM-000	E5DC-QX2DSM-000
	002	HB/HS alarm for 1-phase heaters, RS485	2	E5DC-QX2ASM-002	E5DC-QX2DSM-002
	017	HB/HS alarm for 1-phase heaters, 1 EV input	2	E5DC-QX2ASM-017	E5DC-QX2DSM-017
Out1: Linear current	000	No option	2	E5DC-CX2ASM-000	E5DC-CX2DSM-000
	015	RS485	2	E5DC-CX2ASM-015	E5DC-CX2DSM-015
	016	1 EV input	2	E5DC-CX2ASM-016	E5DC-CX2DSM-016

Note: Other models with no Alarm output or with different kind of option combination are available on request. Please contact the local sales office for special request.

E5_C optional tools

Option	Order code
USB based configuration cable	E58-CIFQ2, E58-CIFQ2-E (for E5AC, E5DC, E5EC and E5GC)
PC based configuration and tuning software	EST2-2C-MV4

Specifications

E5CC/E5EC/E5AC

Item		E5CC	E5EC	E5AC
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		6.5 VA max. at 100 to 240 VAC, and 4.1 VA max. at 24 VAC or 2.3 W max. at 24 VDC	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	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 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 (ES1B): 10 to 70°C, 60 to 120°C, 115 to 165°C, or 140 to 260°C • Analog inputs Current input (mA): 4 to 20 or 0 to 20 Voltage input (V): 1 to 5, 0 to 5, or 0 to 10		
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 control or 2-PID control (with auto-tuning)		
Indication accuracy		Thermocouple input: (±0.3% of indicated value or ±1°C, whichever is greater) ±1 digit max. Platinum resistance thermometer input: (±0.2% of indicated value or ±0.8°C, whichever is greater) ±1 digit max. Analog input: ±0.2% FS ±1 digit max. CT input: ±5% FS ±1 digit max.	Thermocouple input: (±0.3% of indicated value or ±1°C, whichever is greater) ±1 digit max. Platinum resistance thermometer input: (±0.2% of indicated value or ±0.8°C, whichever is greater) ±1 digit max. Analog input: ±0.2% FS ±1 digit max. CT input: ±5% FS ±1 digit max. Potentiometer input: ±5% FS ±1 digit max.	
Auto-Tuning		Yes, 40%/100% MV output limit selection. When using Heat/Cool: Automatic cool gain adjustment		
Self-Tuning		Yes		
Control outputs	Relay output	SPST-NO, 250 VAC, 3 A (resistive load), electrical life: 100,000 operations, minimum applicable load: 5 V, 10 mA	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: 21 mA, with short-circuit protection circuit	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 outputs	Number of outputs	2,3	4	
	Output specifications	N.O. relay outputs, 250 VAC, Models with 3 outputs: 2 A (resistive load), electrical life: 100,000 operations, minimum applicable load: 5 V, 10 mA	N.O. relay outputs, 250 VAC, Models with 4 outputs: 2 A (resistive load), electrical life: 100,000 operations, minimum applicable load: 5 V, 10 mA	
Event inputs	Number of inputs	2 or 4 or 6 max (depends on the 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		
Setting method		Digital setting using front panel keys or via Remote Software CX-Thermo V4.5		
Indication method		11-segment digital display and individual indicators		
Multi SP		Up to eight set points (SP0 to SP7) can be saved and selected using event inputs, key operations, or serial communications.		
Other functions		Manual output, heating/cooling control, loop burnout alarm, SP ramp, other alarm functions, heater burnout detection (including SSR failure detection), 40% AT, 100% AT, MV limiter, input digital filter, self-tuning, temperature input shift, run/stop, protection functions, extraction of square root, MV change rate limit, logic operations, PV/SV status display, simple program, automatic cooling coefficient adjustment		
Ambient operating temperature		–10 to 55°C (with no condensation or icing)		
Ambient operating humidity		25% to 85%		
Storage temperature		–25 to 65°C (with no condensation or icing)		
Degree of protection		Front panel: IP66, Rear case: IP20, Terminals: IP00		
Sampling period		50 ms		
Size in mm (H×W×D)		48×48×64	48×96×64	96×96×64

E5GC

Item		E5GC
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
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
Control method		ON/OFF control or 2-PID control (with auto-tuning)
Control output	Relay output	SPST-NO, 250 VAC, 2 A (resistive load), electrical life: 100,000 operations, minimum applicable load: 5 V, 10 mA (reference value)
	Voltage output (for driving SSR)	Output voltage 12 VDC ±20% (PNP), max. Load current: 21 mA, with short-circuit protection circuit
	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	1 or 2 (depends on model)
	Output specifications	SPST-NO relay outputs, 250 VAC, 2 A (resistive load), Electrical life: 100,000 operations, Minimum applicable load: 10 mA at 5 V (reference value)
Indication method		11-segment digital displays and individual indicators Character height: PV: 10.5 mm, SV: 5.0 mm
Multi SP		Up to eight set points (SP0 to SP7) can be saved and selected using the event inputs, key operations, or serial communications. *1
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, logic operations, temperature status display, simple programming, moving average of input value, display brightness setting, simple transfer output, and work bit message. *2
Size in mm (H×W×D)		24×48×93

*1 Only four set points are selectable for event inputs.
*2 Simple transfer output and work bit message are only for E5GC.

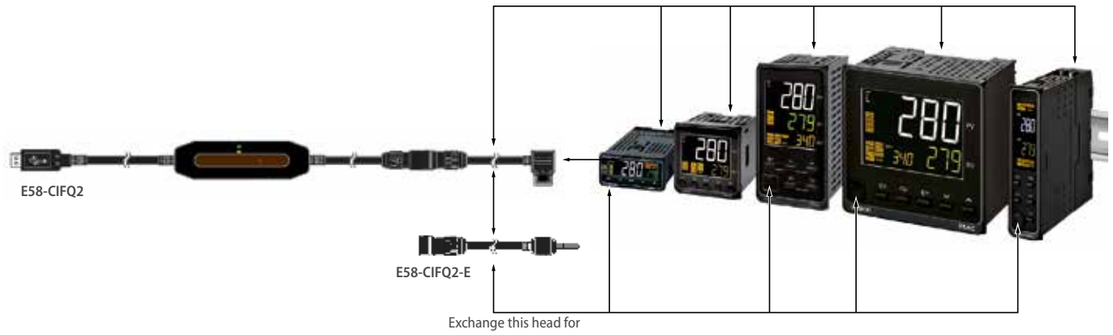
E5DC

Item		E5DC
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		4.9 VA max. at 100 to 240 VAC, and 2.8 VA max. at 24 VDC or 1.5 W max. at 24 VDC
Sensor input		• 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 (ES1B): 10 to 70°C, 60 to 120°C, 115 to 165°C, or 140 to 260°C • Analog inputs Current input (mA): 4 to 20 or 0 to 20 Voltage input (V): 1 to 5, 0 to 5, or 0 to 10
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 control or 2-PID control (with auto-tuning)
Indication accuracy		Thermocouple input: (±0.3% of PV or ±1°C, whichever is greater) ±1 digit max. Platinum resistance thermometer input: (±0.2% of PV or ±0.8°C, whichever is greater) ±1 digit max. Analog input: ±0.2% FS ±1 digit max. CT input: ±5% FS ±1 digit max.
Auto-Tuning		Yes, 40%/100% MV output limit selection. When using Heat/Cool: Automatic cool gain adjustment
Self-Tuning		Yes
Control outputs	Relay output	SPST-NO, 250 VAC, 3 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: 20 mA, with short-circuit protection circuit
	Linear current output	4 to 20 mA DC/0 to 20 mA DC, load: 500 Ω max., resolution: approx. 10,000
Auxiliary outputs	Number of outputs	2 (depends on model)
	Output specifications	SPST-NO relay outputs: 250 VAC, 2 A (resistive load), Electrical life: 100,000 operations, minimum applicable load: 5 V, 10 mA
Event inputs	Number of inputs	1 (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
Setting method		Digital setting using front panel keys
Indication method		11-segment digital displays and individual indicators Character height: PV 8.5 mm, SV: 8.0 mm
Multi SP		Up to eight set points (SP0 to SP7) can be saved and selected using event inputs, key operations, or serial communications. *1
Other functions		Manual output, heating/cooling control, loop burnout alarm, SP ramp, other alarm functions, heater burnout (HB) alarm (including SSR failure (HB) 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)
Degree of protection		Main unit: IP20, Terminal unit: IP00
Sampling period		50 ms
Size in mm (H×W×D)		96×22.5×85

*1 Only two set points are selectable for event inputs.

USB communication cable E58-CIFQ2

Item	E5AC	E5CC	E5DC	E5EC	E5GC
E58-CIFQ2	■	■	■	■	■
E58-CIFQ2-E	■	–	■	■	■



Omron at a glance

Listed in Forbes Top 2000 largest companies of the globe
Omron Corporation NASDAQ: OMRNY
Top ranking in Dow Jones Sustainability Index
Thomson Reuters Top 100 Global Innovators

2013 THOMSON REUTERS TOP 100 GLOBAL INNOVATORS
Dow Jones Sustainability Indexes Member 2011/12
NASDAQ

200,000 products ranging Input, Logic, Output & Safety

Sensing, Control Systems, Visualisation, Drives, Robots, Safety, Quality Control & Inspection, Control and Switching Components

6%

Roční investice do vědy a výzkumu

Innovation track record of 80 years

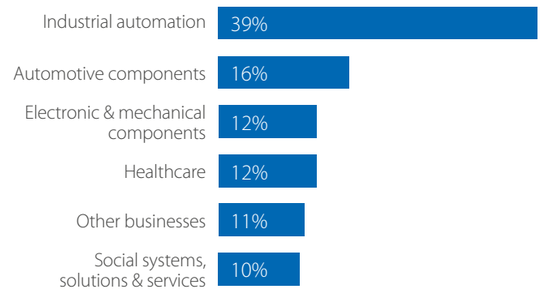
1,200 employees dedicated to R&D
12,500 + issued and pending patents

37,500
Employees worldwide

200
Locations worldwide

22
Countries in EMEA

Working for the benefit of society



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