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MODEL	K3TL	E5C2
Dimensions	48 H x 96 W x 69.5 D mm (1.89 x 3.78 x 2.74 in)	48 H x 48 W x 86.7 D mm (1.89 x 1.89 x 3.41 in)
Description & input and scale ranges	Digital temperature display offers multiple range selections. Easy-to-read, large 14.2 mm high LED display. Alarm output models offer one user-selectable upper or lower limit alarm output. Concealed setting switches reduce tampering Thermocouple: Type K: 0° to 400°C or F 0° to 999°C or F Type J/L: 0° to 300°C or F 0° to 400°C or F Platinum RTD: Pt100: 0° to 99.9°C or F -50° to 50°C or F 0° to 200°F 0° to 400°C 0° to 800°F	Economical, no-frills, plug-in temperature controller offers accuracy better than $\pm 2\%$ full scale and dual-scale analog setting dial. 1/16 DIN unit fits standard 8-pin sockets. Supplied with panel adapter for easy mounting of several units. Choose ON/OFF or PD control modes. Thermocouple: Type K: 0° to 1200°C, 32° to 2192°F Type J: 0° to 400°C or 32° to 752°F Platinum RTD: Pt100: -50° to 400°C, -58° to 752°F Thermistor: -50° to 300°C, -58° to 572°F
Control modes	—	ON/OFF or PD, separate models
Indication accuracy	$\pm 0.5\%$ full scale ± 1 digit	—
Setting accuracy	—	$\pm 2\%$ of full scale
Optional functions	—	—
Supply voltage	100 to 240 VAC, 50/60 Hz	110/120 or 220/240 VAC, 50/60 Hz
Control outputs	Alarm output relay SPDT, 5 A, 250 VAC/30 VDC	Relay output: SPDT, 3 A, 250 VAC Voltage output: 5 VDC, 10 mA
Approvals	UL, CSA	UL, CSA, SEV



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E5C4

48 H x 48 W x 86.7 D mm
(1.89 x 1.89 x 3.41 in)

Compact plug-in 1/16 DIN controller has a large, easy-to-read LED display and dependable thumbwheel switch setting. With accuracy better than $\pm 2\%$ full scale, E5C4 is ideal for general-purpose control. Fits standard 8-pin sockets. Supplied with panel mounting adapter. Choose separate models for control mode, control output type, sensor input type and scale range.

Thermocouple:
Type K:
0° to 999°C, 32° to 999°F
Type J:
0° to 399°C or 32° to 999°F

Platinum RTD:
Pt100:
0° to 99.9°C, 32° to 199°F

ON/OFF or PD, separate models

$\pm 2\%$ full scale

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110/120 or 220/240 VAC, 50/60 Hz

Relay output:
SPDT, 3 A, 250 VAC

Voltage output:
5 VDC, 10 mA

UL, CSA, SEV

E5CS-X

48 H x 48 W x 100 D mm
(1.89 x 1.89 x 3.94 in)

Multirange 1/16 DIN controller offers field-selectable PID control with auto-tuning or ON/OFF control. An 8-function alarm output is standard. Large display shows process value, direction of deviation from set point and output and alarm status. Features input shift, diagnostics, tamper-proof settings, and memory backup.

Thermocouple:
Type K (6 ranges):
0° to 999°C, 0° to 999°F
Type J (5 ranges):
0° to 399°C or 0° to 999°F

Platinum RTD (9 ranges):
-50° to 400°C, 0° to 800°F

Thermistor (10 ranges):
-50° to 300°C, -50° to 600°F

Auto-tuning of PID or ON/OFF

$\pm 0.5\%$ full scale

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100 to 240 VAC, 50/60 Hz

Relay models (E5CS-R□□X):
SPDT, 3 A, 250 VAC

Voltage output (E5CS-Q□□X):
12 VDC, 20 mA with short-circuit protection

UL, CSA



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MODEL	E5AN	E5EN	E5CN	E5GN
Dimensions	96 H x 96 W x 78 D mm (3.78 x 3.78 x 3.07 in)	96 H x 48 W x 78 D mm (3.78 x 1.89 x 3.07 in)	48 H x 48 W x 78 D mm (1.89 x 1.89 x 3.07 in)	24 H x 48 W x 100 D mm (0.94 x 1.89 x 3.94 in)
Description & input and scale ranges	General purpose temperature controllers combine advanced features in four convenient sizes. Dual display shows both set temperature and current process value, allowing operators to monitor performance at a glance. These controllers offer full PID control, selectable auto-tune or self-tuning, and a NEMA 4X (water-resistant) front panel rating. PC communication options allow users to set up, monitor and track data and trends using Omron's optional SYS-Config software. Thermocouple: Type K1: -200° to 1300°C, -300° to 2300°F Type K2: -20.0° to 500.0°C, 4° to 900°F Type B: 100° to 1800°C, 300° to 3200°F Type L: -100° to 850°C, -100° to 1500°F Type J1: -100° to 850°C, -100° to 1500°F Type J2: 20.0° to 400.0°C, -4° to 750°F Type T/U: -200° to 400°C, -300° to 700°F Type N: -200° to 1300°C, -300° to 2300°F Type E: 0° to 600°C, 0° to 1100°F Type R/S: 0° to 1700°C, 0° to 3000°F ES1A non-contact (type K, 4 ranges): 0° to 260°C, 32° to 500°F RTD: Pt100 (3 ranges): -200° to 850°C, -199.9° to 1500°F JPt100 (2 ranges): -199.9° to 500°C, -199.9° to 900°F Analog: 0 to 50 mV			
Control modes	Auto-tuning PID or ON/OFF			
Indication accuracy	±0.5% of indicated value			
Setting accuracy	—			
Optional functions	Communications output: RS-485 RS-232C (E5AN, E5EN)			
Supply voltage	100 to 240 VAC, 50/60 Hz, or 24 VAC/DC			
Control outputs	Relay: SPDT, 5 A, 250 VAC (E5AN, E5EN); 3 A, 250 VAC (E5CN); 2 A, 250 VAC (E5GN) Voltage: 12 VDC, 40 mA (E5AN, E5EN); 12 VDC, 21 mA (E5CN, E5GN) with short circuit protection Current: 4 to 20 mA, 600 ohms max. (E5AN, E5EN, E5CN)			
Approvals	UL, CSA, CE			



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E5AK

96 H x 96 W x 100 D mm
(3.78 x 3.78 x 3.94 in)

E5EK

96 H x 48 W x 112 D mm
(3.78 x 1.89 x 4.41 in)

E5CK

48 H x 48 W x 100 D mm
(1.89 x 1.89 x 3.94 in)

Temperature and process controllers in 1/4, 1/8 and 1/16 DIN sizes feature ramp-to-set point, multiple options and remote set point. Accept 22 input types including temperature, current, and voltage. Output and option boards are easily installed in the field. Heater burnout and Loop Break Alarm are standard. Valve positioning models available (E5AK, E5EK). Six levels of security.

Thermocouple:

Type K1: -200° to 1300°C, -300° to 2300°F
 Type K2: 0° to 500.0°C, 0° to 900.0°F
 Type B: 100° to 1800°C, 300° to 3200°F
 Type L1: -100° to 850°C, -100° to 1500°F
 Type L2: 0° to 400.0°C, 0° to 750.0°F
 Type J1: -100° to 850°C, -100° to 1500°F
 Type J2: 0° to 400°C, 0° to 750°F
 Type T/U: -199.9° to 400°C, -199.9° to 700.0°F
 Type N: -200° to 1300°C, -300° to 2300°F
 Type E: 0° to 600°C, 0° to 1100°F
 Type R/S: 0° to 1700°C, 0° to 3000°F
 Type W/Re: 0° to 2300°C, 0° to 4100°F
 Type Pt II: 0° to 1300°C, 0° to 2300°F

RTD:

Pt100; JPt100: -199.9° to 650°C, -199.9° to 999.9°F

Current: 4 to 20 mA, 0 to 20 mA

Voltage: 1 to 5 V, 0 to 5 V, 0 to 10 V

Fuzzy adaptive PID, PID or ON/OFF

±0.3% of set value

—

Communications output:

RS-232C, RS-422, RS-485, BCD

Transfer output: 4 to 20 mA

Event input for remote set point

100 to 240 VAC, 50/60 Hz, 24 VAC/DC

Relay: SPDT, 3 A, 250 VAC

SSR: SPST-NO, 1A, 75 to 250 VAC

Voltage: 12 VDC, NPN, 40 mA (E5AK, E5EK); 12 VDC, NPN, 20 mA (E5CK)

12 VDC, PNP, 20 mA (E5CK)

24 VDC, NPN, 20 mA

24 VDC, PNP, 20 mA

Linear current: 0 to 20 mA or 4 to 20 mA

Linear voltage: 0 to 5 VDC or 0 to 10 VDC

UL, CSA, CE



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MODEL	E5AK-T	E5EK-T	E5CK-T
Dimensions	96 H x 96 W x 100 D mm (3.78 x 3.78 x 3.94 in)	96 H x 48 W x 112 D mm (3.78 x 1.89 x 4.41 in)	48 H x 48 W x 100 D mm (1.89 x 1.89 x 3.94 in)
Description & input and scale ranges	Ramp/soak controllers for temperature and process control applications in 1/4, 1/8 and 1/16 DIN sizes. Designed for processes which require time-based temperature or process control. Features ramp-to-set point, multiple options and remote set point (E5AK and E5EK models). Accepts 22 input types including temperature, current, and voltage types. Output and option boards are easily installed in the field. Heater burnout and Loop Break Alarm come standard on these models. Six levels of security. Thermocouple: Type K1: -200° to 1300°C, -300° to 2300°F Type K2: 0° to 500.0°C, 0° to 900.0°F Type B: 100° to 1800°C, 300° to 3200°F Type L1: -100° to 850°C, -100° to 1500°F Type L2: 0° to 400.0°C, 0° to 750.0°F Type J1: -100° to 850°C, -100° to 1500°F Type J2: 0° to 400°C, 0° to 750°F Type T/U: -199.9° to 400°C, -199.9° to 700.0°F Type N: -200° to 1300°C, -300° to 2300°F Type E: 0° to 600°C, 0° to 1100°F Type R/S: 0° to 1700°C, 0° to 3000°F Type W/Re: 0° to 2300°C, 0° to 4100°F Type PI II: 0° to 1300°C, 0° to 2300°F RTD: Pt100; JPt100: -199.9° to 650.0°C, -199.9° to 999.9°F Current: 4 to 20 mA, 0 to 20 mA Voltage: 1 to 5 V, 0 to 5 V, 0 to 10 V		
Control modes	Fuzzy adaptive PID, PID or ON/OFF		
Indication accuracy	±0.3% of indicated value (thermocouple); ±0.2% of indicated value (RTD or analog)		
Setting accuracy	—		
Optional functions	Communications output: RS-232C, RS-422, RS-485, BCD Transfer output: 4 to 20 mA Event input		
Supply voltage	100 to 240 VAC, 50/60 Hz, 24 VAC/DC		
Control outputs	Relay: SPDT, 5 A, 250 VAC (E5AK-T, E5EK-T); 3 A, 250 VAC (E5CK-T) SSR: SPST-NO, 1 A, 75 to 250 VAC Voltage: 12 VDC, NPN, 40 mA (E5AK-T, E5EK-T); 12 VDC, NPN, 20 mA (E5CK-T) 12 VDC, PNP, 20 mA (E5CK-T) 24 VDC, NPN, 20 mA (E5AK-T, E5EK-T) 24 VDC, PNP, 20 mA (E5AK-T, E5EK-T) Linear current: 0 to 20 mA or 4 to 20 mA Linear voltage: 0 to 5 VDC or 0 to 10 VDC		
Approvals	UL, CSA, CE		



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E5EK-DRT

96 H x 48 W x 112 D mm
(3.78 x 1.89 x 4.41 in)

Built-in high-speed, DeviceNet communications capability lets you set parameters and monitor status of this 1/8 DIN size temperature and process controller. This controller complies with ODVA Conformance Test Software Version 2.0-1.00.

Thermocouple:

Type K1: -200° to 1300°C, -300° to 2300°F
Type K2: 0° to 500.0°C, 0° to 900.0°F
Type B: 100° to 1800°C, 300° to 3200°F
Type L1: -100° to 850°C, -100° to 1500°F
Type L2: 0° to 400.0°C, 0° to 750.0°F
Type J1: -100° to 850°C, -100° to 1500°F
Type J2: 0° to 400.0°C, 0° to 750.0°F
Type T/U: -199.9° to 400.0°C, -199.9° to 700.0°F
Type N: -200° to 1300°C, -300° to 2300°F
Type E: 0° to 600°C, 0° to 1100°F
Type R/S: 0° to 1700°C, 0° to 3000°F
Type W/Re: 0° to 2300°C, 0° to 4100°F
Type Pt II: 0° to 1300°C, 0° to 2300°F

RTD:

Pt100; JPt100: -199.9° to 650.0°C, -199.9° to 999.9°F

Current: 4 to 20 mA, 0 to 20 mA
Voltage: 1 to 5 V, 0 to 5 V, 0 to 10 V

Fuzzy adaptive PID, PID or ON/OFF

±0.3% of set value

—

DeviceNet slave communications:
Multi-branch and T-branch connections available

100 to 240 VAC, 50/60 Hz, 24 VAC/DC

Relay: SPDT, 5 A, 250 VAC
SSR: SPST-NO, 1 A, 75 to 250 VAC
Voltage: 12 VDC, NPN, 40 mA
24 VDC, NPN, 20 mA
24 VDC, PNP, 20 mA
Linear current/relay: 0 to 20 mA or 4 to 20 mA
Linear voltage/relay: 0 to 5 VDC or 0 to 10 VDC

UL, CSA, CE

E5AJ

96 H x 96 W x 109.7 D mm
(3.78 x 3.78 x 4.32 in)

Fuzzy adaptive tuning optimizes the PID control of these 1/4, 1/8 and 1/16 DIN size temperature controllers. All offer externally selectable second set point, field-selectable sensor inputs and scalable ranges. Built-in heater burnout alarm and 9-function alarm are standard (E5AJ, E5EJ). Compact 1/16 DIN version offers three control configurations: two alarm outputs, one event input and heater burnout alarm (E5CJ-□2HB); two alarm outputs only (E5CJ-□2); and no alarm or event input (E5CJ-□).

Thermocouple:

Type K: -200° to 1300°C, -300° to 2300°F
Types J/L: -100° to 850°C, -100° to 1500°F
Types T/U: -199.9° to 400°C, -199.9° to 700°F
Type N: -200° to 1300°C, -300° to 2300°F

RTD:

Pt100; JPt100:
-199.9° to 650°C, -199.9° to 999.9°F

Fuzzy adaptive PID, PID or ON/OFF

±0.5% of set value

—

Communications output:
RS-232C, RS-422, RS-485, BCD
Transfer output: 4 to 20 mA
Event input

100 to 240 VAC, 50/60 Hz

Relay: SPDT, 5 A, 250 VAC (E5AJ, E5EJ); 3 A, 250 VAC (E5CJ-R)
SSR: SPST-NO, 1 A, 75 to 250 VAC
Voltage: 12 VDC, NPN, 40 mA (E5AJ, E5EJ); 12 VDC, NPN, 20 mA (E5CJ-Q)
24 VDC, NPN, 20 mA
24 VDC, PNP, 20 mA

Linear current: 0 to 20 mA or 4 to 20 mA
Linear voltage: 0 to 5 VDC or 0 to 10 VDC

UL, CSA, CE

E5EJ

96 H x 48 W x 109.7 D mm
(3.78 x 1.89 x 4.32 in)

E5CJ

24 H x 48 W x 109.2 D mm
(1.89 x 1.89 x 4.30 in)



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MODEL	E5ZE-8□AAM□-E	E5ZE-8□□□-D1□B
Dimensions	230 H x 60 W x 173.5 D mm (9.06 x 2.36 x 6.83 in)	253 H x 60 W x 173.5 D mm (9.96 x 2.36 x 6.83 in)
Description & input and scale ranges	Control up to eight temperature processes from a single controller with eight programmable control points per input. Ideal for multiple zone control. Easy-to-mount options include serial communications, heater burnout alarm input and voltage or current outputs. Models for heating or heating/cooling control available. Choose thermocouple or RTD versions. Separate 1/4 DIN size display unit shows parameters and status at a glance. Easily programmed using Omron's optional SYS-Config software. Thermocouple: Type K: -200° to 1300°C, -300° to 2300°F Type J/L: -100° to 850°C, -100° to 1500°F Type T/U: -200° to 400°C, -300° to 700°F Type N: 0° to 1300°C, 0° to 2300°F Type R/S: 0° to 1700°C, 0° to 3000°F Type E: 0° to 600°C, 0° to 1100°F Type B: 100° to 1800°C, 300° to 3000°F Type W/Re: 0° to 2300°C, 32° to 4100°F Type PI II: 0° to 1300°C, 0° to 2300°F RTD: Pt100; JPt100: -100.0° to 500.0°C, -100.0° to 900.0°F	High-speed DeviceNet communication is built in to set parameters, select banks and monitor operation. Control up to eight temperature processes from a single controller with eight control points per input. Choose models with heater burnout alarm input and voltage or current outputs. Models for heating or heating/cooling control available. Separate 1/4 DIN size display unit shows parameters and status at a glance. Thermocouple: Type K: -200° to 1300°C, -300° to 2300°F Type J/L: -100° to 850°C, -100° to 1500°F Type T/U: -200° to 400°C, -300° to 700°F Type N: 0° to 1300°C, 0° to 2300°F Type R/S: 0° to 1700°C, 0° to 3000°F Type E: 0° to 600°C, 0° to 1100°F Type B: 100° to 1800°C, 300° to 3000°F Type W/Re: 0° to 2300°C, 32° to 4100°F Type PI II: 0° to 1300°C, 0° to 2300°F RTD: Pt100; JPt100: -100.0° to 500.0°C, -100.0° to 900.0°F
Control modes	PID, fuzzy logic and PID or ON/OFF	PID, fuzzy logic and PID or ON/OFF
Indication accuracy	±0.3% of process value, ±1 digit max.	±0.3% of process value, ±1 digit max.
Setting accuracy	—	—
Optional functions	Communications output: RS-232C or RS-422/RS-485 Heater burnout current transformer input Setting display unit E5ZD-SDL	Communications output: RS-232C or RS-422/RS-485 Heater burnout current transformer input Setting display unit E5ZD-SDL
Supply voltage	24 VDC controller; 100 to 240 VAC or 24 VDC display	24 VDC; 100 to 240 VAC or 24 VDC display
Control outputs	Voltage: 12 VDC, NPN, 30 mA Current: 4 to 20 mA, 600 ohms	Voltage: 12 VDC, NPN, 30 mA Current: 4 to 20 mA, 600 ohms
Approvals	CE	CE



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K3NH

48 H x 96 W x 142 D mm
(1.89 x 3.78 x 5.59 in)

High-performance 1/8 DIN size temperature/process meter offers multirange capability in a water-resistant NEMA 4/IP66 case. Choose from a wide range of inputs and outputs for alarms, retransmission and communication. High-visibility LED display.

Thermocouple:

- Type K1: -200° to 1300°C, -300° to 2300°F
- Type K2: 0.0° to 500.0°C, 0.0° to 900.0°F
- Type B: 100° to 1800°C, 300° to 3200°F
- Type L1: -100° to 850°C, -100° to 1500°F
- Type L2: 0.0° to 400.0°C, 0.0° to 750.0°F
- Type J1: -100° to 850°C, -100° to 1500°F
- Type J2: 0.0° to 400.0°C, 0.0° to 750.0°F
- Type T/U: -199.9° to 400°C, -199.9° to 700.0°F
- Type N: -200° to 1300°C, -300° to 2300°F
- Type E: 0° to 600°C, 0° to 1100°F
- Type R/S: 0° to 1700°C, 0° to 3000°F
- Type W/Re: 0° to 2300°C, 32° to 4100°F
- Type PL II: 0° to 1300°C, 0° to 2300°F

RTD:

- Pt100; JPt100: -199.9° to 650.0°C, -130° to 1200°F

- Current: 4 to 20 mA, 0 to 20 mA
- Voltage: 1 to 5 V, 0 to 5 V, 0 to 10 V

- ±0.3% indicated value (Thermocouple);
- ±0.2% indicated value (RTD, analog)

Communications output:
RS-485, RS-422, RS-232C
Also, combination with 5 NPN open collector outputs

100 to 240 VAC, 50/60 Hz, 12 to 24 VDC

- Relay (3 or 5 outputs)
- Transistor (5 NPN or PNP open collector outputs)
- BCD (5-digit output, NPN open collector)
- Parallel BCD (NPN open collector) + 5 NPN transistor outputs
- Linear (4 to 20 mA, 1 to 5 V) + 5 NPN transistor outputs

UL, CSA, CE