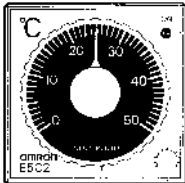
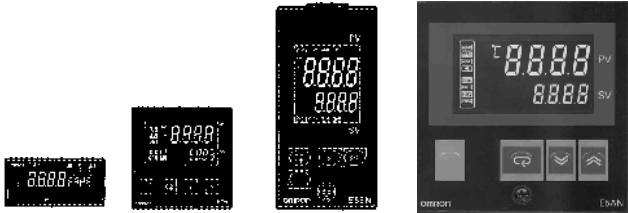





Temperature Controllers



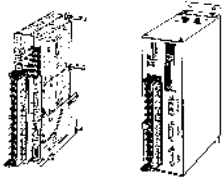
Model type	Analog Temperature Controller	Digital Temperature Controller
Model	E5C2	E5GN/E5CN/E5EN/E5AN
Function	Basic	Standard type
Picture		
Size (BxH) mm	48x48	E5GN: 24x48, E5CN: 48x48, E5EN: 48x96, E5AN: 96x96
Control mode	ON/OFF	Yes
	PID	Only P action
	2-PID (see note)	–
	PID with fuzzy control	–
	Position proportional	–
Auto-tuning function	–	Yes
Self-tuning function	–	Yes
Hysteresis in ON/OFF control action	0.5% FS fixed	0.1..999.9 EU (in units of 0.1 EU)
Indication accuracy	±2% FS max.	Thermocouple: (±0.5% of indicated value or ±1°C, whichever greater) ±1 digit max. (see note) Platinum resistance thermometer: (±0.5% of indicated value or ±1°C, whichever greater) ±1 digit max. Analog input: ±0.5% FS±1 digit max. CT input: ±5% FS±1 digit max.
Input	K, J, JPt100, and THE	Thermocouple: K, J, T, E, L, U, N, R, S, B Platinum resistance thermometer: Pt100, JPt100 Non-contact temperature sensor: 10..70°C, 60..120°C, 115..165°C, 160..260°C Voltage input: 0..50 mV linear
Output	Relay or Voltage output	Relay, voltage, and linear current output (E5GN: Relay, voltage)
Communication	–	RS485 (E5GN -FLK) RS485 or Event IP (E5CN) RS232, RS485 or Event IP
Heater burnout (not used with current output)	–	Yes (E5AN, E5EN, E5CN)
Supply voltage	100/110/120, 200/220/240 VAC at 50/60 Hz	100..240 VAC or 24 VAC/DC
Terminal configuration	Plug-in model	Screw terminals
EMC	Conforms to EN50081-2, EN50082-2	Conforms to EN55011 Group 1 class A, EN55011 Group 1 class A, EN61000-4-2, ENV50140, ENV50141, EN61000-4-4
Approved standards	UL (File No. E68481), CSA (File No. LR59623), conforms to EN61010-1	UL3121-1, CSA22.2 No. 14, E.B.1402C Conforms to EN50081-2, EN50082-2, EN61010-1 (IEC61010-1) Conforms to VDE0106/part 100 (Finger Protection), when the terminal cover is mounted.
Datasheet Cat. No.	H081	H107: E5AN/EN/CN/GN Datasheet
Manual Cat. No.		H100: E5CN User's Manual H101: E5GN User's Manual H111: E5EN User's Manual H112: E5AN User's Manual H102: E5AN/EN/CN/GN Communication Manual
Page No.	I-5	I-11

Note This page provides information on main specifications only. Be sure to read the information on detailed specifications and precautions before using the models listed here.

2-PID is Omron's advanced PID algorithm to achieve both good step- and disturbance response control

Digital Process Controller	Digital Process Controller		
E5CK	E5AK/E5EK	E5CK-T	E5EK-T/E5AK-T
Universal type	Universal type	Universal / Programmer type	Universal / Programmer type
			
48x48	E5AK: 96x96, E5EK: 48x96	48x48	E5AK-T: 96x96, E5EK-T: 48x96
Yes	Yes	Yes	Yes
–	–	–	–
Yes	Yes	Yes	Yes
–	–	–	–
–	Yes	–	Yes
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
0.01%..99.99% FS (in units of 0.01%)	0.01%..99.99% FS (in units of 0.01%)	0.01%..99.99% FS (in units of 0.01%)	0.01%..99.99% FS (in units of 0.01%)
Thermocouple: ($\pm 0.3\%$ of indicated value or $\pm 1^\circ\text{C}$, whichever greater) ± 1 digit max. Platinum resistance thermometer: ($\pm 0.2\%$ of indicated value or $\pm 0.8^\circ\text{C}$, whichever greater) ± 1 digit max. Analog input: $\pm 0.2\%$ FS ± 1 digit max.	Thermocouple: ($\pm 0.3\%$ of indicated value or $\pm 1^\circ\text{C}$, whichever greater) ± 1 digit max. Platinum resistance thermometer: ($\pm 0.2\%$ of indicated value or $\pm 0.8^\circ\text{C}$, whichever greater) ± 1 digit max. Analog input: $\pm 0.2\%$ FS ± 1 digit max.	Thermocouple: ($\pm 0.3\%$ of indicated value or $\pm 1^\circ\text{C}$, whichever greater) ± 1 digit max. Platinum resistance thermometer: ($\pm 0.2\%$ of indicated value or $\pm 0.8^\circ\text{C}$, whichever greater) ± 1 digit max. Analog input: $\pm 0.2\%$ FS ± 1 digit max.	Thermocouple: ($\pm 0.3\%$ of indicated value or $\pm 1^\circ\text{C}$, whichever greater) ± 1 digit max. Platinum resistance thermometer: ($\pm 0.2\%$ of indicated value or $\pm 0.8^\circ\text{C}$, whichever greater) ± 1 digit max. Analog input: $\pm 0.2\%$ FS ± 1 digit max.
K, J, T, L, U, N, R, S, B, W, PLII, JPt100, or PT100 Linear current or voltage input	K, J, T, L, U, N, R, S, B, W, PLII, E JPt100 or PT100 Linear current or voltage input Pot.meter feedback / CT and remote setvalue mA	K, J, T, L, U, N, R, S, B, W, PLII, JPt100 or PT100 Linear current or voltage input	K, J, T, L, U, N, R, S, B, W, PLII, JPt100 or PT100 Linear current or voltage input Pot.meter feedback / CT
Relay, voltage, linear voltage, and linear current output	Relay, SSR, voltage, linear voltage and linear current output	Relay, voltage, linear voltage and linear current output	Relay, SSR, voltage, linear voltage and linear current output
RS232, RS485, Event IP or Transfer OP	RS232, RS485, RS422, Event IP and Transfer OP	RS232, RS485, Event IP and Transfer OP	RS232, RS485, RS422, Event IP and Transfer OP
Loop burnout alarm available	Yes	Loop burnout alarm available	Yes
100..240 VAC or 24 VAC/DC at 50/60 Hz	100..240 VAC or 24 VAC/DC at 50/60 Hz	100..240 VAC or 24 VAC/DC at 50/60 Hz	100..240 VAC or 24 VAC/DC at 50/60 Hz
Screw terminals	Screw terminals	Screw terminals	Screw terminals
Conforms to EN50081-2, EN50082-2	Conforms to EN50081-2, EN50082-2	Conforms to EN50081-2, EN50082-2	Conforms to EN50081-2, EN50082-2
UL (File No. E68481), CSA (File No. LR59623), conforms to EN61010-1	UL (File No. E68481), CSA (File No. LR59623), conforms to EN61010-1	UL (File No. E68481), CSA (File No. LR59623), conforms to EN61010-1	UL (File No. E68481), CSA (File No. LR59623), conforms to EN61010-1
H079: E5CK Digital Controller Cat.	H084: E5AK/EK Digital Controller DS	H087: E5□K-T Digital Controller DS	H087: E5□K-T Digital Controller DS
H078: E5CK User's Manual	H083: E5AK Users Manual H085: E5EK Users Manual H099: E5EK-DRT Manual (Devicenet version)	H090: E5CK User's Manual (Programmable Type)	H088: E5AK User's Manual (Programmable Type) H089: E5EK User's Manual (Programmable Type)
I-63	I-85	I-129	I-123

Temperature Controllers

Model type	Modular Temperature Controller	Digital Temperature Controller	Multipoint Temperature Controller
Model	E5ZN	E5CS-X	E5ZE
Function	In-panel type	Basic	In-panel type
Picture			
Size (BxH) mm	22,5x130	48x48	65x253
Control mode	ON/OFF	Yes	Yes
	PID	–	Yes
	2-PID (see note)	Yes	–
	PID with fuzzy control	–	–
	Position proportional	–	–
Auto-tuning function	Yes	–	Yes
Self-tuning function	–	–	–
Hysteresis in ON/OFF control action	0.1..999.9 EU (in units of 0.1 EU)	0.2% FS fixed	0.0..99.9°C/°F for ON/OFF control only (in units of 0.1°C/°F)
Indication accuracy	Thermocouple: (±0.5% of indicated value or ±1°C, whichever greater) ±1 digit max. Platinum resistance thermometer: (±0.5% of indicated value or ±1°C, whichever greater) ±1 digit max. Analog input: ±0.5% FS ±1 digit max.	+/-0.5% FS or +/-1°C (whichever greater)	Thermocouple: ±0.3% or ±2°C of indicated value (whichever is larger) ± 1 digit max. Platinum resistance thermometer: ±0.3% or ±0.8°C (whichever is larger) ± 1 digit max.
Input	Thermocouple: K, J, T, E, L, U, N, R, S, B Non contact temperature sensor: 10..70°C, 60..120°C, 115..165°C, 160..260°C (ES1A series) Voltage input: 0..50 mV linear Platinum resistance thermometer: Pt100, JPt100	K, J, JPt100, Pt100	K, J, R, S, T, E, B, N, L, U, W/Re5-26, PT II, Pt100 or JPt100
Output	Voltage, transistor or linear current output	Relay and Voltage	Linear voltage or current output
Communication	RS485 and Event IP Transfer OP on E5ZN-C....-types	–	RS232, RS485, Devicenet
Heater burnout (not used with current output)	Yes	–	Yes
Supply voltage	24 VDC	100..240VAC or 24VAC/DC	24 VDC
Terminal configuration	Screw terminal (Terminal Unit sold separately)	Screw terminals	Screw terminals
EMC	EN61326	Conforms to EN50081-2, EN50082-2	Conforms to EN50081-2, EN50082-2
Approved standards	UL, CSA	UL (File No. E68481), CSA (File No, LR59623), conforms to EN61010-1	–
Datasheet Cat. No.	H116	H032	H075 + H103 for E5ZE devicenet version
Manual Cat. No.	H113	–	H104: E5ZE Communications Manual H076: E5ZE Operation Manual
Page No.	I-161	This product is not shown in the catalogue. For more information please contact your local Omron sales office or download the data from www.eu.omron.com	

Note This page provides information on main specifications only. Be sure to read the information on detailed specifications and precautions before using the models listed here.

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