

NEW

OMRON

E5_N/E5_N-H Digital Temperature Controllers

The E5_N Series Brings Simplicity to the Worksite



» Displays precisely show the current status to onsite operators.

» Best-selling Temperature Controllers, from model selection to operation and maintenance.

» The 48 × 24 mm-sized E5GN has renewed with remarkable ease of use that E5_N series offers.

realizing

Easiest to Use at the Worksite.

**The Temperature Controllers of Choice with
Over 3 Million sold Worldwide.**

*According to OMRON investigation September 2009.

These Temperature Controllers are easy to use in essentially every way, including displays with superior readability to visually show onsite status, as well as for model selection, operation, and maintenance.

And the all-new E5GN Temperature Controllers at only 48 × 24 mm support even more applications.

Basic Models **E5_N**

The New E5GN

All of the easy operation of the E5_N Series packed it into the smallest Temperature Controller in the series.

NEW



E5GN (Black)
48 × 24 mm
1/32 DIN



E5CN (Black)
48 × 48 mm
1/16 DIN



E5CN-W (Silver)
48 × 48 mm
1/16 DIN



E5EN (Black)
48 × 96 mm
1/8 DIN



E5EN-W (Silver)
48 × 96 mm
1/8 DIN



E5AN (Black)
96 × 96 mm
1/4 DIN



E5AN-W (Silver)
96 × 96 mm
1/4 DIN

The E5_N Series Brings Simplicity to the Worksite

Quickly Readable Status

The display section precisely shows the current status to onsite operators.

Multifunction Displays Support Rapid Judgments

Switch PV Display Colors

Easily Recognize the PV

Changes in the color of the PV show the current status.
You can select between different patterns for color combinations.



PV and SV Status Displays

Easily See the Current Status

If a certain status occurs, the status will be displayed alternating with the PV or SV.

Displayable Status

- Manual
- Stop
- Alarms
- Heater alarm

Display Example for Alarm 1



Three-level Displays

One More Display to Increase Operating Ease

More information is provided by the 3-level displays. Operating ease onsite is increased by eliminating the need to switch the display.

*Supported by the E5AN/E5EN.



A 48 × 24-mm Model Joins the E5_N Series

The Easy Operation of the E5_N Series Packed into the Compact E5GN

The switchable PV display colors, PV/SV status displays, 11-segment characters, and other display features of the E5_N Series have been inherited by the E5GN. A universal input for both thermocouples and platinum resistance thermometers helps reduce stocks, and models are available with analog inputs and current outputs.

A Support Software port is provided on all models to simplify setting and maintenance by using the CX-Thermo* Support Software.

*Version 4.2 or higher is required for the E5GN.

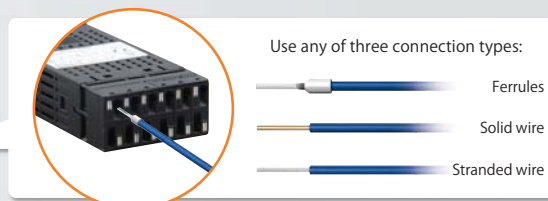


Screw terminals



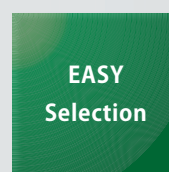
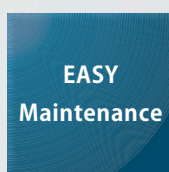
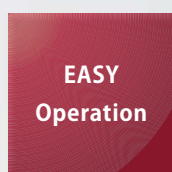
Screwless clamp terminals

New Screwless Clamp Terminals Reduce Wiring Work



Easy to Use Anywhere

Simplicity in the Workplace for Operation, Maintenance, and Model Selection



The following pages introduce the reason for the popularity of the E5_N Series.



EASY Operation

Reduced Work for Setting, Adjustment, and Operation The E5_N Series for Smooth Operation

CX-Thermo

PF Key for Direct Operation

You can allocate a function to the PF key to enable simple execution of autotuning, RUN/STOP switching, or other operations.

*Supported by the E5AN/EN.



With the PF Key,
just one push for direct execution.

Functions that can be executed directly

- RUN
- STOP
- RUN/STOP switching
- Autotuning
- Auto/manual switching
- Monitor/setting items (5 maximum)

Reduced Work for Operation

Easy Setting with Support Software

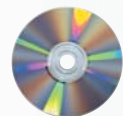
Setting parameters, making adjustments, or performing maintenance is easy with the CX-Thermo Support Software.

Main CX-Thermo Functions

- Editing settings
- Saving and copying settings
- Monitoring trends
- Fine-tuning
- Masking parameters



*For details, refer to the E5_N/E5_N-H Datasheet.



CX-Thermo
EST2-2C-MV□
(Sold separately.)

Reduced Word for Settings and Adjustments

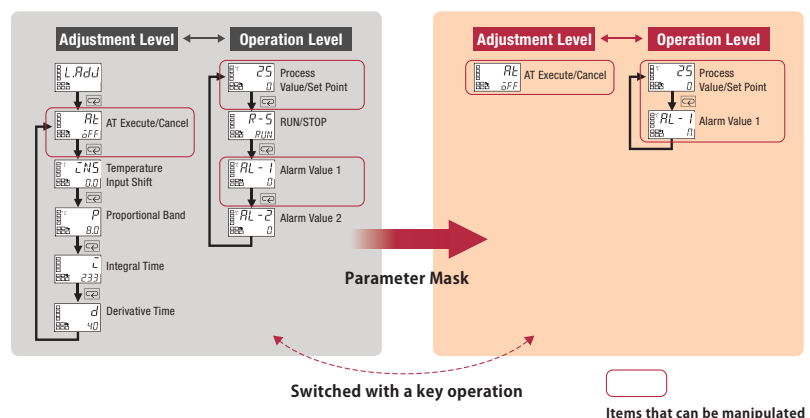
More benefit from CX-Thermo

Simpler Menus with the Parameter Mask Function

The parameter mask function can be used to hide unused parameters and to prevent inadvertent changes on parameter settings and inadvertent operations.

Enable/Disable Parameter Masks with a Key Operation

A key operation on the Temperature Controller can be used to enable and disable the parameter masks that have been set. This enables displaying masked parameters in emergencies without the Support Software, to provide both operational simplicity and maintenance ease.



Designed for the Ultimate in Simplicity on the Work Site

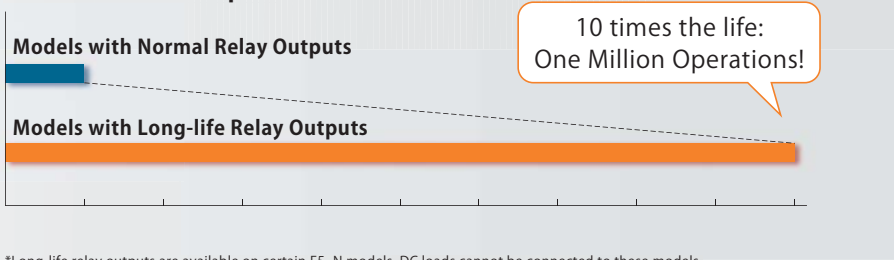
EASY
Maintenance

Designed for Reliability The E5_N Series Meets
Onsite Needs by Reducing Maintenance Work

Long-life Relay Outputs with Ten Times the Life

Models with long-life relay outputs are available for ten times the electrical life of normal relay outputs. With a life of one million operations, maintenance cycles can be lengthened and replacement work is greatly reduced.

Electrical Life of Outputs



*Long-life relay outputs are available on certain E5_N models. DC loads cannot be connected to these models.

Reduced Maintenance

Control Output ON/OFF Counter
for Easier Preventive Maintenance

The number of control output ON/OFF operations for relays or voltage outputs is counted. An alarm output and PV/SV status display can be produced when a set value is exceeded so that you know when maintenance is necessary for built-in relays or external output devices.

Maintenance Notification

Reasons for the Popularity of the E5_N Series

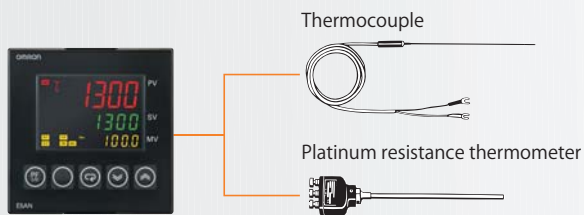
EASY Selection

**Three Million Sold Worldwide.
Peace of Mind with E5_N Series Global Service**



Universal Input to Easily Handle Applications

Models with temperature inputs feature universal compatibility for both thermocouples and platinum resistance thermometers. The same Temperature Controller can be used even for applications that require different input sensors to simplify model selection. The reduced number of models also aids in standardization and stock reduction.



Stock Fewer Units

Global Support for Peace of Mind

To meet expanding globalization, OMRON provides sales, technical consultation, and repair services around the globe. Three million models sold globally is proof that you'll get reliable support to back up your global business efforts.



Sales Network with Approx.
300 Centers in 80 Regions Worldwide

Global Support

Safety Standard Compliance, Now Including Maritime Safety Standards

Safety standards include UL, CSA, CE Marking, and the Lloyd's Register maritime standards for a wide range of applicability.

*The E5GN is not certified for Lloyd's Register standards.



Greater Range of Applicability

Advanced Models E5_N-H



These Advanced Models build on the platform of the easy-to-use, economic Basic Models to meet needs for high-speed, high-accuracy temperature and process control.

High Accuracy

±0.1 %PV

**Thermocouple/Pt input: ±0.1% of PV
Analog input: ±0.1% FS**

Achieve high-resolution temperature or humidity measurement, fluctuation detection, and logging in environmental testing devices and other equipment.

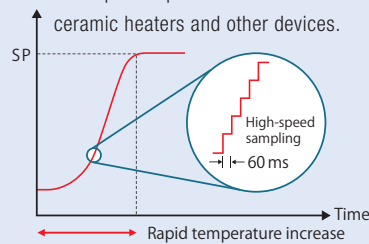
*For details, refer to the E5_N/E5_N-H Datasheet.

High-speed input Sampling

60 ms

**Enough Sampling Speed to Easily
Handle Rapid Temperature Increases**

Perform stable control with high-speed response for rapid temperature increases of ceramic heaters and other devices.



Handle 5-digit K Thermocouples

0.01°C Display

**Five-digits 0.01°C PV/SV Displays
to Make the Most of High Performance**

High-resolution displays to 0.01°C for Pt, K, J, and T
Enables high-precision temperature control.



Fully Universal Inputs

Handle essentially any application with fewer stock units.

The same Temperature Controller accepts thermocouple, platinum resistance thermometer, and analog inputs. Handle a wide range of applications while increasing standardization and reducing stock quantities.

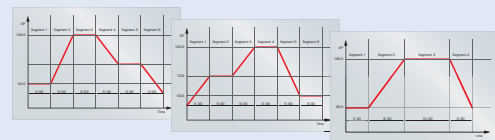


- ← Thermocouple : K, J, T, E, L, U, N, R, S, B, W, or PL II
- ← Platinum resistance thermometer : Pt100 or JPt100
- ← Current input : 4 to 20 mA or 0 to 20 mA
- ← Voltage input : 1 to 5 V, 0 to 5 V, or 0 to 10 V

Temperature Profile Control

**Achieve many types of control with
the simple program and bank functions.**

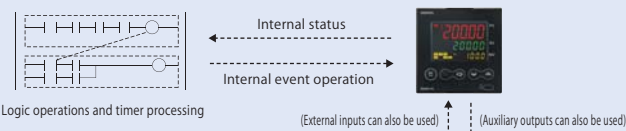
Combining the SP ramp function with simple programming enables ramp/soak control. Add the bank function, and you can achieve temperature profile control with up to 16 segments.



Logic Operations

Simple Logic Operations without a PLC CX-Thermo

Use external contacts or Controller status as inputs for AND/OR operations and combine them with timers. Define event input operation conditions and output to auxiliary outputs. The results are reduced wiring and less labor.

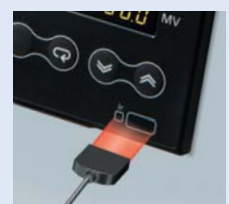


Infrared Communications Port on Front Panel CX-Thermo

Communicate with a Computer from the Front Panel








An infrared port has been provided on the front panel. Even after the Controller has been mounted in a panel, you can use the CX-Thermo Support Software from the front panel to reduce maintenance time.

*Provided on the E5AN-H/EN-H.



USB-infrared Conversion Cable E58-CIFIR (sold separately)

A Complete Lineup of Basic Models and Advanced Models

	Basic Models				Advanced Models		
Features	<div><div>NEW</div><div></div><div>48×24 mm E5GN</div></div>	<div><div></div><div>48×48 mm E5CN</div></div>	<div><div></div><div>48×96 mm E5EN</div></div>	<div><div></div><div>96×96 mm E5AN</div></div>	<div><div></div><div>48×48 mm E5CN-H</div></div>	<div><div></div><div>48×96 mm E5EN-H</div></div>	<div><div></div><div>96×96 mm E5AN-H</div></div>
	Black case		Black or silver case				
Design and Readability	2-level display		3-level display		2-level display		3-level display
	PV display color switching and status display						
Easy Application	—		PF key		—		PF key
	Support Software port on side	Support Software port on bottom				Infrared Support Software port on front and Support Software port on bottom	
	Autotuning, self-tuning, and robust tuning						
	Auto/manual switching						
	Automatic cooling coefficient adjustment						
Maintenance	Universal input models for thermocouple/Pt and analog current/voltage input models				Fully universal input models (for thermocouple, Pt, or analog input)		
	Control output ON/OFF counter						
	Loop burnout alarm and PV change rate alarm						
	Heater burnout alarm, SSR failure alarm, alarm delay, and heater overcurrent alarm						
	—		Three-phase heater burnout alarm				
High Speed and High Accuracy	4-digit display				5-digit display (0.01°C display possible for Pt, K, J, and T; 0.1°C display for all ranges)		
	Input sampling: 250 ms				Input sampling: 60 ms		
	Thermocouple: 0.3%, Pt/analog: 0.2%				Thermocouple/Pt/analog: 0.1%		
	Multi SP (four set points)				Bank function (Switch between 8 set points, 8 sets of alarm settings, 8 sets of PID settings, etc.)		
	Event inputs: 2 max.					Event inputs: 2 or 4 max.	
Advanced Control	Functions That Can Be Allocated to Event Inputs: Multi SP, auto/manual, RUN/STOP, program start, Direct/Reverse, AT execution, setting change enable/disable, alarm latch cancel					Functions That Can Be Allocated to Event Inputs: All of the functions at the left plus remote/local, communications write protection	
	Transfer output, shared with control output				Transfer output with dedicated terminals		
	Simple program (2 segments)				Simple program (16 segments)		
	—					Remote SP	
	Logic operations						
	Square root operations (on analog input models)						
	Variations	Addition of analog input models, current output models, and models with screwless clamp terminals.	Plug-in models	—		Position-proportional control models	
Control output preassembled					Control output, optional and replaceable		
1 control output		1 or 2 control outputs					
0, 1, or 2 auxiliary outputs		0 or 2 auxiliary outputs	1 or 3 auxiliary outputs			2 auxiliary outputs	

*For detailed specifications, refer to the E5_N/E5_N-H Datasheet.

OMRON Corporation
Industrial Automation Company
Control Devices Division H.Q.
Shiokoji Horikawa, Shimogyo-ku,
Kyoto, 600-8530 Japan
Tel: (81) 75-344-7080/Fax: (81) 75-344-7149
2-2-1 Nishikusatsu, Kusatsu-shi,
Shiga, 525-0035 Japan
Tel: (81) 77-565-5216/Fax: (81) 77-565-5568

Regional Headquarters
OMRON EUROPE B.V.
Wegalaan 67-69-2132 JD Hoofddorp
The Netherlands
Tel: (31) 2356-81-300/Fax: (31) 2356-81-388

OMRON ELECTRONICS LLC
One Commerce Drive Schaumburg,
IL 60173-5302 U.S.A.
Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

OMRON ASIA PACIFIC PTE. LTD.
No. 438A Alexandra Road # 05-05/08 (Lobby 2),
Alexandra Technopark, Singapore 119967
Tel: (65) 6835-3011/Fax: (65) 6835-2711

OMRON (CHINA) CO., LTD.
Room 2211, Bank of China Tower,
200 Yin Cheng Zhong Road,
PuDong New Area, Shanghai, 200120, China
Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200

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