

NEW

# 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.

# 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.



**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.

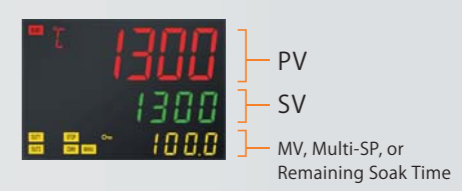
- Displayable Status**
- Manual
  - Stop
  - Alarms
  - Heater alarm

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.

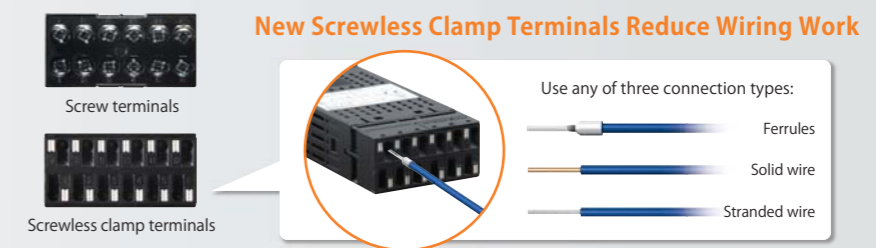


\*Supported by the E5AN/E5EN.

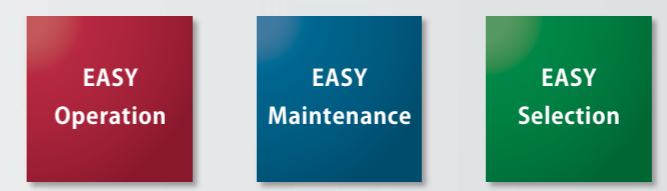
A 48 × 24-mm Model Joins the E5\_N Series

### 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.



### 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.



Designed for the Ultimate in Simplicity on the Work Site

## EASY Operation

### Reduced Work for Setting, Adjustment, and Operation The E5\_N Series for Smooth Operation

## EASY Maintenance

### Designed for Reliability The E5\_N Series Meets Onsite Needs by Reducing Maintenance Work

#### 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.



**PF**  
A/M  
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

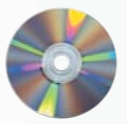
Setting parameters, making adjustments, or performing maintenance is easy with the CX-Thermo Support Software.

Main CX-Thermo Functions

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



Special Cable E58-CIFQ1 (Sold separately.)  
USB port



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

\*For details, refer to the E5\_N/E5\_N-H Datasheet.

Reduced Work for Settings and Adjustments

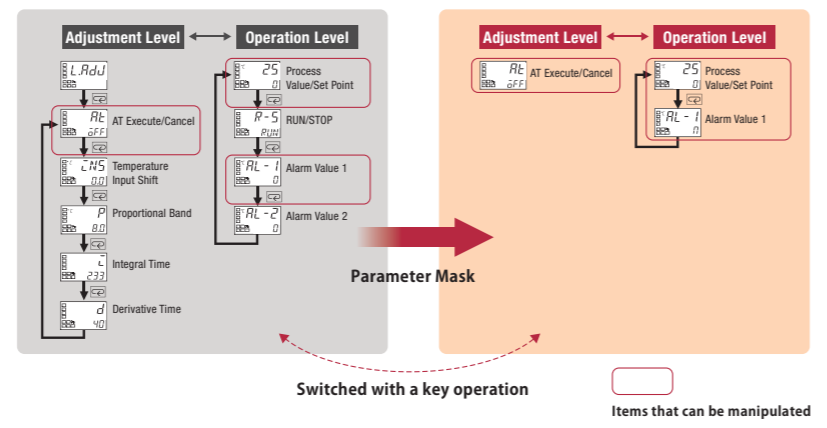
More benefit from CX-Thermo

#### 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

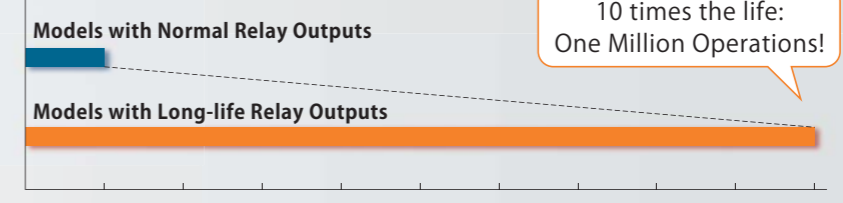
A key operation on the Temperature Controller can be used to enable and disable the parameter masks that have been set. This enables displaying masked parameters in emergencies without the Support Software, to provide both operational simplicity and maintenance ease.



#### 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

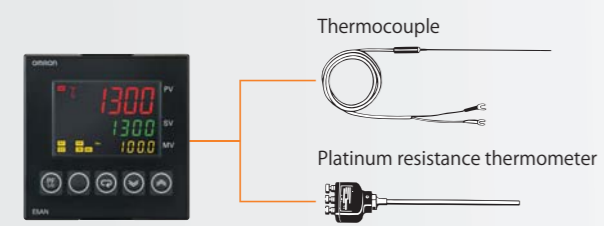


## EASY Selection

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 ESGN 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.

<p>High Accuracy</p> <h1>±0.1 %PV</h1> <p>Thermocouple/Pt input: ±0.1% of PV Analog input: ±0.1% FS</p> <p>Achieve high-resolution temperature or humidity measurement, fluctuation detection, and logging in environmental testing devices and other equipment.</p> <p>*For details, refer to the E5_N/E5_N-H Datasheet.</p>	<p>High-speed input Sampling</p> <h1>60 ms</h1> <p>Enough Sampling Speed to Easily Handle Rapid Temperature Increases</p> <p>Perform stable control with high-speed response for rapid temperature increases of ceramic heaters and other devices.</p>	<p>Handle 5-digit K Thermocouples</p> <h1>0.01°C Display</h1> <p>Five-digits 0.01°C PV/SV Displays to Make the Most of High Performance</p> <p>High-resolution displays to 0.01°C for Pt, K, J, and T. Enables high-precision temperature control.</p>
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### 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.

Logic operations and timer processing (External inputs can also be used) (Auxiliary outputs can also be used)

### 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										
		48×24 mm E5GN	48×48 mm E5CN	48×96 mm E5EN	96×96 mm E5AN	48×48 mm E5CN-H	48×96 mm E5EN-H	96×96 mm E5AN-H		
Design and Readability	Black case		Black or silver case							
	2-level display		3-level display		2-level display		3-level display			
Easy Application	PV display color switching and status display									
	—				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									
Maintenance	Automatic cooling coefficient adjustment									
	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									
High Speed and High Accuracy	—				Three-phase heater burnout alarm					
	Degree of protection for front panel: IP66									
	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%					
Advanced Control	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.					
	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.  
Industrial Component Division  
2-2-1 Nishikusatsu, Kusatsu-shi,  
Shiga, 525-0035 Japan  
Tel: (81) 77-565-5160/Fax: (81) 77-565-5569

**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 Industrial Automation Global: [www.ia.omron.com](http://www.ia.omron.com)

**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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