

# Digital Temperature Controllers

E5□C Series

The Leading Temperature Controllers in the  
Control Panel Evolution



- Greater downsizing and higher performance in control panels and other equipment
- Greater efficiency from designing to assembly and operation
- Innovating control panel and equipment usability

# For building green control panels

Natural disasters caused by global warming and climate change are become global social issue, that drives over 150 countries and regions worldwide to take action toward decarbonization. Our goal is to reduce greenhouse gas (GHG) emissions toward half by through new ways of building control panels, that key figure of the manufacturing site.



## Process

Realize greatly  
reduces design/  
manufacturing work

Innovation for  
design, building  
Process

Further Evolution  
for  
Panels

## Panel

Realize compact &  
highly reliable control  
panels

Building sustainable  
control panels

Creating green  
control panels

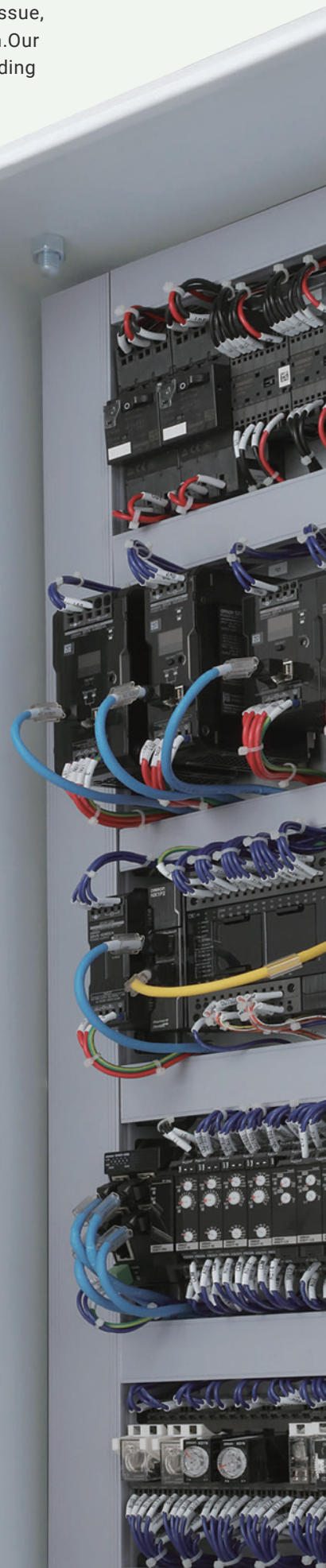
Simple & Easy  
People

## People

Provide reliable and comfortable  
manufacturing for all people who  
deal with control panels

## Green

Reducing GHG  
emission of control  
panels to achieve  
carbon neutrality



# Integrating green perspectives into Value Design

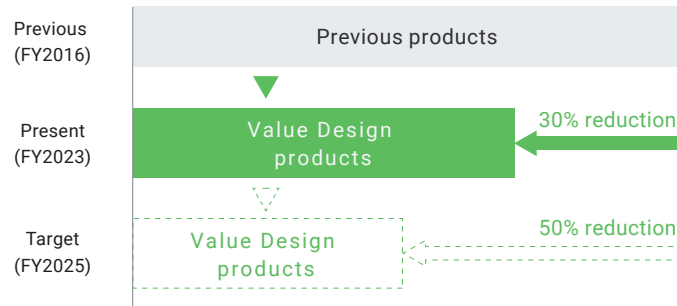
Value Design for Panel (Value Design) is the common concept shared across OMRON's in-panel product specifications to deliver new value to your control panels.

This Value Design also integrates environment consideration concept that enables earth and user-friendly control panel building.

## Value Design for Panel

- 1 ..... Unified height & slim size<sup>\*1</sup>
- 2 ..... Side-by-side mounting at (55°C) ambient temperature<sup>\*2</sup>
- 3 ..... Unique Push-In Plus technology<sup>\*1</sup>
- 4 ..... Front-in and front-release wiring
- 5 ..... eCAD library
- 6 ..... Certification for CE, UL, and CSA
- 7 ..... **Green features that save energy and resources<sup>\*3</sup>**

CFP of control panel (total GHG emissions)<sup>\*4</sup>



\*1. Expect for some products

\*2. Side-by-side mounting is possible in the same series

\*3. Greener design compared to previous (2016) products

\*4. CFP (carbon footprint) of control panel is a calculation result of referring the life cycle assessment method that based on international standards ISO14067 which define CO<sub>2</sub> quantitative conversion of the environmental burden at every stage, from manufacturing, transportation, use, and disposal of the control panel (product). According to OMRON investigation in May 2023.

# A wide range of lineup to handle various

## Save Space with a Compact Body That's Only 60 mm in Depth

A short body that's 77% of our previous model has been achieved.

This makes the Controller applicable in tight spaces with limited depth.



## Help Reduce Panel Space

Even with the 48 × 24 size, OMRON has achieved a PV display character height of over 10 mm and dual displays for the present value and set point.

This enables compact panels that are easy to read.



## Equal Operability as On-panel Controllers Plus Space-saving Layouts inside Control Panels

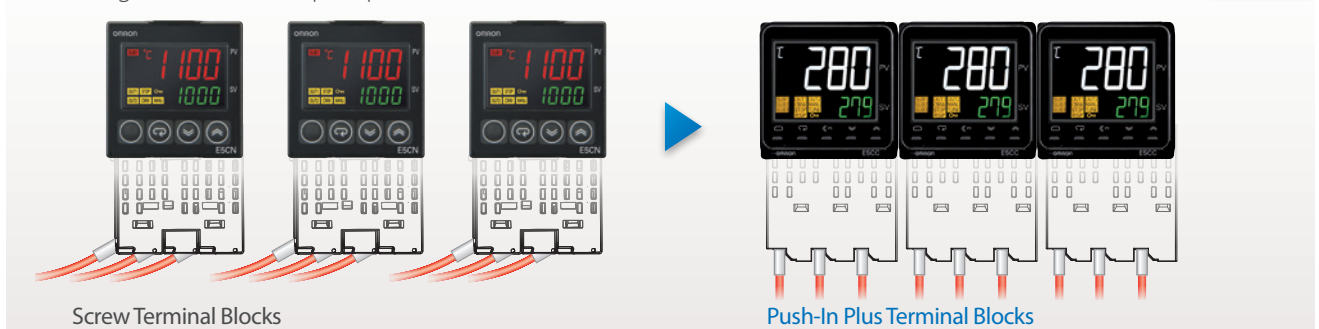
The unified operability of the E5□C Series in a DIN Track-mounting Controller that is 22.5 mm wide.

You can achieve space-saving layouts in control panels.



## Push-In Plus technology Enables Horizontal Group Mounting Easily

With Push-In Plus technology, wiring is performed from the back, which facilitates using horizontal group mounting, to achieve compact panel surfaces.



# control panel/equipment sizes

## Space-saving 22.5 mm Wide Design Saves Reduce wiring work

The lineup has been expanded to include the 22.5 mm wide in-panel E5DC model with Push-In Plus Terminal Block.

This model is not only space-saving for easy installation in control panel but also reduces wiring work.



## Reduce Crossover Wiring with Horizontal Connection Structure

Simply connect the device to enable power line and communication cable, reducing the amount of wiring work required. (Maximum connectable units: 16 devices)



## Removable Terminal Block for Easy Mounting and Replacement

The removable terminal block means wiring does not need to be removed during maintenance, making mounting and replacement simple.

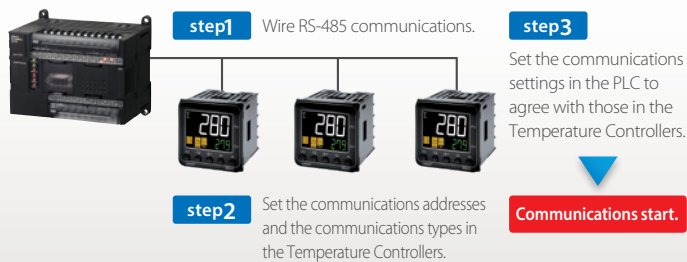


\*Hooks must be pressed to remove from the terminal block.

# Greater efficiency from designing to assembly and operation

## Design

### Programless Communications Eliminates the Time to Create Communications Program with the PLC.



- In addition to communications with PLCs, you can share target temperatures and copy parameter settings with other E5□C series Controllers.

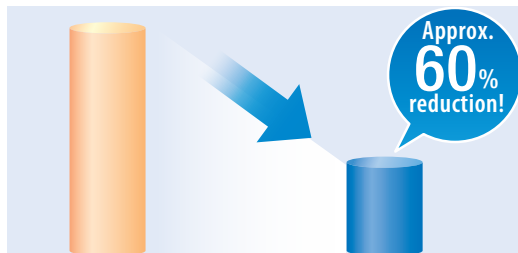
## Assembly and Wiring

### Push-In Plus technology for Easy Wiring

Just Insert Wires: No Tools Required

Now you can use Push-In Plus technology to reduce the time and work involved in wiring.

Greatly Reduce Wiring Work with Push-In Plus technology



Conventional screw terminal blocks OMRON Push-In Plus terminal block

\*Information for Push-In Plus and screw terminal blocks is based on OMRON's actual measurement value data.

### No Retightening Required

Tightening screws is necessary for screw terminal blocks, but with Push-In Plus terminal blocks, there is no need for retightening.

### Temperature Sensors

Temperature Sensors with Ferrules are also available to help reduce the time and work involved in wiring.



E5CC-B  
E5EC-B  
E5DC-B

### Easy to Insert

OMRON's Push-In Plus terminal blocks are as easy as inserting to an earphone jack. They help reduce the work load and improve wiring quality.

### Held Firmly in Place

Even though less insertion force is required, the wires are held firmly in place. The advanced mechanism design technology and manufacturing technology produced a spring that ensures better workability and reliability.

| IEC standard<br>(cable diameter)          | Push-In Plus<br>terminal block | Screw terminal<br>block |
|-------------------------------------------|--------------------------------|-------------------------|
| 20 N min.<br>(AWG20,0.5 mm <sup>2</sup> ) | <b>125 N</b>                   | 112 N                   |

\*Information for Push-In Plus and screw terminal blocks is based on OMRON's actual measurement value data.

## Setup, Adjustment, and Operation

### CX-Thermo Special Setup Software (Sold Separately) Effectively Reduces Work from Setup to Adjustment and Operation.

You can perform the following operations with the CX-Thermo.

- Setting and saving parameters
- Logging, browsing, and exporting data
- Printing parameter lists, and more

\*USB-Serial Conversion Cable  
(Sold Separately)



Also, power is supplied through the Bus Power, so you do not have to wire the power supply to set parameters.

# Innovating control panel and equipment usability

## Easy Display Confirmation On-site.

Big white characters on a black background achieve superior visibility. Operator movement distances are minimized to help increase work efficiency.

Life Size



High-contrast displays enable easier confirmation regardless of ambient lighting conditions.



A wide viewing angle was achieved with the LCDs to enable easy confirmation of the PV.

## Reduces the workload of entering set values on-site.

Functions are provided to reduce work in operating and changing settings for the Controllers.

Just press the shift key (<<PF) to move the digit. This simplifies numeric entry at worksite.

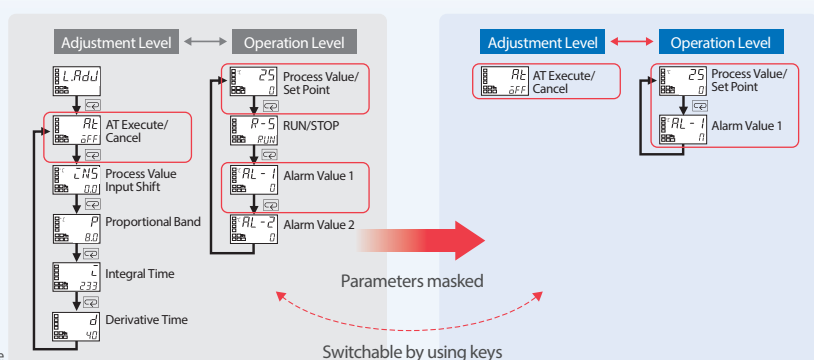


Just press the shift key to move the digit.

## CX-Thermo Functions

Use parameter masks to display only the required parameters. The time required to change settings, such as for changeovers, is greatly reduced.

Items to manipulate



Product Lineup

| Terminal type \ Size                                                                                             | 48 × 24 mm                                                                                 | 48 × 48 mm                                                                                  | 48 × 96mm                                                                                   | 96 × 96mm                                                                                   | DIN 22.5-mm width                                                                             |
|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Push-In Plus terminal block<br> |                                                                                            | E5CC-B<br> | E5EC-B<br> |                                                                                             | E5DC-B<br> |
| Screw terminal block                                                                                             | E5GC*<br> | E5CC<br>   | E5EC<br>   | E5AC<br> | E5DC<br>   |
| Plug-in models                                                                                                   |                                                                                            | E5CC-U<br> |                                                                                             |                                                                                             |                                                                                               |

\*Screwless clamp terminal blocks also available.  
Refer to the E5□C Series Datasheet (Cat. No. H177) for details.

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