

Sustainable control panel enable to reduce environmental impact



For building green control panels

Natural disasters caused by global warming and climate change are becoming a 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

Green

Reducing GHG emission of control panels to achieve carbon neutrality

People

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



Integrating green perspectives into Value Design

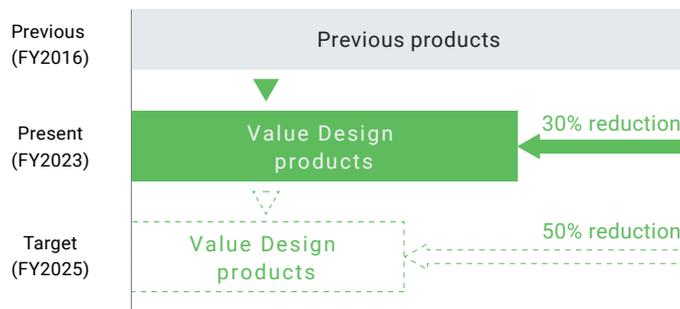
Value Design for Panel (Value Design) is the common concept shared across OMRON's in-panel product specifications to deliver new value to your control panels.

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



- 1 Unified height & slim size*¹
- 2 Side-by-side mounting at (55°C) ambient temperature*²
- 3 Unique Push-In Plus technology*¹
- 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***³

CFP of control panel (total GHG emissions)*⁴



*1. Expect for some products

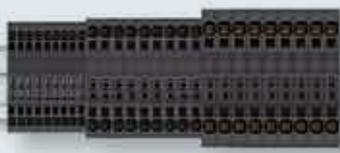
*2. Side-by-side mounting is possible in the same series

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

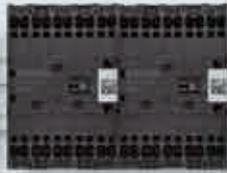
*4. CFP (carbon footprint) of control panel is a calculation result of referring the life cycle assessment method that based on international standards ISO14067 which define CO₂ quantitative conversion of the environmental burden at every stage, from manufacturing, transportation, use, and disposal of the control panel (product). According to OMRON investigation in May 2023.

Extensive lineup of products for building sustainable control panels

DIN Track Terminal Blocks



Magnetic Contactors



Ultra-Compact Interface Wiring System



Common Terminal Blocks



Switch mode power supplies / Related equipment



I/O Relay Terminals



Timers



Motor Protective Relays



Power Monitors



Wireless Pushbutton Switches



Condition Monitoring Devices



Temperature Controllers



Switch mode power supplies / Related equipment



Products that especially contribute to reduce environmental impact

The below products reduce GHG emissions by over 50% compared to previous (2016) products through power-saving, resource-saving, and reducing waste (according to OMRON investigation in March 2023)

Switch Mode Power Supplies (Three-phase)

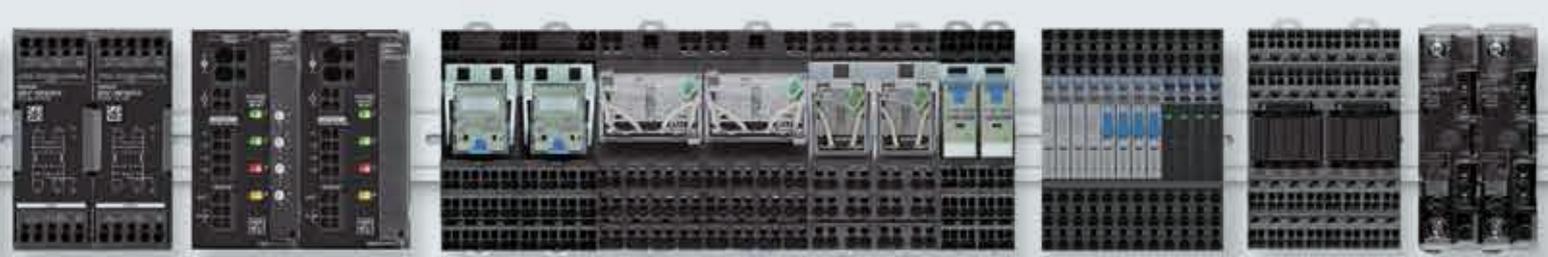


NEW S8VK-W (2 kW type)

Switch Mode Power Supplies (Single-phase)



Relays, Solid-state Relays



Uninterruptible Power Supplies

Machine Automation Controllers

Safety Relays



Manual Motor Starters

Pushbutton Switches

Power Monitors

Temperature Controllers



Ultra-Compact Interface Wiring System

DC Electronic Circuit Protectors

Motor Protective Relays/Timers

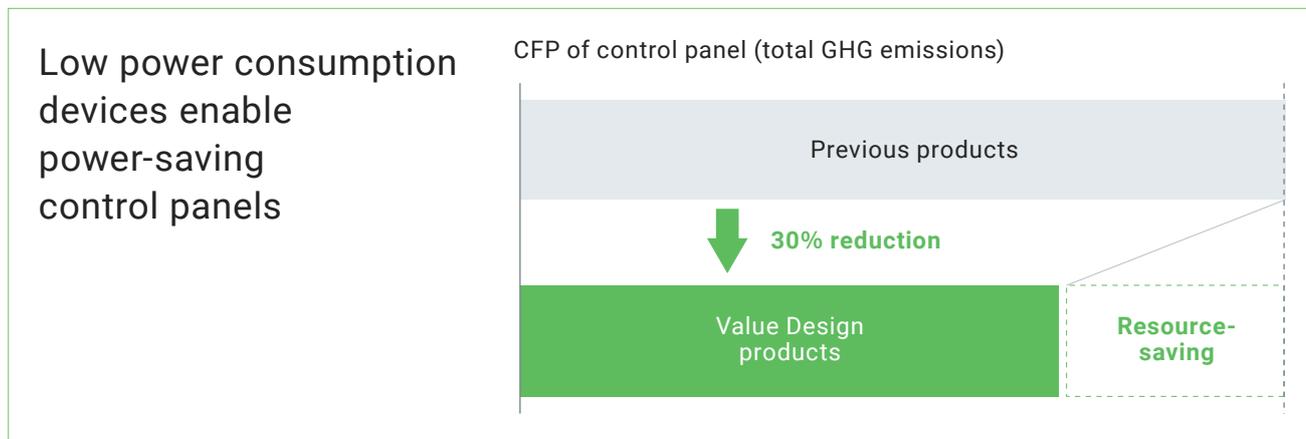
Temperature Controllers



For building green control panels

Reducing GHG emissions of control panels

Our low power consumption devices allow you to easily build power-saving control panels, without compromising design philosophy.



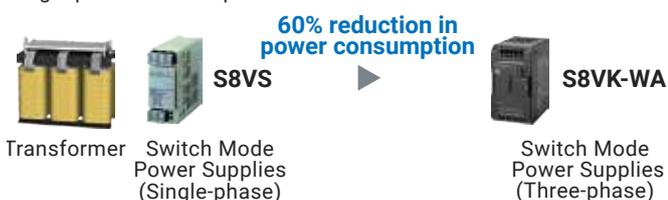
Reduce control panel power consumption by replacing devices



Reducing power consumption by reviewing specifications

Review of power supply specifications

Specification change point: Circuit change associated with switching from transformer + single phase to three phase



Optimization of endurance specifications

Power consumption can be easily reduced by reviewing to the latest model with reduced power consumption and reviewing the most suitable model to optimize the application.



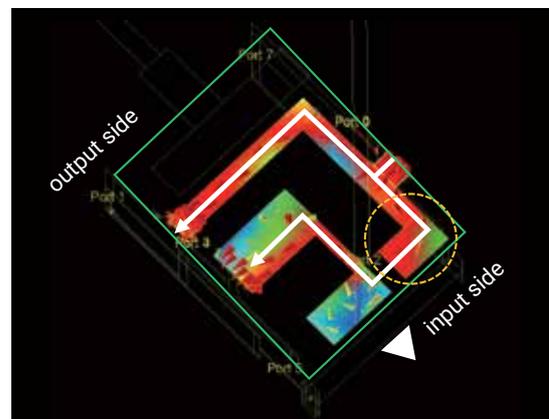
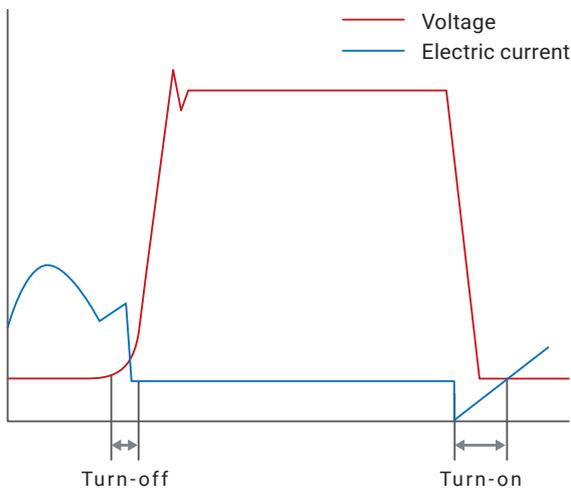
Power consumption can be easily reduced by reviewing to the latest model with reduced power consumption and reviewing the most suitable model to optimize the application.

Introduction of Technology for Realizing Low Power Consumption Device

High-density/high-efficiency design that reduces power consumption of power supplies

Switching loss reduced through soft switching (minimizing intersection of voltage and current waveforms)

Noise filtering optimized through thermal analysis

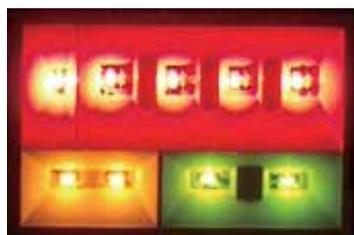


Unique low power consumption display method that reduces temperature controller power consumption



BEFORE

Direct lit



Number of lit LEDs: 13

AFTER

Edge lit

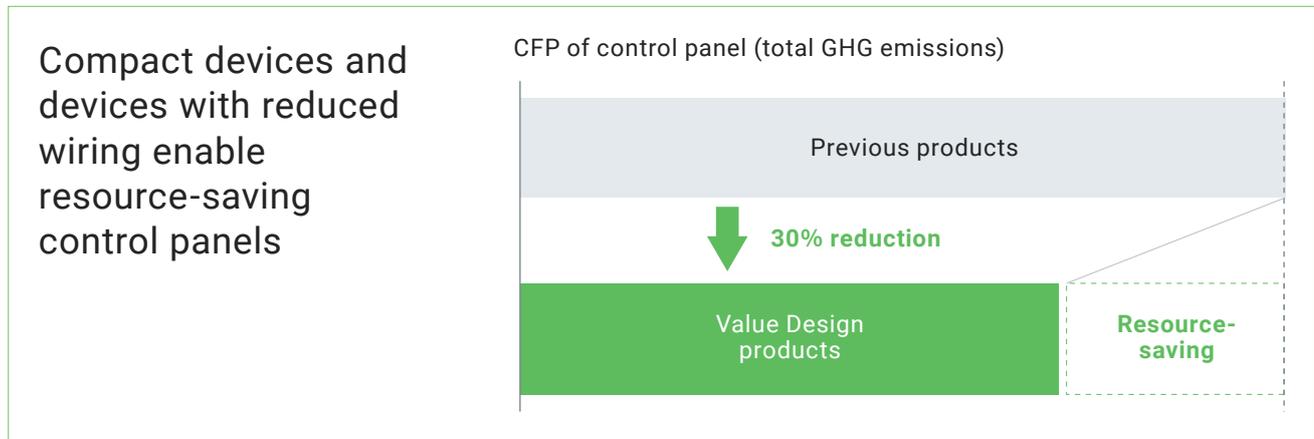


Number of lit LEDs: 3

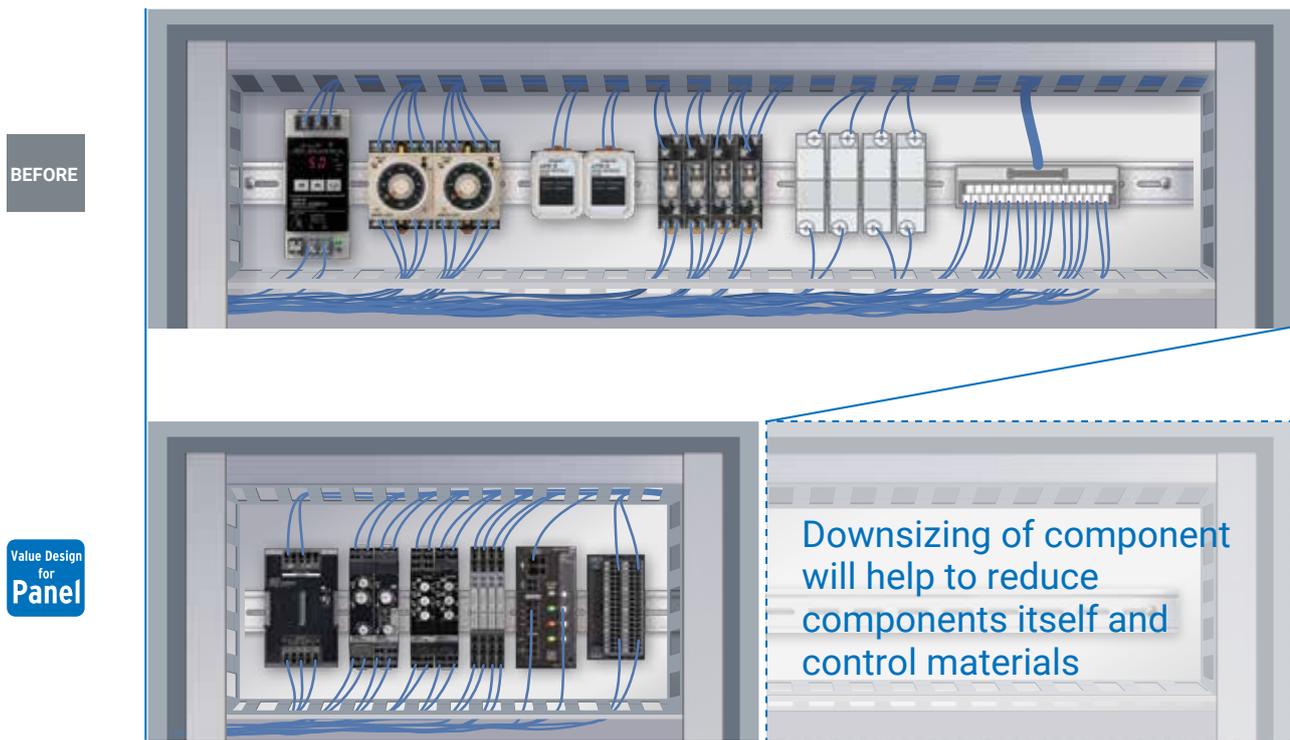
For building green control panels

Reducing GHG emissions of control panels

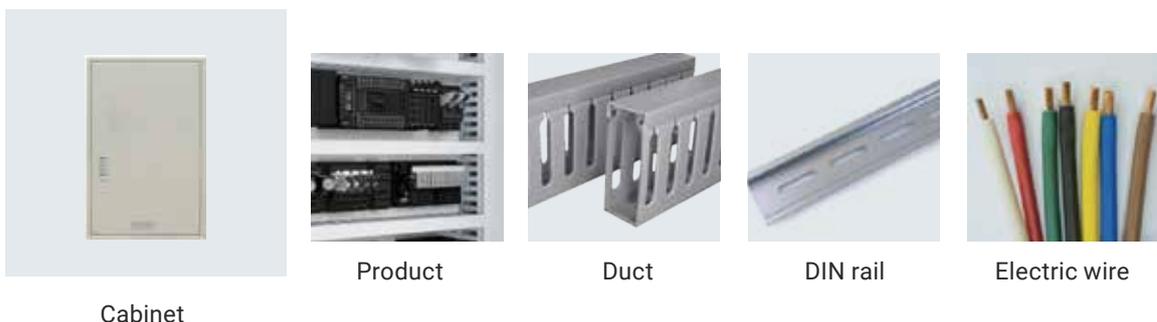
Compact, slim devices with unified height and devices with reduced wiring allow for resource-saving purchased components for control panels.



Miniaturization of equipment and reduced wiring enable resource conservation of control panel materials



Control components for which resource-saving can be applied



Additional components lighter weight contribute to material saving of control panels

BEFORE

		Weight
	S8FS-G (600 W 3 units)	4,620 g
	XW2R	113 g
	G7TC	728 g
	S8VS	1,600 g
	E5CN	190 g
	H3DK-M	145 g
	K8AK-PH	171 g



Value Design for Panel

		Weight	
	S8VK-W (2 kW type)	3,600 g	22% reduction
	XW2K	83 g	27% reduction
	G70V	408 g	44% reduction
	S8VK-S	945 g	41% reduction
	E5CC	157 g	17% reduction
	H3DT-N	122 g	16% reduction
	K8DT	118 g	31% reduction

For building green control panels

Reducing GHG emissions of control panels

OMRON helps you measure how effectively Value Design products actually reduce control panel power consumption.

Power monitors enable easy assessment of power-saving effect

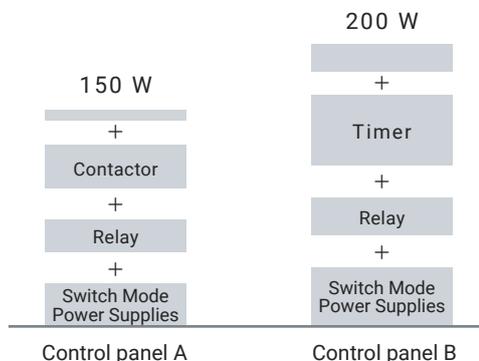


Power monitors enable visualization of power consumption reduction effect on per-control panel basis

BEFORE

Assessment of power consumption reduction effect requires massive effort because each control panel has different device configuration and therefore has to be measured separately

Measurements taken per model and then totaled



Power monitor constantly visualizes power consumption, with no need for separate measurements

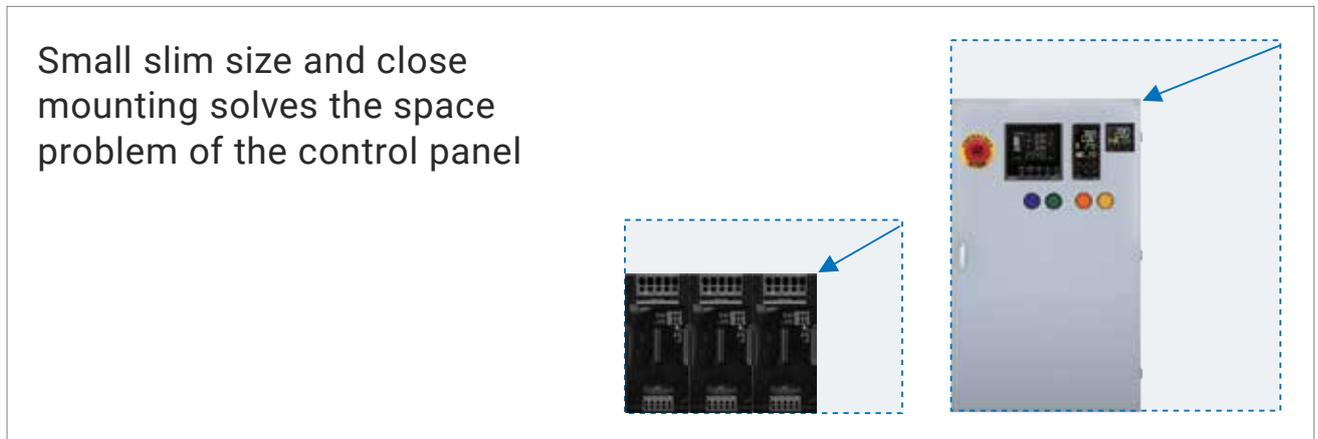
Continuous measurement at once without individual measurement



Further Evolution for Panels

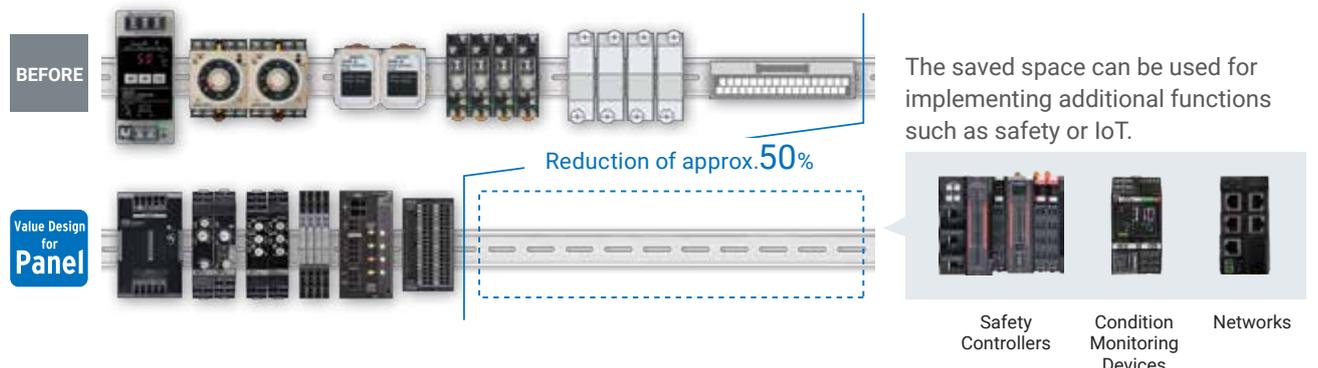
Saving Space and More-advanced Control Panels

Unified size and side-by-side mounting help delivering more compact control panels with additional functionality.



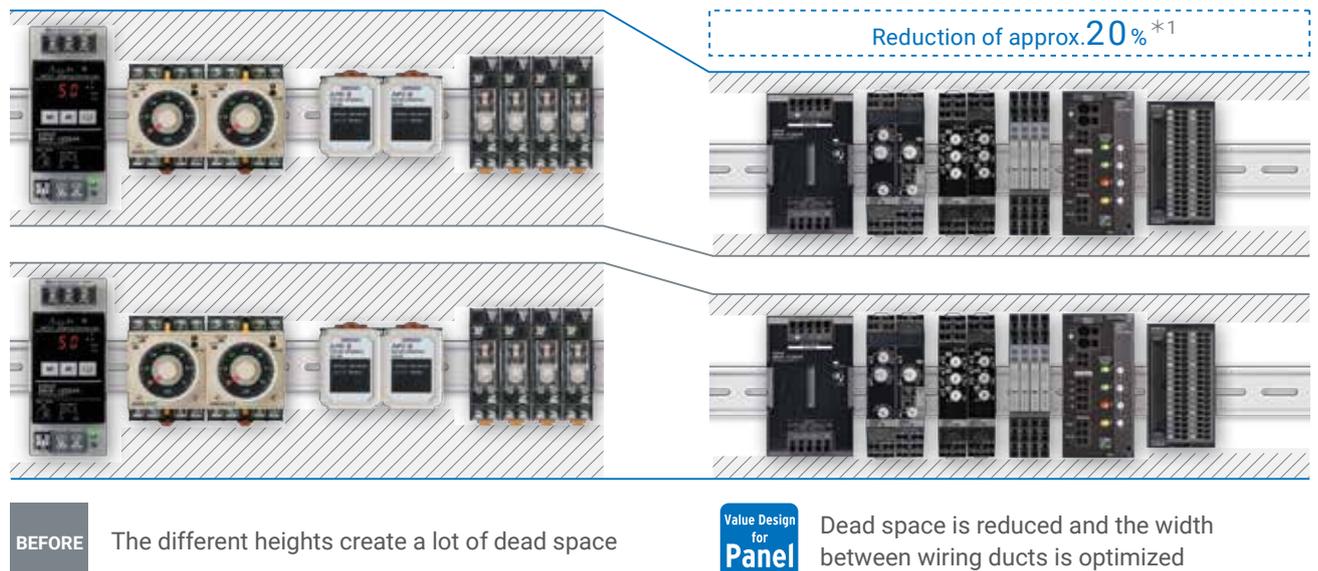
Slim + Side-by-side mounting technology save space, and make more advanced Control Panels

You can add a new function, at the re-engineering stage for improving product quality and securing safety of the production line.



Unified height reduces dead space and downsizes control panels

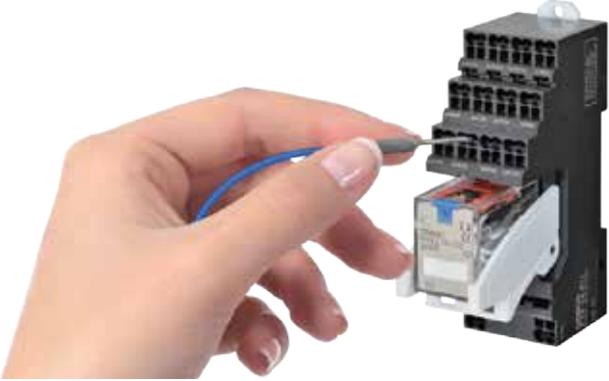
When newly designing, you can decrease the height of a control panel to secure a wide view of a whole production line for improved safety.



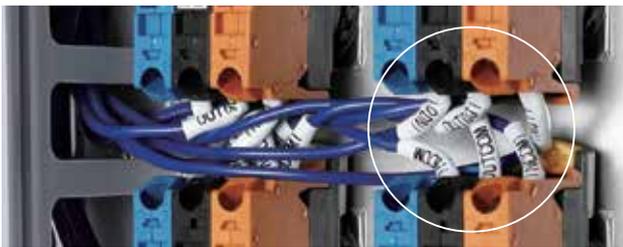
Simple & Easy People Reducing Wiring Work

Push-In Plus technology and Front-in / Front-release Wiring allow wiring work easier and speedier.

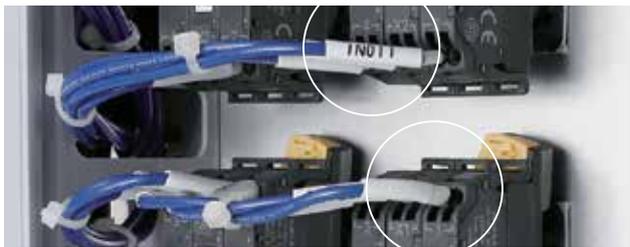
Push-in Plus technology solves control panel wiring issues



Front-in Wiring improves workability and safety without interference of wires even in the narrow space among devices

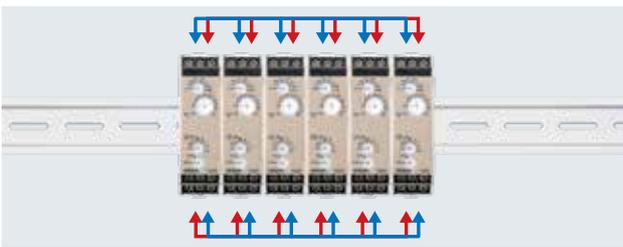


BEFORE Hard wiring in the narrow space by the interference of wires due to the screw terminals requiring wiring in vertical direction

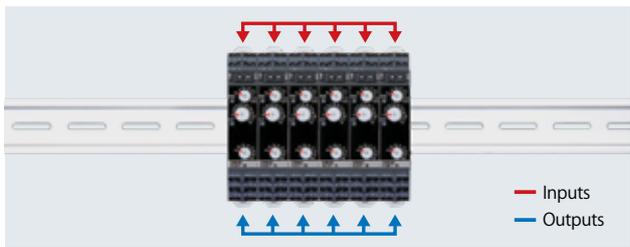


Value Design for Panel No interference of wiring helps improve workability and safety

Improved wiring workability by unified I/O terminal positions on the top and bottom



BEFORE Hard wiring due to mixed I/O terminals located on the top and bottom



Value Design for Panel Unified method so that inputs are on the top and output

Easy wiring with both hands for stranded wires with holding screwdriver



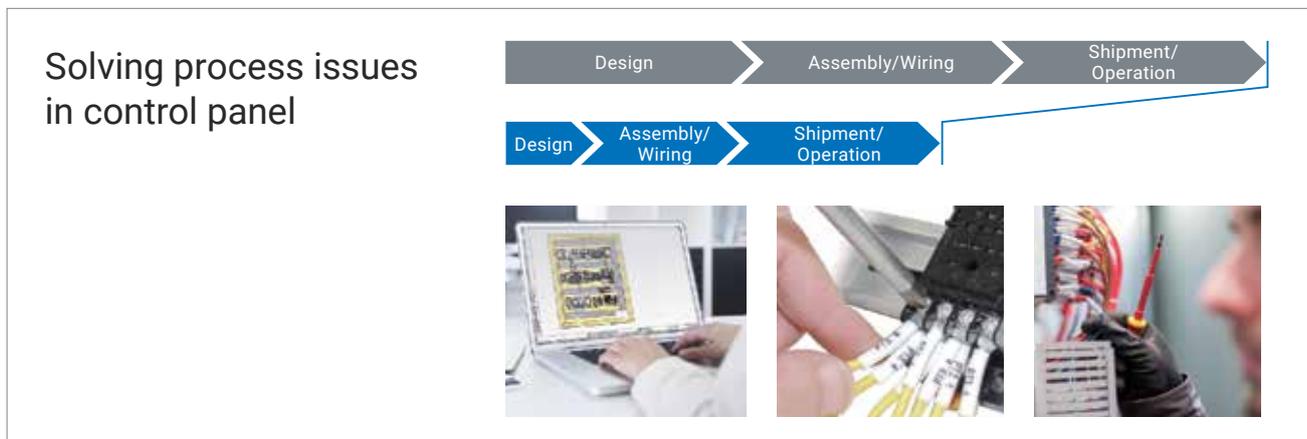
BEFORE One hand wiring with the other hand holding the screwdriver



Value Design for Panel Wiring with both hands, because the screwdriver is held in the release hole

Shortening Lead Time for Control Panel Building

Compatible with eCAD and worldwide safety standards, accelerating an entire process of control panel manufacturing



Design eCAD library provided for all models greatly reduces design work

OMRON provides the libraries for over 48,000 models*2, highest in the industry, to achieve the great reduction of works for electrical design drawing and data creation.

Up to 50%*1

eCAD Partners

By cooperating with various partners, we offer you more choices for your eCAD solutions.



Zuken Inc. EPLAN

E3.series is a product name of Zuken Inc. for their Electrical and Control Cable Design Solution. EPLAN is a registered trademark of EPLAN Software & Service GmbH & Co. KG.

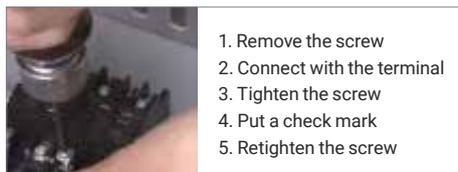
*1. In the case of ZUKEN E3 series

*2. In the case of EPLAN, based on

OMRON's investigation as of 2020 December

Assembly/Wiring Push-In Plus technology requires only a single step, greatly reducing wiring work

Reduction of approx. 60%*3



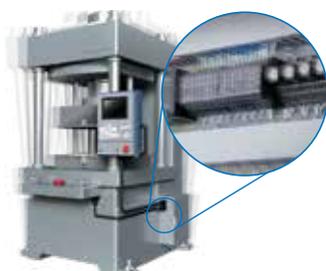
BEFORE A lot of steps are required to complete wiring for the screw terminal...

Value Design for Panel Push-In Plus technology completes by a single step

*3. Information for Push-In Plus and Screw Terminal Blocks is based on OMRON's actual measurement data

Shipment/Operation No need for retightening, even when vibration is applied on terminals

The pressure of the clamp spring holds the ferrule or wire securely with Push-In Plus technology, eliminating worries about screws loosening or disconnection due to vibration.



BEFORE The screw is loosened and dropped by vibration



Retightening is needed before export and shipment



Value Design for Panel No drop-off or retightening of screws

Selection Guide

Available in a wide range from input to control, output, and safety.

>P.18-19

<p>Switch Mode Power Supplies (Single-phase) S8VK-S</p> 	<p>Switch Mode Power Supplies (Single-phase/With displays and communications) S8VK-X</p> 	<p>Noise Filters S8V-NF</p> 
<p>Switch Mode Power Supplies (Three-phase/single-phase) S8VK-WA (Three-phase) S8VK-WB</p> 	<p>DC Electronic Circuit Protectors S8V-CP</p> 	

>P.20-21

<p>Magnetic Contactors(Contactor) J7KC</p> 
<p>Manual Motor Starters J7MC</p> 
<p>Thermal Overload Relays J7TC</p> 
<p>Auxiliary Relay (Contactor Relays) J7KCA</p> 

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<p>Solid-state Timers H3DT</p> 
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<p>Motor Protective Relays K8DT</p> 

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<p>DIN Track Terminal Blocks XW5T</p> 

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<p>Ultra-Compact Interface Wiring System XW2K</p> 
<p>Ultra-Compact Common Terminal Blocks XW2K-COM</p> 



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Common Terminal Blocks
XW6T



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Uninterruptible Power Supplies
S8BA



>P.30

Power Monitors
KM-N2/KM-N3



>P.32-33

Temperature Controllers
E5CC-B/E5EC-B/E5DC-B



>P.30

Solid State Relays for Heater
G3PJ



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Pushbutton Switches
Emergency Stop Pushbutton Switches
A22N-P/A22NE-P



>P.22-23

Sockets with Push-In Plus
technology
PYF-□□-PU/PTF-□□-PU
P2RF-□□-PU/P7SA-PU



Slim I/O Relays
G2RV-ST



Slim I/O Solid State Relays
G3RV-ST



Terminal Relays
G6D-F4PU/G3DZ-F4PU



I/O Relay Terminals
G70V

