OMRON

Innovations in Panel Building

New value for control panels

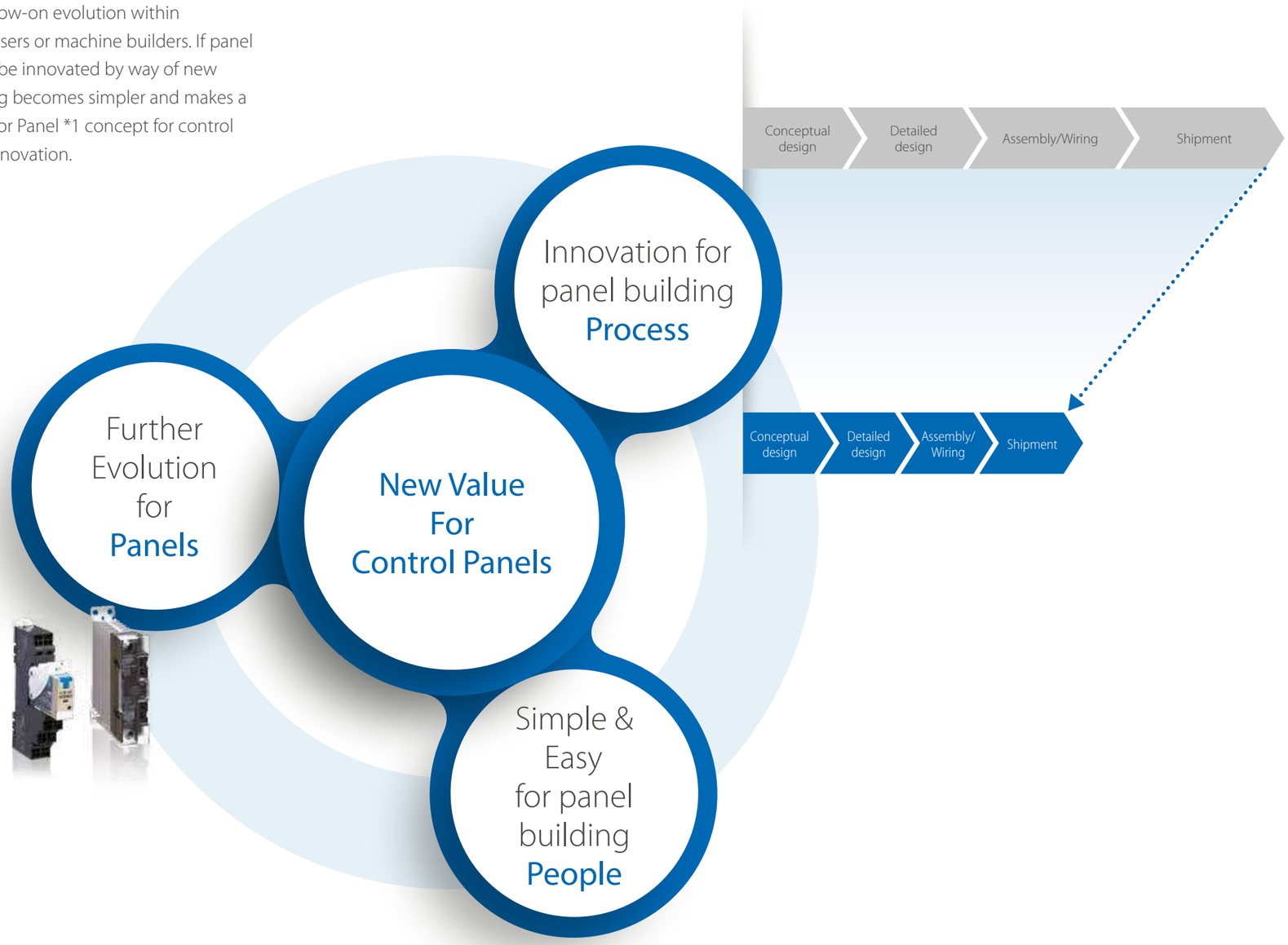
- An evolution for control panels
- Innovating the panel building process
- Simple and easy for panel builders

industrial.omron.eu/panelbuilding

New value for control panels

Control panels: The heart of manufacturing sites

Any evolution within control panel design and manufacturing will result in a follow-on evolution within production facilities, therefore benefitting not only panel builders, but the end users or machine builders. If panel design, panel manufacturing processes and human interaction with panels can be innovated by way of new products, wiring techniques and technologies, then control panel manufacturing becomes simpler and makes a huge leap forward in terms of efficiency. Starting with our shared Value Design for Panel *1 concept for control panel product specification, we offer you control panel evolution and process innovation.



Value Design for Panel

*1 Value Design for Panel

Our shared Value Design for Panel (herein after referred to as Value Design) concept for the specifications of products used within control panels will create new value for our control panel customers. Combining multiple products that share the Value Design concept will further increase the value provided.

Further Evolution for **Panels**

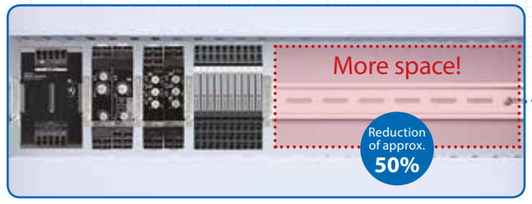
Space saving

By adding devices in the newly available space, you can mount more devices in the same size control panel to increase control panel functionality.

Previous

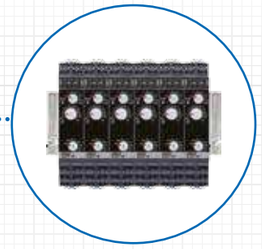
477 mm

New



237 mm

Add More Devices



Side-by-side mounting is possible due to reduced power consumption (therefore generating less heat) for each model at an ambient temperature of 55°C.

You can install devices without wasting space.

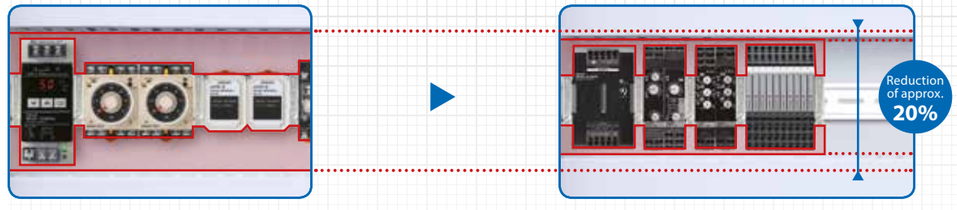
Value Design for Panel

Reduce dead space

We'll help you to downsize control panels by reducing the width between wiring ducts and dead space.

Previous The different heights create a lot of dead space.

New Dead space is reduced and the width between wiring ducts is optimized.



Value Design for Panel

Previous models *1
One S8VS-12024A Power Supply
Two H3CR-A Solid-state Timers + P2CF-11
Two APR-S Reverse Protection Relays + PF-083A
Ten G2R-1-S General-purpose Relays + P2RF-05
Five PFP-M End Plates

New models
One S8VK-S12024 Power Supply
Two H3DT Solid-state Timers
Two K8DT-PH Phase-sequence Phase-loss Relays
Ten G2RV-SR Slim I/O Relays
Five PFP-M End Plates

Vibration resistance

You can use products with Push-In Plus technology (refer to page 8) to create robust control panels that withstand vibration during both shipping and operation.

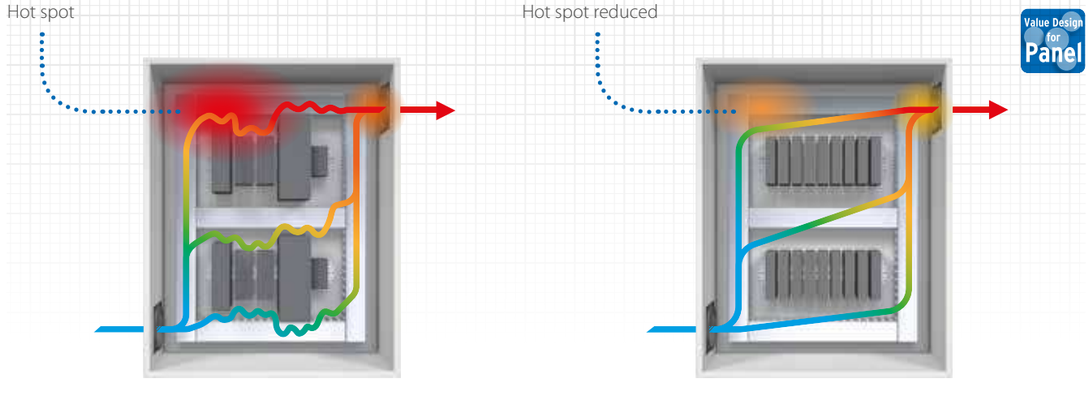
Value Design for Panel

Improve airflow

The use of components with a uniform height ensures unobstructed airflow. As a result, heat is easily dissipated. Reducing the temperature inside the panel increases product reliability, decreases failure rates, and prolongs product life expectancies.

Previous Different heights and depths create hot spots.

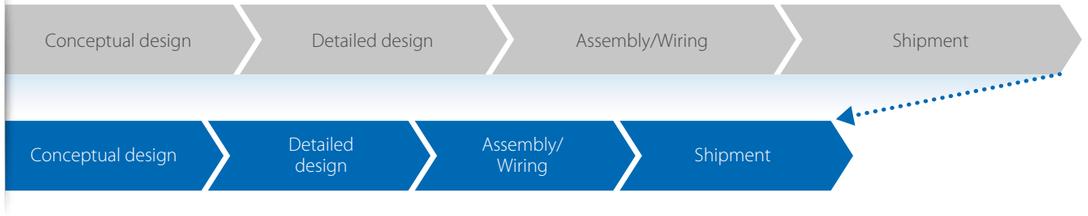
New Unified heights and depths help reduce hot spots.



Value Design for Panel

Innovation for panel building **Process**

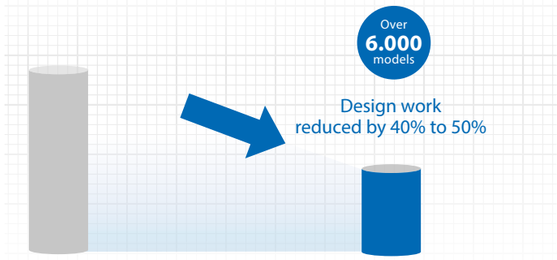
Meeting customer needs by reducing process time



Efficient Designing

Our electrical control CAD library of our products (industrial.omron.eu/cadlibrary) can assist in reducing design effort.

Download a high-quality electrical control CAD library



*Example for Zuken E3.series.

Partners for electrical control CAD

Zuken Inc.

E3.series is a product name of Zuken Inc. for their Electrical and Control Cable Design Solution.

zuken.com

EPLAN

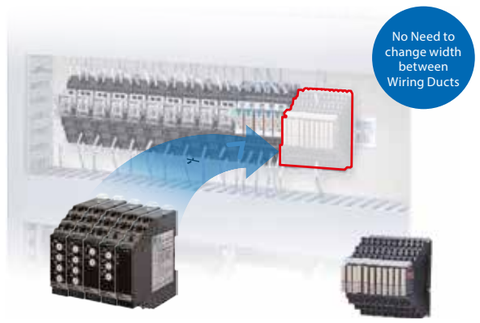
EPLAN is a registered trademark of EPLAN Software & Service GmbH & Co. KG.

industrial.omron.eu/eplan

Swift customisation

Devices with unified specifications allow you to easily customise panels for each customer.

The height and depth of our products have been unified, to enable existing designs to be easily customised.



The wide range of products with unified specifications gives you a wider selection.

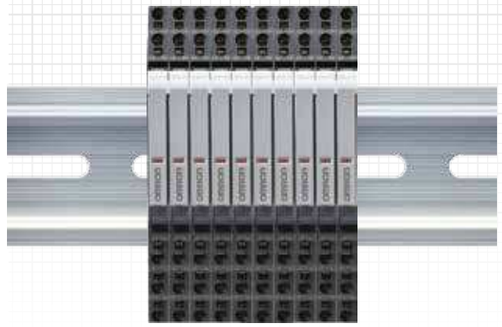
Value Design Products

Power Supplies, Timers, Measuring and Monitoring Relays, Sockets (for Relays, Timers, Liquid Leakage Sensors), SSR, DIN-rail Terminal Blocks, Temperature Controllers, Power Monitors, UPSs, EtherCAT Slave Terminals

Faster wiring

Unified wiring methods and specifications help shorten delivery times.

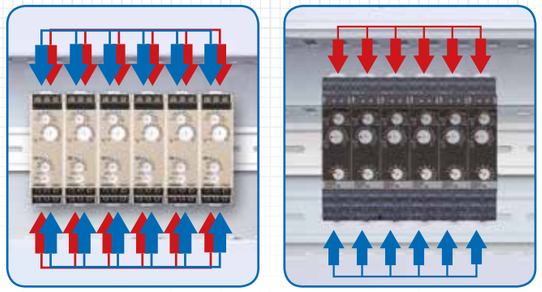
Easy-to-understand terminal positions enable more accurate work.



Unified I/O terminal positons allow you to organize the wiring of control panels.

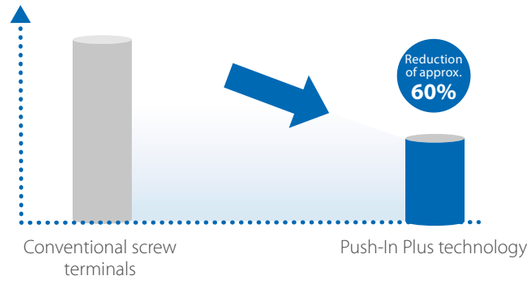
Previous
Inputs and Outputs are Mixed on the Top and Bottom

New
Inputs are on the top and outputs are on the bottom.



Red: Inputs, Blue: Outputs

Greatly reduce wiring effort with Push-In Plus technology.



Retightening is not required with Push-In Plus technology.

Spring Structure
The pressure of the clamp spring holds the ferrule or wire securely, eliminating issues related to screws loosening due to vibration.

Information for Push-In Plus technology and screw terminals is based on our actual measurement data.

Global shipping

Our Value Design products are certified for UL and CSA & bear a CE-mark

Express delivery services available within Europe.

Simple & Easy for panel business **People**

Easy wiring

Push-In Plus technology help to simplify wiring.

What is Push-In Plus technology?

Push-In Plus technology has been developed to provide easy wire insertion and firm wire holding, therefore reducing the time and work involved in wiring.

Work with both hands

The terminal mechanism has been designed to hold the screwdriver, enabling you to have both hands free to insert the wiring into the front-facing cable entry point.

Wiring possible with stranded wires

It is possible to insert wires with ferrules, solid or stranded wires.

* Patents relating to Push-In Plus technology: Patent-pending

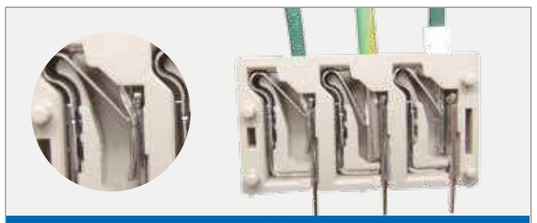
Easy to insert

Using our terminals with Push-In Plus technology is easier than inserting an earphone jack.

INSERTION FORCE	
Earphone Jack	**Push-In Plus technology**
10 N	**8 N**

Held firmly in place

Even though less insertion force is required, the wires are held firmly in place. With our advanced mechanism design and manufacturing technology, we have produced a spring that allows low insertion force while ensuring high pull-out force.



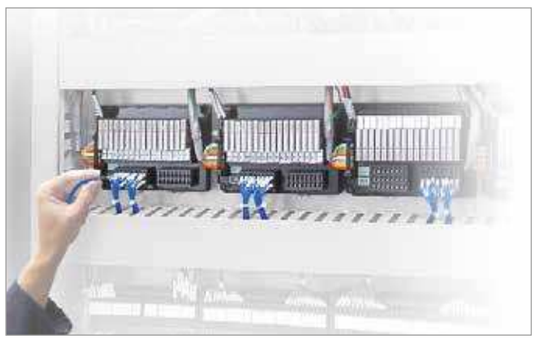
PULL-OUT FORCE		
IEC standard (cable diameter)	**Push-In Plus technology**	Screw technology
20 N min. (AWG20, 0.5mm)	**125 N**	112 N

Front-in and front-release wiring

The terminal cable entry of our independently developed terminals with Push-In Plus technology all face forward for easy wire insertion.

Previous

New



Benefits of Value Design

Downsizing control panels

- Downsizing is our highest priority. **The use of Push-In Plus technology** will be an effective measure to downsize control panels (company A).
- We need to downsize our control panels, **so side-by-side mounting (enabled by reduced power consumption) is appealing to us as it will generate less heat** (company B).

Saving space

- Our users often ask us to add-in additional devices. We often have to mount these devices in any space available, therefore **space-saving in control panels** would be a huge benefit for us (company C).

Reducing dead space/ Making more-advanced control panels

- The number of devices required in control panels is increasing due to more advanced and more composite machine functionality. Devices with unified dimensions will help to reduce the design work required for the layout inside the control panel (Company D).

Vibration resistance and no need for retightening

- I'm considering using Push-In Plus technology because screw-type terminals can become loose from device vibration and this can cause connection issues (company E).
- I want to use Push-In Plus technology to **eliminate screw tightening torque and retightening work after shipping.** (company F).

Reducing wiring work

- I'm considering Push-In Plus technology to **increase wiring speed.**
- Push-In Plus technology with less insertion force will **increase wiring speed** (company G).

Reducing design work and increasing speed for exporting

- We give **priority to UL-listed components** during device selection for our control panels if we are exporting them to North America. That makes **UL recognition more efficient** (company I).

Value Design for Panel

Main Features of our Value Design

- Unified slim size. (Except for some products)
- Front-in and front-release wiring
- Side-by-side mounting at an ambient temperature of 55ºC (applicable only within the same series.)
- Certification for UL and CSA + CE-mark
- Push-In Plus technology (except for some products)

Our Value Design products increase the Value of your control panels

2017 Released in October

Emergency Stop Switches
A22NE-P

Digital Temperature Controllers
E5_D

Wide lineup that adds new value to your control panel

Sockets for Safety Relays
P7SA-PU

Push-In Plus Series Pushbutton Switches A22N-P/ A30N-P/M22N-P

Power Monitors (Mounted On-Panel)
KM-N3

Machine Automation Controller
NX Series, NX1P

Solid-state Timers
H3DT

Measuring and Monitoring Relays
K8DT

Power Monitors (DIN Track mounting)
KM-N2

Common Sockets (for MY/H3Y(N)-B)
PYF-PU(-L)

Common Sockets (for G2R-S/H3RN-B/ K7L-B)
P2RF-PU

Slim I/O Relays
G2RV-SR/G3RV-SR

Switch Mode Power Supplies
S8VK-S*

* 240/480W models
2016 Released in October

Solid-state Timers
H3Y(N)-B

Solid-state Timers
H3RN-B

Liquid Leakage Sensor Amplifiers
K7L-B

I/O Relay Terminals
G70V

DIN Track Terminal Blocks
XW5T

Digital Temperature Controllers
E5CC-B/E5EC-B
Note: The picture above is an E5EC-B model.

Solid State Relays for Heaters
G3PJ

EtherCAT Slave Terminals
NXseries NX-IO

Uninterruptible Power Supply (UPS) S8BA

Value Design for Panel

"To the machine the work of the machine,
to man the thrill of further creation."

Kazuma Tateisi, founder of Omron

Omron at a glance

200,000 products ranging Input, Logic, Output & Safety

Sensing, Control Systems, Visualisation, Drives, Robots, Safety,
Quality Control & Inspection, Control and Switching Components

6%

Annual investment in Research & Development

Innovation track record of 80 years

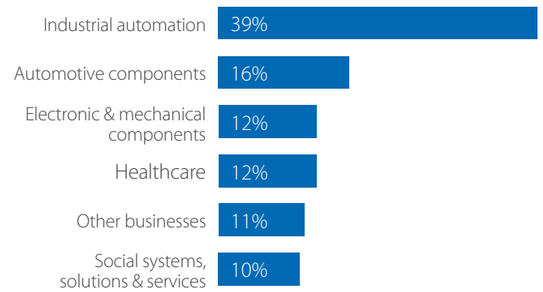
1,200 employees dedicated to R&D
12,500 + issued and pending patents

37,500
Employees worldwide

200
Locations worldwide

22
Countries in EMEA

Working for the benefit of society



Close to your needs

Technical training & seminars, technical support, Automation Technology Centers, online community (MyOmron), online catalogues and technical documentation, customer service & sales support, inter-operability labs (Tsunagi), safety services, repairs.

Product brochures for Control Panels

Would you like to know more?

OMRON EUROPE
+31 (0) 23 568 13 00
industrial.omron.eu