OMRON

Innovation in Control Panel Building

New Value for Control Panels

Control Panels: The Heart of Manufacturing Sites

Recent evolutions in control panel design and manufacturing are benefiting panel builders as well as end users and machine builders, resulting in an evolution within production facilities that reduces total cost of ownership. With the goal of making panel manufacturing simpler and more efficient, we have developed new techniques and technologies for panel design, panel manufacturing and wiring. Our Value Design for Panel concept guides the development of control panel products that reduce time and labor costs, power consumption, and control cabinet size.

Panels

Further Evolution for **Panels**

Value Design for Panel Concept Advantages

Specifications for Value Design products focus on uniform mounting height and depth, reduced overall volume and side-by-side mounting to make room for more components. Wiring capabilities without tools using front access Push-In Plus wiring terminals decreases installation time.

A panel built around Value Design Concept products provides competitive advantages for panel builders, machine builders and end users. Combining multiple products that share the Value Design Concept increases the value to all stakeholders involved with control panel design and use.

OMRON

Process

Conceptual design → Detailed design → Assembly/Wiring → Shipment

Innovation for panel building

Process

New Value For Control Panels

Simple & Easy for

People

People

Conceptual design → Detailed design → Assembly/ Wiring → Shipment

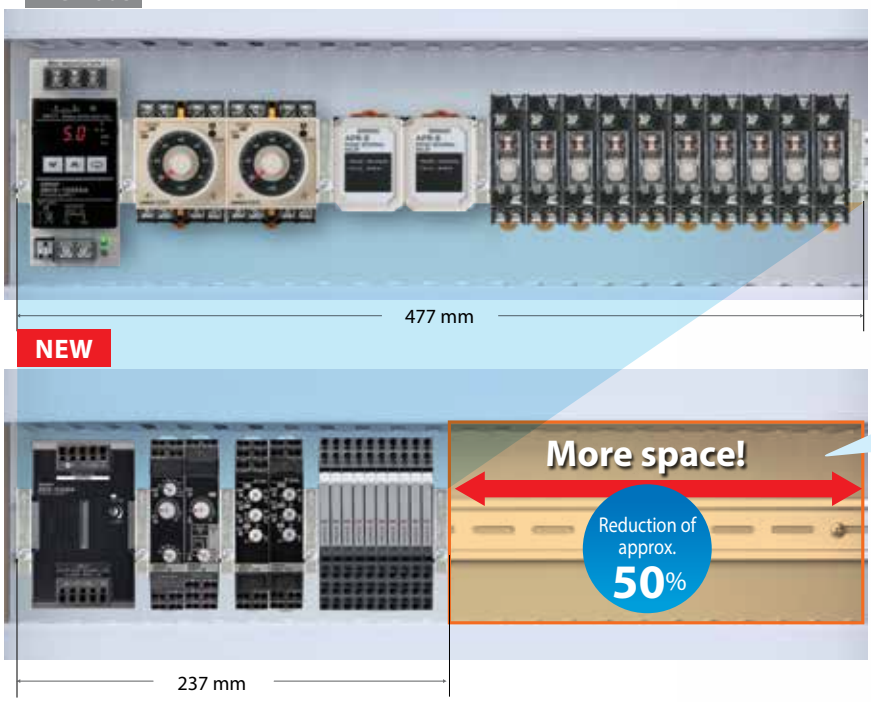
Further Evolution for Panels

Our Value Design Products make control panels compact & reliable.

More-advanced Control Panels

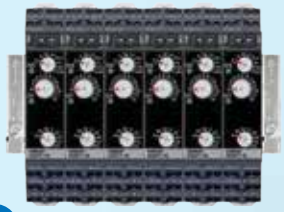
By adding devices in the newly available space, you can mount more devices in the same sized control panel to increase control panel functionality.

Previous



Refer to "*1" for the models.

Add More Devices



AND Side-by-side mounting is possible for each model at an ambient temperature of 55℃.

You can install devices without wasting space. Panel

Refer to "*2" for the models.

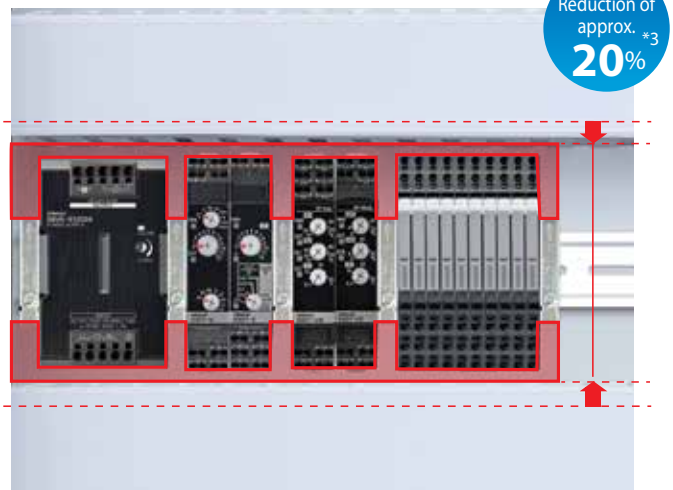
Downsizing Control Panels

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

* This is in comparison with previous OMRON products.

Previous The different heights create dead space.

NEW Dead space is reduced and the width between wiring ducts is optimized. 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 *2
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

*3: A space of 10 mm is allowed above and below the products.

Take your control panels to a new level.

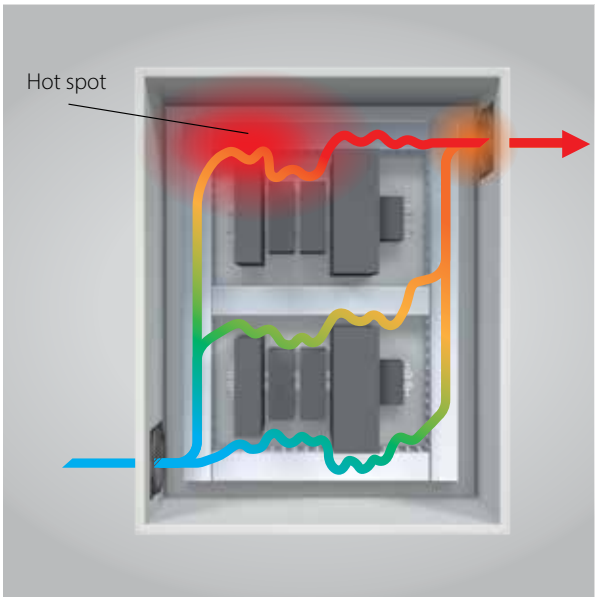
Control Panels That Resist Vibration

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

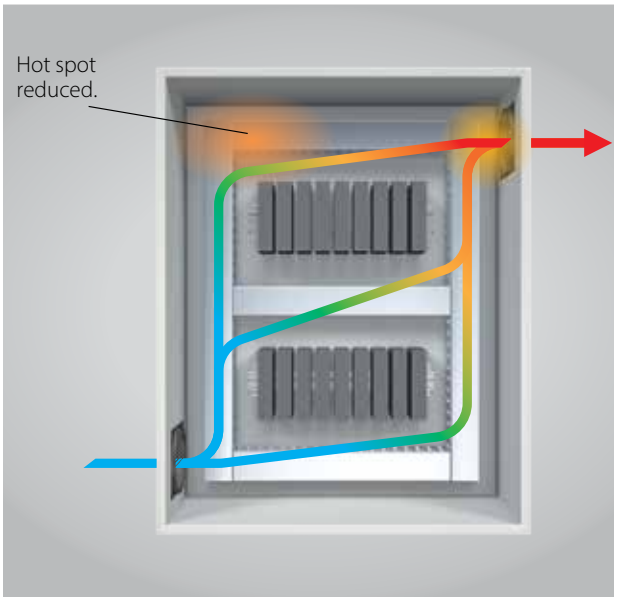
Increase the Reliability of Mounted Devices

Uneven heat dissipation is reduced Take your control panels to a new level.
Reducing temperature inside the panel increases product reliability, decreases the failure rate, and lengthens life expectancies.

Previous Difference in height and depth creates hot spots.



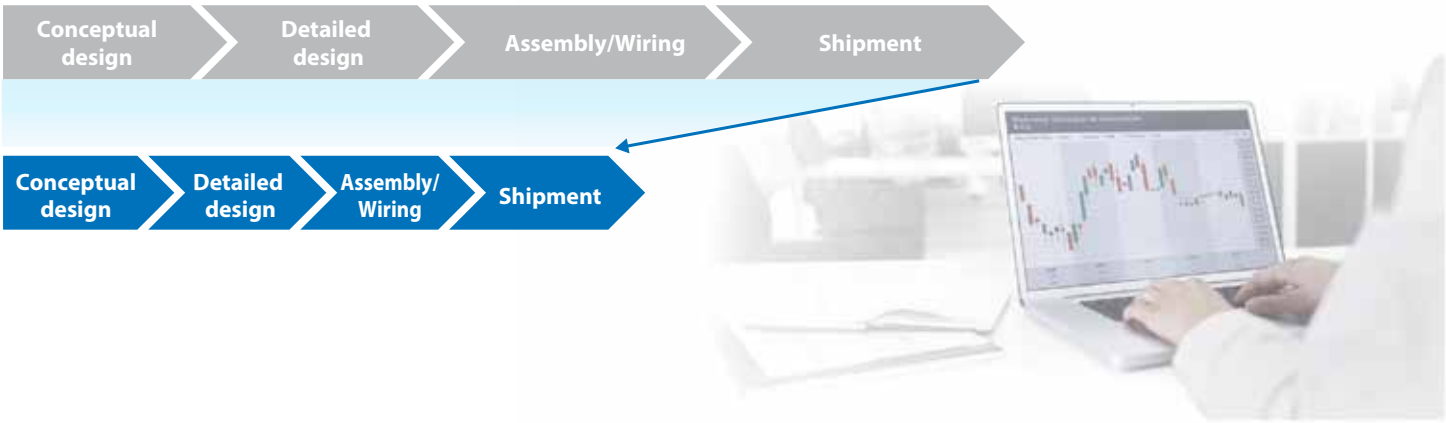
NEW Unified height and depth helps reduce hot spots.



Innovation for Panel Building Process

Manufacturing Innovation That Greatly Reduces Work

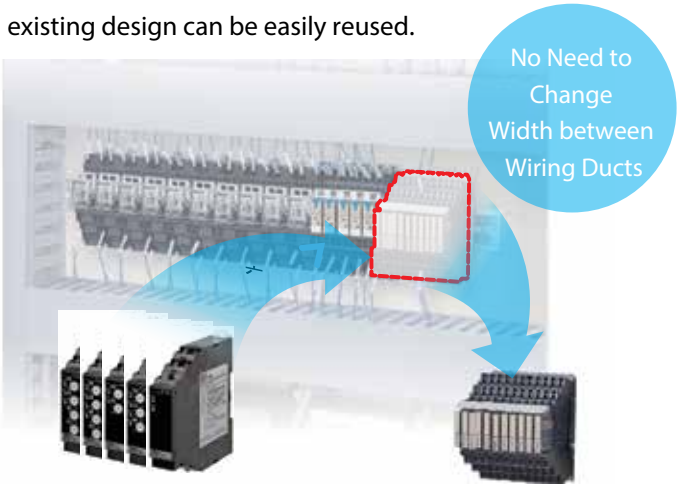
Meet Customer Needs by Increasing Process Speed



Reduced Design Time By Reusing Unified Design Templates

The unified specifications let you easily customize panels for each customer.

Product heights and depths are unified, so an existing design can be easily reused.



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

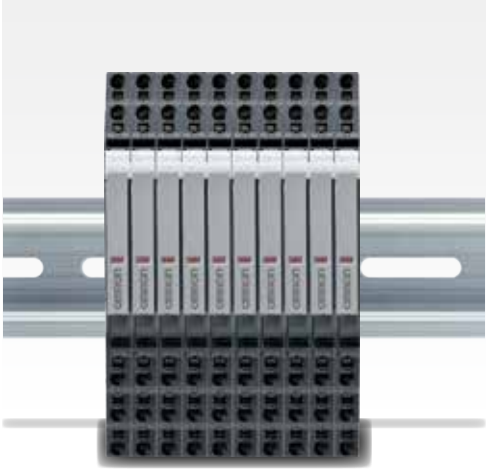
Value Design Products

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

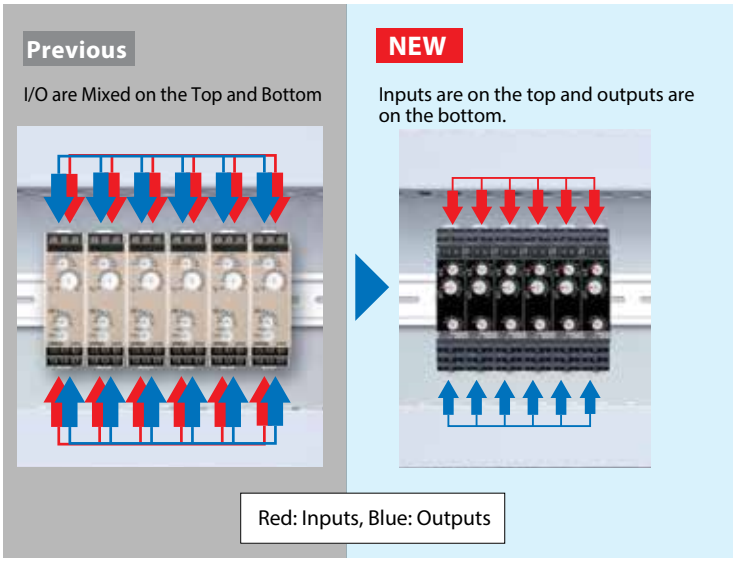
Faster Wiring

Unified wiring methods and specifications help shorten delivery times.

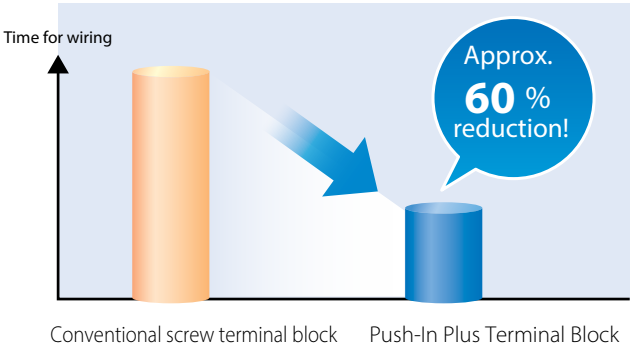
Easy-to-understand terminal positions enable more accurate work.



Unified I/O terminal positions help you organize control panel wiring and reduce the need of reworking.

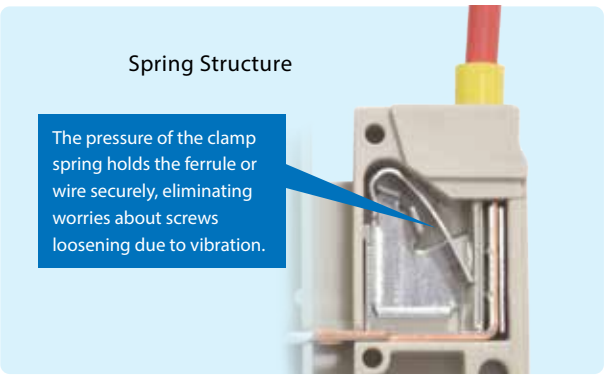


Greatly reduce wiring labor with Push-In Plus Terminal Blocks.



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

Retightening is not required with Push-In Plus Terminal Blocks.



Faster Shipping to Destinations Abroad

Value Design products are certified for CE, UL, and CSA.

Faster Response to issues During Assembly and After Shipping

Express Delivery Services to 35 Countries Worldwide

Simple & Easy for Panel Builders

Reliable Wiring and Assembly for Panel Builders

Easy Wiring Push-In Plus Terminal Blocks let you finish the wirings just by inserting wires.

What Are Push-In Plus Terminal Blocks?

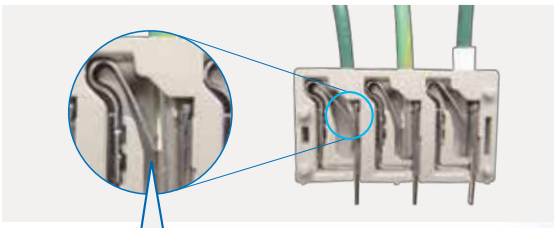
Push-In Plus Terminal Blocks were independently developed by OMRON for easy wire insertion and firm wire holding ability. It's as easy as inserting to an earphone jack: No tools are required. They help reduce the time and work involved in wiring.

Easy to Insert

OMRON's Push-In Plus terminal blocks are as easy as inserting to an earphone jack. This reduces the load on worker's fingers.

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 (cable diameter)	Push-In Plus terminal block	Screw terminal block
20 N min. (AWG20, 0.5mm^2)	**125 N**	112 N

* Information for Push-In Plus terminal blocks and Screw terminal blocks is based on OMRON's actual measurement value data for the XW2R.

Work with Both Hands

Optimized shape to hold the screwdriver was created by the resin parts and the spring. Work goes smoothly when connecting stranded wires directly to the terminal because it's easier to aim at the desired terminal.

Wiring Possible with Stranded Wires

You can insert wires with ferrules or you can also insert stranded wires.

* Patents relating to Push-In Plus Terminal Blocks: Patent-pending

Front-in and Front-release Wiring

The terminal holes on OMRON's independently developed Push-In Plus technology all face forward for easy insertion.

Previous

NEW

Examples of the Benefits of Value Design

Comments from Customers That Are Looking to Add

Downsizing Control Panels

- Downsizing is our highest priority. The usage of Push-In Terminal Blocks will be an effective measure to downsize control panels (company A).
- We need to downsize control panels, so side-by-side mounting at an ambient temperature of 55°C is appealing (company B).

Saving Space

- Our users often request to add devices.
  We often directly mount devices in available space, so saving space in control panels is great (company C).

Reducing Dead Space/ Making More-advanced Control Panels

- The number of devices used in control panels is increasing due to more advanced and more composite machine functionality.
  Devices with the same size will reduce work required for layout design inside control panels.

Value Design for Panel

Main Features of Value Design

- Unified slim size.
- Side-by-side mounting at an ambient temperature of 55°C. (Applicable only within the same series.)
- Push-In Plus terminal blocks are used. (Expect for some products)
- Front-in and front-release wiring.
- Certification for CE, UL, and CSA.

New Value to Their Control Panels

Vibration Resistance and No Need for Retightening

- I'm considering using push-in terminal blocks because of screws that are loosened by device vibration cause problems (company E).
- I want to use push-in terminal blocks to eliminate managing screw tightening torque and retightening work after shipping.

Reducing Wiring Work

- I'm considering push-in terminal blocks to increase the speed of wiring work.
- The push-in terminal blocks with less insertion force increase wiring speed (company G).

Reducing Design Work and Increasing Speed for Exporting

- We give priority to UL-listed components.
  That makes UL recognition more efficient (company I).

Our Value Design Products Increase the Value of Your

Switch Mode Power Supplies
S8VK-S, S8VK-WA, S8VK-WB, S8V-CP
Noise Filter S8V-NF

Low Voltage Switch Gear Magnetic Contactor
J7KC

Common Terminal Block
XW6T

Machine Safety Emergency Stop
A22NE-P

Temperature Controllers
NX-TC

Terminal Relay Bank
G6D-F4

Intelligent Products:
S8VK-X - Power Supply with Ethernet IP
K6CM - Motor Condition Monitoring Device
K7GE-MG - Motor Insulation Resistance Monitor

Solid State Timers
H3DT, H3RN-X-B

Measuring and Monitoring Relay
K8DT

Power Monitoring
KM-N2

Sockets for MY-GS-R Relays
H3Y-X-B , H3YN-B PYF-XX-PU

Control Panels

Sockets for G2R-S
H3RN-X-B
K7L-XXB

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

Thermal Condition Monitor
K6PM-TH

I/O Relay Terminals
G70V

DIN Track Terminal Blocks
XW5T

Digital Temperature Controllers
E5XC

Solid State Relays for Heaters
G3PJ

Solid State Timers
H3Y-X-B
H3YN-X-B

Liquid Leakage Sensor Amplifiers
K7L-99B

EtherCAT Slave Terminals NX series
NX-10

Uninterruptible Power Supply (UPS)
S8BA

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• Safety Mats and Edges • Safety Door Switches • Emergency Stop Devices
• Safety Switches & Operator Controls • Safety Monitoring/Force-guided Relays

Control Components
• Power Supplies • Timers • Counters • Programmable Relays
• Digital Panel Meters • Monitoring Products

Switches & Relays
• Limit Switches • Pushbutton Switches • Electromechanical Relays
• Solid State Relays

Software
• Programming & Configuration • Runtime

Note: Specifications are subject to change.

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