

Innovation in Control Panel Building



New Value For Control Panels

Control Panels: The Heart of Manufacturing Sites.

Evolution in control panels results in large evolution in production facilities.

And if control panel design, control panel manufacturing processes, and human interaction with them are innovated, control panel manufacturing becomes simpler and takes a leap forward.

OMRON will continue to achieve a control panel evolution and process innovation through many undertakings starting with the shared Value Design for Panel *1 concept for the specifications of products used in control panels.



Panels

Further Evolution
for
Panels



***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 in control panels will create new value to our customer's control panels.

Combining multiple products that share the Value Design concept will further increase the value provided to control panels.

Process



Innovation for panel building
Process

New Value
For
Control Panels

Simple & Easy
for panel business
People



People



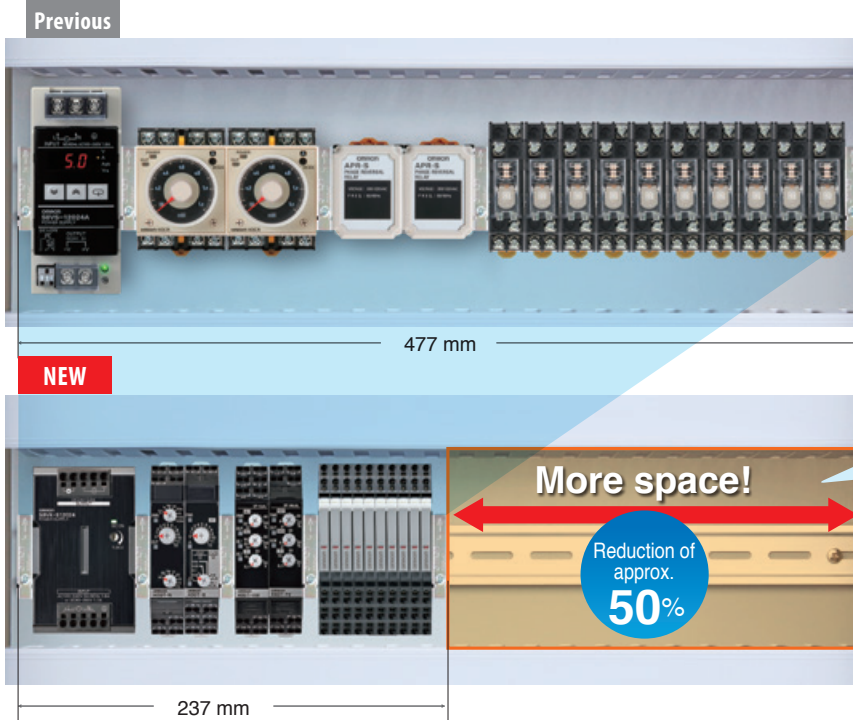
Panels

Further Evolution for Panels

Our compact and highly reliable Value Design products

More-advanced Control Panels

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



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°C. You can install devices without wasting space.

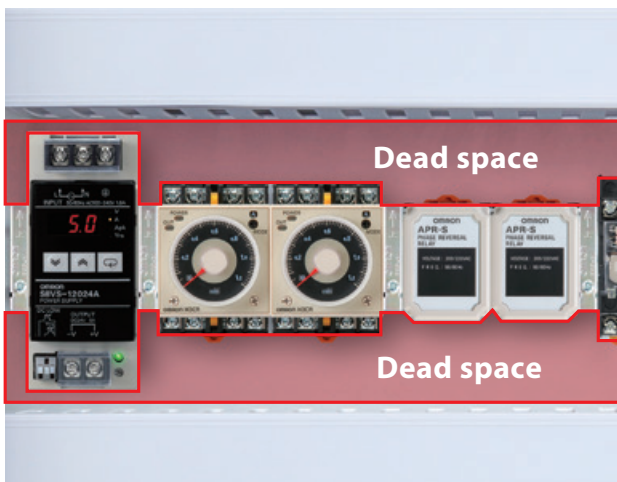
Refer to "#2" for the models.

Downsizing Control Panels

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

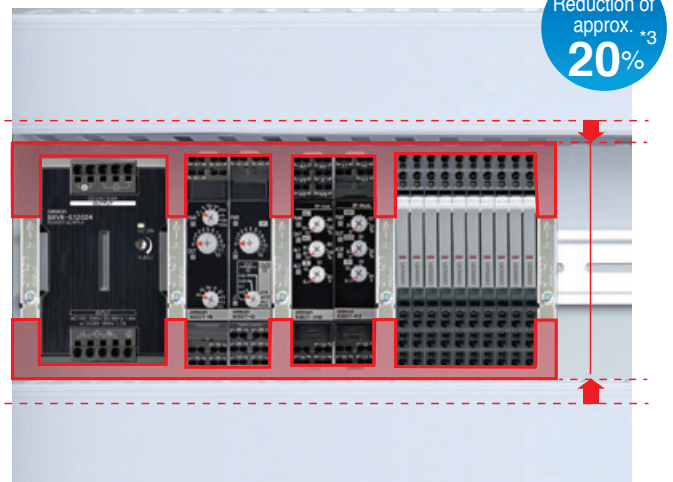
* This is in comparison with previous OMRON products.

Previous The different heights create a lot of dead space.



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



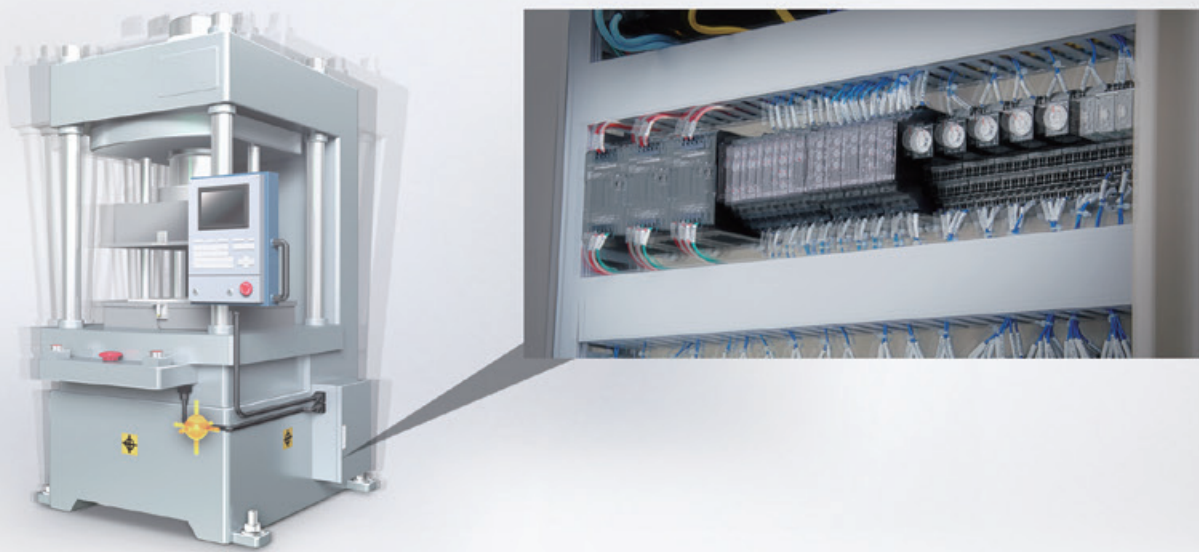
- New Models *2**
- One S8VK-S12024 Power Supply
 - Two H3DT Solid-state Timers
 - Two K8DT-PH Phase-sequence Phase-loss Relays
 - Ten G2RV-SR Slim I/O Relays
 - Five PFP-M End Plates

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

for control panels take 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

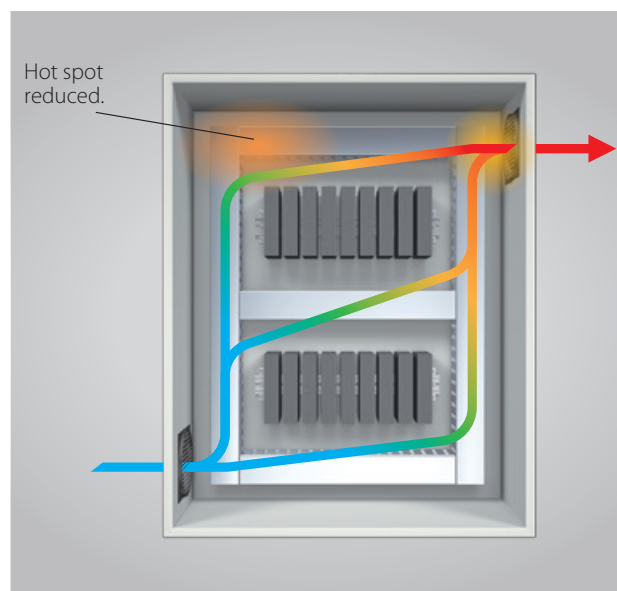
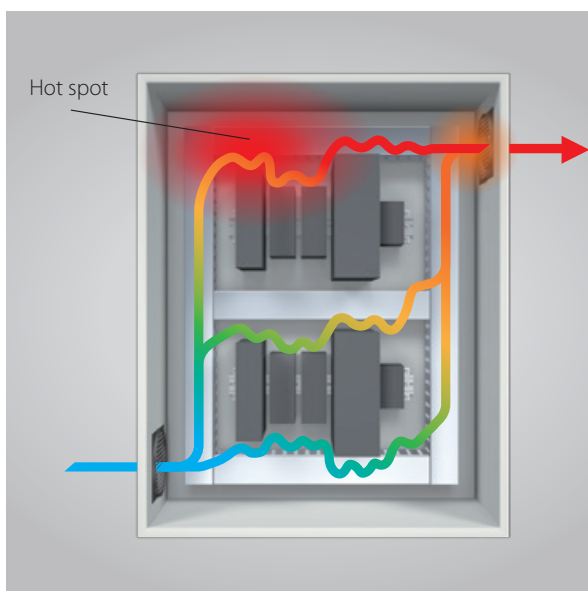
Uneven heat dissipation is reduced because air circulation is improved.

Reducing the temperature inside the panel increases product reliability, decreases the failure rate, and lengthens life expectancies.



Previous Differences in heights and depths create hot spots.

NEW The unified heights and depths help reduce hot spots.

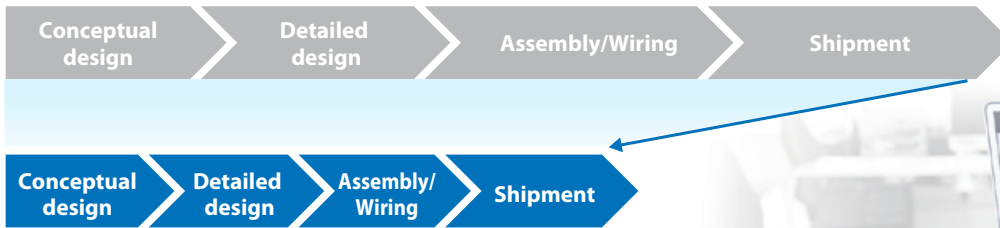


Process

Innovation for Panel Building Process

Manufacturing Innovation That Greatly Reduces

Meet Customer Needs by Increasing Process Speed

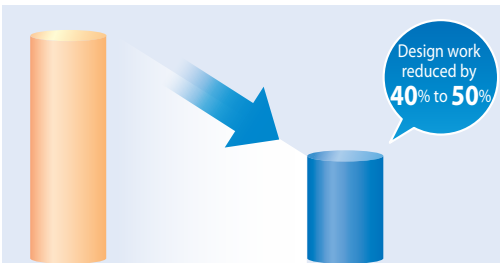


Faster Designing for New Products

Electrical Control CAD can be successfully used for OMRON products to reduce design work.

- Download a High-quality Electrical Control CAD Library

Over
6,000
models



Previous

With Electrical Control CAD

*Example for Zuken E3.series.

Partners for Electrical Control CAD

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.

Faster Designing When Reusing Designs

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.

No Need to Change Width between Wiring Ducts



- 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

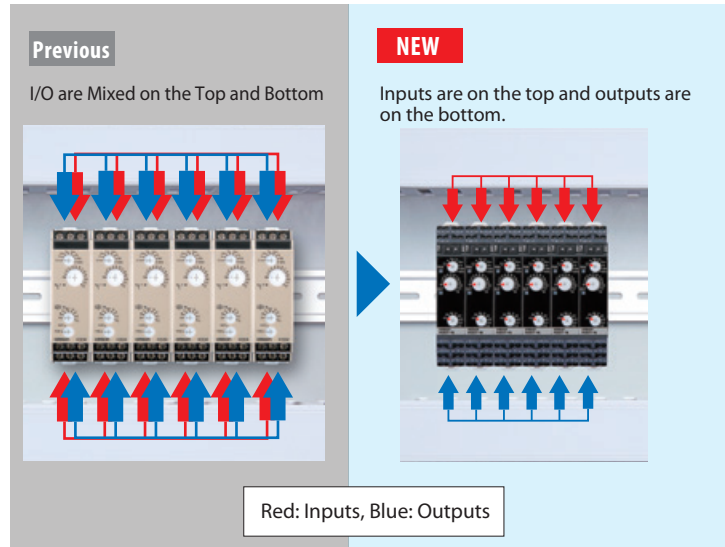
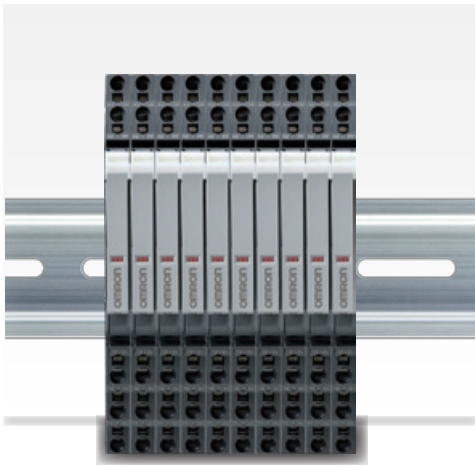


Work

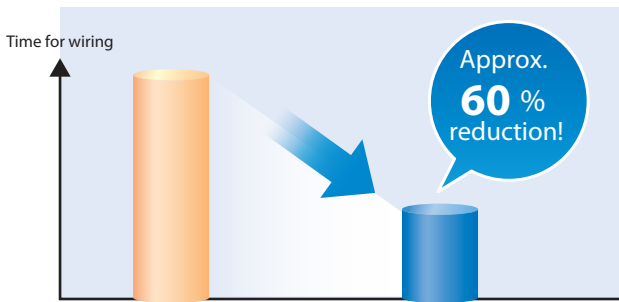
Faster Wiring

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.



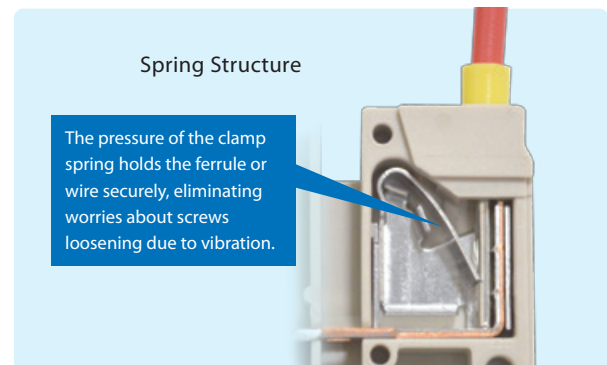
- Greatly reduce wiring work with Push-In Plus Terminal Blocks.



Conventional screw terminal block Push-In Plus Terminal Block

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

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



Faster Shipping to Destinations Abroad

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



Faster Response to Problems during Assembly and after Shipping

Express Delivery Services to 35 Countries Worldwide



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 fingers.



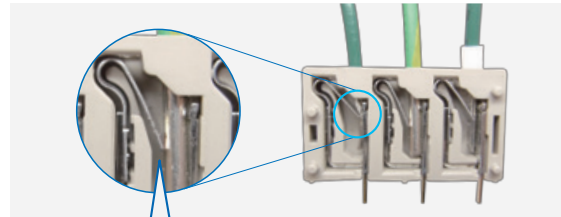
Work with Both Hands

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.



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.

Wiring Possible with Stranded Wires

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



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

People That Deal with Control Panels

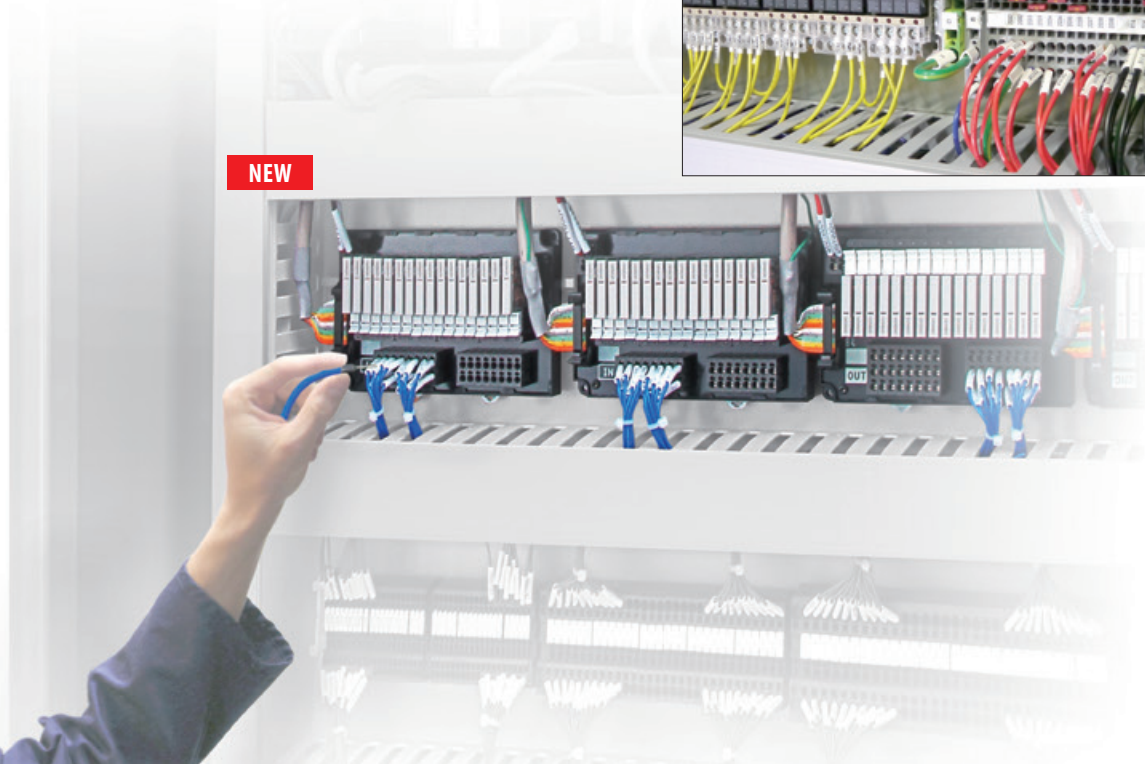
Front-in and Front-release Wiring

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

Previous



NEW



Acquiring Practical Knowledge

OMRON provides support to foster engineers.

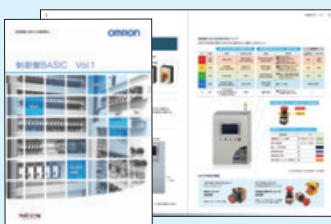
- Practical resources containing useful knowledge for control panels are provided.

e-Learning



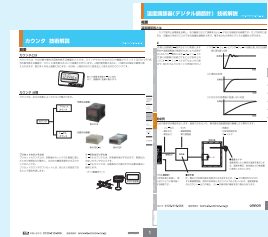
Provides product information, as well as basic information on electricity and control components. Available in 13 languages.

Control Panel Basics



Provides basic information on control panel design.

Technical Explanation



Provide information required to select models of products used in control panels.

To browse and download contents, go to the Panel Assist Web (www.ia.omron.com/solution/panel/).

Panel Assist Web

Simplify and Accelerate Panel Designing. Information to

Panel Assist Web New Value For Control Panels

The Panel Assist Web is a new website for our customers that work with control panels. You can select products and search for documents. Or you can find solutions for the issues you face in control panel manufacturing and you can manage BOM. Use this website to more efficiently design control panels.

Take a Look Now!

▶ www.ia.omron.com/solution/panel/



Easy Product Selection: No Registration Required



Find Information to Help Solve Issues

You can find information to help you solve control panel issues, such as downsizing or work reduction issues. (e.g., explanatory videos for Push-In Plus Terminal Blocks are available.)

Sample: Specifications Search



Find Information without Getting Lost

Just the right products and documents will be recommended in response to operations. You can find the information you need quickly and select the optimum products.

Solution Display Examples



Easy Selection of In-panel Devices

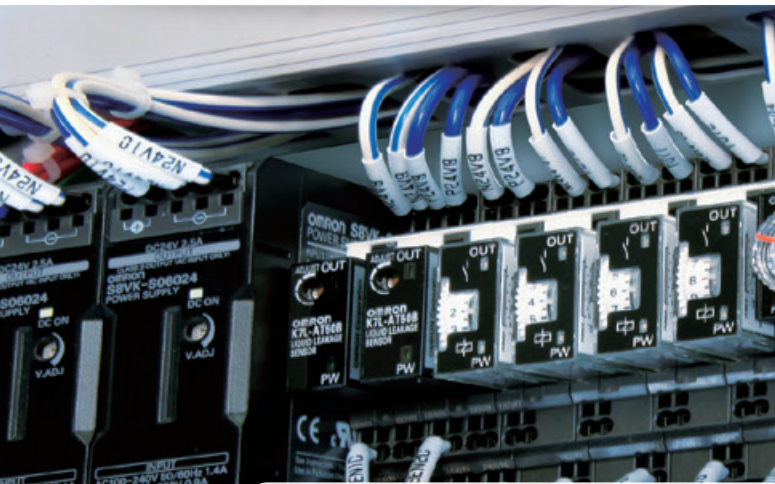
You can greatly reduce model selection work. You can filter selection by model and then compare product specifications for easy selection.

It can be added to BOM

Sample: Recommendation Display



Solve Your Control Panel Manufacturing Issues



Even More Convenient Functions with Member Registration (Free Registration)



Create BOM Easily

You can create and save BOM of OMRON and non-OMRON products. Convenient tools are provided for more-advanced designing.



BOM to Reduce Design Work

You can use the tool and various kinds of convenient functions starting from BOM.



Reduce Work with the Terminal Block Support Tool

The electrical specifications and applicable wires are automatically displayed for the selected devices.

You can easily select the Terminal Blocks required to wire devices without wasting time.

BOM Example

部品リスト内の選択した商品の情報を

商品力	メーカー	標準価格	購入価格	在庫	仕様	単位
A001	SIVX-090 24	10,500 円	0 円		標準在庫	1
C002	#5CC-Q12A 89A-000	20,000 円	0 円		標準在庫	1
C018	MY2 AC20 6/220	935 円	0 円		標準在庫	1
C001	その他	39,000 円	0 円		標準在庫	1
A001-1	8A211-510P	400 円	0 円		標準在庫	1

Checking in Advance with Thermal Simulation Tool

Just input basic control panel information in addition to the selected device information to understand heat risks and thereby reduce the need of working later.

Replacement with the Latest Products

You can import an existing BOM to check product manufacturing status and stock status, and to replace products with the most suitable up-to-date products.

Download Documents as Soon as You Select Parts

You can download CAD data or catalogs in multiple languages.

Examples of the Global Benefits of Value Design

Comments from Customers That Realized New Value to

Designer



Saving Space

Customer requests for additions often result in an increasing number of mounted devices. We often directly mount devices in available space, so **saving space in control panels** with downsized components and side-by-side mounting is great (company A).



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 (company B).



Reducing Design Work and Increasing Speed for Exporting

When exporting equipment to North America, time is required to obtain standard certification. By using **UL-listed components**, we could greatly reduce the time required for certification (company C).



Design Standardization

We just introduced electrical control CAD to make the inhouse design process more efficient. This is one reason we adopted in-panel components with plenty of electrical control CAD data **as our inhouse standard** (company D).



Main Features of Value Design

- Unified slim size. (Expect for some products)
- 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.

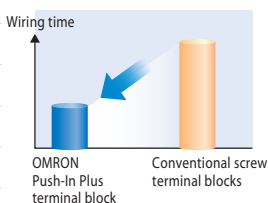
Their Control Panels

Manager



Higher Productivity

The work reduction in manufacturing panels that was made possible with Push-In Plus Terminal Blocks connections increased production capacity past previous limits. We expect **large increase of production capacity** with the same resources and manufacturing processes as present, allowing us to develop new business opportunities even during intensive production periods! (company E)



Downsizing Control Panels

Downsizing demands from customers are an urgent issue. Value Design products **with their unified size and side-by-side mounting** are an effective means to downsize and allowed us to meet customer demands (company F).

We need to downsize control panels, **so side-by-side mounting at an ambient temperature of 55°C** is appealing (company G).



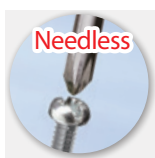
Worker



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 H).

I want to use push-in terminal blocks to **eliminate managing screw tightening torque and retightening work after shipping** (company I).



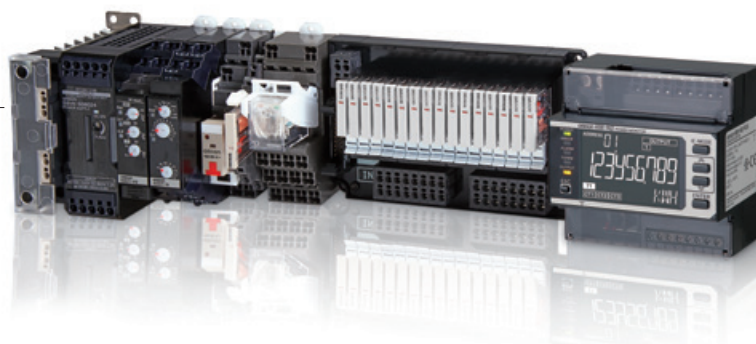
Reducing Wiring Work

I'm considering push-in terminal blocks to **increase the speed of wiring work**(company J).

The Push-In Plus Terminal Blocks with less insertion force **increase wiring speed** (company K).



*The portraits are for illustrative purposes only.



New Value For Control Panels

Our Value Design Products Increase the Value of Your Control

NEW 2016 Released In October



NEW Switch Mode Power Supplies
SBVK-S (High-capacity models)
Note: The picture above is a 240-W model.



NEW Sockets for Safety Relays (for G7SA)
P7SA-PU



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



NEW Power Monitors Mounted On-Panel
KM-N3



NEW Machine Automation Controller NX Series
NX1P



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



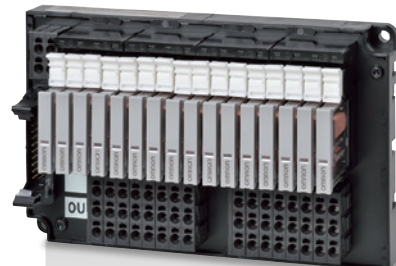
Solid-state Timers
H3Y(N)-B



Solid-state Timers
H3RN-B



Liquid Leakage Sensor Amplifiers
K7L-B



I/O Relay Terminals
G70V



DIN Track Terminal Blocks
XW5T

Panels



2016 Released In April



Switch Mode Power Supplies
S8VK-S(60/120W)
Note: The picture above is a 60-W model.



Solid-state Timers
H3DT
Note: The picture above is an H3DT-N model.



Measuring and Monitoring Relays
K8DT
Note: The picture above is a K8DT-AS model.



Power Monitors Mounted to DIN Track
KM-N2



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



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

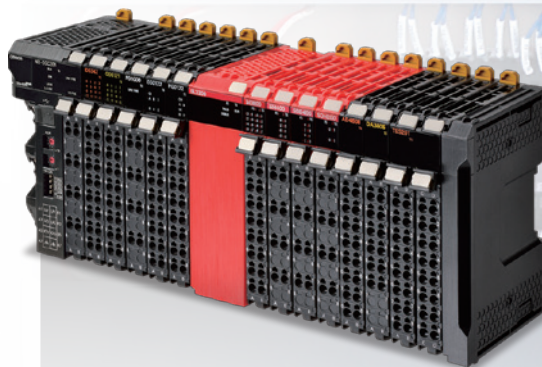
2015 Released



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-10



Uninterruptible Power Supply (UPS)
S8BA

Product Catalogs for Control Panels

Sockets, Slim I/O Relays,
I/O Relay Terminals
Push-In Plus Terminal
Block Series
PYF-PU, P2RF-PU,
G2RV-SR/G3RV-SR, G70V/P7SA-PU



Cat. No. J213

Switch Mode
Power Supplies
S8VK-S



Cat. No. T206

Measuring and
Monitoring Relays
K8DT



Cat. No. N210

Solid-state
Timers
H3DT



Cat. No. M091

Digital Temperature
Controllers
E5_C series



Cat. No. H220

Solid State Relays
for Heaters
G3PJ



Cat. No. J211

DIN Track
Terminal Blocks
XW5T



Cat. No. G123

Power Monitors
KM-N2/KM-N3



Cat. No. N212

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



Cat. No. A253

EtherCAT® is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

OMRON Corporation Industrial Automation Company
Kyoto, JAPAN

Contact: www.ia.omron.com

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 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 ELECTRONICS LLC
2895 Greenspoint Parkway, Suite 200
Hoffman Estates, IL 60169 U.S.A.
Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

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

Authorized Distributor:

© OMRON Corporation 2016 All Rights Reserved.
In the interest of product improvement,
specifications are subject to change without notice.

Cat. No. Y218-E1-02

0916(0316)