New Value For Control Panels

Sockets, Slim I/O Relays, I/O Relay Terminals

with Push-In Plus technology

PYF-PU (Sockets for MY Relays)
P2RF-PU (Sockets for G2R-S Relays)
G2RV-SR/G3RV-SR (Slim I/O Relays)
G70V (I/O Relay Terminals)
P7SA-PU (Sockets for G7SA Relays with Forcibly Guided Contacts)

April 2017
New I/O Relay Terminal models available with internal terminal connections.

Sockets for G7SA Relays
Series added Oct. 2016

- Sockets with Push-In Plus technology for easy wiring
- Installation with either top or bottom facing up for more flexible in-panel wiring*
- A compact design and unique structure help reduce work from designing to maintenance

*Excluding G70V and P7SA-PU

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.

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 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.

Innovation for panel building **Process**

Further Evolution for **Panels**

New Value For Control Panels

Simple & Easy for panel business **People**

Process

Conceptual design → Detailed design → Assembly/ Wiring → Shipment

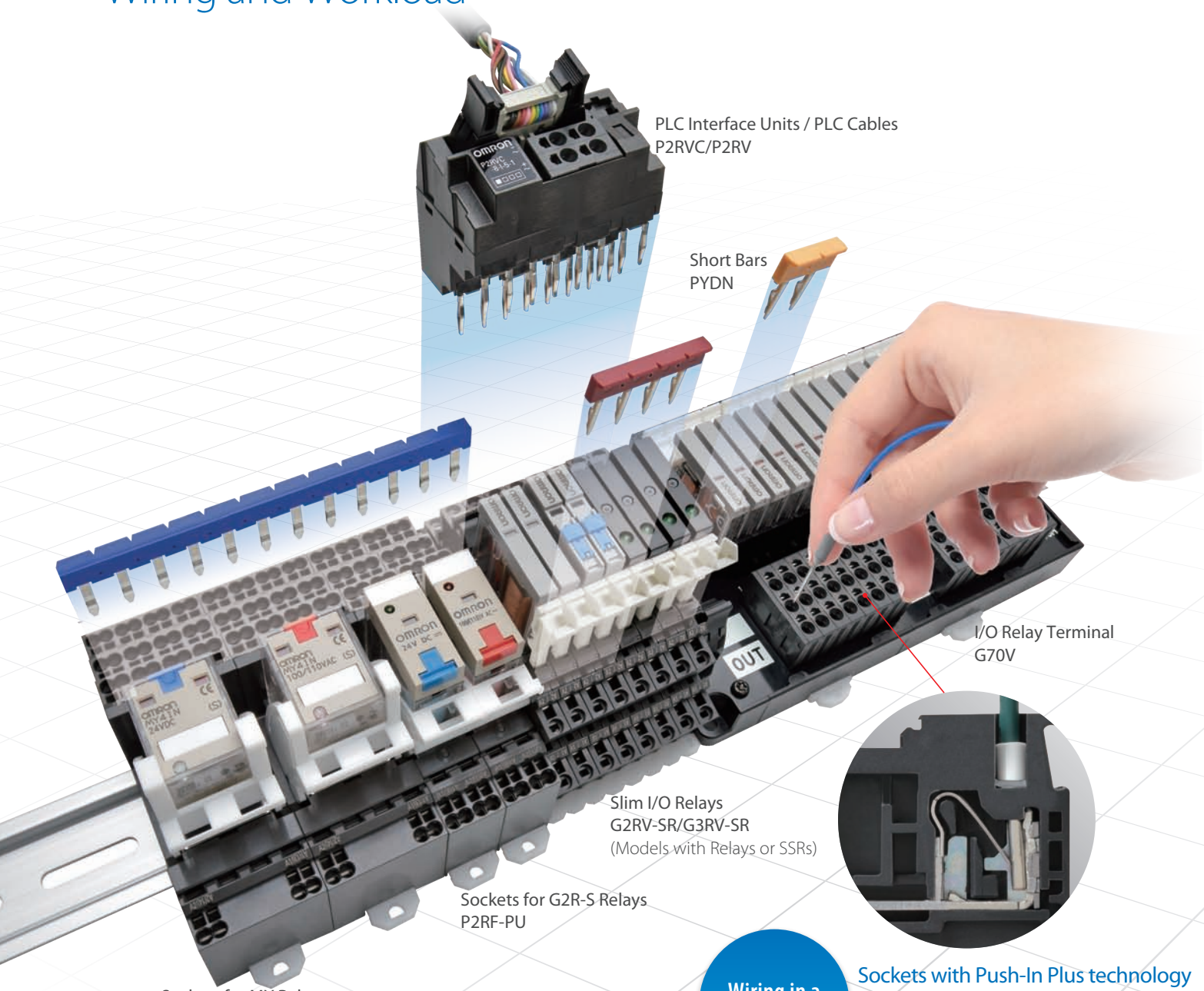
Conceptual design → Detailed design → Assembly/ Wiring → Shipment

Panels

People

A New Standard for Reducing Work in Control Panels

Combining a Wide Selection of Relays with the Easy-to-use Sockets with Push-In Plus technology Series Reduces Wiring and Workload



Wiring in a Single Step

Sockets with Push-In Plus technology enable easy insertion of ferrules or solid wires without any tools.

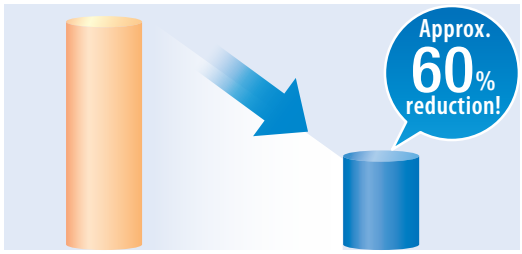
OMRON provides many accessories that make I/O products more convenient.

Push-In Plus technology for Easy Wiring

Just Insert Wires: No Tools Required

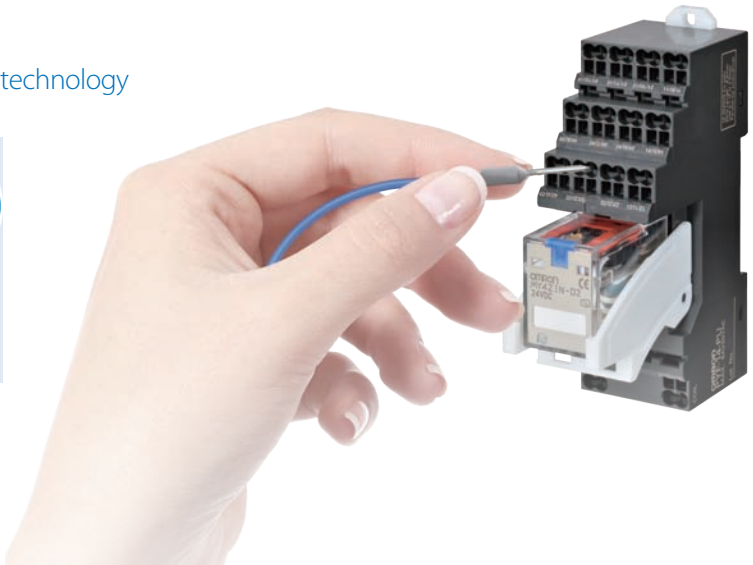
Now you can use Push-In Plus technology to reduce the time and work involved in wiring.

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.



Screwdriver Held in Place to Free Both Your 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.

Easy to Insert

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

Held Firmly in Place

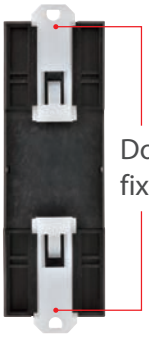
Even though less insertion force is required, the wires are held firmly in place. The advanced mechanism design technology and manufacturing technology produced a spring that ensures better workability and reliability. The same strength as screw terminal blocks is provided.

No Retightening Required

Tightening screws is necessary for screw terminal blocks, but with Push-In Plus technology, there is no need for retightening. This reduces works for wirings, inspections, delivery (shipping), or maintenance.

PYF-PU, P2RF-PU, G2RV-SR/G3RV-SR

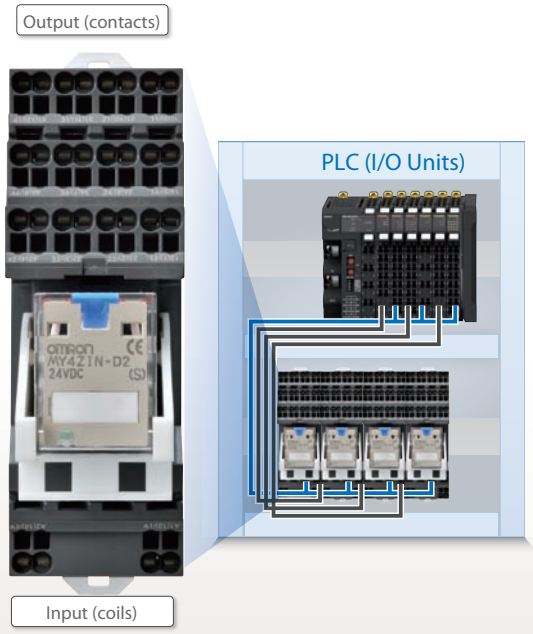
Installation with Either Top or Bottom Facing Up for More Flexible In-panel Designing



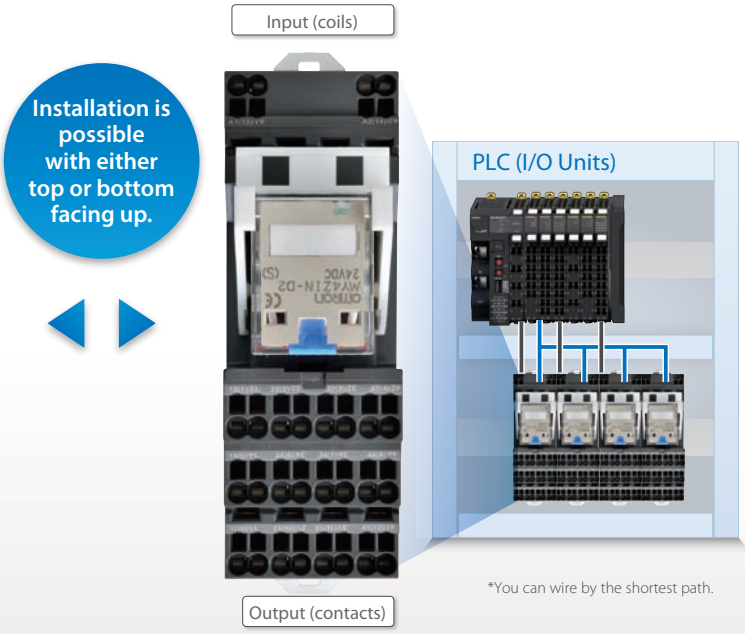
Back of Sockets with
Push-In Plus technology

There are no installation direction restrictions, which enables flexible, efficient wiring inside panels.

Specified Installation Direction (Previous Industry Standard)



No Installation Direction Restrictions



*You can wire by the shortest path.

The ability to be installed with either top or bottom facing up simplifies designing and reduces wiring. A unified height of 90 mm enables sharing short bars, reduces work in managing stocks, and reduces design work.

And the fixture rails can be pulled out to mount the Relays with screws. (Applicable models: PYF-PU and P2RF-PU)

Sockets with Push-In Plus technology Features

Standard-feature Release Levers

All Sockets with Push-In Plus technology come with release levers as standard for easy Relay locking and releasing.

Certified for Main Safety Standards

Globally applicable design for reliable use in most countries around the world.

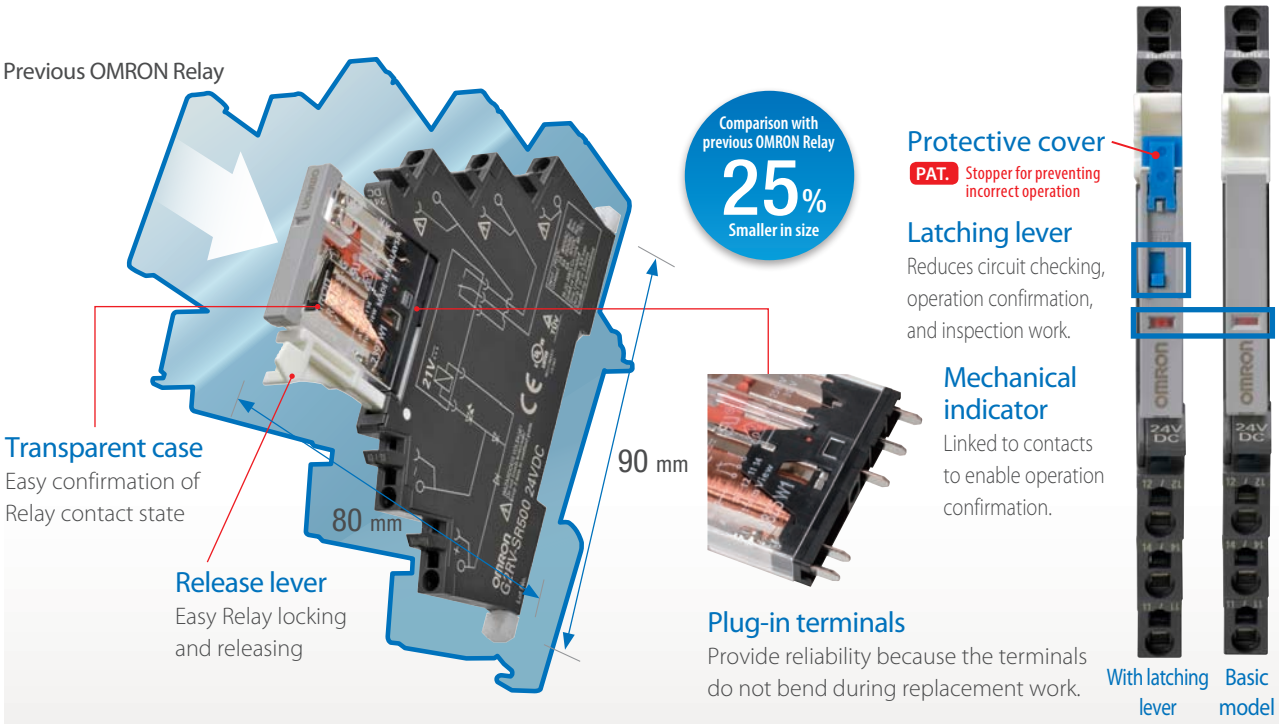
Note: Refer to individual datasheets for details.

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

Compact Design and Unique Structure Help Reduce Work from Designing to Maintenance

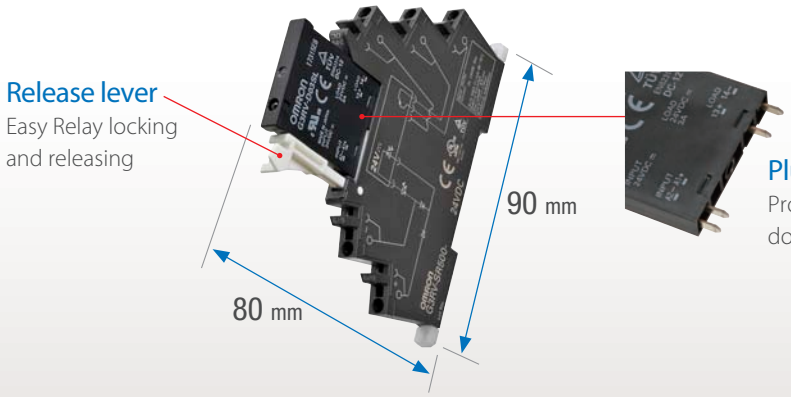
G2RV-SR

G2RV Relays, which were optimally designed for in-panel applications, can be mounted to downsize panels by 25% over previous OMRON Relays.



G3RV-SR

Optimal SSR (Solid State Relay) with high-frequency, high-speed switching in the same slim shape and size as the G2RV-SR

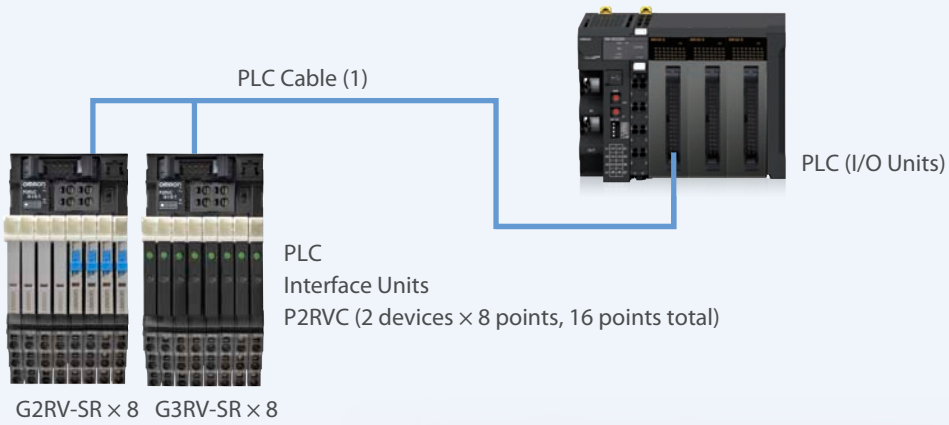


Slim I/O Relays, I/O Relay Terminals
G2RV-SR/G3RV-SR, G70V

PLC Cables Reduce Wiring Even Further

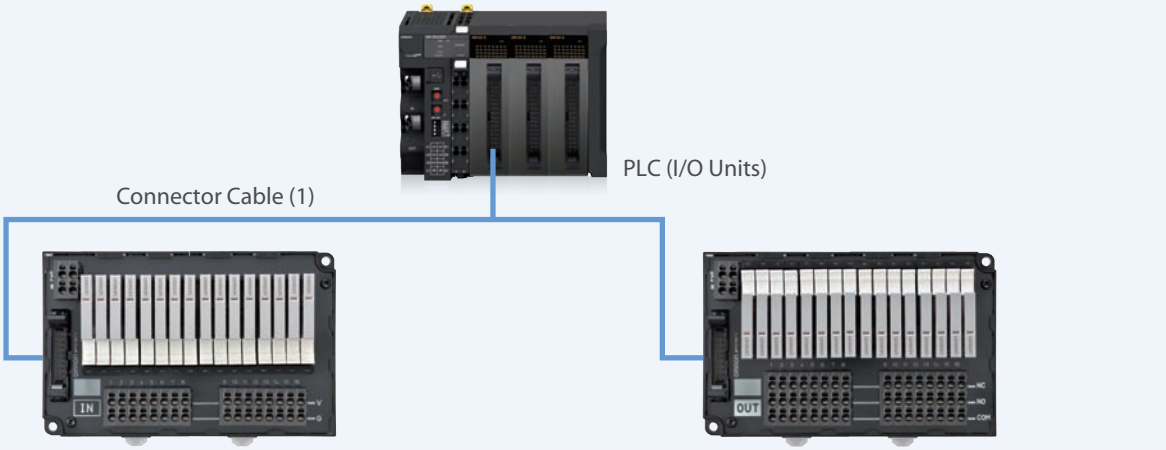
Using a PLC Interface Unit with G2RV-SR/G3RV-SR Slim I/O Relays

You can connect 8 I/O points directly with just one PLC cable to effectively reduce wiring work.



Using a G70V I/O Relay Terminal

You can connect 16 I/O points with just one cable with connectors to reduce wiring work.

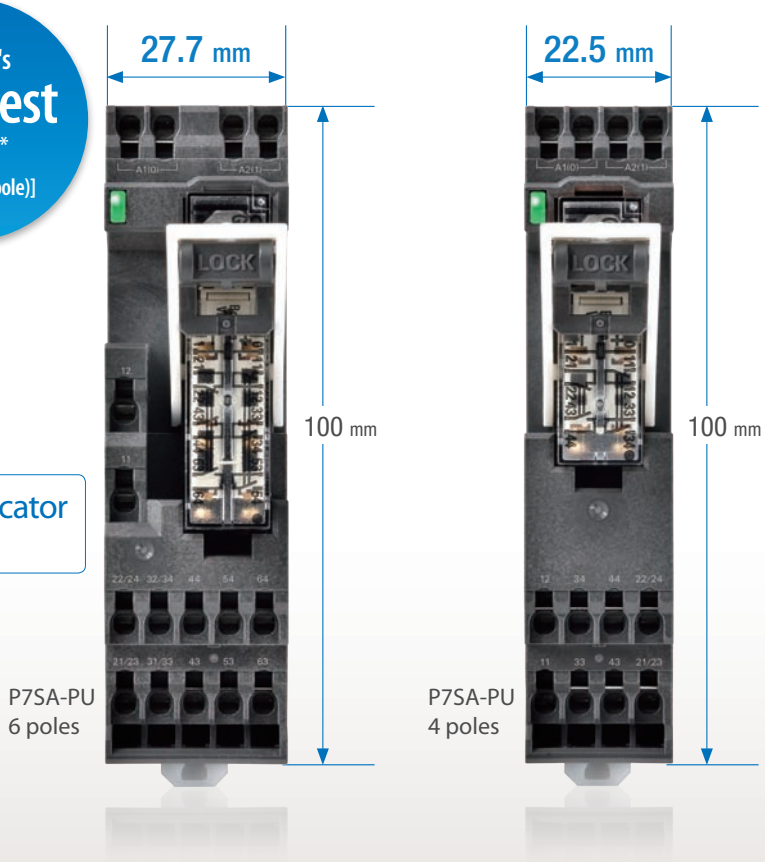


Sockets for Relays with Forcibly Guided Contacts P7SA-PU

Reduced Control Panel Size and Less Wiring Work

Featuring Sockets with Push-In Plus technology on Sockets for G7SA Relays with Forcibly Guided Contacts

Industry's **slimmest** design*
[P7SA-PU (6-pole)]



Industry's slimmest design

Control panel sizes can be kept to a minimum.

Built-in LED operation indicator and diode

*Six-pole Sockets for Relays with Forcibly Guided Contacts. According to OMRON investigation in July 2016.

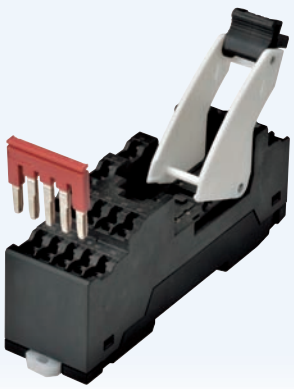
Double-wire Terminals on the Coil Side and Short Bars on the Contact Side Reduce Crossover Wiring Time

Coil side

The wiring can be crossed-over if crossover wiring of the coil terminals is necessary.

Contact side

The short bars can be crossed-over on the contact side if necessary.



The G7SA is a compact, slim Relay with Forcibly Guided Contacts that meets EN standard requirements (EN 50250 / Class A VDE certification).

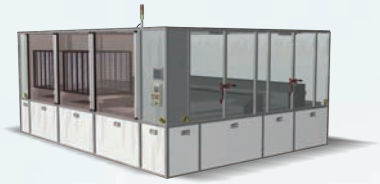
By using a forcibly guided contact mechanism, this Relay can detect the occurrence of contact welding via the control circuit.
With a lineup that includes slim Sockets with Push-In Plus technology, control panel sizes can be kept to a minimum, and wiring time can be reduced.

Relays with Forcibly Guided Contacts G7SA

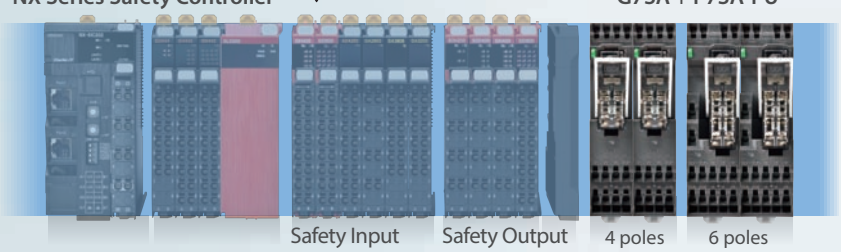
Application Examples

Machining center

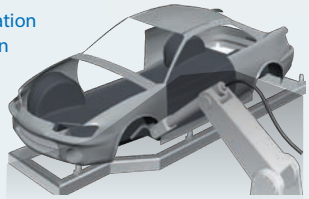
Pressing machine



FPD manufacturing equipment



Semiconductor manufacturing equipment



Automobile production line

Product Lineup

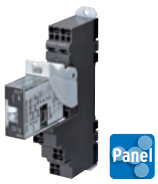
Sockets with Push-In Plus technology

PYF-PU-Applicable Models

Applicable models	General-purpose Relays		SSRs	Timers	
	MY2	MY4	G3F / G3FD	H3Y(N)-2-B	H3Y(N)-4-B
No. of poles	2	4	1	2	4
Socket model	PYF-08-PU	PYF-14-PU	PYF-08-PU	PYF-08-PU-L*	PYF-14-PU-L*
Appearance					

*A release lever is not included.

P2RF-PU-Applicable Models

Applicable models	General-purpose Relays		SSRs	Timers		Liquid Leakage Sensor Amplifiers
	G2R-1-S	G2R-2-S	G3R-I/O / G3RZ	H3RN-1-B	H3RN-2-B	K7L-□-B
No. of poles	1	2	1	1	2	-
Socket model	P2RF-05-PU	P2RF-08-PU	P2RF-05-PU	P2RF-05-PU	P2RF-08-PU	P2RF-08-PU
Appearance						

P7SA-PU-Applicable Models (Released in October 2016)

Applicable models	Relays with Forcibly Guided Contacts G7SA	
No. of poles	4	6
Socket model	P7SA-10F-ND-PU	P7SA-14F-ND-PU
Appearance		

Slim I/O Relays and I/O Relay Terminals with Push-In Plus technology

Slim I/O Relays

	Basic model	With latching lever	For microloads (gold-plated contacts)	Solid State Relays (SSRs)
Model	G2RV-SR500*	G2RV-SR501*	G2RV-SR500-AP*	G3RV-SR500*
AC load	6 A at 250 VAC	6 A at 250 VAC	50 mA at 30 VAC	2 A at 100 to 250 VAC
DC load	6 A at 30 VDC	6 A at 30 VDC	50 mA at 36 VDC	3 A at 5 to 24 VDC
Appearance				

*Relays are also available with screw terminals.

I/O Relay Terminals

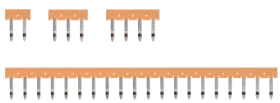
On Sale from April 2017: Four New Models
These new models provide internal connections between I/O terminals to greatly reduce wiring work and maximize space efficiency (input models: 16 point/common, output models: 4 points/common).

		For inputs		For outputs	
Model	No internal connections	G70V-SID16P-1*	G70V-SID16P*	G70V-SOC16P-1*	G70V-SOC16P*
	Internal connections	G70V-SID16P-1-C16*	G70V-SID16P-C16*	G70V-SOC16P-1-C4*	G70V-SOC16P-C4*
Transistor output		PNP	NPN	PNP	NPN
Appearance					

*Models with Sockets (nine models total) are also available.

Replacement Parts and Accessories Available for Different Applications

Accessories Accessories that make I/O products more convenient

	Short Bars		Separator Plate	PLC Interface Units / PLC Cables	Connector Cables for I/O Relay Terminal
Model	PYDN	XW5S-P2.5	XW5Z-EP12	P2RVC / P2RV	XW2Z-R
Application	Reducing wiring and device connections		Insulation	Reducing wiring	Reducing wiring
Applicable models	PYF-PU P2RF-PU G2RV-SR G3RV-SR	P7SA-PU	G2RV-SR G3RV-SR	G2RV-SR G3RV-SR	G70V
Appearance	Product color  The photo shows the PYDN-7.75 model.				

Products That Create New Value in Control Panels

Value Design for Panel

Switch Mode Power Supplies
S8VK-S

Uninterruptible Power Supply (UPS)
S8BA

Power Monitors
KM-N2/KM-N3

Machine Automation Controllers
NX Series
NX1P

Measuring and Monitoring Relays
K8DT

Solid-state Timers
H3DT

Solid-state Timers
H3Y(N)-B

Solid-state Timers
H3RN-B

Liquid Leakage Sensor Amplifiers
K7L-B

EtherCAT Slave Terminals
NX Series
NX-IO

Sockets for Relays with Forcibly Guided Contacts (for G7SA)
P7SA-PU

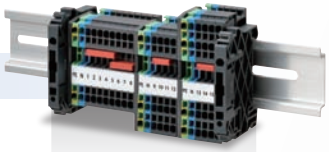
Common Sockets (for MY/H3Y(N)-B)
PYF-PU(-L)

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

Slim I/O Relays
G2RV-SR

Slim I/O Relays
G3RV-SR

I/O Relay Terminals
G70V



DIN Track
Terminal Blocks
XW5T

Pushbutton Switches
A22N-P/A30N-P/M22N-P

Emergency Stop Switches
A22NE-P

Solid State Relays for Heaters
G3PJ

Digital Temperature Controllers
E5CC-B/E5EC-B

Digital Temperature Controllers
E5CD-B/E5ED-B

Panel Assist Web

www.ia.omron.com/solution/panel/

Refer to the PYF-□□-PU/P2RF-□□-PU Sockets with Push-In Plus technology Datasheet (Cat. No. J212), the G2RV-SR/G3RV-SR Slim I/O Relays Datasheet (Cat. No. J214), the G70V I/O Relay Terminal Datasheet (Cat. No. J215), and the G7SA Relays with Forcibly Guided Contacts Datasheet (Cat. No. J120) for details.

Before you place an order, please read and understand "Agreement for Using the Product" available on Omron's latest "Best control devices Omron", "General Brochure" or Omron's website.

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