

# Industrial Relays

Quality relays for every industrial application



- Uncompromising high quality
- Flexibility to match your needs
- Fault-free connectivity every time

# Globally, Omron sells 25 relays every second, 24/7.

*Although relays are often viewed as rather basic elements, their role is crucial to the trouble-free running of a plant and the technology behind them is far from simple. Omron has been designing and manufacturing relays for well over 50 years and has grown to become the world's largest single-brand relay manufacturer. We are constantly innovating and looking for market trends like hybrid car battery switching.*

We produce in excess of 800 million relays a year all overseen by our state-of-the-art facility in Japan, which is large enough to cover 30 football fields. Approximately 9,000 employees (from our entire workforce of 36,000) are active within the area of relays at five dedicated production centres, including Kumamoto, which is our main production plant and headquarters. The outstanding performance of our relays is the result of careful design considerations and our complete commitment to quality.





# World-leading relay technology with a difference

## Uncompromising high quality

Omron doesn't compromise when it comes to design and raw material selection. For Omron this means that every relay should work perfectly for at least 1.3 times the number of specified operations. For instance, due to its superior design our 6 mm G2RV relay offers double the lifespan of average 6 mm relays (6A; 250VAC NC/NO)

## Flexibility to match your needs

Thanks to a pin-compatible line-up of both electro-mechanical relays (EMRs) and solid state relays (SSRs), there will always be a ready-made Omron solution to match your needs. And if the standard general purpose MY-GS doesn't suit, Omron also offers a hermetically sealed, PCB terminal and latching version as well as an identical model with bifurcated contacts suitable for switching low-level signals.

## Fault-free connectivity every time

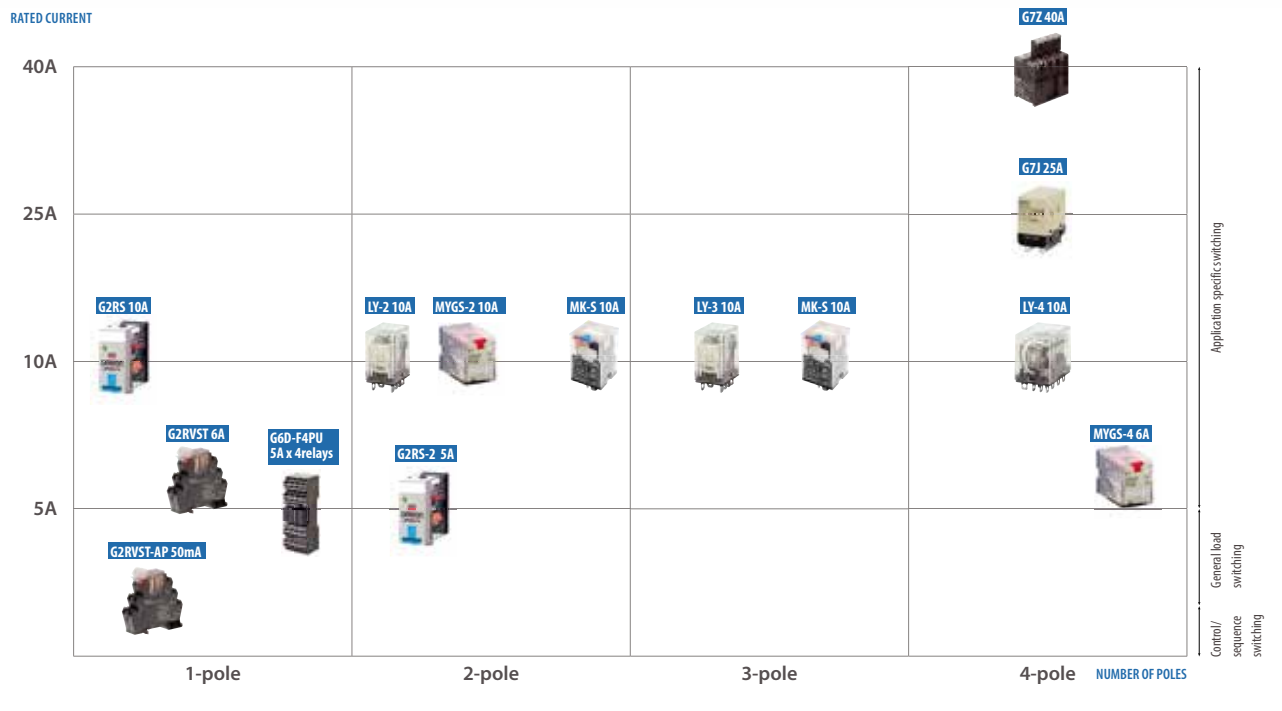
The introduction of smaller-sized, high-power relays for use as PLC interfaces revolutionized the field of industrial automation. Wiring systems have been introduced eliminating concerns such as the availability of personnel and wiring mistakes. With the G2RV industrial interfacing solution, you can interface the relays to any PLC by following three quick and simple steps.

# No environment is too tough ... ... reliability is never an issue

Omron manufactures a broad range of power and (low-)signal relays for diverse applications. Although this guide focuses on the key, DIN-rail mountable panel products, all of the relays in our portfolio

have one thing in common: outstanding quality that provides the highest reliability. And with our global supply chain, this quality and reliability is the same, wherever you buy or install Omron relays.

## Electromechanical relay portfolio





*Wind turbines are exposed to the full forces of nature, so specifications within this industry are very high and warranty times are long. Maintenance costs are also high, as helicopters are required for offshore wind farms to perform even routine maintenance. Naturally, Omron relays are the first choice for this industry.*

### A line-up you can depend on

Omron offers electromechanical relays for general purpose applications and solid state relays for endurance and where high frequencies are encountered. They are extremely robust and able to withstand the harshest environments. Take for example our fully hermetically sealed MY4H relay, which is ideal for use in hazardous locations.

### The difference is in the detail

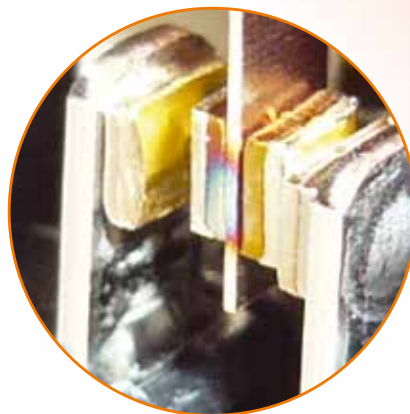
The difference of an Omron relay is its design and the special precautions taken during the manufacturing process. For example, by using round edged shapes, avoiding burr and the use of cleanroom facilities during assembly. But the differences don't stop there.



*Hermetically sealed relay MY4H*

# Top-performing EMRs for loads of any kind

The electromechanical relays of Omron are an excellent choice for a broad range of applications. They have special performance and lifetime enhancing design features, such as, the contacts of the G2RS which are made from a silver tin indium alloy because of its well-balanced performance for various load characteristics, including DC-load and inrush current switching. It's performance is far superior when compared to alternative models available with silver nickel alloy, as this has a poor performance for other loads than standard AC-load (especially inrush current switching). The contacts of the MYZ-S series with bifurcated contacts series are gold-clad to ensure excellent contact reliability.



Gold-clad contacts for optimal protection.



## G2RV Slim (6 mm) plug-in relay

The only truly industrial 6 mm relay on the market. Offering significant space and time savings without compromising on reliability.

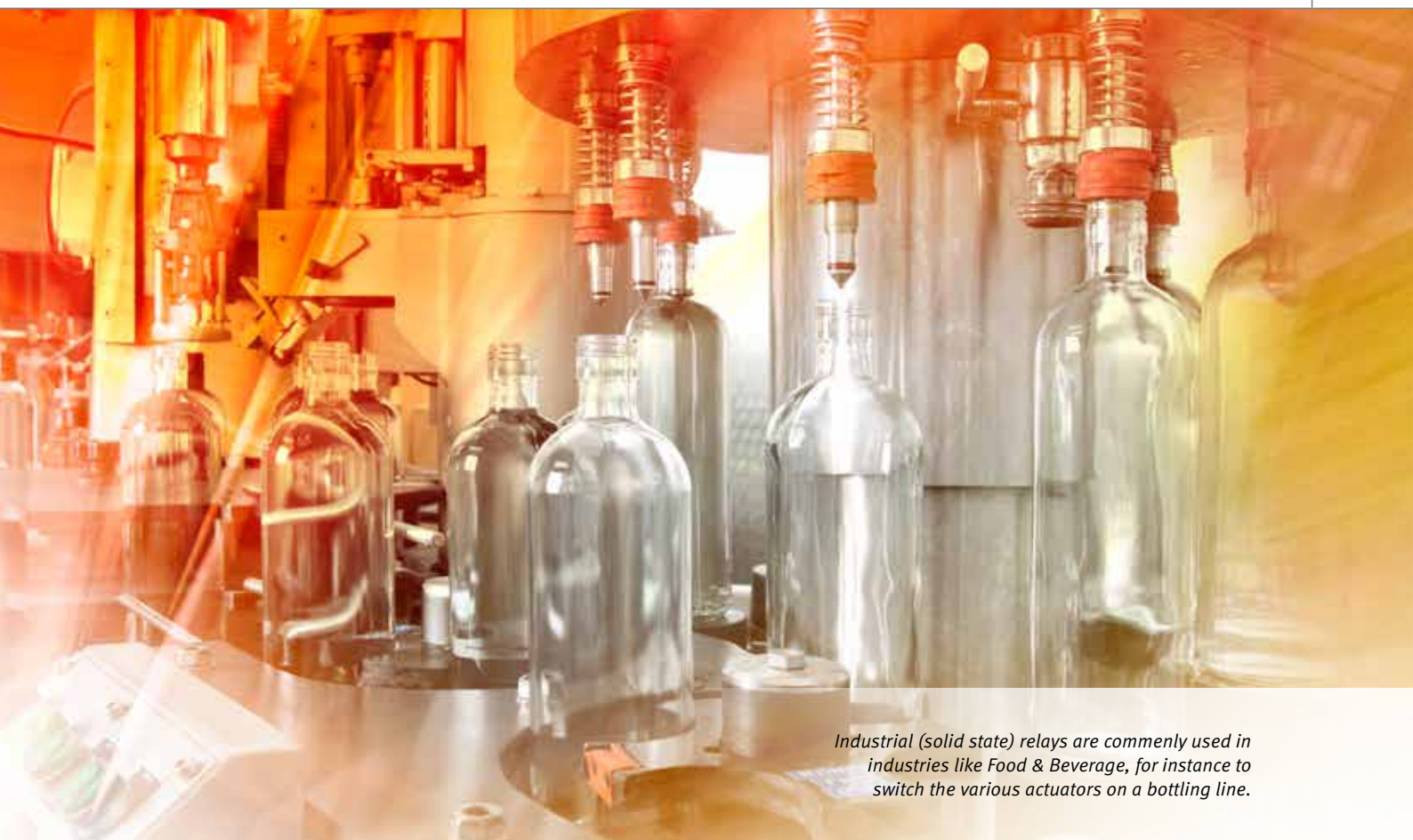
- SPDT type 6A
- Double the lifespan of average 6 mm relays (6A 250VAC NC/NO)
- Large contact area and non-bendable pins guarantee secure and reliable connections
- LED indicator, mechanical flag and transparent housing make easy to check operation and conditions
- Security Lever studied to protect from relay mis-use and accidental fall
- Push-in plus Technology – easy wiring



## G3RV Slim (6 mm) plug-in SSR - same dimensions as G2RV

A strong, space-saving relay offering quick and easy connection to a PLC. Power switching with DC outputs is managed by a MOSFET in the output.

- 2A and 3A output current
- LED indicator built-in
- Just click to connect to PLC
- Push-in terminals and accessories for easy wiring
- Push-in plus Technology – easy wiring
- High speed switching type: 1ms ON/OFF



*Industrial (solid state) relays are commonly used in industries like Food & Beverage, for instance to switch the various actuators on a bottling line.*



#### **G2RS Plug-in relay with enhanced features**

Slimline interface relays with enhanced features and flexibility for user-friendly installation, commissioning and operation.

- SPDT type 10A, DPDT type 5A
- AgSnIn contact material offers an extremely well balanced performance for various load characteristics
- Industrial pins guarantee higher conductivity and less temperature increase



#### **G3R-I/-O Compact SSR - G2RS compatible**

For I/O interfaces requiring high dielectric-strength. Compatible with G2RS electromechanical relays. High-speed models with optimum input ratings for a variety of sensors are also available.

- 1.5A and 2A output current
- 5 to 200VDC/100 to 240VAC output voltages
- DIN-rail mounting via sockets
- Indicator to confirm input



# SSRs for high switching capacities and frequencies

Omron's SSRs are well established in the market and have a reputation for their excellent durability. A natural choice for temperature and process control applications. SSRs contain absolutely no moving parts and are therefore exceptionally reliable, fast (switching frequency) and maintenance free.

All Omron relays (both electromechanical and SSR) have strong, broad contact pins that do not bend and offer a 125% larger contact area in the case of the G3RV. This means higher conductivity, lower terminal resistance and lower operating temperature.



Large plug-in pins.



## MY family

Over 500 million of MY have been produced since production started and this family of relays has standard feature on all models\* like: transparent cover, mechanical indicator to check the contacts status, the LED to indicate the correct operations of the relay and identify the coil voltage type: red for AC coil and green for DC coil.

- From 6A to 10A contact type
- Gold-clad contacts MYZ-S with bifurcated contacts
- MY-GS full automated produced and LED models with DC coil specification are without polarity(models with diode excluded)
- Test button (lockable)
- Hermetically sealed, latching and PCB types available
- 2.6 mm wide pins offer higher conductivity and less temperature increase



## G3FD Plug-in SSR - MY-GS compatible

This SSR is fully compatible in shape and size with the MY series of electromechanical power relays.

- 2A and 3A output current
- 4 to 110VDC/100 to 240VAC output voltages
- DIN-rail mounting via sockets
- Indicator to confirm input





*SSRs are ideal for applications where fast and repetitive load switching is required. An example of this is pneumatic nailers in the wood processing industry.*



### MK-S Plug-in relay

The modern contact design and high-grade contact material used in the LY series are reflected in the contact ratings specification. Also the switching capacity of the LY power relay is impressive topping the max. current with 15A (Ag alloy)

- Dielectric strength up to 2kV
- Equipped with an arc barrier
- Built-in diode and built-in CR circuit are available
- Equipped with LED
- Strong industrial pins for better conductivity



### G7SA Safety relay

The slimmest relay family with forcibly guided contacts is available as a four or six-pole type in various contact combinations and offers reinforced insulation. Terminals are arranged for easy PCB layout. It can be soldered directly to a PCB or used together with the P7SA sockets.

- Forcibly guided contacts
- Conforms to EN 50205
- 6 A at 240 VAC and 6A at 24 VDC for resistive loads
- Reinforced insulation between inputs, outputs and poles
- 4- and 6-pole relays available
- Sockets available with Push-In plus and screws version

## Accessories for every purpose

Naturally, Omron offers a full range of accessories to customize your relays and adapt them to your specific situation.



### Sockets

Omron offers a vast selection of sockets varying from screw to screwless solutions.

Today Omron's Push-in plus Technology for screwless sockets offer the best solution for application with strong vibration and a quick and easy wiring.



### Clips

Hold-down clips are available for extra security in environments with high ambient vibration and to guarantee that the relays become loose during transportation.



### Labels

Identification labels are available for application to individual relays/sockets. Harmonized label MG-CPM 04. The standard label for all the Value Design products but not only: PYF\_-PU, P2RF\_-PU, PTF\_-PU, G2RV-SR and P2RFZ.

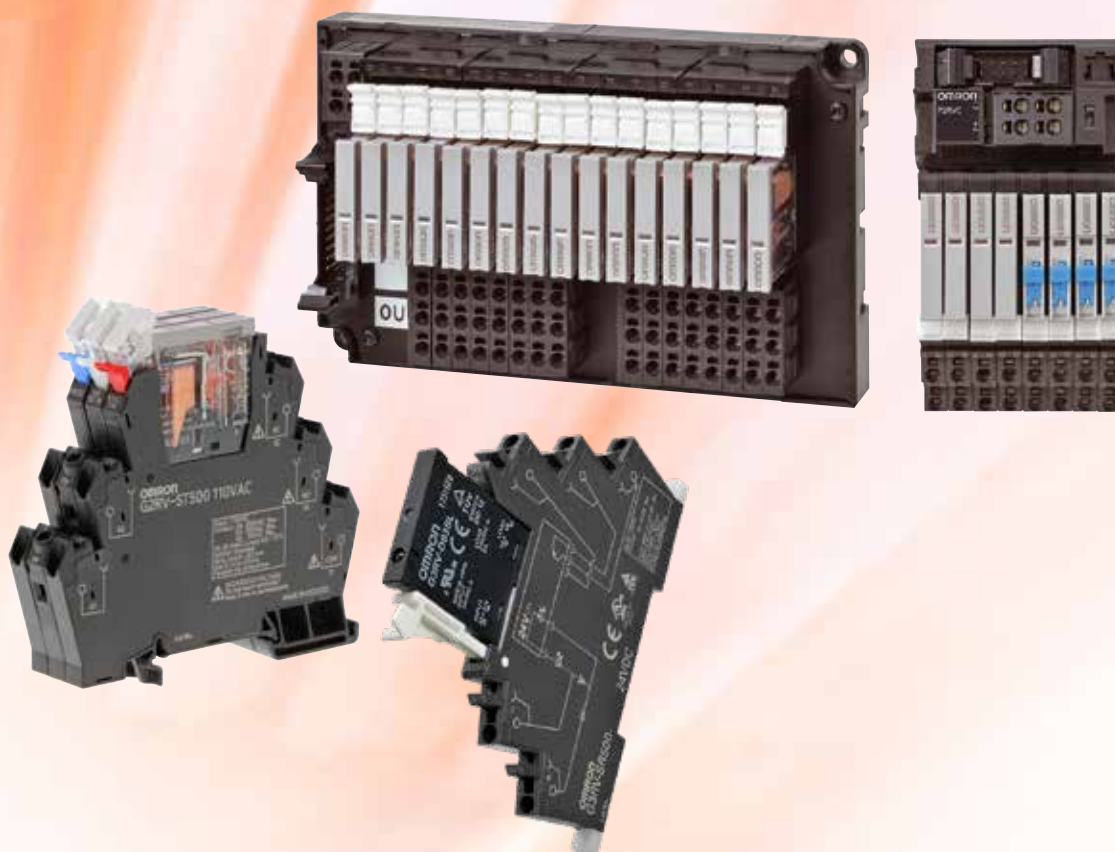


### Crossbars

Crossbar for easy connection are available in various colors and number of poles.

PYDN type are the crossbar dedicated to the Push-in plus terminals and are available for all the Value Design sockets.

# Industrial interfacing made easy



Omron offers an industrial interfacing solution that makes the installation and replacement of relays easy. Based on Omron's slim (6 mm) industrial relay series, it takes just three easy steps to interface our connectors securely and reliably to any type of PLC.

- Space saving
- Interfaces blocks of 8 relays to your PLC
- No faulty connections
- Power switching capacity
- Double the lifespan of average 6 mm relays (6A 250VAC NC/NO)
- Excellent relay connection due to large plug-in pins
- Easy maintenance



## Products That Create New Value in Control Panels



Switch Mode  
Power Supplies  
S8VK-S



Uninterruptible  
Power Supply  
(UPS)  
S8BA



Power Monitors  
KM-N2/KM-N3



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



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



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



Solid State Relays  
for Heaters  
G3PJ



DIN Track  
Terminal  
Block  
XW5T



Digital Temperature  
Controllers  
E5CC-B/E5EC-B



Panel Assist Web

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