

Solid State Relays for Heaters

G3PJ

Providing Strong,
Slim Alternatives for Control Panels



- Top-class slim design
- Better temperature characteristics and reinforced insulation for safety standard compliance
- Push-In Plus terminal blocks for easy wiring

For building green control panels

Natural disasters caused by global warming and climate change are becoming a global social issue, that drives over 150 countries and regions worldwide to take action toward decarbonization. Our goal is to reduce greenhouse gas (GHG) emissions toward half by through new ways of building control panels, that key figure of the manufacturing site.



Process

Realize greatly reduces design/ manufacturing work

Innovation for design, building Process

Further Evolution for Panels

Panel

Realize compact & highly reliable control panels

Building sustainable control panels

Creating green control panels

Simple & Easy People

Green

Reducing GHG emission of control panels to achieve carbon neutrality

People

Provide reliable and comfortable manufacturing for all people who deal with control panels

Integrating green perspectives into Value Design

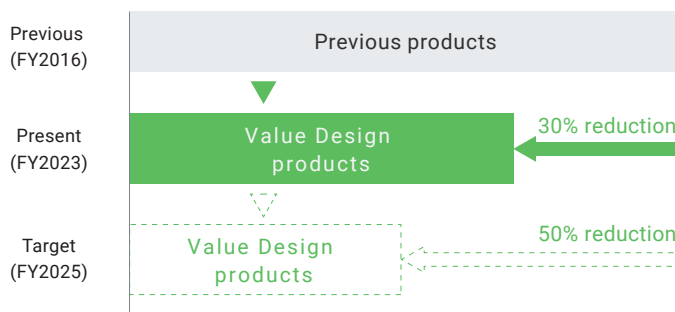
Value Design for Panel (Value Design) is the common concept shared across OMRON's in-panel product specifications to deliver new value to your control panels.

This Value Design also integrate environment consideration concept that enable earth and user-friendly control panel building.



- 1 Unified height & slim size*¹
- 2 Side-by-side mounting at (55°C) ambient temperature*²
- 3 Unique Push-In Plus technology*¹
- 4 Front-in and front-release wiring
- 5 eCAD library
- 6 Certification for CE, UL, and CSA
- 7 **Green features that save energy and resources***³

CFP of control panel (total GHG emissions)*⁴



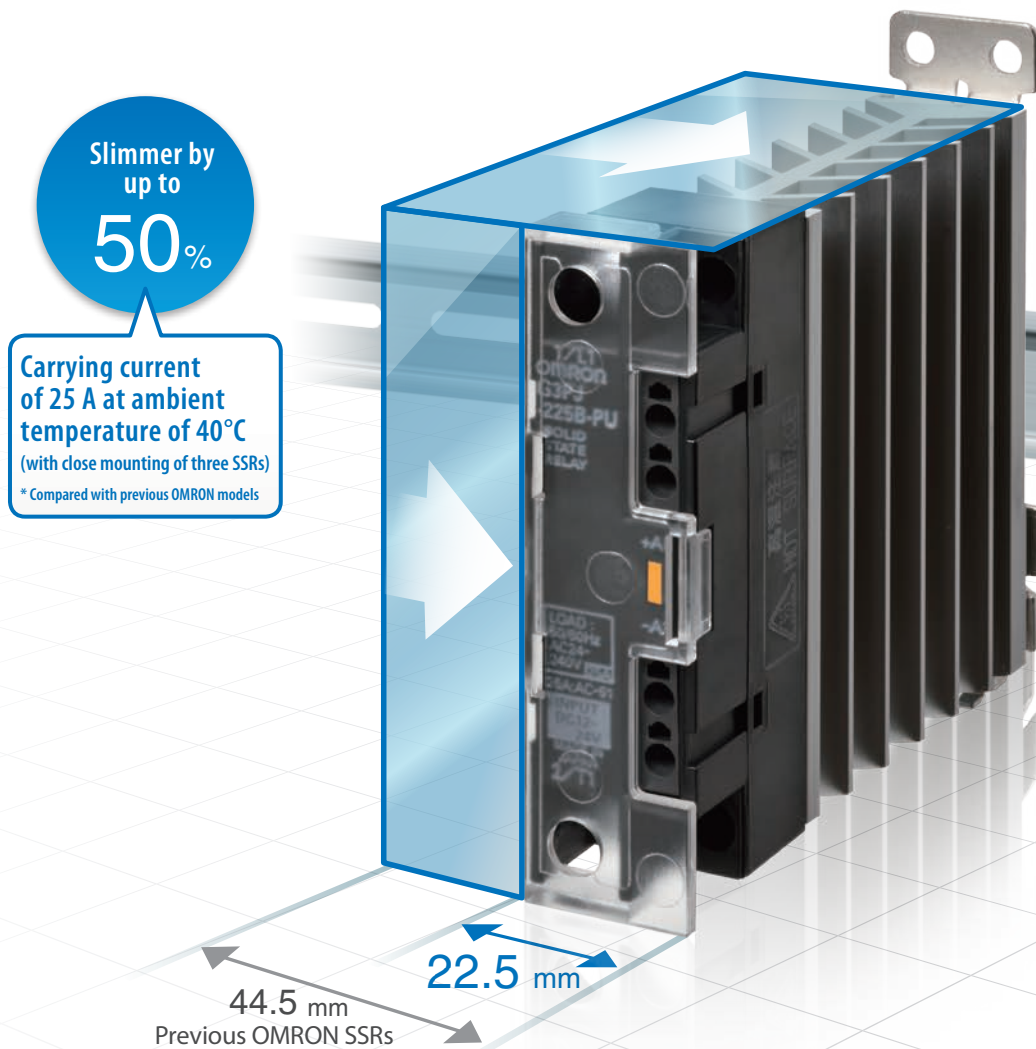
*1. Expect for some products
 *2. Side-by-side mounting is possible in the same series
 *3. Greener design compared to previous (2016) products
 *4. CFP (carbon footprint) of control panel is a calculation result of referring the life cycle assessment method that based on international standards ISO14067 which define CO₂ quantitative conversion of the environmental burden at every stage, from manufacturing, transportation, use, and disposal of the control panel (product). According to OMRON investigation in May 2023.

Easier Designing and Wiring While Maintaining the Previous 22.5-mm Width to Help Save Space

Close Mounting Even with this Top-class Slim Design

Size reductions in Solid State Relays mean you can downsize control panels and cooling equipment. And close mounting helps you save even more space.

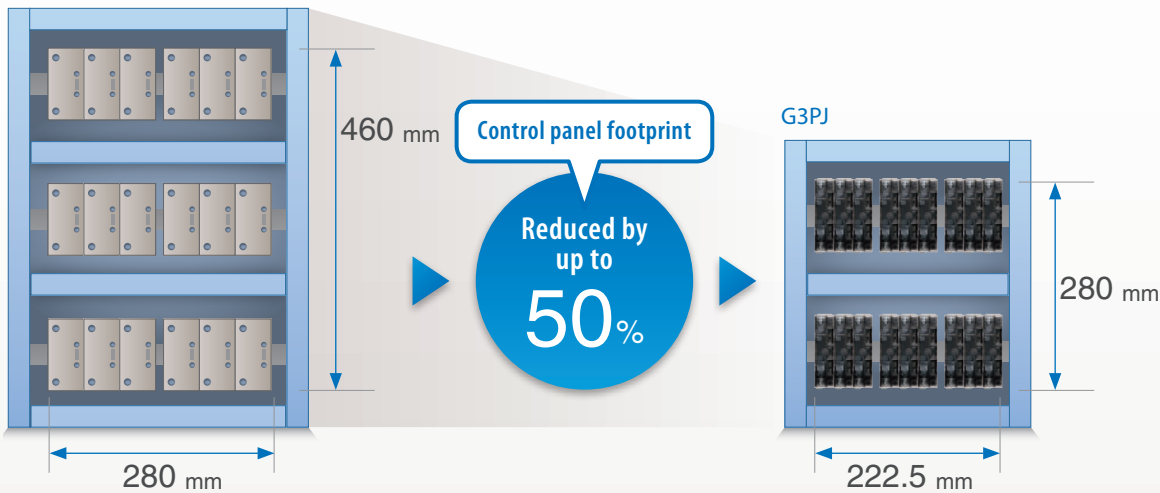
*Mounted either to DIN Tracks or with screws.



Note: A reduction of approx. 50% is achieved when comparing a system of three closely mounted OMRON G3PJ units and a system of three closely mounted conventional OMRON G3PE-245B (or G3PE-545B) units, with both systems carrying a current of 25 A at an ambient temperature of 40°C.

Control Panels That Use Many SSRs Can Be Greatly Downsized

Previous OMRON SSRs



Example: Installation of 18 SSRs constituted for three-phase heaters (6 channels)

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Better Temperature Characteristics and Reinforced Insulation for Safety Standard Compliance

UL-listed components, so you can reduce the time required for the UL application process.

- Using new components or upgraded components is easy.
- You can procure the components even when an urgent need arises for adjustments or problem-solving.



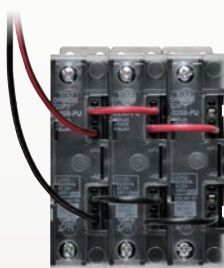
Push-In Plus Terminal Blocks for Easy Wiring

Just Insert Wires: No Tools Required

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

Double Wiring

Easy crossover wiring for three-phase heaters.

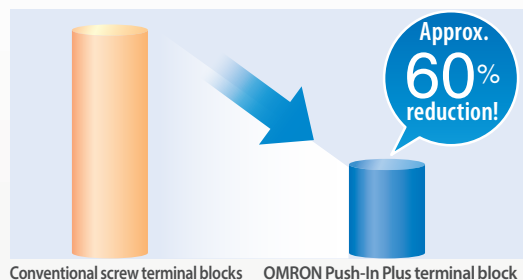


Push-In Plus Terminal Block

Less work required for wiring.

*SSRs are also available with screw terminals for inputs.

*Only input terminals use Push-In Plus terminal blocks.



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

Product Lineup

| Model | Input voltage | Rated load voltage | Rated load current (ambient temperature of 40°C) | | Surge current resistivity (I ² t) | SCCR(UL 508) | Dielectric strength | Input terminal form* | | |
|--|---------------|--------------------|--|-------------------|--|-----------------------|---------------------|-----------------------------|--------|-----------------|
| | | | Close mounting (three SSRs) | Separate mounting | | | | | | |
| Value Design for Panel G3PJ-215B-PU G3PJ-225B-PU G3PJ-515B-PU G3PJ-525B-PU | 12 to 24 VDC | 24 to 240 VAC | 15 A | 18 A | 260A ² s | 5 kA | 2.5 kV | Push-In Plus terminal block | | |
| | | | 25 A | 27 A | 1,260A ² s | | | | | |
| | | 100 to 480 VAC | 15 A | 23 A | 1,350A ² s | 10 kA | 4.0 kV | | | |
| | | | 25 A | 27 A | 6,600A ² s | | | | | |
| G3PJ-215B G3PJ-225B G3PJ-515B G3PJ-525B | | 12 to 24 VDC | 24 to 240 VAC | 15 A | 18 A | 260A ² s | 5 kA | | 2.5 kV | Screw terminals |
| | | | | 25 A | 27 A | 1,260A ² s | | | | |
| | | | 100 to 480 VAC | 15 A | 23 A | 1,350A ² s | 10 kA | | 4.0 kV | |
| | | | | 25 A | 27 A | 6,600A ² s | | | | |

*M4 screws are used for the output terminals.

Refer to the G3PJ Solid State Relays for Heaters Datasheet (Cat. No. J210) for details.



Creating green control panels

Cat. No. Y235-E1

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Note: Do not use this document to operate the Unit.

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