DMRO

Solid State Relays G3RV-C1D2

Slimmest Industrial Plug-in SSR for Use in Class I Division 2 Hazardous Areas

- Rated UL Class I Div 2 for use in hazardous environments
- Save panel space: Measures just 6.2 mm wide, allows gang mounting of 8 relays for a compact output block
- Direct connection with PLC adapter and pre-terminated cables to Omron PLCs and slice I/O
- · Long electrical life and high speed switching
- G3RV Socket Robust plug-in terminals for reliable connection
- G3RV-D (DC load) models can manage resistive loads of 100 µA to 3.0 A
- Monitor operation status with built-in LED indicator

Model Number Structure

Model Number Legend

G3RV-SL 🗆 🗆 🗆 🗆 2 Δ 5 1

- Basic Model Name 1 G3RV: Solid State Relay
- Auxiliary Type Designation 2. SL: Slim Solid State Relay and socket combination
- Wire Connection 3 700: Screw Terminals 500: Spring Terminals

Output voltage specifications 4 A(L): AC Output...TRIAC *A: with Zero cross function AL: without Zero cross function

D: DC Output...MOS FET

Special UL Rating 5 C1CD2: Class 1 Div 2

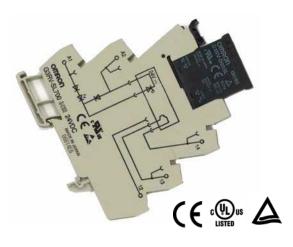
Class I, Division 2 Rating

Use in Hazardous Environments

Products with this rating are not capable of causing an ignition within a specified flammable gasses or vapor-air mixture due to arcing.

One of the following three situations must exist in order for an area to be considered a Class I. Division 2 location.

- An area where flammable liquids and gases are handled, but not expected to be in explosive concentrations. However, the possibility for these concentrations to exist might occur if there was an accidental rupture or other unexpected incident.
- An area where ignitable gases or vapors are normally prevented from accumulating by positive mechanical ventilation, yet could exist in ignitable quantities if there was a failure in the ventilation systems.
- IND. CONT. EQ.ALSO LISTED AS UL)us IND. CONT. EQ.FOR HAZ. LOC. Cl. I Div. 2 Grp A, B, C, D Input:24VDC Output:24VDC 1 LISTED 42SJ Input:24VDC 24VDC 3A Gen use Ret Torque:3.5 in-fb(0.4N m) 14-20AWG olid and/or standed, copp ng Air Temp.rating: 55 C@2A, 25 C@3A Temp. Code T4A Listed when used with WARNING AVERTISSEMENT G3RV-D03SL 24VDC EXPLOSION HAZARD Do not remove or replace the solid state re power has been disconnected or the area is kn a to be ree of ignitable concentrations of RISQUE D'EXPLOSION-Ne pas retirer ni remplacer le relais statique, à moins qu l'alimentation ne soit coupée ou que la zone so econnue non dangereuse
- Areas adjacent to Class I, Division 1 locations where the atmosphere is expected to contain explosive mixtures of gases, vapors, or liquids during normal working operations. It is possible for ignitable concentrations of gas/vapors to come into the Class I, Division 2 area if there is not proper ventilation.





■ List of Models

SSR and Socket Combinations

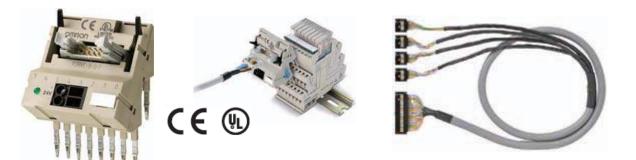
| Input Voltage | Screw Termination Model Number | Spring Termination Model Number |
|---------------|--------------------------------|---------------------------------|
| | G3RV-SL700-D-C1D2 DC12 | G3RV-SL500-D-C1D2 DC12 |
| 12 VDC | G3RV-SL700-A-C1D2 DC12 | G3RV-SL500-A-C1D2 DC12 |
| | G3RV-SL700-AL-C1D2 DC12 | G3RV-SL500-AL-C1D2 DC12 |
| | G3RV-SL700-D-C1D2 DC24 | G3RV-SL500-D-C1D2 DC24 |
| 24 VDC | G3RV-SL700-A-C1D2 DC24 | G3RV-SL500-A-C1D2 DC24 |
| | G3RV-SL700-AL-C1D2 DC24 | G3RV-SL500-AL-C1D2 DC24 |
| | G3RV-SL700-D-C1D2 AC/DC24 | G3RV-SL500-D-C1D2 AC/DC24 |
| 24 VAC/DC | G3RV-SL700-A-C1D2 AC/DC24 | G3RV-SL500-A-C1D2 AC/DC24 |
| | G3RV-SL700-AL-C1D2 AC/DC24 | G3RV-SL500-AL-C1D2 AC/DC24 |
| | G3RV-SL700-D-C1D2 AC/DC48 | G3RV-SL500-D-C1D2 AC/DC48 |
| 48 VAC/DC | G3RV-SL700-A-C1D2 AC/DC48 | G3RV-SL500-A-C1D2 AC/DC48 |
| | G3RV-SL700-AL-C1D2 AC/DC48 | G3RV-SL500-AL-C1D2 AC/DC48 |
| | G3RV-SL700-D-C1D2 AC110 | G3RV-SL500-D-C1D2 AC110 |
| 110 VAC | G3RV-SL700-A-C1D2 AC110 | G3RV-SL500-A-C1D2 AC110 |
| | G3RV-SL700-AL-C1D2 AC110 | G3RV-SL500-AL-C1D2 AC110 |
| | G3RV-SL700-D-C1D2 AC230 | G3RV-SL500-D-C1D2 AC230 |
| 230 VAC | G3RV-SL700-A-C1D2 AC230 | G3RV-SL500-A-C1D2 AC230 |
| | G3RV-SL700-AL-C1D2 AC230 | G3RV-SL500-AL-C1D2 AC230 |

Replacement SSR

| Classi | fication | Enclosure rating | Input voltage | Contact form | Type of connection | Model number |
|-----------|----------|---------------------|------------------|--------------|-----------------------|--------------|
| Plug-in | General- | Upseeled | AC/DC | C SPST | Screw terminals | G3RV-SL700 |
| terminals | purpose | Unsealed | AC/DC | | Spring terminals | G3RV-SL500 |

Accessories

PLC Interface Unit



| Description | Connection | Model number |
|---|---|--------------|
| PLC Output Interface for 8x G2RV-SL700 series relays; PNP type | Ribbon cable connector 10 pole, IEC603/1 | P2RVC-8-O-F |

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Cables for PLC Interface

| Compatible units | Connectors | Cable length | Model number |
|--|-----------------------|--------------|---------------------|
| | | 1.0 m | P2RV-4-100C |
| CJ1 output units-MIL connectors: | MIL10-MIL40 | 2.0 m | P2RV-4-200C |
| CJ1W-OD232, CJ1W-OD262 | | 3.0 m | P2RV-4-300C |
| | | 5.0 m | P2RV-4-500C |
| | | 1.0 m | P2RV-4-A100C |
| Universal output units | MIL10–Flying leads | 2.0 m | P2RV-4-A200C |
| | | 3.0 m | P2RV-4-A300C |
| | | 5.0 m | P2RV-4-A500C |
| NX Slice I/O series output units: NX-OD2258, NX-OD3256, NX-OD3257, | MIL10-XW7F 16-pole | 0.5 m | P2RV-A050C-OMR NX |
| NX-OD2256, NX-OD5256 | | 1.0 m | P2RV-A100C-OMR NX |
| GRT1 Slice I/O series output units: GRT1-OD4-1, GRT1-OD4G-1, GRT1-OD4G-3, | MIL10-XW7F | 0.5 m | P2RV-A050C-OMR GRT1 |
| GRT1-0D4-1, GRT1-0D4G-1, GRT1-0D4G-3, GRT1-0D8-1, GRT1-0D8G-1 | 12-pole | 1.0 m | P2RV-A100C-OMR GRT1 |

Cross Bars

Specifications

| ltem | Remarks | Rating | Attan. | |
|--------------|--|---------|--|---|
| Max. current | EN60947-7-1 section 8.3.3/1991 | 32 A | and the second s | |
| | | 400 VAC | and the second s | |
| Max. voltage | When cutting cross bar without using a separation plate or end bracket | 250 VAC | Mullin. 11 | - |

| Number of Poles | Model number | | | | | |
|-----------------|--------------|------------|------------|--|--|--|
| Number of Poles | Red | Blue | Black | | | |
| 2 | P2RVM-020R | P2RVM-020S | P2RVM-020B | | | |
| 3 | P2RVM-030R | P2RVM-030S | P2RVM-030B | | | |
| 4 | P2RVM-040R | P2RVM-040S | P2RVM-040B | | | |
| 10 | P2RVM-100R | P2RVM-100S | P2RVM-100B | | | |
| 20 | P2RVM-200R | P2RVM-200S | P2RVM-200B | | | |

Labels (Stickers) for G2RV/G3RV Sockets

| | | | 1 | | |
|--|---|---|---|-------------|--|
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| | 1 | 3 | | | |
| | | | | | |

| Color | Box quantity | Model number |
|-------|---|-----------------|
| White | 1 piece = 1 sheet = 484 labels (stickers) | R99-16 for G2RV |

Plastic Labels for G2RV/G3RV Sockets

| Color | Box quantity | Model number | |
|--------|----------------------------|-----------------|--|
| White | 5 sheets x 120 labels = | R99-15 for G2RV | |
| vvnite | 600 labels (minimum order) | R99-15 for G2RV | |

Separating Plate

| Description | Model number |
|--|--------------|
| Plate provides isolation between adjacent relays to achieve 400 V isolation. | P2RV-S |



Specifications

■ Ratings (at an Ambient Temperature of 25°C)

<u>Input</u>

G3RV-SL700/500-A Series

| | | Rated currer | nt | Must specific | Mustralages | Input voltage | | |
|---------------|--------|--------------|-------|-------------------------|-------------------------|--------------------|--|--|
| Rated voltage | AC | | DC | Must operate voltage | Must release voltage | % of rated voltage | | |
| | 50 Hz | 60 Hz | | voltage | voltage | % of faled vollage | | |
| 12 VDC | | | 15 mA | 10.8 V | 1 V | ±10% | | |
| 24 VDC | | | 12 mA | 21.6 V | | | | |
| 24 VAC/DC | 20 mA | 21 mA | 11 mA | 21.6 V | | | | |
| 48 VAC/DC | 10 mA | 11 mA | 6 mA | 43.2 V | | | | |
| 110 VAC | 7.5 mA | 8.2 mA | | 99 V | | | | |
| 230 VAC | 7.3 mA | 8.6 mA | | 207 V | | | | |

G3RV-SL700/500-AL Series

| | | Rated current | | | | Input voltage | | |
|---------------|--------|---------------|-------|-------------------------|-------------------------|---------------------|--|--|
| Rated voltage | | AC | DC | Must operate voltage | Must release voltage | 0/ of voted voltors | | |
| | 50 Hz | 60 Hz | | voltage | voltage | % of rated voltage | | |
| 12 VDC | | | 15 mA | 10.8 V | 1 V | ±10% | | |
| 24 VDC | | | 12 mA | 21.6 V | | | | |
| 24 VAC/DC | 20 mA | 21 mA | 11 mA | 21.6 V | | | | |
| 48 VAC/DC | 10 mA | 11 mA | 6 mA | 43.2 V | | | | |
| 110 VAC | 7.5 mA | 8.2 mA | | 99 V | | | | |
| 230 VAC | 7.3 mA | 8.6 mA | | 207 V | | | | |

G3RV-SL700/500-D Series

| | | Rated currer | nt | Must specific | Must release Input voltage | |
|---------------|---------|--------------|--------|-------------------------|----------------------------|--------------------|
| Rated voltage | | AC | DC | Must operate voltage | voltage | % of rated voltage |
| | 50 Hz | 60 Hz | | voltage | voltage | % of faled vollage |
| 12 VDC | | | 8 mA | 10.8 V | 1 V | ±10% |
| 24 VDC | | | 4.5 mA | 21.6 V | | |
| 24 VAC/DC | 10.7 mA | 11.1 mA | 4.3 mA | 21.6 V | | |
| 48 VAC/DC | 9.6 mA | 10.2 mA | 6 mA | 43.2 V | | |
| 110 VAC | 6.8 mA | 7.5 mA | | 99 V | | |
| 230 VAC | 6.8 mA | 8.1 mA | | 207 V | | |

<u>Output</u>

| ltem | G3RV-SL700/500-A(L) | G3RV-SL700/500-D |
|---|------------------------------------|----------------------------------|
| Rated load voltage | 100 to 240 VAC, 50/60 Hz | 5 to 24 VDC |
| Load voltage range | 75 to 264 VAC, 50/60 Hz | 3 to 26.5 VDC |
| Load current | 0.1 to 2 A (Ta=40°C) | 100 μA to 3 A (Ta=40°C) |
| Inrush current | 30 A (60 Hz/1 cycle) | 30 A (60 Hz/1 cycle) |
| Permissible I ² t; Joule Integral (Reference value) | 15 A ² s | 9 A ² s |
| Application load capacity | 400 W (Output voltage: 200 VAC) | 72 W (Output voltage: 24 VDC) |

Characteristics

| ltem | G3RV-SL700/500-A | G3RV-SL700/500-AL | G3RV-SL700/500-D |
|--|---|----------------------------------|------------------------|
| Operate time | ¹ / ₂ of load power source cycle + 1 ms max. | 1 ms max. | 6 ms max. |
| Release time | 40 ms max. | 20 ms max. | 60 ms max. |
| Output ON voltage drop | 1.6 V ri | ms max. | 0.9 V max. |
| Leakage current | 5 mA max. (at 2 | 00 VAC 50/60Hz) | 10 µA max. (at 24 VDC) |
| Insulation resistance | | 100 MΩ min. (at 500 VDC) | |
| Dielectric strength | 2500VAC, 50 | 0/60 Hz for 1 minute between inp | out and output |
| Vibration resistance | Malfunction | : 10 to 55 to 10 Hz, 0.7-mm sing | le amplitude |
| Shock resistance | 300 m/s ² | | |
| Ambient temperature | Storage: -30~+100°C (with no icing or condensation) Operating: -30~+55°C (with no icing or condensation) | | |
| Ambient humidity | 45~85% RH | | |
| Weight | Approx. 38 g | | |
| Pollution degree | 2 | | |
| Degree of protection according to IEC 60529 | IP20 | | |
| Rated Impulse Withstand Voltage | 4.0kV / III | | |
| Load category | LC-A DC-12 | | |
| Overload Current Profile | 1.5le 1.1Ue 5s ON, 10s OFF, 10 cycles | | |
| Rated insulation Voltage | 240 | | |

Approved Standards

UL 508 (File No. E64562)

| Model | Input ratings | Contact ratings |
|----------------------------|---|--------------------------------------|
| G3RV-SL700/500-D Series | 12, 24 VDC 24, 48 VAC/DC 110, 230 VAC | 24 VDC 3 A (Resistive Load) at 25°C |
| G3RV-SL700/500-A(L) Series | 12, 24 VDC 24, 48 VAC/DC 110, 230 VAC | 240 VAC 2 A (Resistive Load) at 25°C |

IEC/TUV (EN 62314)

| Input ratings | Contact ratings |
|---|------------------------------|
| 12, 24 VDC 24, 48 VAC/DC 110, 230 VAC | 24 VDC 3 A (Resistive Load) |
| 12, 24 VDC 24, 48 VAC/DC 110, 230 VAC | 240 VAC 2 A (Resistive Load) |

Approved Standards for Class 1 Div 2

ANSI/ISA 12.12.01 (File No. E467446), CSA22.2 No.213 (File No. E467446)

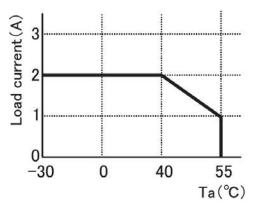
| Model | Input Ratings | Contact Ratings |
|---------------------------------|---|---|
| G3RV-SL700/500-D-CD12 Series | 12, 24 VDC 24, 48 VAC/DC 110, 230 VAC | 5 to 24 VDC 3 A (General use, Resistive load) at 25° C 5 to 24 VDC 2 A (General use, Resistive load) at 55° C |
| G3RV-SL700/500-A(L)-CD12 Series | 12, 24 VDC 24, 48 VAC/DC 110, 230 VAC | 100 to 240 VAC 2 A (General use, Resistive load) at 25°C 100 to 240 VAC 1 A (General use, Resistive load) at 55°C |

Engineering Data

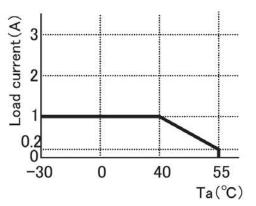
Load current derating curves

G3RV-SL700/500-A(L) Series

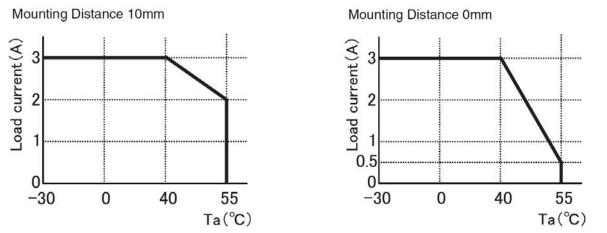
Mounting Distance 10mm



Mounting Distance 0mm

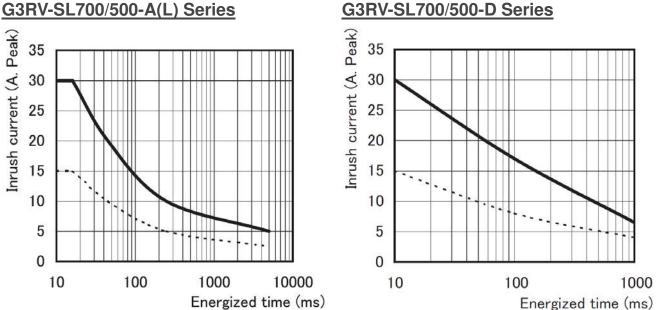


G3RV-SL700/500-D Series



One Cycle Surge Current: Non-repetitive

The values shown by the solid line are for non-repetitive inrush currents. Values shown by the broken line are for repetitive inrush currents. Keep the inrush current to half the rated value if it occurs repetitively.



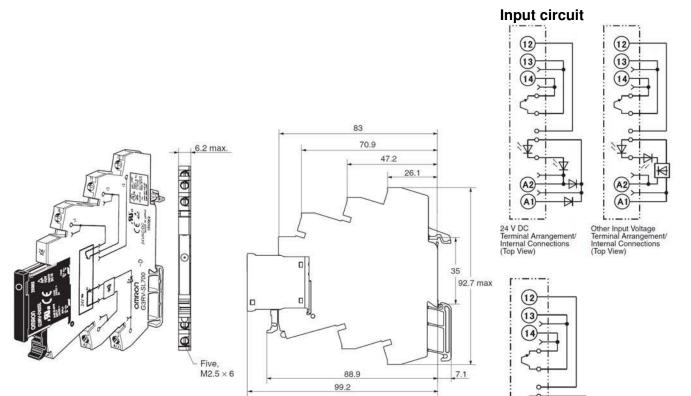
G3RV-SL700/500-A(L) Series

Dimensions

Note: All units are in millimeters unless otherwise indicated.

Complete Unit





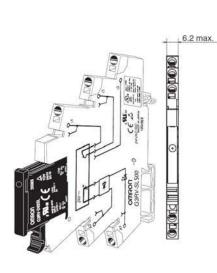
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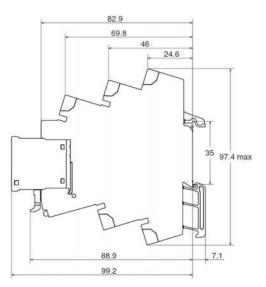
12 V DC Terminal Arrangement/ Internal Connections (Top View)

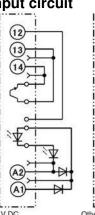
(12)

G3RV-SL500

Input circuit

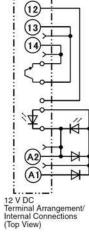




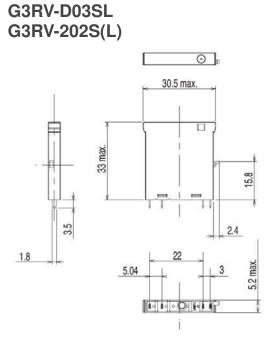


24 V DC Terminal Arrangement/ Internal Connections (Top View)

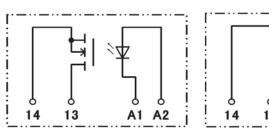
Other Input Voltage Terminal Arrangement/ Internal Connections (Top View)



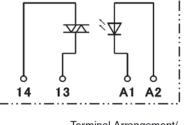
Solid State Relay



Input Circuit G3RV-D03SL



G3RV-202S(L)



Terminal Arrangement/ Internal Connections (Bottom View)

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Installation

Tools

G3RV-SL700 series: Flat-Blade screwdriver should be used for mounting and / or releasing cables.

G3RV-SL500 series: Flat-Blade screwdriver should be used for mounting stranded wires without ferrules and / or releasing cables.

Applicable Screwdriver

- Flat-blade, Parallel-tip, 2.5 mm diameter (3.0 mm max.)
- Flat-blade, Parallel-tip



- 2.5 dia. (3.0 mm max.)
- Flat-blade, Flared-tip



Cannot be used. Examples: FACOM AEF.2.5 × 75E (AEF. 3 × 75E) VESSEL No. 9900-(-)2.5 × 75 (No. 9900-(-)3 × 100) WAGO 210-119 WIHA 260/2.5 × 40 (260/3 × 50)

*Chamfering the tip of the driver improves insertion when used as an exclusive tool.

■ Applicable Wires

Applicable Wire Sizes

G3RV-SL700 Series

Box clamp technology

| Wire type | Applicable wire size | Stripping length |
|---|---------------------------|------------------|
| Stranded without ferrules | 0.5 - 1.5 mm ² | 7 mm |
| Stranded with ferrules and plastic collar | 0.5 - 1.5 mm ² | 7 mm |
| Stranded with ferrules without plastic collar | 0.5 - 1.5 mm ² | 7 mm |
| Solid | 0.5 - 1.5 mm ² | 7 mm |

G3RV-SL500 Series

Push-in technology

| Wire type | Applicable wire size | Stripping length |
|---|---------------------------|------------------|
| Stranded without ferrules | 0.5 - 1.5 mm ² | 12 mm |
| Stranded with ferrules and plastic collar | 0.5 - 1.5 mm ² | 12 mm |
| Stranded with ferrules without plastic collar | 0.5 - 1.5 mm ² | 12 mm |
| Solid | 0.5 - 1.5 mm ² | 12 mm |

Tightening torque

G3RV-SL700 Series: 0.4Nm

Wiring

Use wires of the applicable sizes specified above. The length of the exposed conductor should be 7 mm for a G3RV-SL700 series, 12 mm for a G3RV-SL500 series.

G3RV-SL700

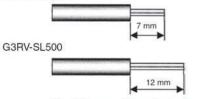
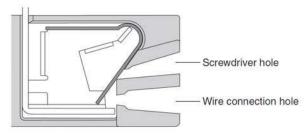
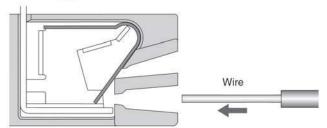


Fig. 1 Exposed Conductor Length

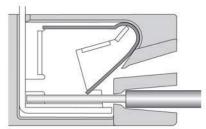
Wiring Procedure for G3RV-SL500 series



• Wiring



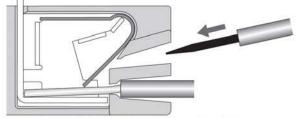
Insert the exposed conductor into the connection hole.



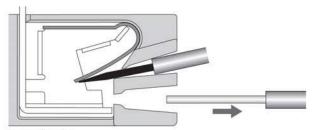
No other tools are required.

Note: In case of wiring stranded wires without ferrules screwdriver should be inserted before inserting the wire. Screwdriver should be removed after fully inserting the wire.

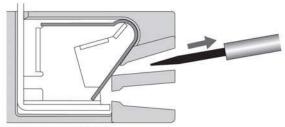
Removing



Insert the specified screwdriver into the release hole.



Removing wire.

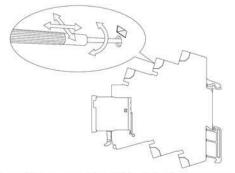


Removing screwdriver.

Precautions

Precautions for Connection

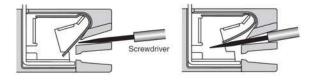
- Do not move the screwdriver up, down, or from side to side while it is inserted in the hole. Doing so may cause damage to internal components (e.g., deformation of the clamp spring or cracks in the housing) or cause deterioration of insulation.
- Do not insert the screwdriver at an angle. Doing so may break the side of socket and result in a short-circuit.



 Do not insert two or more wires in the hole. Wires may come in contact with the spring causing a temperature rise or be subject to sparks.



• Insert the screwdriver along the hole wall as shown below.



- If lubricating liquid, such as oil, is present on the tip of screwdriver, the screwdriver may fall out resulting in injury to the operator.
- Insert the screwdriver into the bottom of the hole. It may not be possible to connect cables properly if the screwdriver is inserted incorrectly.

General Precautions

- Do not use the product if it has been dropped on the ground. Dropping the product may adversely affect performance.
- Confirm that the socket is securely attached to the mounting track before wiring. If the socket is mounted insecurely it may fall and injure the operator.
- Ensure that the socket is not charged during wiring and maintenance. Not doing so may result in electric shock.
- Do not pour water or cleansing agents on the product. Doing so may result in electric shock.
- Do not use the socket in locations subject to solvents or alkaline chemicals.
- Do not use the socket in locations subject to ultraviolet light (e.g., direct sunlight). Doing so may result in markings fading, rust, corrosion, or resin deterioration.
- · Do not dispose the product in fire.

Removing from Mounting Rail

To remove the socket from the mounting rail, insert the tip of screwdriver in the fixture rail, and move it in the direction shown below.





Definition of Precautionary Information

| ▲ WARNING | Indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury, or may result in serious injury or death. Additionally there may be significant property damage. | | |
|-----------|--|--|--|
| | A potentially hazardous situation by misuse, may result in property damage only accident. | | |

A CAUTION Minor hazard by electric shock may occasionally occur. Do not touch the G3RV's terminal (Charging part) while the power supply turned on. The G3RV may occasionally rupture in case of a short circuit. To protect against short-circuit accident, install a protective device, such as a quick-burning fuse or a circuit breaker or the like, on the power supply. Minor hazard by electric shock may occasionally occur. Do not touch the G3RV's main circuit terminals immediately after the power is turned OFF. The internal snubber circuit is charged. * 202S, SL, G3RV-A(L) Type only Minor hazard by burns may occasionally occur. Do not touch the G3RV or the heat sink either while the power supply is ON, or immediately after the power is /\$\$\$ turned OFF. The G3RV and the heat sink will be hot.

Precautions for Safe Use

Shipping

When shipping the G3RV, be sure to avoid the following:

- Conditions where the G3RV is exposed to water.
- High ambient temperatures and humidity.
- Inadequate packaging

Failure to avoid these conditions while shipping G3RV will lead to damage, malfunction, or deterioration.

Operating and Storage Locations

Do not use or store the G3RV in the locations listed below. Failure to do so may result in damage, malfunction, or deterioration of performance characteristics.

- Locations subject to rain or water drops.
- · Locations subject to exposure to water, or oil, or chemicals.
- · Locations subject to high temperatures or high humidity.
- Locations subject to ambient temperatures outside the range from -30 to +100 centigrade.
- Locations subject to relative humidity outside the range 45% to 85%.
- · Locations subject to corrosive or flammable gases.
- · Locations subject to dust (especially iron dust) or salts.
- Locations subject to barrier.
- · Locations subject to static electricity or other forms of noise.
- · Locations subject to strong electromagnetic fields.
- · Locations subject to possible exposure to radioactivity.

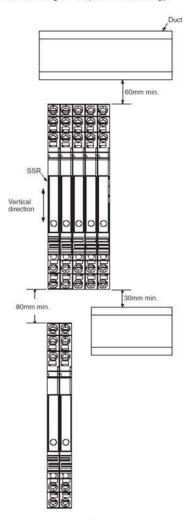
- Handling
 - Be sure to provide adequate air flow to G3RV. Failure to do so can cause the G3RV to overheat leading to short circuit and burning.
 - Do not install G3RV Relay with bent terminals into the socket. Doing so could lead to poor electrical connection and hazardous conditions.
 - Be sure to mount G3RV's with clean hands. Performing mounting with oil stained hands or coated with metal powder could result in hazardous outcomes.
- Mounting
 - Be sure to mount the G3RV in the specified orientation. Mounting the G3RV in a different orientation could lead to abnormal heat generation causing output elements to short leading to burning.
 - G3RV's are SSR's and generate heat. Be sure to control ambient temperature in setting where G3RV is used. If mounted in an enclosed space, install a fan to insure G3RV is properly ventilated.
 - Be sure that the G3RV clicks into place when mounting it to DIN Track. The G3RV may fall if it is not mounted correctly.
- Wiring
 - Use a wire an adequate size for current to be applied. Abnormal heating of wire may cause burning.
 - Do not use any wires with damaged sheaths. These may cause electric shock.
 - Confirm that wiring to G3RV Socket is not used in pipe or duct for high voltage power supply. Using a wire in pipe or duct connected to high voltage power supply will generate induction causing malfunction or damage.
 - Be sure to conduct wiring with the power supply turned OFF. Touching the terminals when they are charged may occasionally result in minor electric shock.
- Using
 - Select a load within the rated range. Inappropriate load may cause misoperation, trouble or burning.
 - Select the power supply within the rated frequency range. Inappropriate power frequency may cause misoperation, trouble or burning.

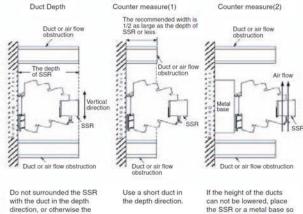
Precautions for Correct Use

- G3RV uses electronics parts inside, so that any dropping, vibration, and physical shock beyond the standard level should be prevented. Failure to do so may result in damage, malfunction, or deterioration of performance characteristics.
- Be sure to use tightening torque of 0.4 N·m for screw terminal G3RV. Failure to do so could result in short circuit failure and burning.
- Be sure to use proper voltage/current to G3RV input and output terminals. Failure to do so could result in short circuit failure and burning.

Mounting

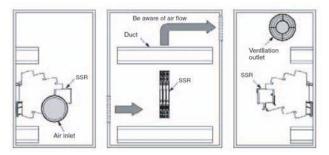
<SSR Mounting Pitch (Panel Mounting)>





<Relations between SSR and duct (Depth of duct)>

<Ventilation Outside the Control Panel>



- If the air inlet or outlet has a filter, clean the filter regularly to * prevent it from clogging and ensuring efficient flow of air.
- Do no locate any objects around the air inlet or air outlet, otherwise * the objects may obstruct the proper ventilation of the control panel.
- A heat exchanger, if used, should be located in front of the G2RVs * to ensure the efficiency of the heat exchanger.
- Please monitor the ambient temperature of the G3RV's. The rated * load current is measured at 25°C ambient temperature.
- A G3RV uses semiconductor in the output element. This causes the temperature inside the control panel to increase due to heating resulting from the passage of electrical current through the load. To the restrict heating, attach a fan to the ventilation outlet or air inlet of the control panel to ventilate the panel. This will reduce the ambient temperature of the G3RVs and thus increase reliability.

(Generally, each 10°C reduction in temperature will double the expected life.)

- EMI
 - . This is a class A product. In residential areas it may cause radio interference, in which case the user may be required to take adequate measures to reduce interference.

Suitability for Use

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of the products in the customer's application or use of the product.

Take all necessary steps to determine the suitability of the product for the systems, machines, and equipment with which it will be used.

Know and observe all prohibitions of use applicable to this product.

NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

See also Product catalog for Warranty and Limitation of Liability.

direction, or otherwise the heat radiation of the S5R will be adversely affected

the SSR or a metal base so that they are not surrounded by the ducts

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Terms and Conditions of Sale

- 1. Offer: Acceptance. These terms and conditions (these "Terms") are deemed Oner, Acceptative: These terms and conducts (these <u>Terms</u>) are deemed part of all quotes, agreements, purchase orders, acknowledgments, price lists, catalogs, manuals, brochures and other documents, whether electronic or in writing, relating to the sale of products or services (collectively, the "Products") by Omron Electronics LLC and its subsidiary companies ("Omron"). Omron objects to any terms or conditions proposed in Buyer's purchase order or other decomparise the terms of the service defined to the terms of the terms. documents which are inconsistent with, or in addition to, these Terms.
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 c. All sales and shipments of Products shall be FOB shipping point (unless oth-
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- Products occurring before delivery to the carrier must be presented in writing to Omron within 30 days of receipt of shipment and include the original trans-portation bill signed by the carrier noting that the carrier received the Products from Omron in the condition claimed. 13. Warranties. (a) Exclusive Warranty. Omron's exclusive warranty is that the
- roducts will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied. (b) <u>Limitations</u>. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABIL-

Certain Precautions on Specifications and Use

- Suitability of Use. Omron Companies shall not be responsible for conformity 1. with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Prod-uct in complete determination of the suitability of the Prod-uct in complete determination events or other application. uct in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases but the following is a non-exhaustive list of applications for which particular attention must be given: Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this document.

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- Miscentaneous. (a) watver, No failure of delay by Offron in exercising any fight and no course of dealing between Buyer and Omron shall operate as a waiver of rights by Omron. (b) <u>Assignment</u>. Buyer may not assign its rights hereunder without Omron's written consent. (c) <u>Law</u>. These Terms are governed by the law of the jurisdiction of the home office of the Omron company from which Buyer is purchasing the Products (without regard to conflict of law princi-Buyer is parchasing the Products (without regard to conflict of hav principles). (d) <u>Amendment</u>. These Terms constitute the entire agreement between Buyer and Omron relating to the Products, and no provision may be changed or waived unless in writing signed by the parties. (e) <u>Severability</u> If any provi-sion hereof is rendered ineffective or invalid, such provision shall not invalidate any other provision. (f) <u>Setoff</u>. Buyer shall have no right to set off any amounts argient the empeuter without is concerned to this invalid. (a) Definitions (b) provision and the provision of the provisio against the amount owing in respect of this invoice. (g) <u>Definitions</u> As used herein, "<u>including</u>" means "including without limitation"; and "<u>Omron Compa-nies</u>" (or similar words) mean Omron Corporation and any direct or indirect subsidiary or affiliate thereof.

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- Programmable Products. Omron Companies shall not be responsible for the 2. 3
- <u>Programmable Products</u>. Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof. <u>Performance Data</u>. Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitabil-ity and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application require-ments. Actual performance is subject to the Omron's Warranty and Limitations of Liability.
- <u>Change in Specifications</u>. Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our prac-4 tice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifica-tions of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.
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