High-power Solid State Relays
G3PH

High-power, Load-control SSRs with High Current of 75 or 150 A and High Voltage of 240 or 480 VAC

- RoHS compliant.
- Models also available with no zero cross.
- Replaceable power elements.
- Conforms to cULus standards and EN standards (TÜV certification).

For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Ordering Information

Solid State Relays

<table>
<thead>
<tr>
<th>Insulation method</th>
<th>Operation indicator</th>
<th>Zero cross function</th>
<th>Applicable output load*</th>
<th>Rated input voltage</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>75 A, 100 to 240 VAC</td>
<td>5 to 24 VDC</td>
<td>G3PH-2075B DC5-24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>150 A, 100 to 240 VAC</td>
<td>5 to 24 VDC</td>
<td>G3PH-2150B DC5-24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>75 A, 100 to 240 VAC</td>
<td>5 to 24 VDC</td>
<td>G3PH-2075BL DC5-24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>150 A, 100 to 240 VAC</td>
<td>5 to 24 VDC</td>
<td>G3PH-2150BL DC5-24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes (yellow)</td>
<td>75 A, 180 to 480 VAC</td>
<td>5 to 24 VDC</td>
<td>G3PH-5075B DC5-24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>150 A, 180 to 480 VAC</td>
<td>5 to 24 VDC</td>
<td>G3PH-5150B DC5-24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>75 A, 180 to 480 VAC</td>
<td>5 to 24 VDC</td>
<td>G3PH-5075BL DC5-24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>150 A, 180 to 480 VAC</td>
<td>5 to 24 VDC</td>
<td>G3PH-5150BL DC5-24</td>
</tr>
</tbody>
</table>

Note: The Thyristor Module is built in.
*The applicable output load depends on the ambient temperature. For details, refer to Load Current vs. Ambient Temperature in Engineering Data on page 2.

Options (Order Separately)

Thyristor Module

<table>
<thead>
<tr>
<th>Name</th>
<th>Applicable output load*</th>
<th>Applicable models</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thyristor Module</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75 A, 75 to 264 VAC</td>
<td>G3PH-2075B(L)</td>
<td>G32A-P2075</td>
<td></td>
</tr>
<tr>
<td>150 A, 75 to 264 VAC</td>
<td>G3PH-2150B(L)</td>
<td>G32A-P2150</td>
<td></td>
</tr>
<tr>
<td>75 A, 150 to 528 VAC</td>
<td>G3PH-5075B(L)</td>
<td>G32A-P5075</td>
<td></td>
</tr>
<tr>
<td>150 A, 150 to 528 VAC</td>
<td>G3PH-5150B(L)</td>
<td>G32A-P5150</td>
<td></td>
</tr>
</tbody>
</table>

*The applicable output load depends on the ambient temperature. For details, refer to Load Current vs. Ambient Temperature in Engineering Data on page 2.

Specifications

Ratings

Input (at an Ambient Temperature of 25°C)

<table>
<thead>
<tr>
<th>Rated voltage</th>
<th>Operating voltage</th>
<th>Impedance (input current)</th>
<th>Voltage level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 to 24 VDC</td>
<td>4 to 30 VDC</td>
<td>(5 mA max.)*</td>
<td>Must operate voltage</td>
</tr>
<tr>
<td>100 to 240 VAC</td>
<td>75 to 264 VAC</td>
<td>41 Ω ±20%</td>
<td>4 VDC max.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Must release voltage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>75 VAC max.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20 VAC min.</td>
</tr>
</tbody>
</table>

*A constant-current circuit is used for the input current to the G3PH.

Output

<table>
<thead>
<tr>
<th>Model</th>
<th>Item</th>
<th>Applicable load</th>
</tr>
</thead>
<tbody>
<tr>
<td>G3PH-2075B(L)</td>
<td>Rated load voltage</td>
<td>100 to 240 VAC</td>
</tr>
<tr>
<td></td>
<td>Load voltage range</td>
<td>75 to 264 VAC</td>
</tr>
<tr>
<td></td>
<td>Load current*</td>
<td>1 to 75 A (at 40°C)</td>
</tr>
<tr>
<td></td>
<td>Inrush current resistance</td>
<td>800 A (60 Hz, 1 cycle)</td>
</tr>
<tr>
<td>G3PH-2150B(L)</td>
<td></td>
<td>100 to 240 VAC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>75 to 264 VAC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 to 150 A (at 40°C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,800 A (60 Hz, 1 cycle)</td>
</tr>
<tr>
<td>G3PH-5075B(L)</td>
<td></td>
<td>180 to 480 VAC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>150 to 528 VAC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 to 75 A (at 40°C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>800 A (60 Hz, 1 cycle)</td>
</tr>
<tr>
<td>G3PH-5150B(L)</td>
<td></td>
<td>180 to 480 VAC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>150 to 528 VAC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 to 150 A (at 40°C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,800 A (60 Hz, 1 cycle)</td>
</tr>
</tbody>
</table>

*The load current depends on the ambient temperature. For details, refer to Load Current vs. Ambient Temperature in Engineering Data on page 2.
**Characteristics**

<table>
<thead>
<tr>
<th>Item</th>
<th>G3PH-2075B</th>
<th>G3PH-2150B</th>
<th>G3PH-5075B</th>
<th>G3PH-5150B</th>
<th>G3PH-2075BL</th>
<th>G3PH-2150BL</th>
<th>G3PH-5075BL</th>
<th>G3PH-5150BL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operate time</td>
<td>1/2 of load power source cycle + 1 ms max. for DC input</td>
<td>1/2 of load power source cycle + 1 ms max. for AC input</td>
<td>1 ms max.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Release time</td>
<td>1/2 of load power source cycle + 1 ms max. for DC input</td>
<td>1/2 of load power source cycle + 1 ms max. for AC input</td>
<td>1/2 of load power source cycle + 1 ms max.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Output ON voltage drop</td>
<td>1.6 V (RMS) max.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Leakage current</td>
<td>30 mA max. (at 240 VAC)</td>
<td>60 mA max. (at 480 VAC)</td>
<td>30 mA max. (at 240 VAC)</td>
<td>60 mA max. (at 480 VAC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>100 MΩ min. (at 500 VDC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dielectric strength</td>
<td>2,500 VAC, 50/60 Hz for 1 min</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vibration resistance</td>
<td>10 to 55 to10 Hz, 0.375-mm single amplitude (0.75-mm double amplitude)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acceleration of 50 m/s² for 50 min in X, Y and Z directions (10 sweeps of 5 min each = 50 min total)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shock resistance</td>
<td>500 m/s², 3 times in X, Y, and Z directions</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ambient storage temperature</td>
<td>−30 to 100°C (with no icing or condensation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient operating tempera-</td>
<td>−30 to 80°C (with no icing or condensation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ambient operating humidity</td>
<td>45% to 85%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 1.8 kg</td>
<td>Approx. 3.0 kg</td>
<td>Approx. 1.8 kg</td>
<td>Approx. 3.0 kg</td>
<td>Approx. 1.8 kg</td>
<td>Approx. 3.0 kg</td>
<td>Approx. 1.8 kg</td>
<td>Approx. 3.0 kg</td>
</tr>
</tbody>
</table>

**Engineering Data**

**Load Current vs. Ambient Temperature**

G3PH-075B (L) and G3PH-150B (L)

**Inrush Current Resistance: Non-repetitive**

G3PH-075B (L) and G3PH-150B (L)

Keep the inrush current to below the inrush current resistance value (i.e., below the broken line) if it occurs repetitively.

**Input Voltage vs. Input Impedance**

G3PH (4 to 30 VDC)

G3PH (75 to 264 VAC)
Dimensions

Solid State Relays

Note: All units are in millimeters unless otherwise indicated.

G3PH-2075B (L)
G3PH-5075B (L)

G3PH-2150B (L)
G3PH-5150B (L)
Related Products

Replacement Parts

G32A-P Thyristor Module

The Thyristor Module can be replaced if the element is damaged.

- Replacing the Thyristor Module

Always turn OFF the input and load power supplies before performing the following procedure.

1. Remove the four screws labeled “A,” remove the transparent cover, and remove the wiring.

2. Remove the four screws labeled “B” and remove the nameplate.

3. Remove the screws labeled “C” to free the base assembly. Pull out the base assembly.
   (The base assembly cannot be removed completely due to the lead wires.)

4. Remove the connectors that connect the lead wires to the Thyristor Module, and remove the Module.
   If there is an abnormality in the electronic components on the PCB, the Thyristor Module may fail again after replacement. Consult with your OMRON representative if there is an abnormality in the electronic components on the PCB.

5. You should be able to see the Thyristor Module. Remove the screws labeled “D” and remove the Thyristor Module.

Reverse the order of the above steps to assemble the SSR again.

6. When replacing the Thyristor Module, wipe all silicon grease off the heat sink and make sure there is no foreign matter on the contact surfaces of the Thyristor Module and heat sink. Apply a thin, even coating of new grease (provided) to the contact surfaces, and tighten the screws labeled “D” tentatively and then tighten them evenly to 2.5 to 4.0 N·m.
   The silicon grease should be thin enough so that it does squirt out from between the contact surfaces when the screws are tightened.

7. Connect the Thyristor Module and PCB with the socket. (The socket can be connected in either direction.) Being careful not to get the lead wires caught, assemble the base assembly and heat sink. Align the PCB with the PCB groove, and the protective cover with the protective cover groove.

8. Tighten the screws labeled “C.” A large current flows through this section. Be sure that there is no foreign matter present, and tighten the screws to between 4.41 and 4.90 N·m.

9. Check again to be sure that the lead wires are not caught, that the protective cover is in its groove, and that the PCB is in its groove, and then place the nameplate in the original position and tighten the screws labeled “B” to between 0.2 and 0.49 N·m.

10. Wire the SSR, attach the protective cover, and tighten the screws labeled “A” to between 0.2 and 0.49 N·m.

11. Turn ON the power supplies and check operation.
Safety Precautions

● Refer to Safety Precautions for All Solid State Relays.

⚠️ CAUTION

Minor electrical shock may occasionally occur. Do not touch the G3PH terminal section (i.e., current-carrying parts) while the power is being supplied. Also, always attach the cover terminal.

The G3PH may rupture if short-circuit current flows. As protection against accidents due to short-circuiting, be sure to install protective devices, such as fuses and no-fuse breakers, on the power supply side.

Minor electrical shock may occasionally occur. Do not touch the main circuit terminals on the G3PH immediately after the power supply has been turned OFF. Shock may result due to the electrical charge stored in the built-in snubber circuit.

Minor burns may occasionally occur. Do not touch the G3PH or the heat sink while the power is being supplied or immediately after the power supply has been turned OFF. The G3PH and heat sink become extremely hot.

Precautions for Safe Use

OMRON constantly strives to improve quality and reliability. SSRs, however, use semiconductors, and semiconductors may commonly malfunction or fail. In particular, it may not be possible to ensure safety if the SSRs are used outside the rated ranges. Therefore, always use the SSRs within the ratings. When using an SSR, always design the system to ensure safety and prevent human accidents, fires, and social harm in the event of SSR failure. System design must include measures such as system redundancy, measures to prevent fires from spreading, and designs to prevent malfunction.

● Transport
Do not transport the G3PH under the following conditions. Doing so may result in damage, malfunction, or deterioration of performance characteristics.

• Conditions in which the G3PH may be subject to water or oil.
• Conditions in which the G3PH may be subject to high temperature or high humidity.
• Conditions in which the G3PH is not packaged.

● Operating and Storage Environments
Do not use or store the G3PH in the following locations. Doing so may result in damage, malfunction, or deterioration of performance characteristics.

• Locations subject to rainwater or water splashes.
• Locations subject to exposure to water, oil, or chemicals.
• Locations subject to high temperature or high humidity.
• Do not store in locations subject to ambient storage temperatures outside the range –30 to 100°C.
• Do not use in locations subject to relative humidity outside the range 45% to 85%.
• Locations subject to corrosive gases.
• Locations subject to dust (especially iron dust) or salts.
• Locations subject to direct sunlight.

• Locations subject to shock or vibration.

● Installation and Handling
Do not block the movement of the air surrounding the G3PH or heat sink. Abnormal heating of the G3PH may result in shorting failures of the output elements or burn damage.

• Do not use the G3PH if the heat radiation fins have been bent by being dropped. Doing so may result in malfunction due to a reduction in the heat radiation performance.

• Do not handle the G3PH with oily or dusty (especially iron dust) hands. Doing so may result in malfunction.

● Installation and Mounting
• The SSR must be mounted on a vertical surface. Mount the G3PH in the specified direction. Otherwise excessive heat generated by the G3PH may cause short-circuit failures of the output elements or burn damage.

• Make sure that there is no excess ambient temperature rise due to the heat generation of the G3PH. If the G3PH is mounted inside a panel, install a fan so that the interior of the panel is fully ventilated.

• When using screws to mount the SSR to a control panel or other surface, tighten the screws securely. Keep the screws tightened to between 4.41 and 4.90 N·m. If the screws are not tight enough, the SSR may fall off.

● Installation and Wiring
• Use wires that are suited to the load current. Otherwise, excessive heat generated by the wires may cause burning.

• Do not use wires with a damaged outer covering. Otherwise, it may result in electric shock or ground leakage.

• Do not wire any wiring in the same duct or conduit as power or high-tension lines. Otherwise, inductive noise may damage the G3PH or cause it to malfunction.

• When tightening terminal screws, prevent any non-conducting material from becoming caught between the screws and the tightening surface. Otherwise, excessive heat generated by the terminal may cause burning.

• Do not use the G3PH with loose a terminal screw. Otherwise, excessive heat generated by the wire may cause burning.

• Tighten each terminal to the torque specified below. Improper tightening may result in abnormal heat generation at the terminal, which may cause burning.

(M3: 0.50 to 0.60 N-m, M6: 4.41 to 4.90 N-m M8: 8.82 to 9.80 N-m)

• If a current of 40 A or higher will flow, use M6 or M8 crimp terminals that are suitable for the wire size. Improper wiring may result in burning, melted cable coverings, electric shock, or ground faults.

• Always turn OFF the power supply before performing wiring. Not doing so may cause electrical shock.

● Installation and Usage
• Select a load within the rated values. Not doing so may result in malfunction, failure, or burning.

• Select a power supply within the rated frequencies. Not doing so may result in malfunction, failure, or burning.

• The G3PH contains a circuit that protects the internal circuits from being destroyed by forcing the output element to fire when there is a surge voltage. The G3PH therefore cannot be used for motor loads. Doing so may result in load motor malfunction.
Safety Precautions

Precautions for Correct Use

The SSR in operation may cause an unexpected accident. Therefore it is necessary to test the SSR under the variety of conditions that are possible. As for the characteristics of the SSR, it is necessary to consider differences in characteristics between individual SSRs.

The ratings in this catalog are tested values in a temperature range between 15°C and 35°C, a relative humidity range between 25% and 75%, and an atmospheric pressure range between 86 and 106 kPa. It will be necessary to provide the above conditions as well as the load conditions if the user wants to confirm the ratings of specific SSRs.

Causes of Failure

- Do not drop the G3PH or subject it to abnormal vibration or shock during transportation or mounting. Doing so may result in deterioration of performance, malfunction, or failure.
- Tighten each terminal to the torque specified below. Improper tightening may result in abnormal heat generation at the terminal, which may cause burning.
- Do not supply overvoltage to the input circuits or output circuits. Doing so may result in failure or burning.
- Do not use or store the G3PH in the following conditions. Doing so may result in deterioration of performance.
  - Locations subject to static electricity or noise
  - Locations subject to strong electric or magnetic fields
  - Locations subject to radioactivity

Mounting

- The SSR is heavy. Mount it securely to the panel under the following conditions.
  - Screw diameter: M6
  - Tightening torque: 4.41 to 4.90 N·m

Wiring

- Make sure that all lead wires are thick enough for the current.
- The output terminal will be charged even when the SSR is OFF. Touching the terminal may result in electric shock. To isolate the SSR from the power supply, install an appropriate circuit breaker between the power supply and the SSR. Always turn OFF the power supply before wiring the SSR.

Fuses

- Use a quick-burning fuse on the output terminals to prevent accidents due to short-circuiting. Use a fuse with equal or greater performance than those given in the following table.

Recommended Fuse Capacity

<table>
<thead>
<tr>
<th>Rated G3PH output current</th>
<th>Applicable SSR</th>
<th>Fuse (IEC 60269-4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>75 A</td>
<td>G3PH-075B (L) Series</td>
<td>100 A</td>
</tr>
<tr>
<td>150 A</td>
<td>G3PH-150B (L) Series</td>
<td>200 A</td>
</tr>
</tbody>
</table>

Note: For example, FR22UD69V100 (690 V, 100 A) and FR27UD69V200T (690 V, 200 A) by Ferraz Shawmut.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Screw terminal diameter</th>
<th>Tightening torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input terminals</td>
<td>M3</td>
<td>0.50 to 0.60 N·m</td>
</tr>
<tr>
<td>Output terminals</td>
<td>G3PH-075B (L) M6</td>
<td>4.41 to 4.90 N·m</td>
</tr>
<tr>
<td></td>
<td>G3PH-150B (L) M8</td>
<td>8.82 to 9.80 N·m</td>
</tr>
</tbody>
</table>

Panel Mounted on a vertical surface

Panel Mounted on a horizontal surface
**Compliance with EN (EMC) Standards**

The G3PH complies with EN (EMC) standards under the following conditions.

- The output cables may induce noise into other conductors and should not be installed near or parallel to sensitive cables (input cables, signal wires e.t.c.)
- A capacitor is connected to the input power line.
- A noise filter connected to GND and toroidal core must be connected to the load power supply.
- The input cable is 3 m or less.

**EMI**

This is a Class A product (for industrial environments). In a domestic environment, the G3PH may cause radio interference, in which case the user may be required to take appropriate measures.

**Noise and Surge Effects**

If noise or an electrical surge occurs that exceeds the malfunction withstand limit for the G3PH output circuit, the output will turn ON for a maximum of one half cycle to absorb the noise or surge. Confirm that turning the output ON for a half cycle will not cause a problem for the device or system in which the G3PH is being used prior to actual use. The G3PH malfunction withstand limit is shown below.

- Malfunction withstand limit (reference value): 500 V

  **Note:** This value was measured under the following conditions.
  - Noise duration: 100 ns and 1 μs
  - Repetition period: 100 Hz
  - Noise application time: 3 min

**Replacing the Thyristor Module**

- Always apply the enclosed silicon grease to the contact surfaces when replacing the Thyristor Module.
- Tighten the screws to the following torque to secure the Thyristor Module to the SSR to enable proper heat dissipation.
  - Tightening torque: 2.45 to 4.0 N·m

**Mounting to Control Panel**

The SSR is heavy. Mount it securely to the panel. If the panel is airtight, heat from the SSR will build up inside, which may reduce the current carry ability of the SSR or adversely affect other electrical devices. Be sure to install ventilation holes on the top and bottom of the panel.

**SSR Mounting Pitch (Panel Mounting)**

Recommended Capacitor (Film Capacitor)  
Input: 0.1 μF, 250 VAC

Recommended Noise filter: COSEL: TAC series or equivalent (G3PH-2××B(L))
COSEL: TRC series or equivalent (G3PH-5××B(L))

Recommended toroidal core: NEC TOKIN ESD-R-2SB or equivalent

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**Notes:**
- 3 m Max.
- 10 mm min.
- 60 mm min.
- 80 mm min.
- 30 mm min.

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**Diagram:**

- G3PH
- INPUT
- OUTPUT
- Noise filter
- Load
- Toroidal core
- SSR
- Vertical Direction
Safety Precautions

● Relationship between the G3PH and Ducts or Other Objects Blocking Airflow

Incorrect Example

Duct or other object blocking airflow

If the depth direction of the G3PH is obstructed by ducts, the heat radiation will be adversely affected.

Countermeasure 1

60 mm max. (78 mm max.) (Recommended: Half or less of the SSR height)

Use ducts that have a shallow depth, to provide a sufficient ventilation area.

Countermeasure 2

If the ducts cannot be made lower, place the G3PH on a metal base so that it is not surrounded by the ducts.

*Values in parentheses are for the G3PH-150B.

● Ventilation Outside the Control Panel

Be aware of airflow

Duct or other object blocking airflow

Note 1. If the air inlet or outlet has a filter, clean the filter regularly to prevent it from clogging to ensure an efficient flow of air.
2. Do not locate any objects around the air inlet or outlet, otherwise the objects may obstruct the proper ventilation of the control panel.
3. A heat exchanger, if used, should be located in front of the G3PH to ensure the efficiency of the heat exchanger.

● G3PH Ambient Temperature

The rated current of the G3PH is measured at an ambient temperature of 40°C.

The G3PH uses a semiconductor to switch the load. This causes the temperature inside the control panel to increase due to heating resulting from the flow of electrical current through the load. The G3PH reliability can be increased by adding a ventilation fan to the control panel to disperse this heat, thus lowering the ambient temperature of the G3PH. (Arrhenius's law suggests that life expectancy is doubled by each 10°C reduction in ambient temperature.)

<table>
<thead>
<tr>
<th>SSR rated current (A)</th>
<th>75 A</th>
<th>150 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required number of fans per SSR</td>
<td>1.16</td>
<td>2.33</td>
</tr>
</tbody>
</table>

Example: Ten, 75-A SSRs require 1.16 x 10, or 12 fans.

Note 1. Size of fans: 92 mm x 92 mm, Air volume: 0.7 m³/min, Ambient temperature of control panel: 30°C
2. If there are other instruments that generate heat in the control panel in addition to SSRs, more ventilation will be required.
# Warranty and Application Considerations

## Read and Understand This Catalog

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

## Warranty and Limitations of Liability

### WARRANTY
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## Application Considerations

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

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 PRODUCTS ARE PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

## Disclaimers

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### DIMENSIONS AND WEIGHTS
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