Solid State Relays

Slimmest OMRON plug-in SSR with maximum width 6.2 mm

- · Long electrical life and high speed switching
- Large plug-in terminals for reliable connection
- G3RV-D (DC load) models can manage resistive loads of 100 μA to 3.0 A
- · LED indicator for visible operation checking
- Convenient quick electrical connections possible with G3RV push-in models and cross bar connectors
- · Low power consumption for energy savings
- G3RV is cUL listed when correct relay is matched with the G3RV Socket

Model Number Structure

Model Number Legend



- 1. Basic Model Name G3RV: Solid State Relay
- 2. Auxiliary Type Designation SL: Slim Solid State Relay and socket combination
- 3. Wire Connection
 - 700: Screw Terminals
 - 500: Push-in (screwless) terminals

Ordering Information

■ List of Models

Classification		Enclosure rating	Input voltage	Type of connection	Contact form
					SPST
Plug-in terminals	General-purpose	Unsealed	AC/DC	Screw terminals	G3RV-SL700
				Push-in terminals	G3RV-SL500

SSR and Socket Combinations

Input voltage	Screw terminals	Push-in terminals
12 VDC	G3RV-SL700-D DC12	G3RV-SL500-D DC12
	G3RV-SL700-A(L) DC12	G3RV-SL500-A(L) DC12
24 VDC	G3RV-SL700-D DC24	G3RV-SL500-D DC24
	G3RV-SL700-A(L) DC24	G3RV-SL500-A(L) DC24
24 VAC/DC	G3RV-SL700-D AC/DC24	G3RV-SL500-D AC/DC24
	G3RV-SL700-A(L) AC/DC24	G3RV-SL500-A(L) AC/DC24
48 VAC/DC	G3RV-SL700-D AC/DC48	G3RV-SL500-D AC/DC48
	G3RV-SL700-A(L) AC/DC48	G3RV-SL500-A(L) AC/DC48
110 VAC	G3RV-SL700-D AC110	G3RV-SL500-D AC110
	G3RV-SL700-A(L) AC110	G3RV-SL500-A(L) AC110
230 VAC	G3RV-SL700-D AC230	G3RV-SL500-D AC230
	G3RV-SL700-A(L) AC230	G3RV-SL500-A(L) AC230

с**(U**L) lus

lelay and Socket Combinations are ${}_{\rm c}{\rm UL}_{\rm us}$ listed.

4. Output voltage specifications

A(L): AC Output .. TRIAC * A: with Zero cross function AL: without Zero cross function D: DC Output .. MOS FET

5. Input Voltage

(Complete part numbers listed in the SSR and Socket Combinations Chart below)



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

<u>Input</u>

G3RV-SL700/500-A Series

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

G3RV-SL700/500-AL Series

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

G3RV-SL700/500-D Series

Rated voltage	Rated current		ent	Must operate	Must release	Input voltage
	A	C	DC	voltage	voltage	% of rated voltage
	50 Hz	60 Hz				
12 VDC			8 mA	10.8V	1V	±10%
24 VDC			4.5 mA	21.6V		
24 VAC/DC	10.7 mA	11.1 mA	4.3 mA	21.6V		
48 VAC/DC	9.6 mA	10.2 mA	6 mA	43.2V		
110 VAC	6.8 mA	7.5 mA		99V		
230 VAC	6.8 mA	8.1 mA		207V		

<u>Output</u>

Item	G3RV-SL700/500-A(L)	G3RV-SL700/500-D
Rated load voltage	AC100~240V (50/60Hz)	DC5~24V
Load voltage range	AC75~264V (50/60Hz)	DC3~26.4V
Load current	0.1~2A (Ta=40°C)	100µА~3А (Та=40°С)
Inrush current	30A (60Hz/1cycle)	30A (60Hz/1cycle)
Permissible I ² t ; Joule Integral (Reference value)	15A ² s	9A ² s
Application load capacity	400W (Output voltage: AC200V)	72W (Output voltage: DC24V)

■ Characteristics

Item	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 rm	s max.	0.9 V max.		
Leakage current	5 mA max. (at 20	0 VAC 50/60Hz)	10 µA max. (at 24VDC)		
Insulation resistance		100 M Ω min. (at 500 VDC)			
Dielectric strength	AC2500V	50/60 Hz for 1 min between input a	and output		
Vibration resistance	Malfunction: 10 to 55 to 10 Hz, 0.7-mm single amplitude				
Shock resistance	300m/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, 10cycles				
Rated insulation Voltage		240V			

■ Approved Standards

UL 508 (File No. E64562)

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

IEC/TUV (EN 62314)

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

Load current derating curves

G3RV-SL700/500-A(L) Series





G3RV-SL700/500-D Series





Mounting Distance 0mm



One Cycle Surge Current: Non-repetitive

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



G3RV-SL700/500-D Series



■ PLC Interface (for G2RV-SL700 & G3RV-SL700 series only)

List of Models

Description	Connection
L700 & G3RV-SL700 series	Ribbon cable connector 10 Pole, IEC603/1
	tput Interface for 8x

Specifications

Input	Rated voltage	30 VAC/VDC max.	
	Current capacity	0.5 A per channel	
		2.0 A total current, power supply terminal	
Characteristics Ambient temperature		Operating: 0 to 55°C	
Stor		Storage: - 20 to 85°C	
	Overvoltage category	III	
	Pollution degree	2	

Electrical schematic P2RVC-O-8-F





■ Cables for PLC Interface P2RVC-8-O-F

P2RV-4-CC

Cable to connect CJ1 to 4 x P2RVC-8-O-F

List of Models

Model number	Cable length
P2RV-4-100C	1.0 m
P2RV-4-200C	2.0 m
P2RV-4-300C	3.0 m
P2RV-4-500C	5.0 m

4x10 pole IDC mounting to 4 x P2RVC-8-O-F





40 pole IDC mounting to Omron PLC CJ1-OD232

Technical data

Control line	AWG26/0.14 mm ² , tin-plated copper	
Diameter cable	0.6 mm (one end splits into 4 sections: A, B, C, D	
Operating voltage	60 VDC	
Continuous current per signal wire	0.5 A	
Max. total current, 4 bytes, each	1.0 A	
Test voltage	0.5 KV, 50 Hz, 1 min	
Operating temperature range	-20°C to +50°C	

P2RV-A C

Cable, single sided 10 pole IDC connector, to connect to P2RVC-8-O-F

List of Models

Model number	Cable length
P2RV-A100C	1.0 m
P2RV-A200C	2.0 m
P2RV-A300C	3.0 m
P2RV-A500C	5.0 m

10 pole IDC mounting to P2RVC-8-O-F







Technical data

Control line	AWG26/0.14 mm ² , tin-plated copper	
Diameter cable	6.8 mm	
Operating voltage	60 VDC	
Continuous current per signal wire	0.5 A	
Max. total current	1.0 A	
Test voltage	0.5 KV, 50 Hz, 1 min	
Operating temperature range	−20∞C to +50∞C	

■ SSR for Maintenance (Replacement SSRs)

Model Number Legend

 $\mathbf{G3RV} \underbrace{\square}_{1} \underbrace{\square}_{2} \underbrace{\square}_{3} \underbrace{\square}_{4}$

- 1. Output voltage specifications
 - D: DC Output
 - 2: AC Output
- 2. Rated Current
 - 02: AC Output 2A
 - 03: DC Output 3A
- 3. Terminals
 - S: Plug-In

4. Zero cross function

Blank: with Zero cross function

L: without Zero cross function

List of Models

Isolation	Movement indication	Rated input voltage (Socket)	Output (SSR)	Zero cross function	Rated output load*	Model Number	Replacement for
Phototriac	Yes (Green)	DC12V	AC Yes 2	2A at 100	G3RV-202S DC12	G3RV-SL700/500-A DC12	
		DC24V			to 240VAC	G3RV-202S DC24	G3RV-SL700/500-A DC24
		AC/DC24V					G3RV-SL700/500-A AC/DC24
		AC/DC48V					G3RV-SL700/500-A AC/DC48
		AC110V				G3RV-202S DC48	G3RV-SL700/500-A AC110
		AC230V	- - - -				G3RV-SL700/500-A AC230
		DC12V		No		G3RV-202SL DC12	G3RV-SL700/500-AL DC12
		DC24V				G3RV-202SL DC24	G3RV-SL700/500-AL DC12
		AC/DC24V					G3RV-SL700/500-AL AC/DC24
		AC/DC48V					G3RV-SL700/500-AL AC/DC48
		AC110V				G3RV-202SL DC48	G3RV-SL700/500-AL AC110
		AC230V					G3RV-SL700/500-AL AC230
Photocoupler		DC12V	DC		3A at 5 to	G3RV-D03SL DC12	G3RV-SL700/500-D DC12
		DC24V			24 VDC	G3RV-D03SL DC24	G3RV-SL700/500-D DC24
		AC/DC24V					G3RV-SL700/500-D AC/DC24
		AC/DC48V				G3RV-D03SL DC48	G3RV-SL700/500-D AC/DC48
		AC110V					G3RV-SL700/500-D AC110
		AC230V	Ţ				G3RV-SL700/500-D AC230

*different by ambient temperature.

Please refer to 4 pages of characteristic data " Load current derating curves" for the details.



Cross bars

Model Number Legend

- 1. Number of Poles
 - 020: 2 poles 030: 3 poles 040: 4 poles 100: 10 poles 200: 20 poles

2. Color R: Red S: Blue B: Black

List of Models

Model number	Poles	Quantity	Color
P2RVM-020	2	60 pcs / box (minimum order)	
P2RVM-030	3	60 pcs / box (minimum order)	Red (R)
P2RVM-040	4	60 pcs / box (minimum order)	Blue (S)
P2RVM-100	10	20 pcs / box (minimum order)	Black (B)
P2RVM-200	20	20 pcs / box (minimum order)	

 \Box select color: R = Red, S = Blue, B = Black

Specification

Max current	32A
(EN60947-7-1 section 8.3.3 / 1991)	
Max. Voltage	400 VAC
Max. Voltage	250 VAC
when cutting Cross-bar without using separation plate or end-bracket	



Model number	Box quantity	Color
	5 sheets × 120 labels = 600 labels (minimum order)	White



■ Labels (Stickers) for G2RV/G3RV Sockets

Model number	Box quantity	Color
	10 sheets × 484 labels = 4,840 labels (minimum order)	White









Separating Plates

Model number	Quantity	Description
P2RV-S		Provides isolation between adjacent relays to achieve 400 V isolation.



Dimensions

Note: All units are in millimeters unless otherwise indicated.

Complete Unit

G3RV-SL700





Input circuit

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



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



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









Other Input Voltage Terminal Arrangeme Internal Connection (Top View)



Solid State Relay

G3RV-D03SL G3RV-202S(L)



Input circuit G3RV-D03SL



G3RV-202S(L)



Terminal Arrangement/ Internal Connections (Bottom View)

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
 (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

Installation

■ 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.





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 insertion of the wire. Removing



Insert the specified screwdriver into the release hole.







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.



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.
- \bullet 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.

Safety Precautions

<SSR Mounting Pitch (Panel Mounting)>



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





- * 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 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 $10^\circ \Bar{C}$ 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.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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

OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, REGARDING NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR PARTICULAR PURPOSE OF THE PRODUCTS. ANY BUYER OR USER ACKNOWLEDGES THAT THE BUYER OR USER ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. OMRON DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

LIMITATIONS OF LIABILITY

OMRON SHALL NOT BE RESPONSIBLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY.

In no event shall the responsibility of OMRON for any act exceed the individual price of the product on which liability is asserted.

IN NO EVENT SHALL OMRON BE RESPONSIBLE FOR WARRANTY, REPAIR, OR OTHER CLAIMS REGARDING THE PRODUCTS UNLESS OMRON'S ANALYSIS CONFIRMS THAT THE PRODUCTS WERE PROPERLY HANDLED, STORED, INSTALLED, AND MAINTAINED AND NOT SUBJECT TO CONTAMINATION, ABUSE, MISUSE, OR INAPPROPRIATE MODIFICATION OR REPAIR.

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.

At the customer's request, OMRON will provide applicable third party certification documents identifying ratings and limitations of use that apply to the products. This information by itself is not sufficient for a complete determination of the suitability of the products in combination with the end product, machine, system, or other application or use.

The following are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible uses of the products, nor is it intended to imply that the uses listed may be suitable for the products:

- Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this catalog.
- Nuclear energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- · Systems, machines, and equipment that could present a risk to life or property.

Please know and observe all prohibitions of use applicable to the products.

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.

PROGRAMMABLE PRODUCTS

OMRON shall not be responsible for the user's programming of a programmable product, or any consequence thereof.

Disclaimers

CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons.

It is our practice to change model numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the products may be changed without any notice. When in doubt, special model numbers may be assigned to fix or establish key specifications for your application on your request. Please consult with your OMRON representative at any time to confirm actual specifications of purchased products.

DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

PERFORMANCE DATA

Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON Warranty and Limitations of Liability.

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