

OMRON

Screwless Clamp Terminal Socket for G2RS Relay

P2RF-05-S P2RF-08-S

Troublesome, time-consuming relay wiring jobs are a thing of the past.

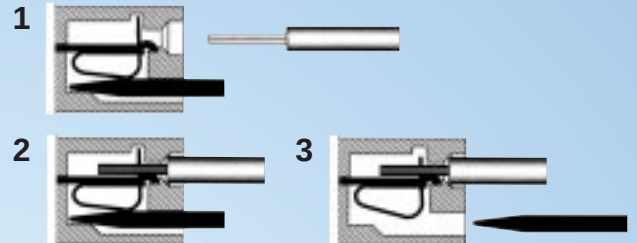
No More Screwing Up with
OMRON's New Socket



“Screwless” means “Troublefree.” The Result is More Time for Creative Jobs, Quality Assurance, Safety and Reliability.



■ **Unique 1-2-3-Step Wiring Procedure** without the need for tightening screws



■ **Very Reliable Cable Connection** without the need for additional tightening

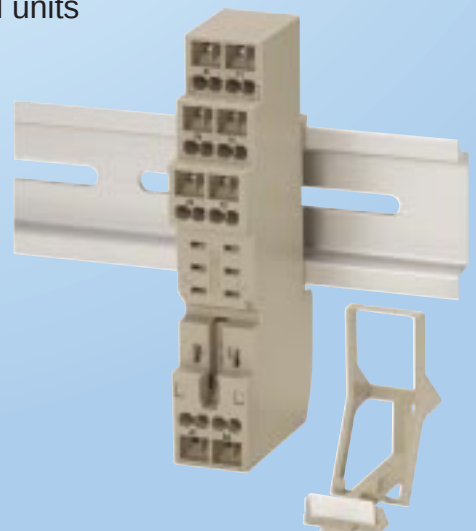


■ **Environment-Friendliness** using no Pb, Cd or Be

■ **Instant Relay Release Lever** for one-touch dismounting



■ **Double Wiring** with two independent terminal units



■ **Separate Terminal Design for Safety**

■ **Two Types of Nameplate Available**

■ **Convenient Socket Bridge for Group Mounting**

■ **Production Facilities that meet ISO-9001 and ISO-14001 Standards**

Screwless Clamp Terminal Socket

P2RF□□S

- Screwless clamping greatly contributes to reducing wiring time.
- No over or under tightening of cable connection so better contact reliability is achieved.
- Double wiring possible on all the terminals, and easy bridge and branch connections.
- Use either solid or standard wires from 0.2 to 1.5 mm² (AWG24 to AWG16).
- Safe terminal arrangement: Coil terminals separated from contact terminals.
- Unique ejector enables easy relay replacement.
- Two types of nameplate are available: New MY and Legrand.
- Finger-protection construction.
- VDE, UL, CSA approval pending.



Ordering Information

	1-pole	2-pole
Socket	P2RF-05-S	P2RF-08-S
Clip & Release Lever	P2CM-S	
Nameplate	R99-11 nameplate for MY	
Socket Bridge	P2RM-SR, P2RM-SB	

Specifications

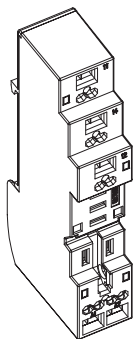
Item	P2RF05S	P2RF08S	Remarks
Relay	G2R-1-S Series	G2R-2-S Series	---
Dimensions (W×H×D)	18×92×38.2 max.		---
Rated voltage	250 VAC		---
Rated carry current	10 A at 70°C	5 A at 70°C	VDE0627
Applicable wires	0.2 to 1.5 mm ² (AWG24 to AWG16) Solid wire, Standard wire		---
Number of wire connections	2 wires per terminal (1 wire per hole)		---
Clamping force	10 N min. (0.2 mm ²), 40 N min. (1.5 mm ²)		EN60999

■ Safety Standards

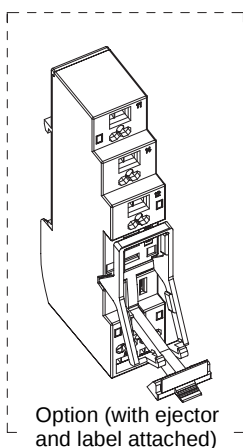
Standard	File No. (status)
VDE0627 (IEC664, EN60999)	Approval pending
UL508 (UL1059)	Approval pending
CSA C22.2 No. 14 (CSA C22.2 No. 158)	Approval pending

Dimensions

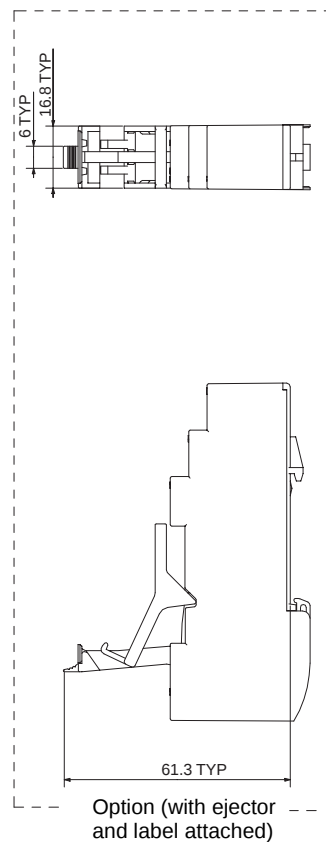
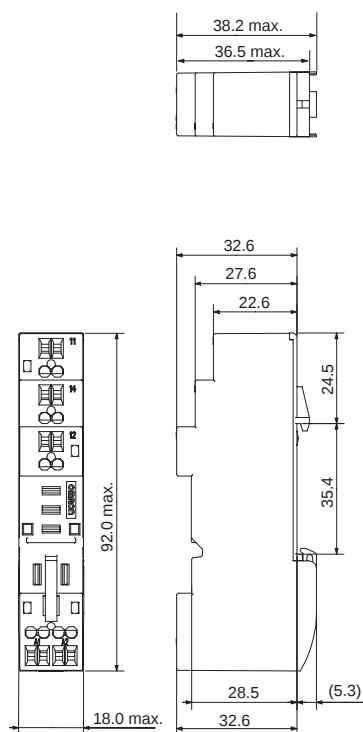
P2RF-05-S



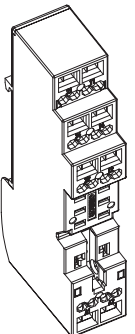
Standard model



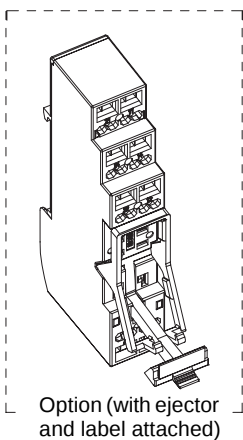
Option (with ejector and label attached)



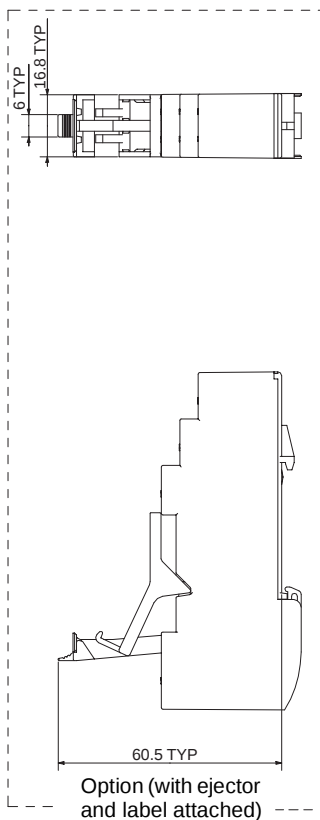
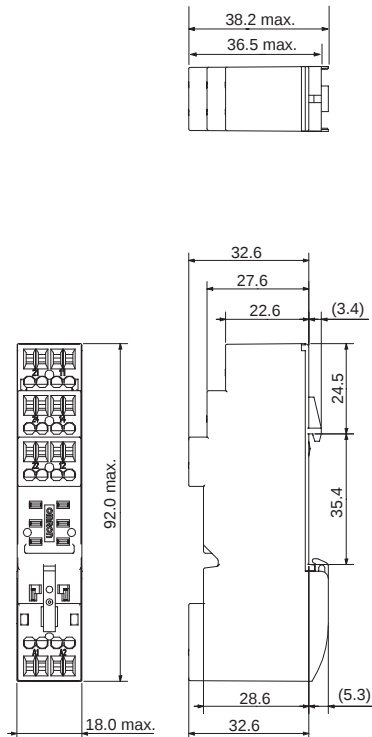
P2RF-08-S



Standard model



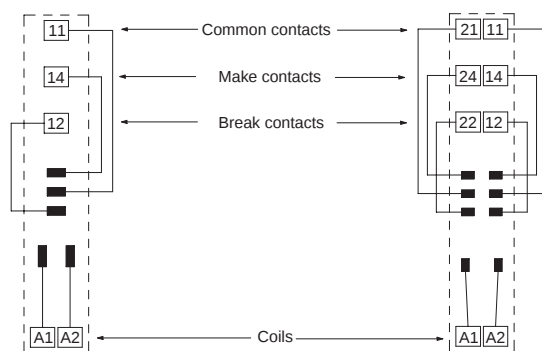
Option (with ejector and label attached)



■ Terminal Arrangement

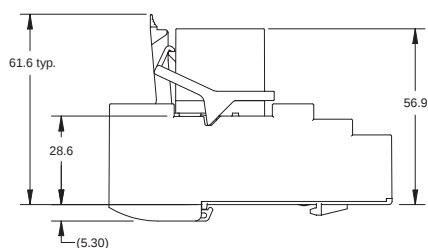
P2RF-05-S

P2RF-08-S

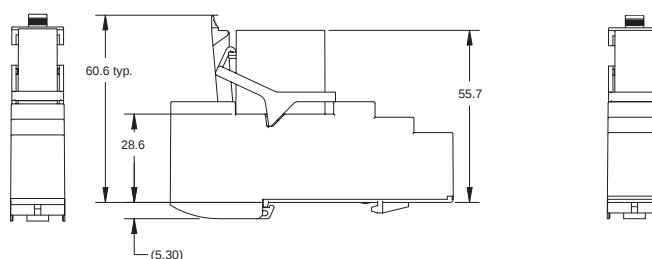


■ Mounting Height (With Lever)

P2RF-05-S

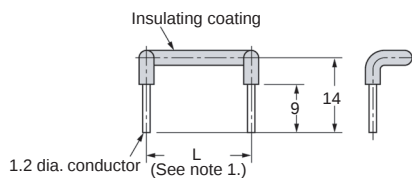


P2RF-08-S



Accessories (Option)

Socket Bridge



Note: 1. The relationship between the model number, the length L, and the color of the insulating coating is shown in the following table.

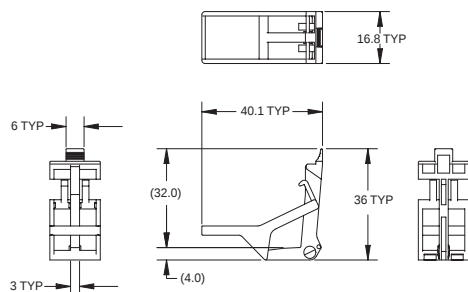
Model number	Length L (mm)	Color of insulating coating
P2RM-SR	14.3	Red
P2RM-SB		Blue

- The insulating coating must be able to withstand a voltage of 3,000 V for 1 minute. Use either PE or PA as the material of the insulating coating.
- The positions of the ends of the insulating coating must not vary more than 0.5 mm.

4. The characteristics of the socket bridge are shown in the following table.

Item	Characteristic
Rated ON current	10 A
Rated insulation voltage	250 VAC
Temperature rise	35°C max.
Dielectric strength	3,000 VAC for 1 minute
Ambient operating temperature	-55 to 70°C

Clip and Release Lever



Installation

■ Tools

A flat-blade screwdriver should be used to mount the cables.

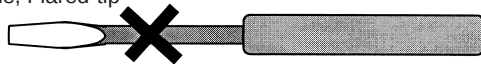
Applicable Screwdriver

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

- Flat-blade, Parallel-tip



- 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

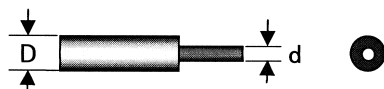
0.2 to 1.5 mm², AWG24 to AWG16

Applicable Wire Type

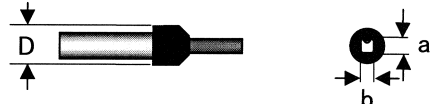
Solid wires, standard wires, flexible wires, or wires with ferules can be used.

(See note 1.) $2.2 \leq \text{Diameter } D \text{ (mm)} \leq 3.2$ (3.5: see note 2.)

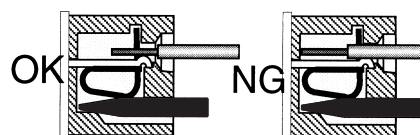
Conductor diameter d (mm) or length of sides a and b (mm) ≤ 1.9



Wires with Ferules



Note: 1. If the overall diameter of the wire is less than 2.2 mm, do not insert the wire past the conductor. Refer to the following diagrams.



2. If the overall diameter of the wire is over 3.2 mm, it will be difficult to use double wiring.

Examples of Applicable Wires (Confirmed Using Catalog Information)

Type of wire	Conductor type	See note 1, above.	Recommended wire sizes	See note 2, above.
Equipment wire 2491X	Flexible		0.5, 0.75, 1.0 mm ²	1.5 mm ²
BS6004	Solid	0.5 mm ²		
Switchgear BS6231	Solid		1.0 mm ²	1.5 mm ²
Switchgear BS6231	Flexible		0.5, 0.75 mm ²	1.0 mm ²
Tri-rated control and switchgear	Flexible		0.5, 0.75, 1.0, 1.5 mm ²	
Conduit	Standard		1.5 mm ²	
UL1007	Flexible	18AWG	16AWG	
UL1015	Flexible		18AWG, 16AWG	
UL1061	Flexible	18AWG		
UL1430	Flexible	18AWG	16AWG	

■ Wiring

Use wires of the applicable sizes specified above. The length of the exposed conductor should be 8 to 9 mm.

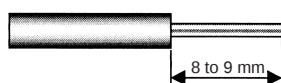


Fig. 1 Exposed Conductor Length

Use the following wiring procedure.

1. Insert the specified screwdriver into the release hole located beside the wire connection hole where the wire is to be inserted.

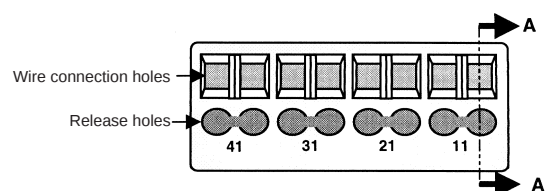


Fig. 2 Wire Connection Holes and Release Holes

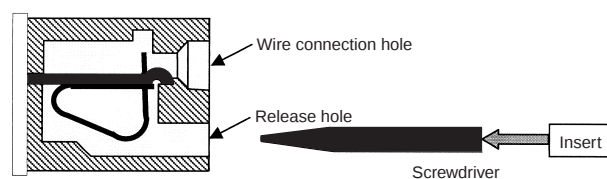
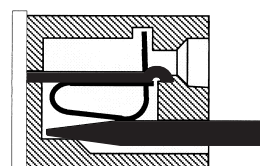
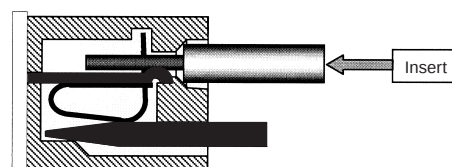


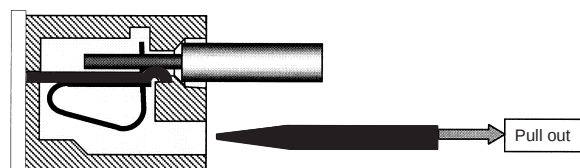
Fig. 3 Section A-A of Fig. 2



2. Insert the exposed conductor into the wire connection hole.



3. Pull out the 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. (There are two wiring holes for each terminal.)



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



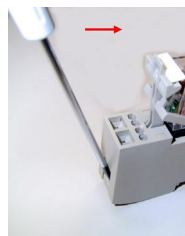
- If lubricating liquid, such as oil, is present on the tip of screwdriver, the screwdriver may fall out resulting in injury to the operator.
- Insert the screwdriver into the bottom of the hole. It may not be possible to connect cables properly if the screwdriver is inserted incorrectly.

General Precautions

- Use the clip to prevent relays floating or falling out of the socket.
- 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 of 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.



Terms and Conditions of Sale

1. Offer; Acceptance. These terms and conditions (these "Terms") are deemed part of all quotations, acknowledgments, invoices, purchase orders and other documents, whether electronic or in writing, relating to the sale of products or services (collectively, the "Products") by Omron Electronic Components LLC ("Seller"). Seller hereby objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms.
2. Prices; Payment. All prices stated are current, subject to change without notice by Seller. Buyer agrees to pay the price in effect at time of shipment. Payments for Products received are due net 30 days unless otherwise stated in the invoice.
3. Discounts. Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (i) the invoice is paid according to Seller's payment terms and (ii) Buyer has no past due amounts owing to Seller.
4. Currencies. If the prices quoted herein are in a currency other than U.S. dollars, Buyer shall make remittance to Seller at the then current exchange rate most favorable to Seller and which is available on the due date; provided that if remittance is not made when due, Buyer will convert the amount to U.S. dollars at the then current exchange rate most favorable to Seller available during the period between the due date and the date remittance is actually made.
5. Governmental Approvals. Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Products.
6. Taxes. All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Seller or required to be collected directly or indirectly by Seller for the manufacture, production, sale, delivery, importation, consumption or use of the Products sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Seller.
7. Financial. If the financial position of Buyer at any time becomes unsatisfactory to Seller, Seller reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Seller may (without liability and in addition to other remedies) cancel any unshipped portion of Products sold hereunder and stop any Products in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts.
8. Cancellation; Etc. Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Seller fully against all costs or expenses arising in connection therewith.
9. Force Majeure. Seller shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.
10. Shipping; Delivery. Unless otherwise expressly agreed in writing by Seller:
 1. Shipments shall be by a carrier selected by Seller;
 2. Such carrier shall act as the agent of Buyer and delivery to such carrier shall constitute delivery to Buyer;
 3. All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Seller), at which point title to and all risk of loss of the Products shall pass from Seller to Buyer, provided that Seller shall retain a security interest in the Products until the full purchase price is paid by Buyer;
 4. Delivery and shipping dates are estimates only.
 5. Seller will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.
11. Claims. Any claim by Buyer against Seller for shortage or damage to the Products occurring before delivery to the carrier must be presented in writing to Seller within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Products from Seller in the condition claimed.
12. Warranties. (a) Exclusive Warranty. Seller's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Seller (or such other period expressed in writing by Seller). Seller disclaims all other warranties, express or implied. (b) Limitations. SELLER MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. Seller further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Seller's sole obligation hereunder shall be to replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product or, at Seller's election, to repay or credit Buyer an amount equal to the purchase price of the Product; provided that in no event shall Seller be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Seller's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Seller before shipment. Seller shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies, or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing are not to be construed as an amendment or addition to the above warranty.
13. Limitation on Liability; Etc. SELLER SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY. Further, in no event shall liability of Seller exceed the individual price of the Product on which liability is asserted.
14. Indemnities. Buyer shall indemnify and hold harmless Seller, its affiliates and its employees from and against all liabilities, losses, claims, costs and expenses (including attorney's fees and expenses) related to any claim, investigation, litigation or proceeding (whether or not Seller is a party) which arises or is alleged to arise from Buyer's acts or omissions under these Terms or in any way with respect to the Products. Without limiting the foregoing, Buyer (at its own expense) shall indemnify and hold harmless Seller and defend or settle any action brought against Seller to the extent that it is based on a claim that any Product made to Buyer specifications infringed intellectual property rights of another party.
15. Property; Confidentiality. The intellectual property embodied in the Products is the exclusive property of Seller and its affiliates and Buyer shall not attempt to duplicate it in any way without the written permission of Seller. Notwithstanding any charges to Buyer for engineering or tooling, all engineering and tooling shall remain the exclusive property of Seller. All information and materials supplied by Seller to Buyer relating to the Products are confidential and proprietary, and Buyer shall limit distribution thereof to its trusted employees and strictly prevent disclosure to any third party.
16. Miscellaneous. (a) Waiver. No failure or delay by Seller in exercising any right and no course of dealing between Buyer and Seller shall operate as a waiver of rights by Seller. (b) Assignment. Buyer may not assign its rights hereunder without Seller's written consent. (c) Law. These Terms are governed by Illinois law (without regard to conflict of law principles). Federal and state courts in Illinois shall have exclusive jurisdiction for any dispute hereunder. (d) Amendment. These Terms constitute the entire agreement between Buyer and Seller relating to the Products, and no provision may be changed or waived unless in writing signed by the parties. (e) Severability. If any provision hereof is rendered ineffective or invalid, such provision shall not invalidate any other provision. (f) Setoff. Buyer shall have no right to set off any amounts against the amount owing in respect of this invoice. (g) Definitions. As used herein, "including" means "including without limitation".

Certain Precautions on Specifications and Use

1. **Suitability for Use.** Seller shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in Buyer's application or use of the Product. At Buyer's request, Seller 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 Product 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:
 - (i) Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this document.
 - (ii) 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.
 - (iii) Use in consumer products or any use in significant quantities.
 - (iv) Systems, machines and equipment that could present a risk to life or property. Please know and observe all prohibitions of use applicable to this product.

NEVER USE THE PRODUCT 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.
2. **Programmable Products.** Seller shall not be responsible for the user's programming of a programmable product, or any consequence thereof.
3. **Performance Data.** Performance data given in this publication is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Seller's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to Seller's Warranty and Limitations of Liability.
4. **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 part numbers when published ratings or features are changed or when significant construction changes are made. However, some specifications 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 Seller representative at any time to confirm actual specifications of purchased Product.
5. **Errors and Omissions.** The information in this publication has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors, or omissions.
6. **RoHS Compliance.** Where indicated, our products currently comply, to the best of our knowledge as of the date of this publication, with the requirements of the European Union's Directive on the Restriction of certain Hazardous Substances ("RoHS"), although the requirements of RoHS do not take effect until July 2006. These requirements may be subject to change. Please consult our website for current information.

Complete "Terms and Conditions of Sale" for product purchase and use are on Omron's website at www.components.omron.com – under the "About Us" tab, in the Legal Matters section.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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



**OMRON ELECTRONIC
COMPONENTS LLC**
55 E. Commerce Drive, Suite B
Schaumburg, IL 60173
847-882-2288

OMRON CANADA, INC.
885 Milner Avenue
Toronto, Ontario M1B 5V8
416-286-6465

OMRON ON-LINE
Global - <http://www.omron.com>
USA - <http://www.components.omron.com>
Canada - <http://www.omron.ca>