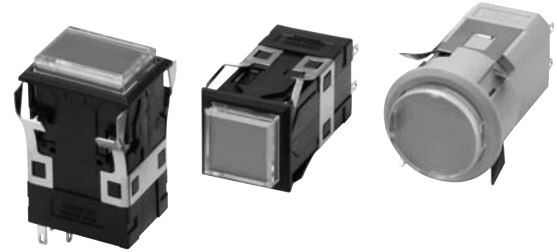


Indicator (Square) Ultra Bright LED Type M2P


Large Square-bodied Indicators. New models added with Ultra LEDs.

- New models with ultra bright LEDs added to single-screen models.
- Previous models not changed.

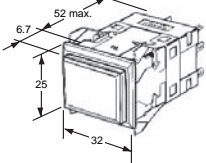
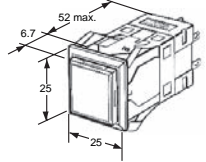
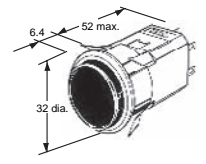
Line up of models in seven colors (the previous red, orange, green, and white models, and the new yellow, blue, and pure white models).



NEW

 Refer to *Safety Precautions for All Pushbutton Switches/Indicators* and *Safety Precautions* in the A3P datasheet.

List of Models

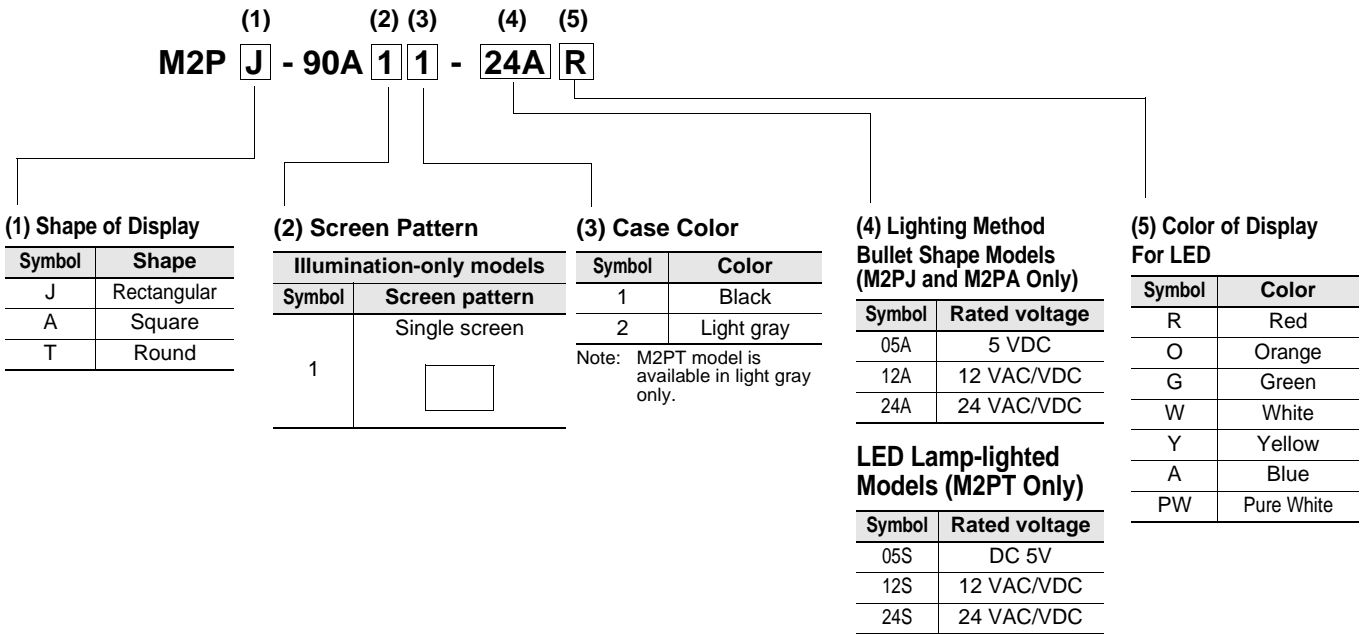
Model	Appearance
M2PJ (Rectangular)	
M2PA (Square)	
M2PT (Round)	

M2P

Model Number Structure

Model Number Legend The model numbers used to order sets of Units are illustrated below. One set comprises the Display, Lamp, and Socket.

For information on combinations, refer to *Ordering Information* on page 3.

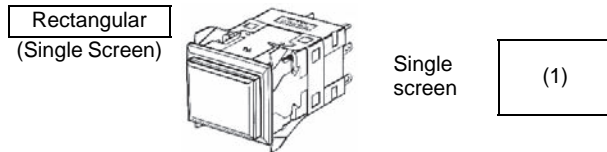


Color of screen	Symbol Color	R	Y	G	W	O	A	PW
		Red	Yellow	Green	White	Orange	Blue	Pure White
Color of plate		Red	Yellow	Green	White	Orange	Blue	White
LED		Red	Pure White	Green	Amber	Orange	Blue	Pure White

Ordering Information

Ordering as a Set The model numbers used to order sets of Units are given in the following tables. One set comprises the Display, Lamp, and Socket.

M2PJ (Rectangular) Single-screen Models



Case color		Black	Light gray
Lighting method	5 VDC	M2PJ-90A11-05A(1)	M2PJ-90A12-05A(1)
	12 VAC/DC	M2PJ-90A11-12A(1)	M2PJ-90A12-12A(1)
	24 VAC/DC	M2PJ-90A11-24A(1)	M2PJ-90A12-24A(1)

Note: Enter the desired color symbol for the Pushbutton in (1). (R) = Red, (O) = Orange, (G) = Green, (W) = White, (Y) = Yellow, (A) = Blue, (PW) = Pure White.

Example: Red M2PJ-90A11-24AR

M2PA (Square) Single-screen Models



Case color		Black	Light gray
Lighting method	5 VDC	M2PA-90A11-05A(1)	M2PA-90A12-05A(1)
	12 VAC/DC	M2PA-90A11-12A(1)	M2PA-90A12-12A(1)
	24 VAC/DC	M2PA-90A11-24A(1)	M2PA-90A12-24A(1)

Note: Enter the desired color symbol for the Pushbutton in (1). (R) = Red, (O) = Orange, (G) = Green, (W) = White, (Y) = Yellow, (A) = Blue, (PW) = Pure White.

Example: Red M2PA-90A11-24AR

M2PT (Round) Single-screen Models



Case color		Light gray	Lamp holder color symbol
LED lamp	5 VDC	M2PT-90A12-05S(1)	R, O, G, W, Y, A, or PW
	12 VAC/DC	M2PT-90A12-12S(1)	
	24 VAC/DC	M2PT-90A12-24S(1)	

Note: Enter the desired color symbol for the Pushbutton in (1). (R) = Red, (O) = Orange, (G) = Green, (W) = White, (Y) = Yellow, (A) = Blue, (PW) = Pure White.

Example: Red M2PT-90A12-24SR

Accessories, Parts, and Tools

The accessories, parts, and tools are the same as those for the A3P Lighted Pushbutton Switches. Refer to the A3P datasheet.

M2P

Specifications

LED and Incandescent Lamp Ratings and Characteristics

Ratings and characteristics are the same as those for the A3P Lighted Pushbutton Switches. Refer to the A3P datasheet.

Approved Standard Ratings

UL (File No. E41515), CSA (File No. LR45258)

LED: 24 VDC max.




Incandescent lamp: 28 VAC/VDC, 1.2 W max.

Note: Certification has been obtained for the Indicator.

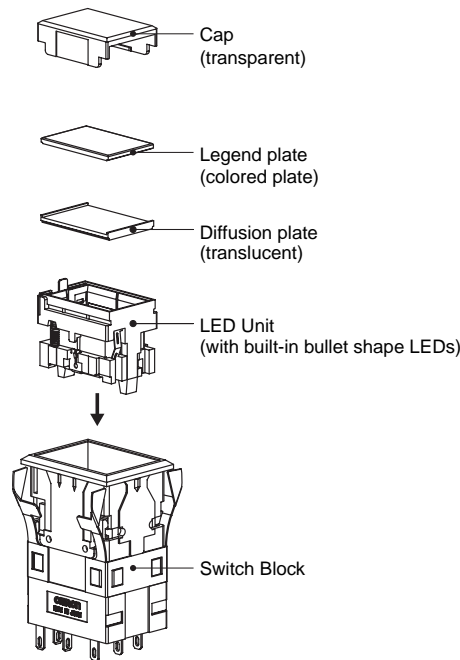
For detailed information on individual products that have received certification, consult your supplier.

Nomenclature

Model Structure

Lighting method	Bullet Shape LED Models (LED is built-in.)		LED lamp-lighted models (LED is not built-in.)
	M2PJ	M2PA	M2PT
Models			
Screen pattern	Single screen 	Single screen 	Single screen 

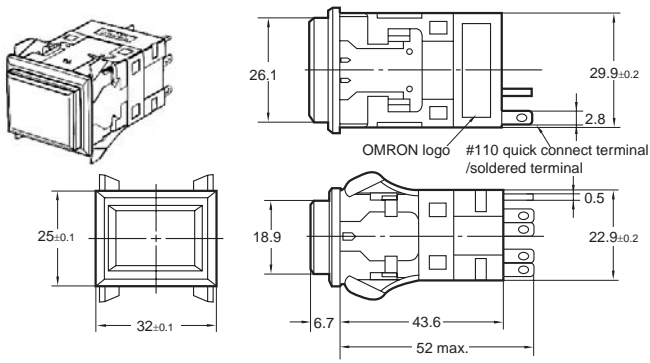
Example: M2PJ with Bullet Shape LED Lighting



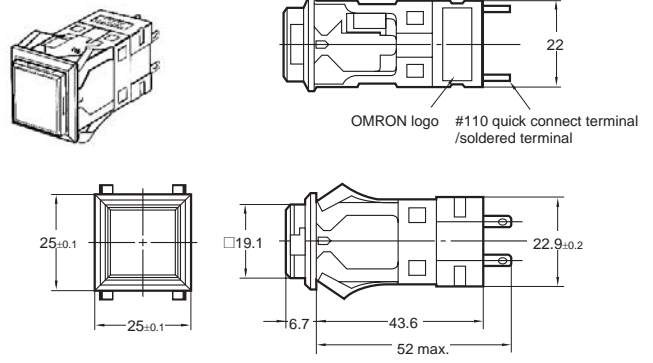
Dimensions

(Unit: mm)

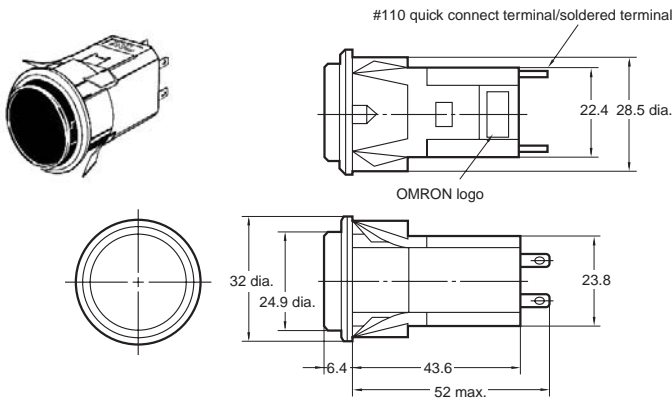
M2PJ (Rectangular) Models



M2PA (Square) Models



M2PT (Round) Models



Note: Use a panel thickness of 0.5 mm for tab terminals #110 and solder terminals.

Terminal Connections

Bullet Shape LED Models

Model	Rated voltage Screen pattern	5 VDC		12 VDC		24 VDC	
		Bottom view	Top view	Bottom view	Top view	Bottom view	Top view
M2PJ	Single screen						
		Terminal arrangement	Lighting block	Terminal arrangement	Lighting block	Terminal arrangement	Lighting block
M2PA	Single screen						
		Terminal arrangement	Lighting block	Terminal arrangement	Lighting block	Terminal arrangement	Lighting block

LED Lamp-lighted Models

Type	Model	Round M2PT models
Indicator		<p>Terminal arrangement Lighting block</p>

Panel Cutout

M2PJ (Rectangular) Models

Classification	Mounting design	Panel cutout	Remarks
Flange mount models	Individual mounting (Horizontal) 		Panel cutout spacing between rows of Units:
	Multiple mounting (Horizontal) 		
	Individual mounting (Vertical) 	Mount to long mounting plate (A3PJ-3002) before use. 	
	Multiple mounting (Vertical) 	Mount to long mounting plate (A3PJ-3002) before use. 	
Barrier mount models	Individual mounting (Horizontal) 		For barrier mount models, refer to Accessories in the A3P datasheet. Panel cutout spacing between rows of Units: Dotted line indicates the position of each mounting barrier.
	Multiple mounting (Horizontal) 		
	Individual mounting (Vertical) 	Mount to long mounting plate (A3PJ-3002) before use. 	
	Multiple mounting (Vertical) 	Mount to long mounting plate (A3PJ-3002) before use. 	

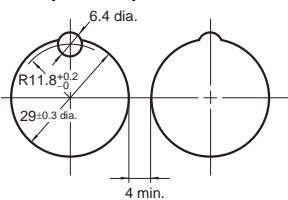
- Note:**
1. n: Number of Units
 2. Recommended panel thickness: 1 to 5 mm
 3. Mount the panel before mounting the Switch Guard.
 4. If the panel is to be finished (e.g., coated), make sure that the panel meets the specified dimensions after the coating.

M2PA (Square) Models

Classification	Mounting design	Panel cutout	Remarks
Flange mount models	Individual mounting 		Panel cutout spacing between rows of Units:
	Multiple mounting 		
Barrier mount models	Individual mounting 		Panel cutout spacing between rows of Units: Dotted line indicates the position of each mounting barrier.
	Multiple mounting 		

- Note:**
1. n: Number of Units
 2. Recommended panel thickness: 1 to 5 mm
 3. If the panel is to be finished (e.g., coated), make sure that the panel meets the specified dimensions after the coating.

M2PT (Round) Models



- Note:**
1. Recommended panel thickness: 1 to 5 mm
 2. If the panel is to be finished (e.g., coated), make sure that the panel meets the specified dimensions after the coating

Safety Precautions

Refer to **Safety Precautions for all Pushbutton Switches/Indicators** for common precautions.
Read the **Safety Precautions** in the A3P datasheet.

Safety Precautions

Refer to *Safety Precautions for all Pushbutton Switches/Indicators*.

Caution

Do not apply a voltage higher than the maximum rated operating voltage between the lamp terminals, as there is a risk that the incandescent lamp or LED will be damaged, and the Pushbutton will be ejected.



When replacing the incandescent lamp, first turn OFF the power supply, and then wait 10 minutes before performing replacement, as the lamp is still hot immediately after the power is turned OFF, so there is a risk of burns.



Precautions for Correct Use

1. Always make sure that the power is turned OFF before mounting, removing, or wiring the Switch, or performing maintenance. Electric shock or fire may occur.
2. After wiring the Switch, make sure that there is a suitable isolation distance.

Wiring

- Solder quickly and correctly at 350°C max and for 3 s or less. Wait for one minute after soldering before exerting any external force on the solder.

Operating Environment

- Do not use in locations that are subject to dust, oil, or metal filings as these may penetrate the interior of the Switch and cause malfunction.

LED (for VDC)

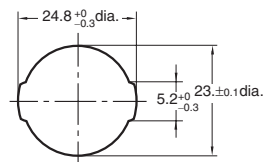
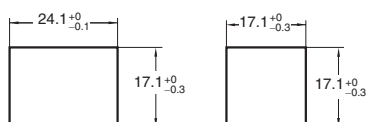
- Check the terminal polarity when wiring.
- The rated voltage is shown on the plate on the back of the lighting unit, so be sure to use within the voltage shown.
- An LED current-limiting resistor is built in, so there is no need to mount an external resistor.

Incandescent Lamp

- Apply 80% of the rated voltage (operating voltage) to the incandescent lamp to improve life expectancy and incandescence.

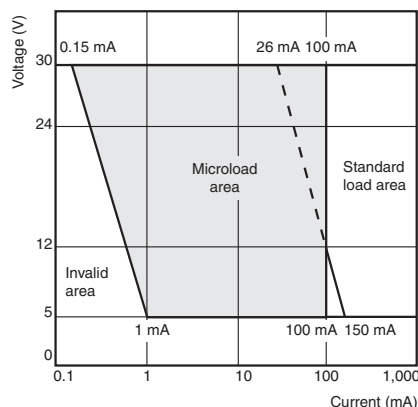
Character Plate (Character Film)

- If preparing the character plate separately, use a heat-resistant film with a thickness of 0.1 to 0.3 mm.



Using Microloads

- Using a standard load switch when a microload circuit is opened or closed may cause contact failure on the contacts. Use the switch within the operating range. (Refer to the diagram below.) Even when using microload models within the operating range shown below, if inrush current occurs when the contact is opened or closed, it may cause the contact surface to become rough, and so decrease life expectancy. Therefore, insert a contact protection circuit where necessary. The minimum applicable load is the N-level reference value. This value indicates the malfunction reference level for the reliability level of 60% ($\lambda 60$) (conforming to JIS C5003). The equation, $\lambda 60 = 0.5 \times 10^{-6}/\text{time}$ indicates that the estimated malfunction rate is less than 1/2,000,000 with a reliability level of 60%.



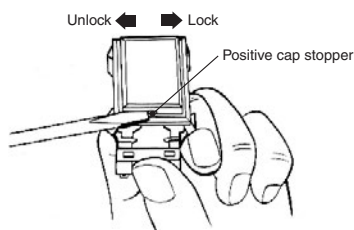
Others

- If the panel is to be finished (e.g., coated), make sure that the panel meets the specified dimensions after the coating.

Assembly/Disassembly

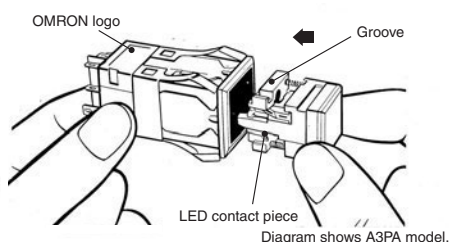
A3PJ/M2PJ (Rectangular Models), A3PA/M2PA (Square Models)

Locking/Unlocking Positive Cap Lock Mechanism



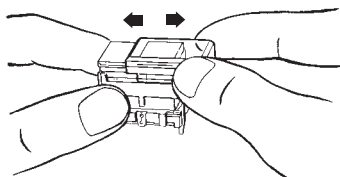
Mounting Pushbutton

- Be sure to mount the Pushbutton with the correct orientation. Align the groove on the Pushbutton, the projections in the Switch, and the LED contact piece before pushing the Pushbutton into the Switch.
- When dismantling the Pushbutton, use the Extractor (A3PJ-5080) for easy dismantling.



Removing/Mounting Cap

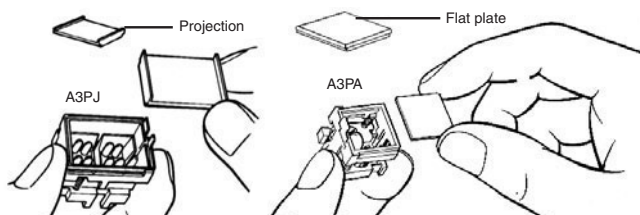
Insert the A3PA from the open side into the theft-prevention stopper.



Mounting Colored Plate

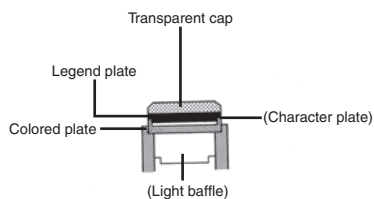
Place the colored plate on the plunger case with the dull side of the colored plate facing downward.

With A3PJ split-screen models, be sure that the projections on the upper surface of the colored plate face outward. For the A3PA, make sure that the flat plate is facing upwards.



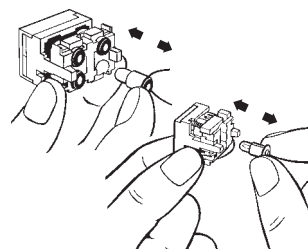
Mounting Character Plate (Character Frame) and Legend Plate

Mount the legend plate for the A3PJ under the layered surfaces and mount the cap, as shown below.



Mounting and Replacing LED and Incandescent Lamps

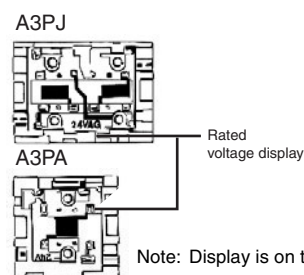
If using an A3PA (square) model with one incandescent lamp, insert the lamp in the center hole.



Note: Built-in LEDs cannot be replaced.

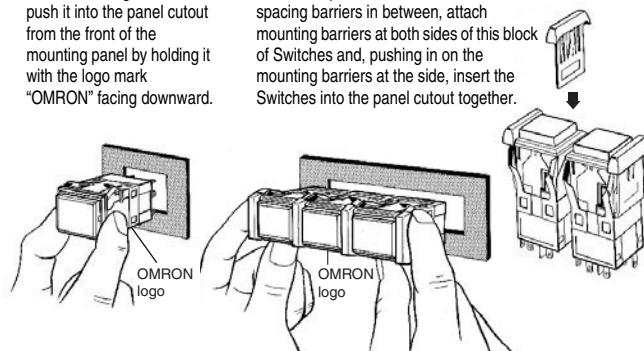
LED Rated Voltage Display (LED Models Only)

The LED rated voltage is shown between the built-in resistors on the back of the lighting unit. Use within a range of $\pm 5\%$.



Mounting Switch onto Panel

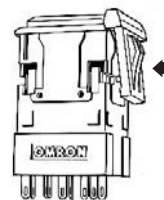
- **Individual Mounting and Barrier Mounting**
When mounting the Switch, push it into the panel cutout from the front of the mounting panel by holding it with the logo mark "OMRON" facing downward.
- **Multiple Barrier Mounting (A3PJ)**
When mounting a number of Switches in line on the panel, link the Switches with spacing barriers in between, attach mounting barriers at both sides of this block of Switches and, pushing in on the mounting barriers at the side, insert the Switches into the panel cutout together.



Mounting Barriers

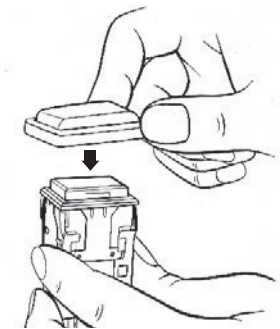
Mount each part by pushing it in the direction of the arrow shown in the corresponding illustration below.

Barrier mounting



Mounting Seal Cover

After mounting the seal cover onto the flange of the Switch, push the Switch into the panel cutout.

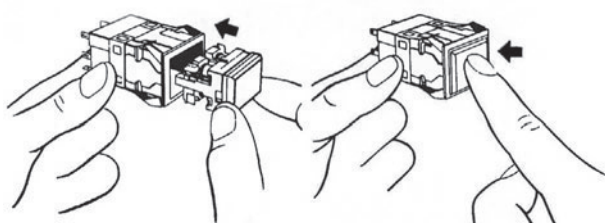


Inscribing the Legend Plate

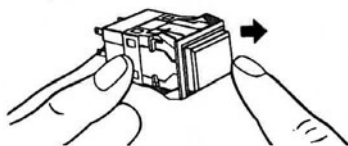
- Inscribe the legend plate to a depth of 0.5 mm max.
- The legend plate is made from polycarbonate resin. To coat the legend plate, use an alcohol-based coating such as melamine, phthalic acid, or acrylic.

Maintenance Lock

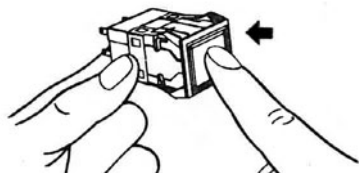
1. First, when you insert the transparent lens while pressing the center, the maintenance lock mechanism will be activated, and the Switch will not operate. Lamp replacement and other maintenance can be performed without turning OFF the power supply to devices and equipment. Use an insertion force of 4 kg.



2. Next, when you remove your finger from the Switch, the lock will be released.



3. The Switch will start to operate when the lighting unit is pressed the second time.



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18. **Miscellaneous.** (a) **Waiver.** No failure or delay by Omron in exercising any right and no course of dealing between Buyer and Omron shall operate as a waiver of rights by Omron. (b) **Assignment.** Buyer may not assign its rights hereunder without Omron's written consent. (c) **Law.** 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 principles). (d) **Amendment.** 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) **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"; and "Omron Companies" (or similar words) mean Omron Corporation and any direct or indirect subsidiary or affiliate thereof.

Certain Precautions on Specifications and Use

1. **Suitability of Use.** Omron Companies shall not be responsible for conformity 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 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) Use in consumer products or any use in significant quantities. (iii) 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. (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 OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON'S PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
2. **Programmable Products.** Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.
3. **Performance Data.** Data presented in Omron Company websites, catalogs and other materials 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 user must correlate it to actual application requirements. Actual performance is subject to the Omron'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 Omron's representative at any time to confirm actual specifications of purchased Product.
5. **Errors and Omissions.** Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

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