

E8Y-P

Pressure Display

CSM_E8Y-P_DS_E_2_1

Micropressure Sensor with Easy-to-Read Digital Display

- Compact design (31 × 30 × 30 mm) saves mounting space.
- Easy-to-read red LED indicator.
- Analog current output models available (E8Y-P□Y).
- Pressure port Rc (PT) 1/8 models (-R) available.
- EN and UL approved (excluding accessories E89-Y2).



Refer to Precautions in the instruction sheet

Model

E8Y- P (1) (2) - (3)

(1) Rated pressure range

- 5 : 0 to 5 kPa
- 2 : 0 to 2 kPa
- 1 : 0 to 1 kPa
- R5 : 0 to 500 Pa
- R2 : 0 to 200 Pa

(3) Connection port

- (None) : Standard (4.5-dia. barb port)
- R : Rc1/8 die-cast port

(2) Output type

- C: NPN comparison output × 2 system
- Y: NPN comparison output × 2 system +4 to 20 mA linear output
- B: PNP comparison output × 2 system

Ordering Information

Devices*1

Pressure range	Comparison output	Linear output	Model
0 to 200 Pa	NPN open collector	-	E8Y-PR2C
0 to 500 Pa			E8Y-PR5C
0 to 1 kPa			E8Y-P1C
0 to 2 kPa			E8Y-P2C
0 to 5 kPa			E8Y-P5C
0 to 200 Pa		4 to 20 mA	E8Y-PR2Y
0 to 1 kPa	E8Y-P1Y		
0 to 5 kPa	E8Y-P5Y		
0 to 5 kPa	PNP open collector	-	E8Y-P5B

*1. The price is for standard port type (Pressure Port: 4.5 dia.).
A model number ending in -R indicates the pressure port is die-cast for Rc (PT) 1/8 models.

Accessories (Order Separately)

Panel Attachment Part Set (For □36 and □45 Models)

Model
E89-Y2 *2 *3

- *2. Includes the protection cover, guide, frame, and holder.
- *3. The E89-Y2 is not a UL-certified product.
The E8Y-P is UL-certified with the E89-Y2 attached.

Ratings

Model		E8Y-PR2C	E8Y-PR5C	E8Y-P1C	E8Y-P2C E8Y-P2C-R	E8Y-P5C E8Y-P5C-R E8Y-P5B	E8Y-PR2Y	E8Y-P5Y E8Y-P5Y-R
Item								
Power supply voltage		DC 12 to 24 V±10% max. (with a ripple)						
Current consumption		50 mA max.					75 mA max.	
Pressure type		Differential pressure						
Rated pressure range		0 to 200 Pa	0 to 500 Pa	0 to 1 kPa	0 to 2 kPa	0 to 5 kPa	0 to 200 Pa	0 to 5 kPa
Withstand pressure		50 kPa						
Applicable fluid (gas)		Non-corrosive gas and non-flammable gas						
Linear output	Output current	-	-	-	-	-	4 to 20 mA	
	Permissible load resistance	-	-	-	-	-	0 to 250 Ω	
Comparison output	Output type	NPN open collector (NO/NC) *1						
	Load current	100 mA max.						
	Output applied voltage	DC 30 V max.						
	Residual voltage	1.0 V max. (at 100 mA load current), 0.4 V max. (at 16 mA load current) *2						
Display method	Display	3-digit 7-segment red LED						
	Indicator lamp	Orange LED displays comparison output OUT1 and OUT2					LED (1): OUT1, LED (2): OUT2	
Repeating accuracy		±5 Pa	±5 Pa	±10 Pa	±20 Pa	±50 Pa	±5 Pa	±50 Pa
Linearity		±10 Pa	±10 Pa	±10 Pa	±20 Pa	±50 Pa	±10 Pa	±50 Pa
Setting/Display resolution		1 Pa	1 Pa	1 Pa	10 Pa	10 Pa	1 Pa	10 Pa
Protection circuits		Reverse polarity protection, load short-circuit protection						
Ambient temperature range		-10 to +55°C (with no condensation or icing)						
Ambient humidity range		25 to 85%RH (with no condensation)						
Ambient storage temperature range		-25 to +65°C (with no condensation or icing)						
Accessories		Mounting Brackets (A and B), instruction manual						

*1. E8Y-P5B provides a PNP open-collector (NO/NC) output.

*2. E8Y-P5B: 2.0 V max. (at 100 mA load current)

Characteristics

Temperature influence	E8Y-PR2□: ± 20 Pa E8Y-PR5□: ± 30 Pa E8Y-P1□: ± 50 Pa E8Y-P2□: ± 60 Pa E8Y-P5□: ±150 Pa
Humidity influence	E8Y-PR2□: ± 20 Pa E8Y-PR5□: ± 30 Pa E8Y-P1□: ± 50 Pa E8Y-P2□: ± 60 Pa E8Y-P5□: ±150 Pa
Degree of protection	IP40 (IEC)
Withstand voltage	AC1,000 V 50/60 Hz 1min
Insulation resistance	100 MΩ min. (at 500 VDC) between current-carrying parts and case
Vibration resistance	Destruction: 10 to 150 Hz, 0.75 mm single amplitude or 100 m/s ² , 4 times each for 8 min in X, Y and Z directions
Shock resistance	Destruction: 300 m/s ² 3 times each in X, Y and Z directions
Pressure port	4.5-dia. resin pipe or Rc (PT) 1/8 taper screw (-R type)
Cable	Vinyl-insulated round cable 4 dia., 5-core 2 m
Weight	Approx. 80 g

EU/Certification Standards

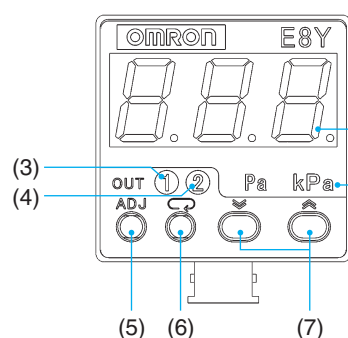
Applicable EN Standards

- EN 55032:2015 Class B
- EN 61000-6-2:2005
- EN 61000-6-3:2007+A1:2011

Certification Standards

- UL 61010-1/CSA C22.2 No.61010-1 (File No.E181661)

Name and nomenclature of Each Part



Display

(1) Numerical value/menu indication

Displays the measured pressure and some menu settings.

(2) Unit

LED displays the measuring unit (Pa, kPa).

(3) OUT 1 indication LED

In measurement mode, it lights when OUT 1 output is on.
In setting mode, it flashes when OUT 1 is being set.

(4) OUT 2 indication LED

In measurement mode, it lights when OUT 2 output is on.
In setting mode, it flashes when OUT 2 is being set.

Operation Key

(5) ADJ

In measurement mode, it adjusts the Zero Point.

In setting mode, it shifts to measurement mode.

(6) [MODE]

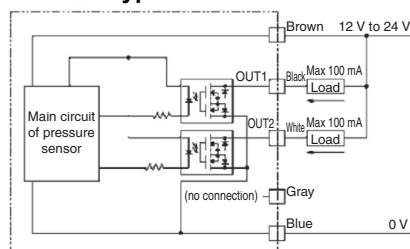
In measurement mode, it shifts to setting mode and selects the current setting or menu option.

(7) [UP] / [DOWN]

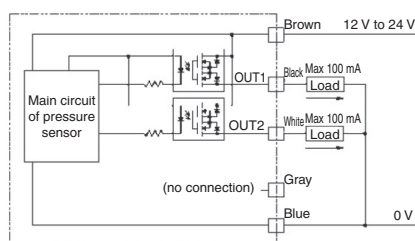
In measurement mode, it displays ON and OFF points. Pushing the [DOWN] key displays OUT 1 settings; Pushing the [UP] key displays OUT 2 settings.
Change menu options and setting values in setting mode. The [UP] and [DOWN] keys increase or decrease the numeric value.

Output Circuit Diagrams/Example of Connections

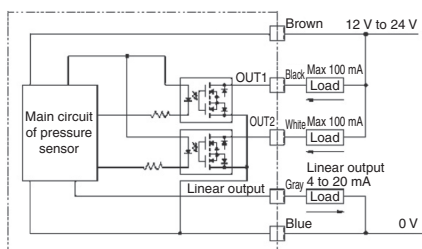
E8Y-P□C type



E8Y-P□B type



E8Y-P□Y type

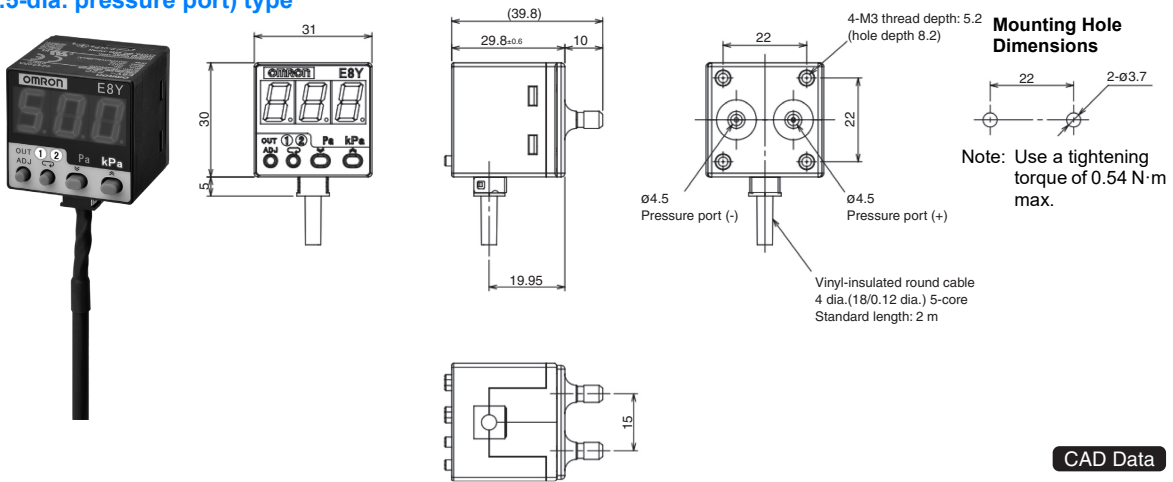


Dimensions

Devices

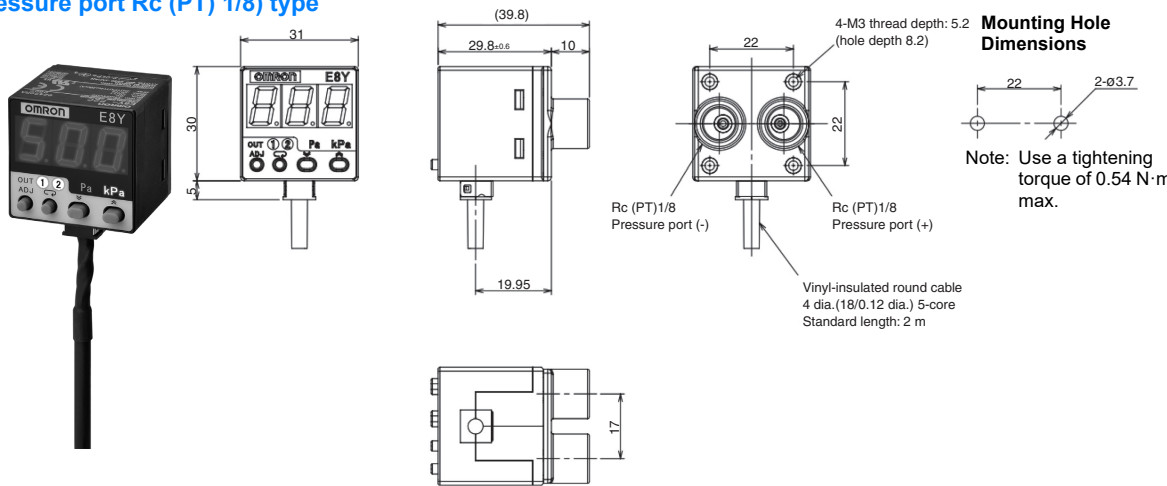
Standard port (4.5-dia. pressure port) type

- E8Y-PR2C
- E8Y-PR5C
- E8Y-P1C
- E8Y-P2C
- E8Y-P5C
- E8Y-P5B
- E8Y-PR2Y
- E8Y-PR5Y
- E8Y-P1Y
- E8Y-P2Y
- E8Y-P5Y



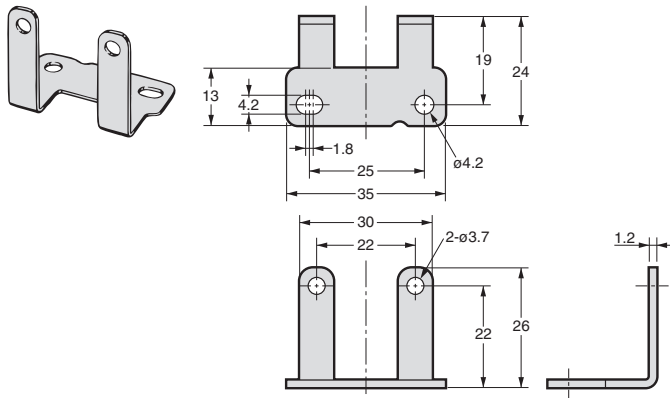
Die-cast port (Pressure port Rc (PT) 1/8) type

- E8Y-PR2C-R
- E8Y-PR5Y-R
- E8Y-P2C-R
- E8Y-P5C-R
- E8Y-P2Y-R
- E8Y-P5Y-R

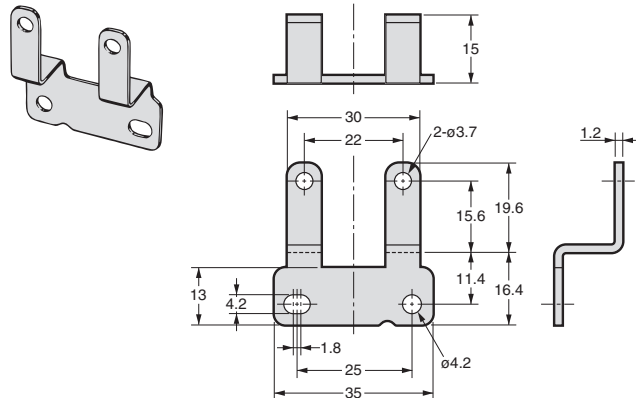


Accessories (included)

Mounting Brackets A



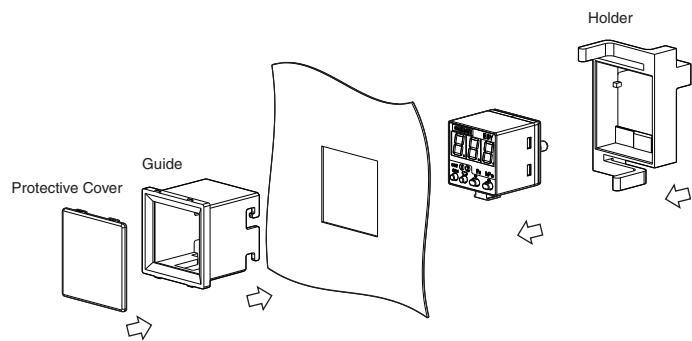
Mounting Brackets B



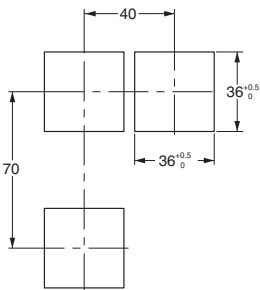
Panel Mounting/Dimensions

E89-Y2 (This model comes with a protective cover, guide, frame, and holder. Either the □36 or □45 panel can be used.)

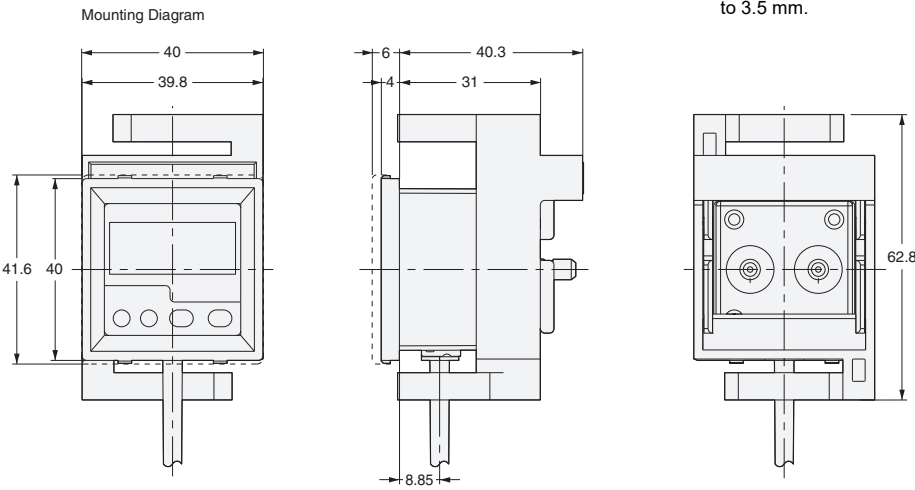
When mounted with the □36 panel * Pressure display model. Cannot be used with E8Y-□-F□ Series differential pressure flowmeters.



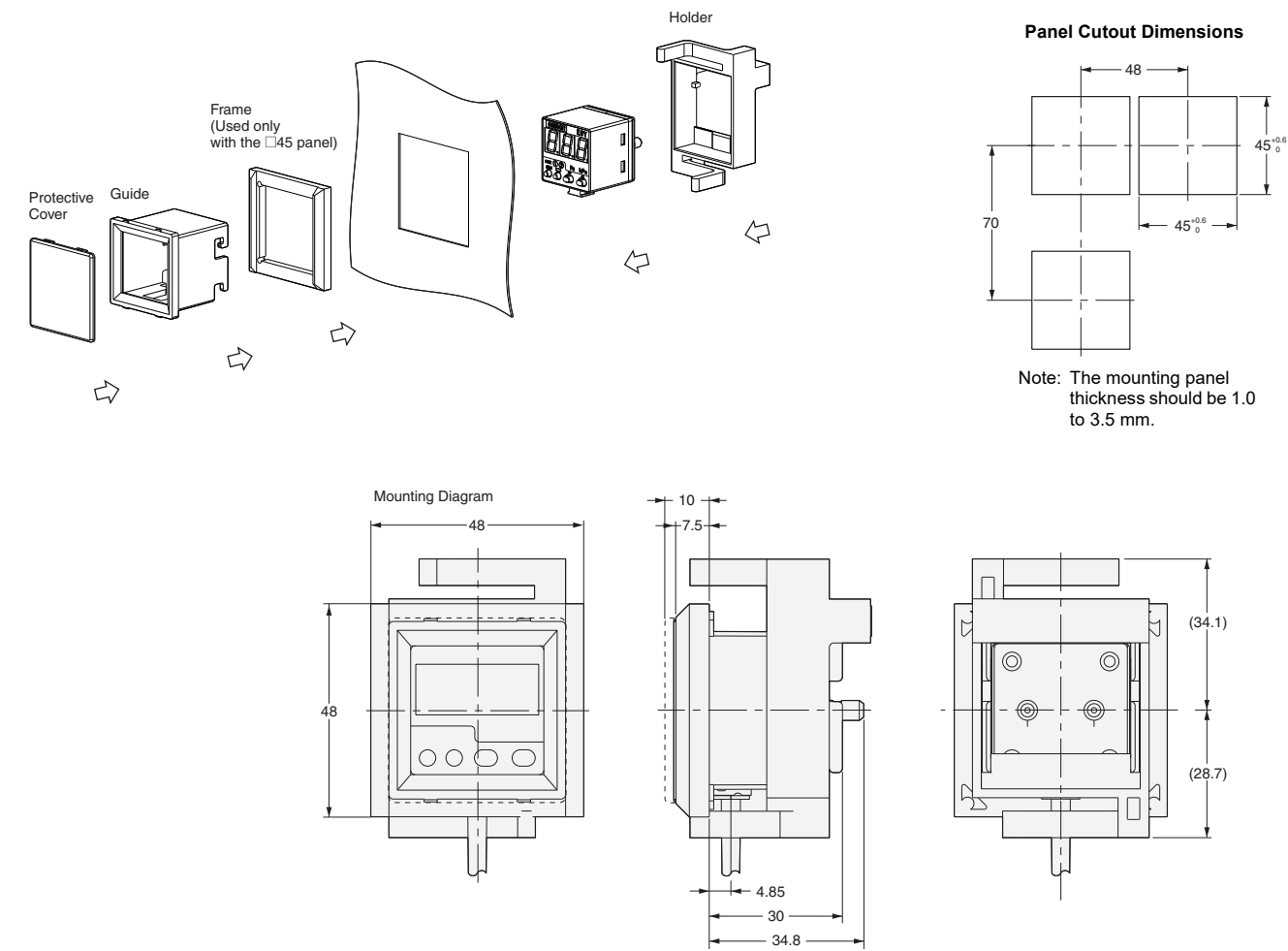
Panel Cutout Dimensions



Note: The mounting panel thickness should be 1.0 to 3.5 mm.



When mounted with the □45 panel



NOTICE

1. The product is designed for indoor use only. Do not use the product outdoors.
Do not use or store the product in any of the following locations.
 - * Places subject to splashing liquid or oil atmosphere.
 - * Places subject to direct sunlight.
 - * Places subject to explosive gas or ignitable gas.
2. Do not use beyond rated supply voltage or under AC power supply.
Explosion or burning may be caused.
3. Do not short the circuit. Explosion or burning may be caused.
4. Do not mix up DC pole's wiring. Explosion or burning may be caused.
5. Since this product is precision instrument, please do not drop it and add an impact to it. The product functions may not work sufficiently.
6. Please do not use in dusty environment.
7. This product can not be used under corrosive gas or flammable gas.
8. Do not set up with high voltage line or power line.
9. Do not be exposed to the water.
10. Do not affect the product by ultrasonic vibration.
11. Use within rated pressure.
Please do not apply pressure that exceed the proof pressure. If pressure that exceed the proof pressure is applied, there is a possibility that the internal element is damaged.
12. Do not mix up connecting +, - sign of pressure port. "+" sign for plus pressure, "-" sign for minus pressure.
13. Do not pull the cable by 50 N and more than that.
14. When it may happen that oil in the compressor or the humid in the air becomes drops and stays in pressure passive part in pressure sensor, insert the air filter to remove them and prevent them from breaking the element.
15. In the case of the linear output type no use of comparison output, cut the output lead wire and cover the tip with insulation tube and prevent wrong connection.
16. Please keep away from strong magnetic fields.
Using in the strong radio wave field, such as near a radio wave generator, may change the accuracy up to 4% FS.
17. Zero reset is required after the warming up 10 minutes in order to measure accurately.
18. When equipment is used by the way a manufacturer doesn't specify, the protection may be damaged.

Terms and Conditions Agreement

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.

Warranties.

(a) Exclusive Warranty. Omron'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 Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.

(b) Limitations. OMRON 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.

Omron 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. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses 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. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies 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.

See <http://www.omron.com/global/> or contact your Omron representative for published information.

Limitation on Liability: Etc.

OMRON COMPANIES 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 Omron Companies exceed the individual price of the Product on which liability is asserted.

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.

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 PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

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.

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.

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.