

Pressure Sensor of Stainless Steel Construction Is Ideal for a Wide Range of Applications

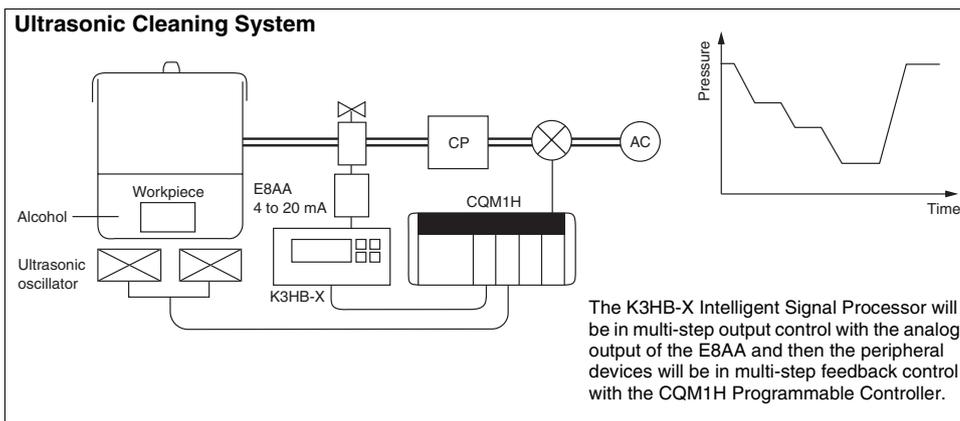
- Incorporates double diaphragms consisting of SUS316L stainless steel and silicone diaphragms that are applicable to a variety of gases and liquids.
- Two models with different pressure sensing ranges: 0 to 500 kPa and 0 to 1 MPa.
- Linear output from 4 to 20 mA with excellent linearity.
- IEC IP66 degree of protection: Washable with water.



⚠ Be sure to read *Safety Precautions* on page 4.

Application Examples

- **Semiconductor Manufacturing Equipment:** Pressure monitoring and control
- **Automatic Assembly Equipment:** Pneumatic pressure control
- **Robots:** Pneumatic pressure control
- **Production Lines:** Pneumatic pressure control
- **Industrial Material Pneumatic Transportation Systems**
- **Pressure Tank:** Pressure control
- **Tank Level Control**



Ordering Information

Pressure range	Output configuration	Model
0 to 500 kPa	Linear output (4 to 20 mA)	E8AA-M05
0 to 1 MPa		E8AA-M10

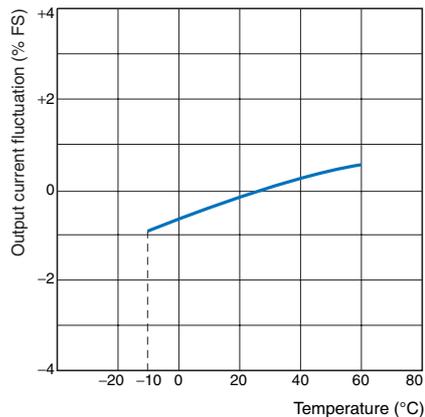
Ratings and Specifications

Item	Model	E8AA-M05	E8AA-M10
Power supply voltage		12 to 24 VDC $\pm 10\%$, ripple (p-p): 5% max.	
Current consumption		40 mA max. (standard value including 20-mA output current) at rated pressure	
Pressure type		Gauge pressure	
Pressure range		0 to 500 kPa	0 to 1 MPa
Withstand pressure		980 kPa	2 MPa
Applicable material		Non-corrosive gasses, non-corrosive liquids, inert gasses	
Accuracy (linear output)		$\pm 1\%$ FS max. with a resistive load of 150 Ω at 23°C	
Hysteresis (linear output)		$\pm 0.5\%$ FS max.	
Linearity (linear output)		$\pm 1\%$ FS max.	
Response time		100 ms max.	
Linear output		4 to 20 mA with a permissible resistive load of 300 Ω max.	
Ambient temperature		Operating: -10°C to 60°C (with no icing) Storage: -25°C to 70°C (with no icing)	
Ambient humidity		Operating/Storage: 35% to 95% (with no condensation)	
Temperature influence		$\pm 0.09\%$ FS/ $^{\circ}\text{C}$ max. between -10°C and 60°C	
Voltage influence		Max. output current fluctuation of $\pm 0.5\%$ FS at 12 VDC $\pm 10\%$ or 24 VDC $\pm 10\%$ with a ripple of 5%	
Insulation resistance		100 M Ω min. (at 500 VDC) between current carry parts and case	
Dielectric strength		1,000 VAC, 1 min	
Vibration resistance		Destruction: 10 to 500 Hz, 1.5-mm double amplitude or 100 m/s ² for 2 hours each in X, Y, and Z directions	
Shock resistance		Destruction: 1,000 m/s ² 3 times each in X, Y, and Z directions.	
Degree of protection		IEC 60529 IP66 (excluding end of cable)	
Pressure inlet		R(PT)1/4	
Connection method		Pre-wired (standard cable length: 2 m)	
Weight (packed state)		Approx. 250 g	
Material	Pressure port and casing	SUS316	
	Diaphragm	SUS316L	
	O-ring	Fluorocarbon rubber	
Accessories		Protective cap, instruction manual	

Engineering Data (Typical)

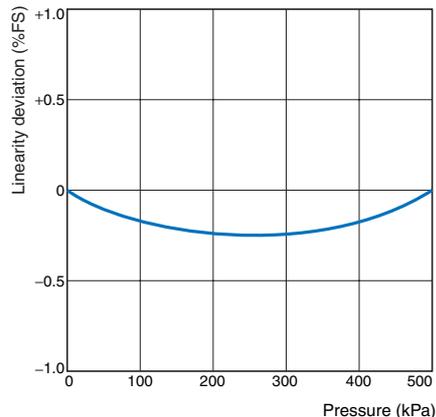
Output Current Fluctuation vs. Temperature

E8AA-M10



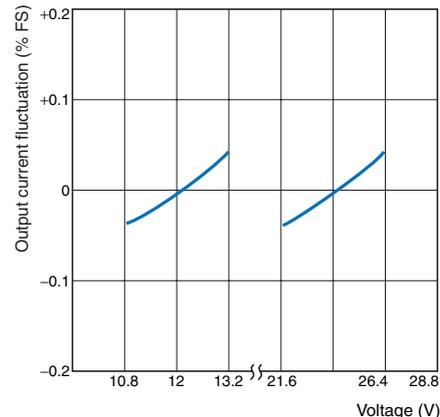
Linearity

E8AA-M05



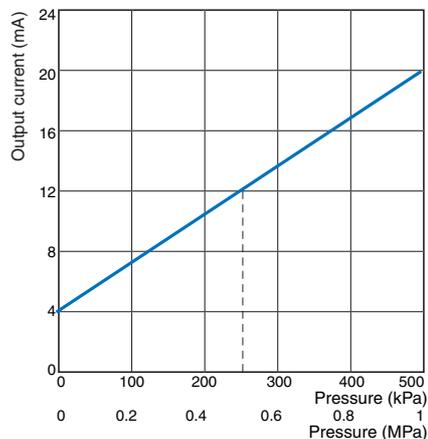
Output Current Fluctuation vs. Voltage

E8AA-M10



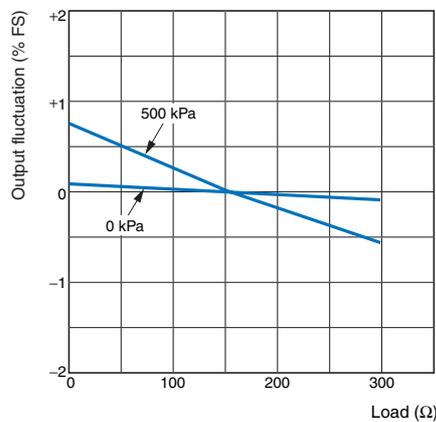
Output Current vs. Pressure

E8AA-M05 (E8AA-M10)

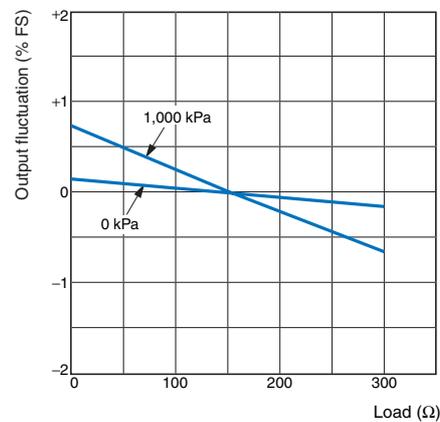


Output Current vs. Load

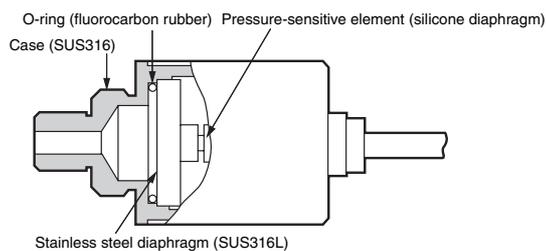
E8AA-M05



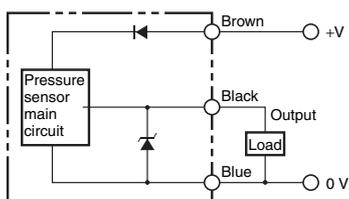
E8AA-M10



Nomenclature



I/O Circuit Diagram



Safety Precautions

⚠ WARNING

This product is not designed or rated for ensuring safety of persons. Do not use it for such purposes.



Precautions for Correct Use

Do not use the product in atmospheres or environments that exceed product ratings.

Mounting

- The cable is in a hollow pipe in order to keep the pressure inside the Sensor the same as the atmospheric pressure. If the pipe is clogged, the accuracy of the Sensor may be lowered.
- Do not bend or impose a heavy weight on the output cable.
- Make sure that the tip of the output cable is open and not clogged with dust or water.
- If the diaphragms are damaged, the Unit will not operate properly. Do not insert a screwdriver or steel wire into the interior of the pressure-sensitive parts.
- The characteristics of the Unit will change if foreign material is stuck to the stainless steel diaphragm.

- The mounting screw for the pressure inlet is a PT1/4 taper screw. Do not use any other type of screw.
- Apply sealing tape to the PT1/4 screw part so that there will be no pressure leakage.
- The most suitable wrench is 22 mm in size.
- Do not apply a tightening torque higher than 49 N·m.
- Do not use the E8AA for applications in which the E8AA comes into direct contact with medical or food products.

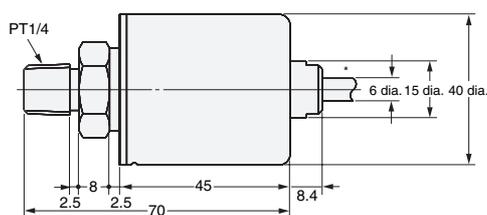
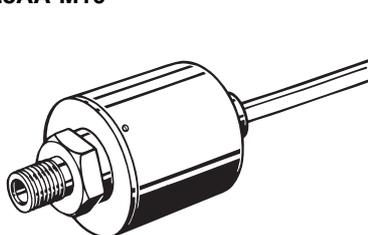
Wiring

- If it is necessary to cut the output cable, make sure that the tip of the hollow pipe is not clogged.

Dimensions

(Unit: mm)

E8AA-M05
E8AA-M10



* 6-dia. vinyl-insulated round cable (in hollow pipe) with 3 conductors, (Conductor cross-section: 0.3 mm², Insulator diameter: 1.5 mm); Standard length: 2 m

In the interest of product improvement, specifications are subject to change without notice.