

Cube-Type Pressure Sensors

OMRON
the problem solvers™

with advanced control options
and **PSI** display



Differential Pressure Sensor – E8Y

In one miniature package, the E8Y differential pressure sensor solves applications that previously required two individual sensors and a controller. It is an extremely sensitive and reliable controller with discrete outputs for direct connections to your PLC. A separate analog output makes the data available for charting. The E8Y puts intelligent control at the site, freeing up your control system for faster performance.

Gauge Pressure Sensor – E8F2

Make your pick-and-place and object detection applications perform at peak consistency with the new E8F2 gauge pressure sensor. Its large LED face simultaneously displays an analog bar graph and digital pressure values so you can monitor all aspects of your application at a glance. These models also have two independent discrete outputs for quick connections to your control device, and an analog output that simplifies data collection. Choose either vacuum or pressure models to fit your application.

31 x 30 x 30 mm
(1.22 x 1.18 x 1.18 in)

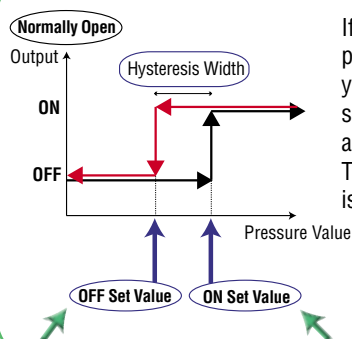
28 x 28 x 29 mm
(1.10 x 1.10 x 1.14 in)

- Small size
- PSI models with 2 pressure ranges
- 1-touch programming for upper and lower limits
- Hysteresis mode (ideal for detection applications)
- Window modes (ideal for maintaining a pressure range)
- Digital and analog outputs
- NPN or PNP output types
- Manual or Automatic programming
- User defined normally open or normally closed configuration
- 3 different pressure ranges

Programming Options

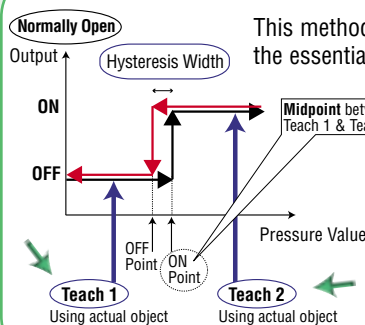
Both the E8Y and E8F2 can be configured either normally open or normally closed. They also offer a choice of Hysteresis or Window mode and auto or manual programming.

Manual Hysteresis Mode

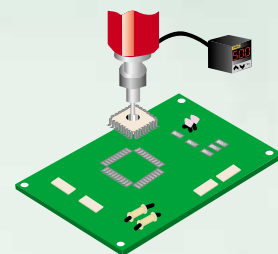


If you know the exact pressure settings of your application, simply enter the ON and OFF set values. The Hysteresis width is automatically set.

2-Point Auto-Teaching Hysteresis Mode

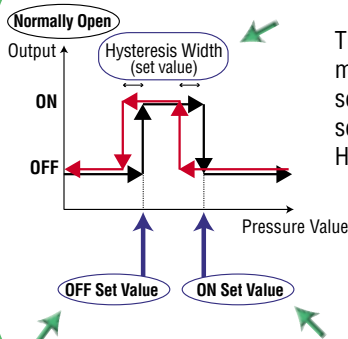


This method automatically sets the essential parameters based on production values. Use an actual object to teach the ON and OFF points, and the midpoint will be automatically set.



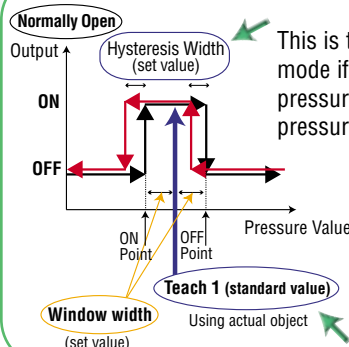
These programming methods are ideal for detection applications.

Manual Window Mode

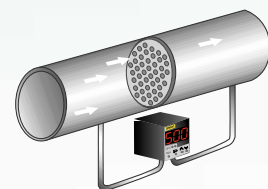


The manual Window mode requires you to set the ON and OFF set values and the Hysteresis width.

I-Point Auto-Teaching Window Mode



This is the ideal programming mode if you have a target pressure. Enter the target pressure and the ON and OFF points are set automatically. The only other things you have to set are the Window and Hysteresis widths.



The 'Window mode' is ideal for applications where you have to maintain a specific pressure range.

NOTE: The above charts show a 'Normally Open' configuration. Reverse them for a 'Normally Closed' configuration.



Specifications

E8Y

E8F2

Pressure type	Differential pressure	Gauge pressure
Power supply voltage	12 to 24 VDC	12 to 24 VDC
Rated pressure	0 to 0.290 psi 0 to 0.725 psi	0 to 145 psi 0 to 14.5 psi 0 to -14.5 psi
Linearity	±1% FS max.	±1% FS max.
Response time (digital output)	0.5 sec. max.	5 ms max.
Display accuracy	±1% FS	±3% FS
Linear output	4 to 20 mA ±1% FS with a permissible resistive load of 250 Ω	1 to 5 V ±5% FS with an output impedance of 1 kΩ and a permissible resistive load of 500 kΩ
Digital output	NPN open collector (NO/NC) Load current: 100 mA max. Applied voltage: 30 VDC max. Residual voltage: 1 V max. with a load current of 100 mA or 0.4 V max. with a load current of 16 mA	NPN open collector (NO/NC) Load current: 30 mA max. Applied voltage: 30 VDC max. Residual voltage: 1 V max. with a load current of 30 mA
Pressure port	Rc (PT) 1/8 inch female screw or 4.5 mm dia. pipe	Rc (PT) 1/8 inch male screw and M5 female screw
Dimensions (W x H x D)	31 x 30 x 30 mm	28 x 28 x 29 mm
Catalog number	Data sheet: F045-E3-2	Data sheet: D086-E3-2

E8Y

Ordering Information

Type	Digital output	Analog output	Pressure range	Port/mounting	Part number
Miniature differential pressure sensor	NPN open collector (2 independent outputs)	—	0 to 0.290 psi	4.5 mm dia. pipe	E8Y-A2C-D
				Rc (PT) 1/8 inch	E8Y-A2C-RD
			0 to 0.725 psi	4.5 mm dia. pipe	E8Y-A5C-D
				Rc (PT) 1/8 inch	E8Y-A5C-RD
	—	4 to 20 mA	0 to 0.290 psi	4.5 mm dia. pipe	E8Y-A2Y-D
				Rc (PT) 1/8 inch	E8Y-A2Y-RD
			0 to 0.725 psi	4.5 mm dia. pipe	E8Y-A5Y-D
				Rc (PT) 1/8 inch	E8Y-A5Y-RD

E8F2

Ordering Information

Type	Digital output	Analog output	Pressure range	Part number
Positive pressure sensor	NPN open collector (independent, two outputs)	1 to 5 V	0 to 14.5 psi	E8F2-D01C
			0 to 145 psi	E8F2-D10C
Negative pressure sensor	NPN open collector (independent, two outputs)	—	0 to -14.6 psi	E8F2-DN0C

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