Differential Pressure Sensor
E8Y

Micropressure Sensor with Easy-to-Read Digital Display

- Repeat accuracy of ±1% FS (setting resolution: 0.01 kPa), high-precision pressure control available.
- Compact design (31 × 30 × 30 mm) saves mounting space.
- Easy-to-read red LED indicator.
- Analog current output models available (E8Y-A□Y).
- Pressure port Rc (PT) 1/8 models available (-R).
- EN and UL approved.

Ordering Information

<table>
<thead>
<tr>
<th>Pressure range</th>
<th>Digital output</th>
<th>Linear output</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 200 Pa</td>
<td>NPN open collector</td>
<td></td>
<td>E8Y-AR2C</td>
</tr>
<tr>
<td>0 to 500 Pa</td>
<td>NPN open collector</td>
<td></td>
<td>E8Y-AR5C</td>
</tr>
<tr>
<td>0 to 2.00 kPa</td>
<td>NPN open collector</td>
<td>4 to 20 mA</td>
<td>E8Y-A2C</td>
</tr>
<tr>
<td>0 to 5.00 kPa</td>
<td>NPN open collector</td>
<td></td>
<td>E8Y-A5C</td>
</tr>
<tr>
<td>0 to 2.00 kPa</td>
<td>PNP open collector</td>
<td></td>
<td>E8Y-A2Y</td>
</tr>
<tr>
<td>0 to 5.00 kPa</td>
<td>PNP open collector</td>
<td></td>
<td>E8Y-A5Y</td>
</tr>
</tbody>
</table>

Note: Order the optional E89-Y1 Panel-mounting Bracket. A model number ending in -R indicates the pressure port is die-cast for Rc (PT) 1/8 models.

Accessories (Order Separately)
Panel Attachment Parts Set (For □36 and □45 Models)

<table>
<thead>
<tr>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>E89-Y1</td>
</tr>
</tbody>
</table>

* Includes the cover, guide, frame, and holder.
### Ratings

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Power supply voltage</td>
<td>12 to 24 VDC ±10% with a ripple (p-p) of 10% max.</td>
<td>12 to 24 VDC ±10% with a ripple (p-p) of 10% max.</td>
<td>12 to 24 VDC ±10% with a ripple (p-p) of 10% max.</td>
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<td>12 to 24 VDC ±10% with a ripple (p-p) of 10% max.</td>
</tr>
<tr>
<td>Current consumption</td>
<td>50 mA max.</td>
<td>50 mA max.</td>
<td>50 mA max.</td>
<td>50 mA max.</td>
<td>75 mA max.</td>
<td>75 mA max.</td>
<td>75 mA max.</td>
</tr>
<tr>
<td>Pressure type</td>
<td>Differential pressure</td>
<td>Differential pressure</td>
<td>Differential pressure</td>
<td>Differential pressure</td>
<td>Differential pressure</td>
<td>Differential pressure</td>
<td>Differential pressure</td>
</tr>
<tr>
<td>Rated pressure range</td>
<td>0 to 200 Pa</td>
<td>0 to 500 Pa</td>
<td>0 to 2.00 kPa</td>
<td>0 to 5.00 kPa</td>
<td>0 to 200 Pa</td>
<td>0 to 2.00 kPa</td>
<td>0 to 5.00 kPa</td>
</tr>
<tr>
<td>Withstand pressure</td>
<td>5 kPa</td>
<td>50 kPa</td>
<td>5 kPa</td>
<td>5 kPa</td>
<td>5 kPa</td>
<td>5 kPa</td>
<td>5 kPa</td>
</tr>
</tbody>
</table>

#### Linear output
- **Output current**: --- --- --- --- 4 to 20 mA
- **Permissible load resistance**: --- --- --- --- 0 to 250 Ω
- **Precision**: --- --- --- --- ±2.5%FS ±1.0%FS
- **Linearity**: --- --- --- --- ±2.5%FS ±1.0%FS

#### Digital output
- **Output form**: NPN open collector (NO/NC) *
- **Load current**: 100 mA
- **Output applied voltage**: 30 VDC max.
- **Residual voltage**: 1.0 V max. with a load current of 100 mA or 0.4 V max. with a load current of 16 mA
- **Repeat accuracy**: ±2.5%FS ±1.0%FS ±2.5%FS ±1.0%FS

#### Display
- **Display**: 3-digit 7-segment red LED
- **Indicator lamp**: Orange LED indicator (OUT1: lit when digital output is ON)
- **Orange LED indicator (OUT2: lit when digital output is ON)**

#### Response speed
- 0.5 s max.

#### Display accuracy
- ±1.0%FS

#### Setting resolution
- 1 Pa
- 0.01 kPa
- 1 Pa
- 0.01 kPa

#### Protection circuits
Reverse polarity protection, load short-circuit protection

#### Ambient temperature
- Operating: −10 to 55°C (with no icing)
- Ambient humidity: Operating: 25% to 85% (with no condensation)

#### Storage temperature
- −25 to 65°C

#### Accessories
Mounting Brackets (A and B), Instruction manual

* The E8Y-ASB provides a PNP open-collector (NO/NC) output.

### Specifications

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Degree of protection</td>
<td>IP40 (IEC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dielectric strength</td>
<td>1,000 VAC at 50/60 Hz for 1 minute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>100 MΩ min. (at 500 VDC) between current-carrying parts and case</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vibration resistance</td>
<td>Destruction: 10 to 150 Hz, 0.75-mm single amplitude or 100 m/s², 4 times each for 8 min in X, Y and Z directions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shock resistance</td>
<td>Destruction: 300 m/s² 3 times each in X, Y and Z directions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure port</td>
<td>4.5-dia resin pipe or Rc (PT) 1/8 taper screw (-R type)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable</td>
<td>Vinyl-insulated round cable 4 dia., Standard length: 2 m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 80 g</td>
<td></td>
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</tr>
</tbody>
</table>

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

### Nomenclature

![Diagram of E8Y sensor](image)

**Display**

1. **Numerical value/menu indication**
   - Displays the measured pressure and some menu settings.

2. **Unit**
   - Shows the measuring unit. Unit currently in use is illuminated.

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, pushing the DOWN key displays the ON and OFF points of OUT 1; pushing the UP key displays the ON and OFF points of OUT 2.
   - In setting mode, the UP and DOWN keys increase or decrease the numeric value, respectively, or scroll through the menu options.

### Dimensions

**Sensors**

<table>
<thead>
<tr>
<th>Standard Port Type (Pressure Port: 4.5 dia.)</th>
<th>Die-case Port Type (Pressure port: Rc(PT)1/8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E8Y-AR5C</td>
<td>E8Y-A2C-R</td>
</tr>
<tr>
<td>E8Y-AR2C</td>
<td>E8Y-A5C-R</td>
</tr>
<tr>
<td>E8Y-A2C</td>
<td>E8Y-A5C-R</td>
</tr>
<tr>
<td>E8Y-A5C</td>
<td>E8Y-A2C-R</td>
</tr>
<tr>
<td>E8Y-A5B</td>
<td>E8Y-A5Y-R</td>
</tr>
</tbody>
</table>

**Mounting Holes**

- **Note:** Make sure that the tightening torque does not exceed 0.54 N·m.

**CAD data**

**Die-case Port Type (Pressure port: Rc(PT)1/8)**

- E8Y-A2C-R
- E8Y-A5C-R
- E8Y-A2Y-R
- E8Y-A5Y-R

- **Mounting Holes**
  - **Note:** Make sure that the tightening torque does not exceed 0.54 N·m.
Accessories (Provided)

Mounting Bracket A

Mounting Bracket B

Refer to the E8Y Pressure Sensor Datasheet (Cat. No. F045) for details.

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