



# EPS Series (-1003) Digital Pressure Sensors

## Features



- Ideal for industrial pressure measurement and indication in both gas and liquid applications
- Measuring ranges from vacuum up to 5800 psig
- Selectable engineering units include psig, bar, mbar, kPa, MPa, and inHg
- 1/4" NPT male process connection allows for direct installation without requiring extra fittings
- 2 solid state switch outputs provide a reliable alternative to mechanical pressure switches
- Built-in two-color 4-digit display is easy to read from a distance and provides indication of measured pressure and switch setpoints
- Display can be set to change color between red and green based on measured value or output status and rotated 180° for installation flexibility
- 2 large bright LEDs indicate output status
- Sensor housing can be rotated 345° for optimum visibility after installation
- Simple pushbutton setup for easy and quick configuration prior to installation without the need for a separate pressure reference gauge
- Stainless steel housing allows for a high IP67 ingress protection rating
- 4-pin M12 electrical connection
- Protective cover and mounting bracket are available accessories
- Compact and robust design and construction withstands extreme shock and vibration, provides high accuracy and reliability, and incorporates the best combination of over pressure, burst pressure and long term stability for each measuring range
- 3-year warranty



## EPS Series (-1003) Digital Pressure Sensors

| Part Number                             | Description                                                                                                                                                                                                                                                                                                                                                      | Pcs/Pkg | Wt (lb) | Price    |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|----------|
| <a href="#"><u>EPS25-V14-1003</u></a>   | ProSense digital pressure sensor, -14.5 to 14.5 psig range, output 1: switch (N.O./N.C.), PNP/NPN selectable, output 2: switch (N.O./N.C.), PNP/NPN selectable, 1/4in male NPT process connection, 4-pin M12 quick-disconnect, 18-30 VDC operating voltage, 4-digit, two-color LED display, for use with compatible liquids or gases. Purchase cable separately. | 1       | 0.5     | \$283.00 |
| <a href="#"><u>EPS25-14-1003</u></a>    | ProSense digital pressure sensor, 0 to 14.5 psig range, output 1: switch (N.O./N.C.), PNP/NPN selectable, output 2: switch (N.O./N.C.), PNP/NPN selectable, 1/4in male NPT process connection, 4-pin M12 quick-disconnect, 18-30 VDC operating voltage, 4-digit, two-color LED display, for use with compatible liquids or gases. Purchase cable separately.     | 1       | 0.5     | \$283.00 |
| <a href="#"><u>EPS25-36-1003</u></a>    | ProSense digital pressure sensor, 0 to 36.2 psig range, output 1: switch (N.O./N.C.), PNP/NPN selectable, output 2: switch (N.O./N.C.), PNP/NPN selectable, 1/4in male NPT process connection, 4-pin M12 quick-disconnect, 18-30 VDC operating voltage, 4-digit, two-color LED display, for use with compatible liquids or gases. Purchase cable separately.     | 1       | 0.5     | \$283.00 |
| <a href="#"><u>EPS25-V145-1003*</u></a> | ProSense digital pressure sensor, -14.5 to 145 psig range, output 1: switch (N.O./N.C.), PNP/NPN selectable, output 2: switch (N.O./N.C.), PNP/NPN selectable, 1/4in male NPT process connection, 4-pin M12 quick-disconnect, 18-30 VDC operating voltage, 4-digit, two-color LED display, for use with compatible liquids or gases. Purchase cable separately.  | 1       | 0.5     | \$283.00 |
| <a href="#"><u>EPS25-360-1003*</u></a>  | ProSense digital pressure sensor, 0 to 362 psig range, output 1: switch (N.O./N.C.), PNP/NPN selectable, output 2: switch (N.O./N.C.), PNP/NPN selectable, 1/4in male NPT process connection, 4-pin M12 quick-disconnect, 18-30 VDC operating voltage, 4-digit, two-color LED display, for use with compatible liquids or gases. Purchase cable separately.      | 1       | 0.5     | \$283.00 |
| <a href="#"><u>EPS25-1450-1003*</u></a> | ProSense digital pressure sensor, 0 to 1450 psig range, output 1: switch (N.O./N.C.), PNP/NPN selectable, output 2: switch (N.O./N.C.), PNP/NPN selectable, 1/4in male NPT process connection, 4-pin M12 quick-disconnect, 18-30 VDC operating voltage, 4-digit, two-color LED display, for use with compatible liquids or gases. Purchase cable separately.     | 1       | 0.5     | \$283.00 |
| <a href="#"><u>EPS25-3620-1003</u></a>  | ProSense digital pressure sensor, 0 to 3620 psig range, output 1: switch (N.O./N.C.), PNP/NPN selectable, output 2: switch (N.O./N.C.), PNP/NPN selectable, 1/4in male NPT process connection, 4-pin M12 quick-disconnect, 18-30 VDC operating voltage, 4-digit, two-color LED display, for use with compatible liquids or gases. Purchase cable separately.     | 1       | 0.5     | \$283.00 |
| <a href="#"><u>EPS25-5800-1003</u></a>  | ProSense digital pressure sensor, 0 to 5800 psig range, output 1: switch (N.O./N.C.), PNP/NPN selectable, output 2: switch (N.O./N.C.), PNP/NPN selectable, 1/4in male NPT process connection, 4-pin M12 quick-disconnect, 18-30 VDC operating voltage, 4-digit, two-color LED display, for use with compatible liquids or gases. Purchase cable separately.     | 1       | 0.5     | \$283.00 |

\* For gas applications 362 psig (25bar) maximum pressure!



Note: Check the chemical compatibility of the sensor's wetted parts with the medium to be measured.

# prosense® EPS Series (-1003) Digital Pressure Sensors

| EPS Series (-1003) Digital Pressure Sensors |                                                                                   |                                                                                 |                                                                               |                                            |                                                |                                                |                          |
|---------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------|------------------------------------------------|------------------------------------------------|--------------------------|
| Part Number                                 | Measuring Range                                                                   | Setting Range<br>Set Point, SP                                                  | Reset Point, rP                                                               | Steps                                      | Proof<br>Pressure                              | Bursting<br>Pressure                           | Vacuum<br>Resistance     |
| <u><a href="#">EPS25-V14-1003</a></u>       | -14.5 to 14.5 psig<br>-1000 to 1000 mbar<br>-100 to 100 kPa<br>-29.6 to 29.6 inHg | -14.3 to 14.5 psig<br>-980 to 1000 mbar<br>-98 to 100 kPa<br>-29.0 to 29.6 inHg | -14.4 to 14.4 psig<br>-990 to 990 mbar<br>-99 to 99 kPa<br>-29.2 to 29.4 inHg | 0.1 psig<br>10 mbar<br>1 kPa<br>0.2 inHg   | 145 psig<br>10000 mbar<br>1000 kPa<br>295 inHg | 450 psig<br>30000 mbar<br>3000 kPa<br>885 inHg | -14.5 psig<br>-1000 mbar |
| <u><a href="#">EPS25-14-1003</a></u>        | 0 to 14.5 psig<br>0 to 1000 mbar<br>0 to 100 kPa<br>0 to 29.5 inHg                | 0.1 to 14.5 psig<br>10 to 1000 mbar<br>1 to 100 kPa<br>0.2 to 29.5 inHg         | 0.05 to 14.45 psig<br>5 to 995 mbar<br>0.5 to 99.5 kPa<br>0.1 to 29.4 inHg    | 0.05 psig<br>5 mbar<br>0.5 kPa<br>0.1 inHg | 145 psig<br>10000 mbar<br>1000 kPa<br>290 inHg | 450 psig<br>30000 mbar<br>3000 kPa<br>880 inHg |                          |
| <u><a href="#">EPS25-36-1003</a></u>        | 0 to 36.2 psig<br>0 to 2.5 bar<br>0 to 250 kPa                                    | 0.4 to 36.2 psig<br>0.02 to 2.5 bar<br>2 to 250 kPa                             | 0.2 to 36 psig<br>0.01 to 2.49 bar<br>1 to 249 kPa                            | 0.2 psig<br>0.01 bar<br>1kPa               | 290 psig<br>20 bar<br>2000 kPa                 | 725 psig<br>50 bar<br>5000 kPa                 |                          |
| <u><a href="#">EPS25-V145-1003*</a></u>     | -14.5 to 145 psig<br>-1 to 10 bar<br>-0.1 to 1 MPa                                | -13.5 to 145 psig<br>-0.90 to 10 bar<br>-0.09 to 1 MPa                          | -14 to 144.5 psig<br>-0.95 to 9.95 bar<br>-0.095 to 0.995 MPa                 | 0.5 psig<br>0.05 bar<br>0.005 MPa          | 1087 psig<br>75 bar<br>7.5 MPa                 | 2715 psig<br>150 bar<br>15 MPa                 |                          |
| <u><a href="#">EPS25-360-1003*</a></u>      | 0 to 362 psig<br>0 to 25 bar<br>0 to 2.5 MPa                                      | 4 to 362 psig<br>0.2 to 25 bar<br>0.02 to 2.5 MPa                               | 2 to 360 psig<br>0.1 to 24.9 bar<br>0.01 to 2.49 MPa                          | 2 psig<br>0.1 bar<br>0.01 MPa              | 2175 psig<br>150 bar<br>15 MPa                 | 5075 psig<br>350 bar<br>35 MPa                 |                          |
| <u><a href="#">EPS25-1450-1003*</a></u>     | 0 to 1450 psig<br>0 to 100 bar<br>0 to 10 MPa                                     | 10 to 1450 psig<br>1.0 to 100 bar<br>0.10 to 10 MPa                             | 5 to 1445 psig<br>0.5 to 99.5 bar<br>0.05 to 9.95 MPa                         | 5 psig<br>0.5 bar<br>0.05 MPa              | 4350 psig<br>300 bar<br>30 MPa                 | 9400 psig<br>650 bar<br>65 MPa                 |                          |
| <u><a href="#">EPS25-3620-1003</a></u>      | 0 to 3620 psig<br>0 to 250 bar<br>0 to 25 MPa                                     | 40 to 3620 psig<br>2 to 250 bar<br>0.2 to 25.0 MPa                              | 20 to 3600 psig<br>1 to 249 bar<br>0.1 to 24.9 MPa                            | 20 psig<br>1 bar<br>0.1 MPa                | 7250 psig<br>500 bar<br>50 MPa                 | 15950 psig<br>1100 bar<br>110 MPa              |                          |
| <u><a href="#">EPS25-5800-1003</a></u>      | 0 to 5800 psig<br>0 to 400 bar<br>0 to 40 MPa                                     | 40 to 5800 psig<br>4 to 400 bar<br>0.4 to 40 MPa                                | 20 to 5780 psig<br>2 to 398 bar<br>0.2 to 39.8 MPa                            | 20 psig<br>2 bar<br>0.2 MPa                | 11580 psig<br>800 bar<br>80 MPa                | 24650 psig<br>1700 bar<br>170 MPa              |                          |

inH2O = Inches of Water Column

\* For gas applications 362 psig (25 bar) maximum pressure!



Warning! Avoid static and dynamic overpressure exceeding the specified proof pressure.  
Exceeding the bursting pressure for even a short time can cause destruction of the unit and possible injuries!



# EPS Series (-1003) Digital Pressure Sensors

| ProSense EPS25 (-1003) Series General Specifications                                               |                                |
|----------------------------------------------------------------------------------------------------|--------------------------------|
| Electrical                                                                                         |                                |
| Operating Voltage <sup>1</sup>                                                                     | 18 to 30 VDC                   |
| Current Consumption                                                                                | < 35mA                         |
| Insulation Resistance                                                                              | > 100MΩ (500VDC)               |
| IEC Protection Class                                                                               | Class III                      |
| Reverse Polarity Protection                                                                        | yes                            |
| Outputs                                                                                            |                                |
| OUT1                                                                                               | switch                         |
| OUT2                                                                                               | switch                         |
| Switch Outputs                                                                                     |                                |
| Type                                                                                               | PNP or NPN selectable          |
| Action                                                                                             | N.O. or N.C. selectable        |
| Current Rating                                                                                     | 150mA resistive                |
| Voltage Drop                                                                                       | < 2.5 V                        |
| Short Circuit Protection                                                                           | Yes (non-latching)             |
| Overload Protection                                                                                | Yes                            |
| Switching Frequency                                                                                | ≤ 170Hz                        |
| Function                                                                                           | Hysteresis or window           |
| Accuracy / Deviations (in % of the span) Turn down 1:1                                             |                                |
| Switch Point Accuracy                                                                              | < ± 0.5% of the span           |
| Characteristics Deviation*                                                                         | < ± 0.25 (BFSL) / < ± 0.5 (LS) |
| Hysteresis                                                                                         | < ± 0.25                       |
| Repeatability**                                                                                    | < ± 0.1                        |
| Long-term Stability***                                                                             | < ± 0.05                       |
| Temperature Coefficients (TEMPCO) in the temperature range -25 to 80°C (in % of the span per 10°C) |                                |
| Greatest TEMPCO of the zero point                                                                  | 0.2                            |
| Greatest TEMPCO of the span                                                                        | 0.2                            |
| Reaction Times                                                                                     |                                |
| Power-on Delay Time                                                                                | 0.3 s                          |
| Min. Response Time Switching Output                                                                | < 3ms                          |
| Delay Time Programmable (dS, dr)                                                                   | 0 to 50s                       |
| Damping for the Switching Output (dAP)                                                             | 0 to 4s                        |
| Integrated Watchdog                                                                                | yes                            |
| Environment                                                                                        |                                |
| Ambient Temperature                                                                                | -13 to 176°F [-25 to 80°C]     |
| Medium Temperature                                                                                 | -13 to 176°F [-25 to 80°C]     |
| Storage Temperature                                                                                | -40 to 212°F [-40 to 100°C]    |
| Protection                                                                                         | IP 65 / IP 67                  |



# EPS Series (-1003) Digital Pressure Sensors

| ProSense EPS (-1003) Series General Specifications Continued |                                                                                                                                                                                                         |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mechanical                                                   |                                                                                                                                                                                                         |
| Process Connection                                           | 1/4" NPT male                                                                                                                                                                                           |
| Materials (wetted parts) <sup>2</sup>                        | <div> <div>&lt; 3600 psig measuring range<br/>Stainless steel 316L (DIN 1.4404)</div> <div>&gt; 3600 psig measuring range<br/>Stainless steel 17-4 / 630 (DIN 1.4542)<br/>Ceramics<br/>FKM</div> </div> |
| Housing Materials                                            | Stainless steel 17-4 PH / 630 (DIN 1.4542); stainless steel 316L (DIN 1.4404); PBT+PC-GF 30; PBT-GF 20; PC                                                                                              |
| Min. Pressure Cycles                                         | 100 million                                                                                                                                                                                             |
| Tightening Torque                                            | 50Nm (depends on lubrication, seal and pressure rating)                                                                                                                                                 |
| Restrictor Element Integrated                                | no                                                                                                                                                                                                      |
| Displays                                                     |                                                                                                                                                                                                         |
| Engineering Units                                            | 3 or 4 x LED green (depending on model), 10mm character height                                                                                                                                          |
| Switching Status                                             | 2 x LED yellow                                                                                                                                                                                          |
| Measured Values                                              | 4-digit alphanumeric display / alternating indication of red and green                                                                                                                                  |
| Electrical Connection                                        |                                                                                                                                                                                                         |
| Connection                                                   | 4-pin M12 quick-disconnect; gold-plated contacts                                                                                                                                                        |
| Tests / Approvals                                            |                                                                                                                                                                                                         |
| Pressure Equipment Directive                                 | 97/23/EG: Group 2 (Non-Hazardous, Nonflammable, Non-Oxidizing fluids or gases) in accordance with sound engineering practice                                                                            |
| EMC                                                          | DIN EN 61000-6-2<br>DIN EN 61000-6-3                                                                                                                                                                    |
| Shock Resistance                                             | DIN EN 60068-2-27 (50g 11ms)                                                                                                                                                                            |
| Vibration Resistance                                         | DIN EN 60068-2-6 (20g 10 to 2000 Hz)                                                                                                                                                                    |
| Agency Approvals                                             | UL file # E320431, CE, RoHS                                                                                                                                                                             |

\* BFSL = Best fit straight line / LS = Limit value setting

\*\* With temperature fluctuations < 10°C

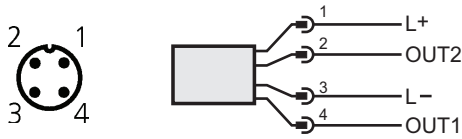
\*\*\* in % of the span / 6 months

<sup>1</sup> To EN50178, SELV, PELV

<sup>2</sup> Not cleaned for oxygen service

# prosense® EPS Series (-1003) Digital Pressure Sensors

## EPS Wiring Diagram



### Cable Assembly Wiring

#### Colors:

Pin 1 - Brown

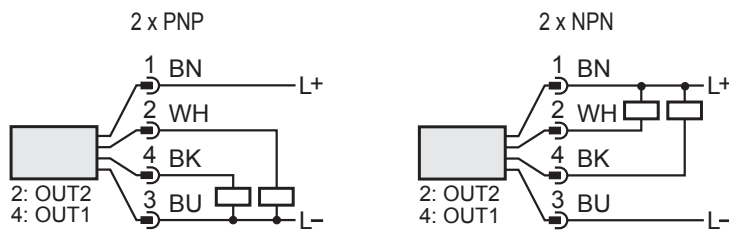
Pin 2 - White

Pin 3 - Blue

Pin 4 - Black

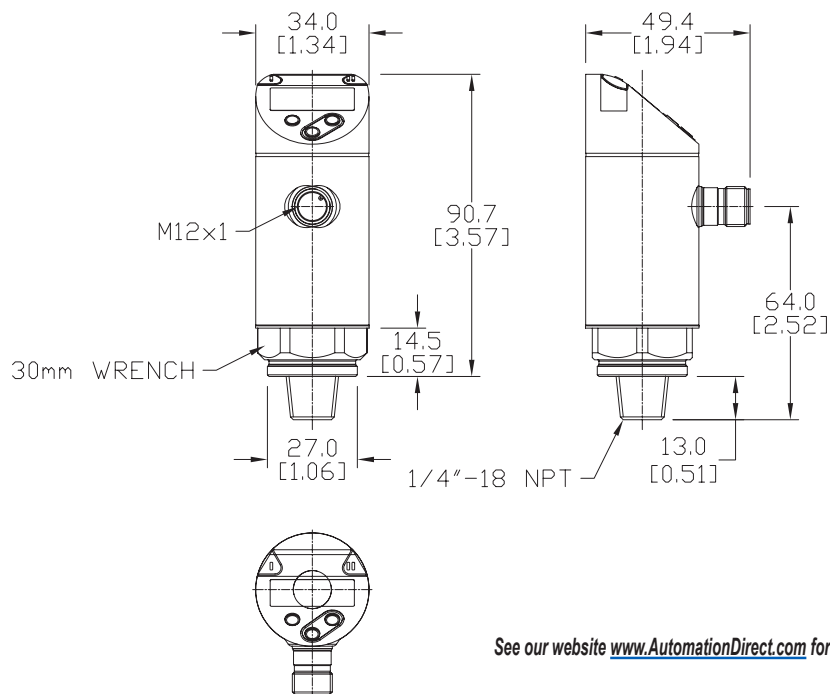
Note: Wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.

## EPS 1003 Series Wiring Examples



## Dimensions

mm [inches]



See our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.

# prosense® EPS Series Digital Pressure Sensors

## Overview



AutomationDirect's ProSense EPS Series of Digital Pressure Sensors is ideal for industrial pressure measurement and indication in both gas and liquid applications. Measuring ranges are available from vacuum up to 5800 psig as well as other selectable engineering units such as bar, mbar, kPa, MPa, inches of water column, and inches of mercury. The standard 1/4" NPT male process connection allows for direct installation without requiring extra fittings. With no moving parts such as pistons or springs that can stick or break, the two solid state switch outputs provide a reliable alternative to mechanical pressure switches. Models are also available that allow the second output to be configured as a scalable analog signal turning the unit into a combination pressure switch and transmitter. The built-in two-color digital display is easy to read from a distance and provides indication of measured pressure and switch setpoints. It can be set to change

color between red and green based on measured value or output status and rotated 180° for installation flexibility. Two large bright LEDs indicate output status. For optimum visibility the sensor housing can be rotated 345° after installation. Simple pushbutton setup allows the EPS to be easily and quickly configured prior to installation without the need for a separate pressure reference gauge. Encased in a stainless steel housing the EPS allows for a high IP67 ingress protection rating achieving its atmospheric pressure reference via the 4-pin M12 electrical connection. A protective cover and mounting bracket are available accessories. The compact and robust design and construction of the ProSense EPS series withstands extreme shock and vibration, provides high accuracy and reliability, and incorporates the best combination of over pressure, burst pressure and long term stability for each measuring range.

## ProSense EPS Digital Pressure Sensors Selection Guide

| Part Number                      | Price    | Pressure Range                 | Selectable Engineering Units              | Process Connection | Electrical Connection      | Operating Voltage | Outputs                                                                                                                                                                    |
|----------------------------------|----------|--------------------------------|-------------------------------------------|--------------------|----------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">EPS25-V14-1001</a>   | \$322.00 | -14.5 to 14.5 psig             | psig, mbar, kPa, inH <sub>2</sub> O, inHg | 1/4" NPT male      | 4-pin M12 quick-disconnect | 18 to 30 VDC      | OUT 1: Switch<br>(selectable N.O. or N.C. / PNP or NPN)<br><br>OUT 2: Switch<br>(selectable N.O. or N.C. / PNP or NPN)<br>or<br>Analog<br>(selectable 4-20 mA or 0-10 VDC) |
| <a href="#">EPS25-100WC-1001</a> | \$322.00 | -5 to 100.4 inH <sub>2</sub> O | inH <sub>2</sub> O, mbar, kPa, mmWS       |                    |                            |                   |                                                                                                                                                                            |
| <a href="#">EPS25-14-1001</a>    | \$322.00 | -0.72 to 14.5 psig             | psig, mbar, kPa, inH <sub>2</sub> O       |                    |                            |                   |                                                                                                                                                                            |
| <a href="#">EPS25-36-1001</a>    | \$322.00 | -1.8 to 36.25 psig             | psig, bar, kPa                            |                    |                            |                   |                                                                                                                                                                            |
| <a href="#">EPS25-V145-1001*</a> | \$322.00 | -14.6 to 145 psig              | psig, bar, MPa                            |                    |                            |                   |                                                                                                                                                                            |
| <a href="#">EPS25-360-1001*</a>  | \$322.00 | -14.5 to 362.5 psig            | psig, bar, MPa                            |                    |                            |                   |                                                                                                                                                                            |
| <a href="#">EPS25-1450-1001*</a> | \$322.00 | 0 to 1450 psig                 | psig, bar, MPa                            |                    |                            |                   |                                                                                                                                                                            |
| <a href="#">EPS25-3620-1001</a>  | \$322.00 | 0 to 3625 psig                 | psig, bar, MPa                            |                    |                            |                   |                                                                                                                                                                            |
| <a href="#">EPS25-5800-1001</a>  | \$322.00 | 0 to 5800 psig                 | psig, bar, MPa                            |                    |                            |                   |                                                                                                                                                                            |
| <a href="#">EPS25-V14-1003</a>   | \$283.00 | -14.5 to 14.5 psig             | psig, mbar, kPa, inHg                     |                    |                            |                   | OUT 1: Switch<br>(selectable N.O. or N.C. / PNP or NPN)<br><br>OUT 2: Switch<br>(selectable N.O. or N.C. / PNP or NPN)                                                     |
| <a href="#">EPS25-14-1003</a>    | \$283.00 | 0 to 14.5 psig                 | psig, mbar, kPa, inHg                     |                    |                            |                   |                                                                                                                                                                            |
| <a href="#">EPS25-36-1003</a>    | \$283.00 | 0 to 36.2 psig                 | psig, bar, kPa                            |                    |                            |                   |                                                                                                                                                                            |
| <a href="#">EPS25-V145-1003*</a> | \$283.00 | -14.5 to 145 psig              | psig, bar, MPa                            |                    |                            |                   |                                                                                                                                                                            |
| <a href="#">EPS25-360-1003*</a>  | \$283.00 | 0 to 362 psig                  | psig, bar, MPa                            |                    |                            |                   |                                                                                                                                                                            |
| <a href="#">EPS25-1450-1003*</a> | \$283.00 | 0 to 1450 psig                 | psig, bar, MPa                            |                    |                            |                   |                                                                                                                                                                            |
| <a href="#">EPS25-3620-1003</a>  | \$283.00 | 0 to 3620 psig                 | psig, bar, MPa                            |                    |                            |                   |                                                                                                                                                                            |
| <a href="#">EPS25-5800-1003</a>  | \$283.00 | 0 to 5800 psig                 | psig, bar, MPa                            |                    |                            |                   |                                                                                                                                                                            |

\* For gas applications 362 psig (25bar) maximum pressure!



# EPS Series Digital Pressure Sensors - Accessories

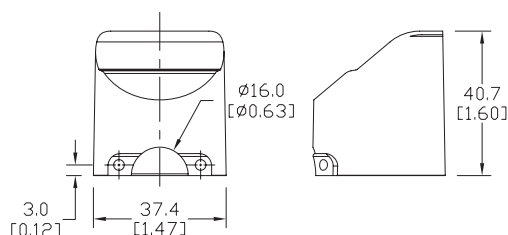
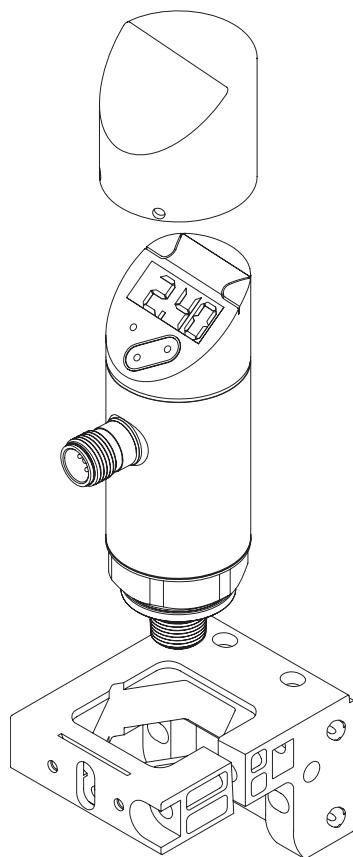
Part No. EPS-CVPart No. EPS-BKT1

| EPS Series Digital Pressure Sensors - Accessories |                                                                                       |        |         |
|---------------------------------------------------|---------------------------------------------------------------------------------------|--------|---------|
| Part No.                                          | Description                                                                           | Price  | Wt (lb) |
| <u>EPS-CV</u>                                     | ProSense protective cover, for use with ProSense EPS series digital pressure sensors. | \$6.25 | 0.1     |
| <u>EPS-BKT1</u>                                   | ProSense mounting bracket, for use with ProSense EPS series digital pressure sensors. | \$9.50 | 0.1     |

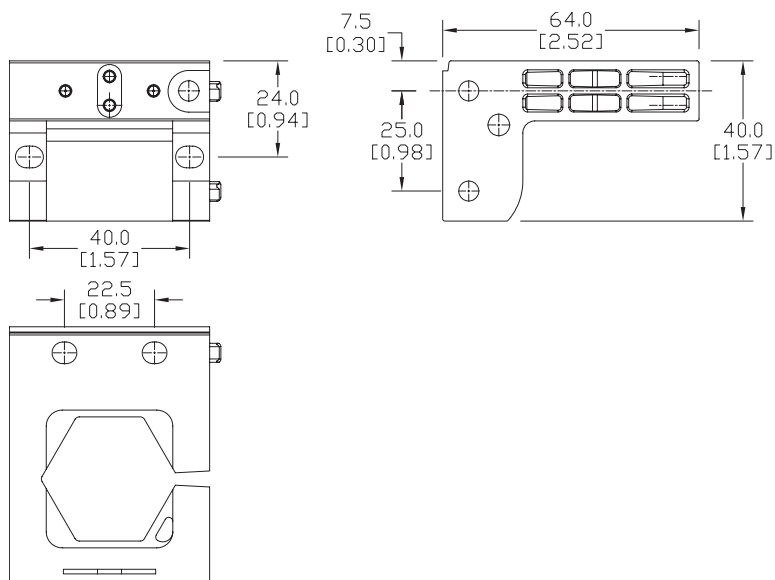
| EPS Series Digital Pressure Sensor Accessory Specifications |                                        |
|-------------------------------------------------------------|----------------------------------------|
| Part No.                                                    | Material                               |
| <u>EPS-CV</u>                                               | PP (polypropylene)                     |
| <u>EPS-BKT1</u>                                             | Fiber and mineral reinforced polyamide |

## Dimensions

mm [inches]

Part No. EPS-CV

Assembly Example

Part No. EPS-BKT1

See our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.