



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
<u>EPS25-V14-1003</u>	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	\$,011,c:
<u>EPS25-14-1003</u>	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	\$,011,d:
<u>EPS25-36-1003</u>	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	\$,011,e:
<u>EPS25-V145-1003*</u>	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	\$,;011,f:
<u>EPS25-360-1003*</u>	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	\$,011,g:
<u>EPS25-1450-1003*</u>	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	\$,011,h:
<u>EPS25-3620-1003</u>	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	\$,-011,i:
<u>EPS25-5800-1003</u>	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	\$,-011,j:

* 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 Set Point, SP	Reset Point, rP	Steps	Proof Pressure	Bursting Pressure	Vacuum Resistance
<u>EPS25-V14-1003</u>	-14.5 to 14.5 psig -1000 to 1000 mbar -100 to 100 kPa -29.6 to 29.6 inHg	-14.3 to 14.5 psig -980 to 1000 mbar -98 to 100 kPa -29.0 to 29.6 inHg	-14.4 to 14.4 psig -990 to 990 mbar -99 to 99 kPa -29.2 to 29.4 inHg	0.1 psig 10 mbar 1 kPa 0.2 inHg	145 psig 10000 mbar 1000 kPa 295 inHg	450 psig 30000 mbar 3000 kPa 885 inHg	-14.5 psig -1000 mbar
<u>EPS25-14-1003</u>	0 to 14.5 psig 0 to 1000 mbar 0 to 100 kPa 0 to 29.5 inHg	0.1 to 14.5 psig 10 to 1000 mbar 1 to 100 kPa 0.2 to 29.5 inHg	0.05 to 14.45 psig 5 to 995 mbar 0.5 to 99.5 kPa 0.1 to 29.4 inHg	0.05 psig 5 mbar 0.5 kPa 0.1 inHg	145 psig 10000 mbar 1000 kPa 290 inHg	450 psig 30000 mbar 3000 kPa 880 inHg	
<u>EPS25-36-1003</u>	0 to 36.2 psig 0 to 2.5 bar 0 to 250 kPa	0.4 to 36.2 psig 0.02 to 2.5 bar 2 to 250 kPa	0.2 to 36 psig 0.01 to 2.49 bar 1 to 249 kPa	0.2 psig 0.01 bar 1kPa	290 psig 20 bar 2000 kPa	725 psig 50 bar 5000 kPa	
<u>EPS25-V145-1003*</u>	-14.5 to 145 psig -1 to 10 bar -0.1 to 1 MPa	-13.5 to 145 psig -0.90 to 10 bar -0.09 to 1 MPa	-14 to 144.5 psig -0.95 to 9.95 bar -0.095 to 0.995 MPa	0.5 psig 0.05 bar 0.005 MPa	1087 psig 75 bar 7.5 MPa	2715 psig 150 bar 15 MPa	
<u>EPS25-360-1003*</u>	0 to 362 psig 0 to 25 bar 0 to 2.5 MPa	4 to 362 psig 0.2 to 25 bar 0.02 to 2.5 MPa	2 to 360 psig 0.1 to 24.9 bar 0.01 to 2.49 MPa	2 psig 0.1 bar 0.01 MPa	2175 psig 150 bar 15 MPa	5075 psig 350 bar 35 MPa	
<u>EPS25-1450-1003*</u>	0 to 1450 psig 0 to 100 bar 0 to 10 MPa	10 to 1450 psig 1.0 to 100 bar 0.10 to 10 MPa	5 to 1445 psig 0.5 to 99.5 bar 0.05 to 9.95 MPa	5 psig 0.5 bar 0.05 MPa	4350 psig 300 bar 30 MPa	9400 psig 650 bar 65 MPa	
<u>EPS25-3620-1003</u>	0 to 3620 psig 0 to 250 bar 0 to 25 MPa	40 to 3620 psig 2 to 250 bar 0.2 to 25.0 MPa	20 to 3600 psig 1 to 249 bar 0.1 to 24.9 MPa	20 psig 1 bar 0.1 MPa	7250 psig 500 bar 50 MPa	15950 psig 1100 bar 110 MPa	
<u>EPS25-5800-1003</u>	0 to 5800 psig 0 to 400 bar 0 to 40 MPa	40 to 5800 psig 4 to 400 bar 0.4 to 40 MPa	20 to 5780 psig 2 to 398 bar 0.2 to 39.8 MPa	20 psig 2 bar 0.2 MPa	11580 psig 800 bar 80 MPa	24650 psig 1700 bar 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 ¹	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) ²	<div> <div>< 3600 psig measuring range</div> <div>Stainless steel 316L (DIN 1.4404)</div> </div> <div> <div>> 3600 psig measuring range</div> <div>Stainless steel 17-4 / 630 (DIN 1.4542)</div> <div>Ceramics</div> <div>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 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

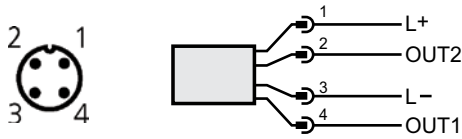
*** in % of the span / 6 months

¹ To EN50178, SELV, PELV

² Not cleaned for oxygen service

prosense® EPS Series (-1003) Digital Pressure Sensors

EPS Wiring Diagram



Cable Assembly Wiring

Colors:

Pin 1 - Brown

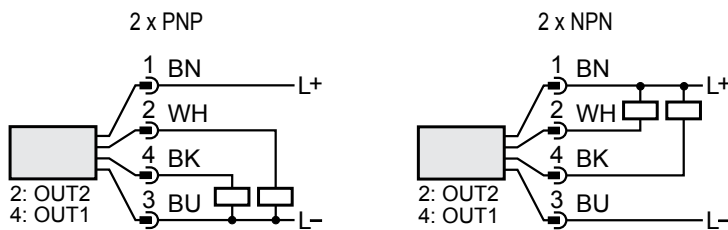
Pin 2 - White

Pin 3 - Blue

Pin 4 - Black

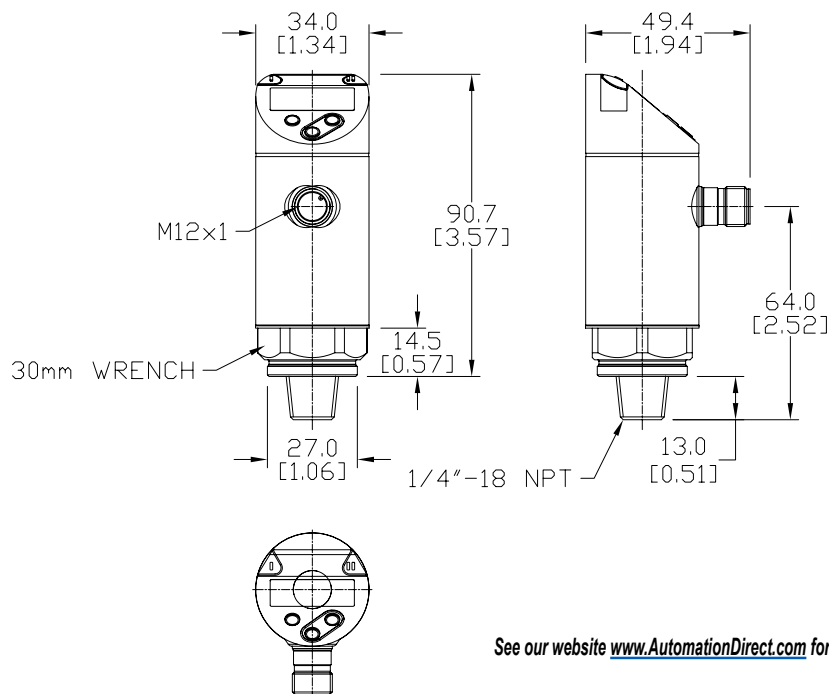
Note: Wiring colors are based on AutomationDirect CD12L and CD12M 4-pole cable assemblies.

EPS 1003 Series Wiring Examples



Dimensions

mm [inches]



See our website www.AutomationDirect.com 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
EPS25-V14-1001	\$,011,3:	-14.5 to 14.5 psig	psig, mbar, kPa, inH ₂ O, inHg	1/4" NPT male	4-pin M12 quick-disconnect	18 to 30 VDC	OUT 1: Switch (selectable N.O. or N.C. / PNP or NPN) OUT 2: Switch (selectable N.O. or N.C. / PNP or NPN) or Analog (selectable 4-20 mA or 0-10 VDC)
EPS25-100WC-1001	\$,011,4:	-5 to 100.4 inH ₂ O	inH ₂ O, mbar, kPa, mmWS				
EPS25-14-1001	\$,011,5:	-0.72 to 14.5 psig	psig, mbar, kPa, inH ₂ O				
EPS25-36-1001	\$,011,6:	-1.8 to 36.25 psig	psig, bar, kPa				
EPS25-V145-1001*	\$,011,7:	-14.6 to 145 psig	psig, bar, MPa				
EPS25-360-1001*	\$,011,8:	-14.5 to 362.5 psig	psig, bar, MPa				
EPS25-1450-1001*	\$,011,9:	0 to 1450 psig	psig, bar, MPa				
EPS25-3620-1001	\$,011,a:	0 to 3625 psig	psig, bar, MPa				
EPS25-5800-1001	\$,011,b:	0 to 5800 psig	psig, bar, MPa				
EPS25-V14-1003	\$,011,c:	-14.5 to 14.5 psig	psig, mbar, kPa, inHg				OUT 1: Switch (selectable N.O. or N.C. / PNP or NPN) OUT 2: Switch (selectable N.O. or N.C. / PNP or NPN)
EPS25-14-1003	\$,011,d:	0 to 14.5 psig	psig, mbar, kPa, inHg				
EPS25-36-1003	\$,011,e:	0 to 36.2 psig	psig, bar, kPa				
EPS25-V145-1003*	\$,011,f:	-14.5 to 145 psig	psig, bar, MPa				
EPS25-360-1003*	\$,011,g:	0 to 362 psig	psig, bar, MPa				
EPS25-1450-1003*	\$,011,h:	0 to 1450 psig	psig, bar, MPa				
EPS25-3620-1003	\$,011,i:	0 to 3620 psig	psig, bar, MPa				
EPS25-5800-1003	\$,011,j:	0 to 5800 psig	psig, bar, MPa				

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



EPS Series Digital Pressure Sensors - Accessories

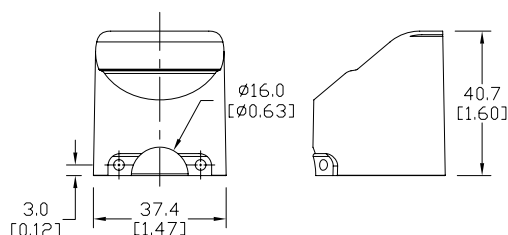
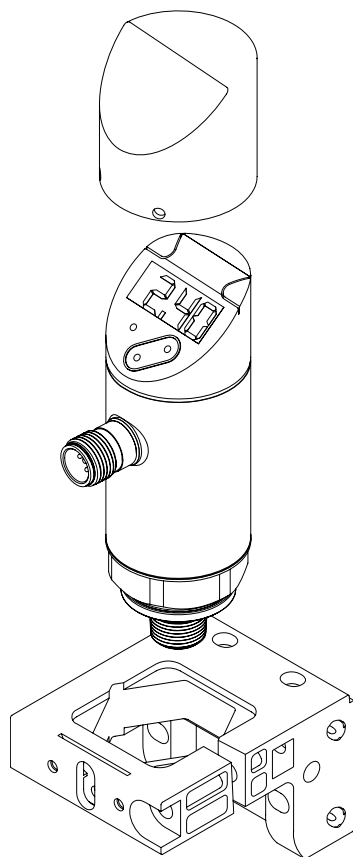
Part No. [EPS-CV](#)Part No. [EPS-BKT1](#)

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.	\$,;11,t:	0.1
<u>EPS-BKT1</u>	ProSense mounting bracket, for use with ProSense EPS series digital pressure sensors.	\$,11,q:	0.1

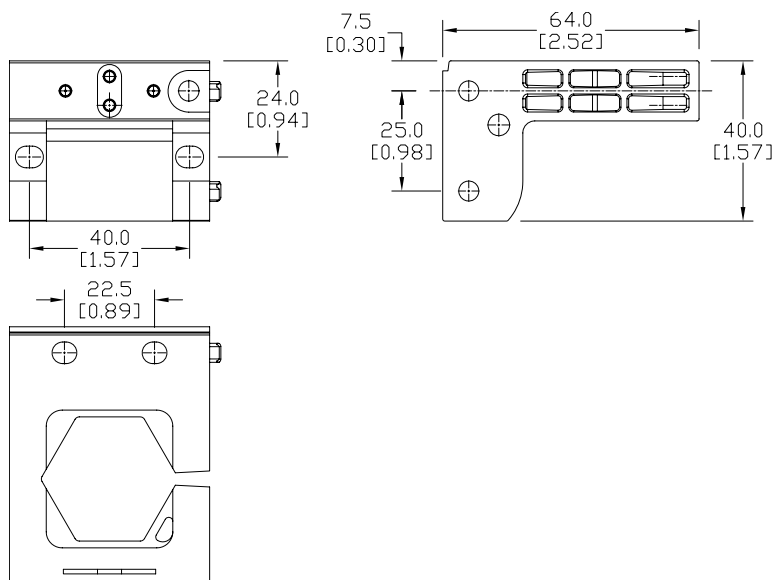
EPS Series Digital Pressure Sensor Accessory Specifications	
Part No.	Material
<u>EPS-CV</u>	PP (polypropylene)
<u>EPS-BKT1</u>	Fiber and mineral reinforced polyamide

Dimensions

mm [inches]

Part No. [EPS-CV](#)

Assembly Example

Part No. [EPS-BKT1](#)

See our website www.AutomationDirect.com for complete Engineering drawings.