

proSenseTM PSD25 Series Pressure Switches



Features

- Compact pressure switch features simple setup using mechanical adjustment dials
- Extremely durable housing with 316 stainless steel process connection
- No moving parts ensure long-term stability without setpoint drift
- LEDs indicate switching and operating status
- Dual switching output, DC
- Easy set-up dials
- Vibration and shock-resistant

Agency Approvals

- cULus, File number E320431
- CE

PLC
OverviewDL05/06
PLCDL105
PLCDL205
PLCDL305
PLCDL405
PLC

Field I/O

Software

C-more
HMI's

Other HMI

AC Drives

Motors

Steppers/
ServosMotor
ControlsProximity
SensorsPhoto
SensorsLimit
Switches

Encoders

Current
SensorsPushbuttons/
Lights

Process

Relays/
Timers

Comm.

TB's &
Wiring

Power

Circuit
Protection

Enclosures

Appendix

Part Index

ProSense Series Pressure Sensors

Pressure Series Pressure Sensors					
Part Number	Description	Pcs/Pkg	Wt(lb)		Cable Assemblies
PSD25-0P-0145H	Pressure switch, DC, PNP NO/NC, 0 to 145 psi range, 1/4" NPT male port	1	0.21		CD12L-0B-020-A0 CD12L-0B-020-C0 CD12M-0B-070-A1 CD12M-0B-070-C1 (see page 18-64 for specs)
PSD25-0P-1450H	Pressure switch, DC, PNP NO/NC, 0 to 1450 psi range, 1/4" NPT male port	1	0.21		
PSD25-0P-5800H	Pressure switch, DC, PNP NO/NC, 0 to 5800 psi range, 1/4" NPT male port	1	0.21		
Accessory					
PSD-CV	Transparent plastic protective cap for PSD series	1	0.01		PSD Series Sensors

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

ProSense PSD25 Series Technical Specifications

Operating Voltage	9.6 to 32 VDC
Contact Material	Gold-plated
Contact Maximum Load Current	500 mA (2 x 250 mA). See Setting and Operation Guide on following page.
Current Consumption	< 25 mA
Switching Frequency	100 Hz
Setting Accuracy of Switch Points	< ± 2.5% of full range (limit point calibration)
Repeatability	< ± 0.5% of full range
Temperature Drift	< ± 0.5%, of full temperature range/10 K; 32 to 176°F (0 to 80°C).
Housing Material	PBT (Pocan); PC (Makrolon); FPM (Viton); stainless steel (316S12)
Materials (wetted parts)	Stainless steel (316S12)
Operating 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 67
Protection Class	III
Insulation Resistance	> 100 MΩ (500 VDC)
Shock Resistance	50g (DIN / IEC 68-2-27, 11ms)
Vibration Resistance	20g (DIN / IEC 68-2-6, 10 - 2000 Hz)
EMC	
EN 61000-4-2 ESD	4 kV/8 kV AD
EN 61000-4-3 HF Radiated	10 V/m
EN 61000-4-4 Burst	2 kV
EN 61000-4-6 HF Conducted	10 V

Applications (Type of Pressure: Relative Pressure, Liquids and Gases)

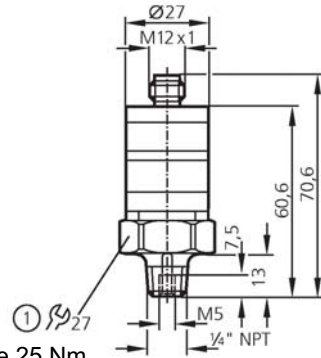
Part Number	Measuring Range	Permissible Overload Pressure	Bursting Pressure
	bar (PSI)	bar (PSI)	bar (PSI)
PSD25-0P-5800H	0 to 400 (0 to 5800)	600 (8700)	1600 (23200)
PSD25-0P-1450H	0 to 100 (0 to 1450)	200 (2900)	1000 (14500)
PSD25-0P-0145H	0 to 10 (0 to 145)	25 (362)	300 (4350)



WARNING! AVOID STATIC AND DYNAMIC OVERPRESSURE EXCEEDING THE GIVEN OVERLOAD PRESSURE.

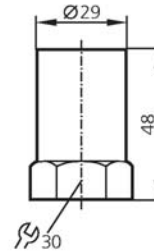
EXCEEDING THE BURSTING PRESSURE FOR EVEN A SHORT TIME CAN CAUSE DESTRUCTION OF THE UNIT AND POSSIBLE INJURIES!

Switch Dimensions (mm)



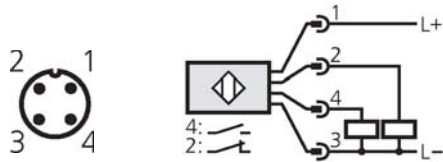
1: tightening torque 25 Nm

Switch Cover Dimensions (mm)

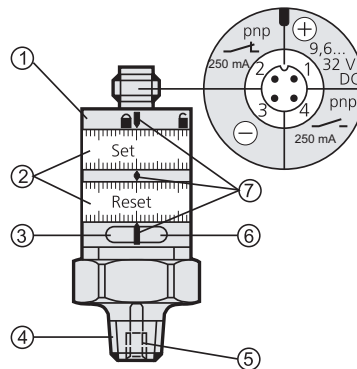


All dimensions in millimeters
25.4 mm = 1 inch

PSD25 Wiring Diagrams



Setting and Operation



1. Locking ring
2. Setting rings (manually adjustable after unlocking)
3. LED green: supply voltage OK.
4. Process connection 1/4 inch NPT; tightening torque 25 Nm
5. Internal thread M5
6. Yellow LED: Set value reached, OUT1 = ON
OUT2 = OFF
7. Setting marks
 - Minimum distance between Set and Reset = 2% of the final value of the measuring range.
 - For setting accuracy: Set both rings to the minimum value, then set the requested values.

Pressure Units Conversion Chart

Pressure Conversion Table: Multiplication Factors										
Desired Units	Known Units									
		<i>Atmos</i>	<i>Bars</i>	<i>In of Hg (0°C)</i>	<i>In of H₂O (4°C)</i>	<i>K grams/meter²</i>	<i>Lb/in² (psi)</i>	<i>Lb/ft²</i>	<i>mm of Hg torr</i>	<i>Pascals</i>
	<i>Atmos</i>	1	9.86923×10^{-1}	3.34207×10^{-2}	2.458×10^{-3}	9.678×10^{-5}	0.068046	4.7254×10^{-4}	1.316×10^{-3}	9.869×10^{-6}
	<i>Bars</i>	1.01325	1	3.3864×10^{-2}	2.491×10^{-3}	9.8067×10^{-5}	6.8948×10^{-2}	4.788×10^{-4}	1.333×10^{-3}	10^{-5}
	<i>In of Hg (0°C)</i>	29.9213	29.53	1	7.355×10^{-2}	2.896×10^{-3}	2.036	0.014139	3.937×10^{-2}	2.953×10^{-4}
	<i>In of H₂O (4°C)</i>	406.8	401.46	13.60	1	3.937×10^{-2}	27.68	0.1922	0.5354	4.014×10^{-3}
	<i>K grams/meter²</i>	1.033227×10^4	1.0197×10^4	345.3	25.40	1	7.0306×10^2	4.882	13.59	1.019×10^{-1}
	<i>Lb/in² (psi)</i>	14.695595	14.504	0.4912	3.6126×10^{-2}	1.423×10^{-3}	1	6.9444×10^{-3}	1.934×10^{-2}	1.450×10^{-4}
	<i>Lb/ft²</i>	2116.22	2088.5	70.726	5.202	0.2048	144.0	1	2.7844	2.089×10^{-2}
	<i>mm of Hg torr</i>	760	750.06	25.400	1.868	7.3558×10^{-2}	51.715	0.35913	1	7.502×10^{-3}
	<i>Pascals</i>	1.01325×10^5	1×10^5	3.386×10^3	2.491×10^2	9.8067	6.8948×10^3	4.788×10^1	1.333×10^2	1
Example: To convert from 50 psi to "In of H ₂ O", (50 psi) (27.68) = 1384 In of H ₂ O										