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INSTRUMENT SUPPLY, INC.



PG-3000

Digital Pressure Gauge

- Very large 4.5 digit display (0.6 in. characters)
- Available ranges from vacuum up to 500 psi, and from 0 up to 10,000 psi
- Automatic light-actuated battery-saver circuit ("Continuous On" with the 4-20 mA option)
- Display capability to 9999 (below 10,000 psi) and 19990 (above 10,000 psi)
- cCSAus hazardous location approved: Class I, Div. 1, Groups B, C, D; Class II, Groups E, F, G; Class III)
- Self-powered by long-life lithium batteries
- $\pm 0.25\%$ accuracy of full scale (on select ranges)

Options

- Other units of measure available
- Other process connection fittings available
- 4-20 mA output (loop powered)
- $\pm 0.1\%$ full scale accuracy with NIST certification, on selected ranges
- Cleaned for oxygen service
- Higher pressure ranges available (up to 30,000 psi)
- For OEM applications or other configurations, consult factory

Accessories

- Breather/drain fitting for high humidity environments
- Sun shield for outdoor applications



Operational Description

Hazardous Location Certified, Battery Powered Digital Gauge in NEMA 4X Enclosure

The PG-3000 is a high-performance digital pressure gauge powered from two long-life lithium battery cells, in a NEMA 4X enclosure, certified for hazardous locations by cCSAus. It offers an extra large (0.6 in./15 mm) 4.5 digit liquid crystal display with an automatic light actuated circuit which turns the unit off in darkness. This can greatly extend the battery life when used in areas which are not continuously illuminated. The all-stainless steel sensor is resistant to most typical exposures of vibration and shock. The gauge is also less sensitive to the effects of pulsating pressures, a major advantage when compared to vibration sensitive dial gauges. The standard 1/2-14 NPTM fitting is fabricated from a single block of 316L SS (except ranges under 100 psi) and provides excellent burst and overpressure characteristics. A NEMA 4X housing permits use in harsh environments. 4-20 mA output (loop powered) is available, as well as a cCSAus flush mount swivel process fitting.

Applications

The PG-3000 is an ideal local pressure indicator for industrial and continuous process applications where conventional devices are failing to provide reliability and performance in severe environments.



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■ Specifications

Performance
Standard Pressure Ranges
Compound Gauge: From vac up to 500 psi
Gauge: From 0 to 10000 psi
Absolute @ ±0.25% Linear Accuracy: From 0 to 5000 psi
Absolute @ ±0.1% Linear Accuracy: From 0 to 10000 psi
Overpressure: 2x full scale
Burst Pressure
Standard Fitting: 10x full scale or 20,000 psi (whichever is less)
Accuracy (linearity & hysteresis)
Standard Fitting: ±0.25% of full scale (B.F.S.L.); NIST traceable certification also available for ±0.25% and ±0.1% accuracy in select ranges
Stability - One Year Zero Drift: < ±1% F.S
Thermal Zero Shift: ±0.02% F.S./°F
Thermal Sensitivity Shift: ±0.02% F.S./°F
Life: 10 million cycles minimum
Environmental
Compensated Temp: 20 to 130°F (-7 to 54°C)
Storage Temp: -40 to 160°F (-40 to 71°C)
Operating Temp (Inside Enclosure): 0 to 160°F (-18 to 71°C)
Electrical
Battery Life
Operational: 2 C-size lithium batteries; 2-year life typical
Storage: 5-year life typical
Display Type: 4.5 digit LCD, 0.6 in. digits
Display Resolution: 1 part in 9999
Low Battery Detection: Displays "LBAT" @ 5.4 VDC ±5% with $V_{IN} = 7.2 V_{NOM}$
Adjustments: Front accessible (remove cover): "Z" Zero adjust; "S" Span adjust; Do not remove cover in a hazardous location
Physical
Weight: 3.66 lb.
Case: Powder coated, sand-cast aluminum, NEMA 4X
Wetted Materials: 316L SS (High resolution ranges under 100 psi, in 316L SS, incorporate a Hastelloy® C276 diaphragm); One piece Hastelloy® fitting also available (minimum quantities required)
Connector: 3 position terminal strip with option 4-20 mA output
Process Cavity Volume: 0.11 ³ in.
Approvals: cCSAus hazardous location approved Class I, Div. 1, Groups B, C, D; Class II, Groups E, F, G; Class III; and 4X areas

Specifications are subject to change without notice.

■ Electrical Specifications

4-20 mA Output

Excitation: 11-26 VDC max
Input Current: 3-30 mA max
Output: 4-20 mA ±0.16 mA at set points
Output/Input: 2 wire loop powered
Resolution: Infinite
Protection: Reversed polarity

4-20mA Output vs. Pressure Type Table

Pressure Type	Pressure			Output Display*
	Vacuum	0	F.S.	
Vacuum	20mA	4mA	N/A	Output Display*
	30.0	0.0	N/A	
Gauge / Absolute	N/A	4mA	20mA	Output Display*
	N/A	0.0	F.S.	
Compound Gauge	4mA	-	20mA	Output Display*
	-30.0	0.0	F.S.	

*Display in inHg, for example only.

Note: For a pressure type of compound gauge, with 4-20 mA output, the full scale pressure range minimum is 100 psi.

■ Common Pressure Ranges

Standard Fitting

Range	Unit of Measure	Display Resolution
30**	-30 to 0 inHg	0.1
30	0 to 30 psi	0.01*
60	0 to 60 psi	0.1
200	0 to 200 psi	0.1
500	0 to 500 psi	0.1
1000	0 to 1000 psi	1
2000	0 to 2000 psi	1
5000	0 to 5000 psi	1
10000	0 to 10000 psi	1

Other ranges available.

*Requires G2 option when ordering.

**Requires VAC option when ordering.



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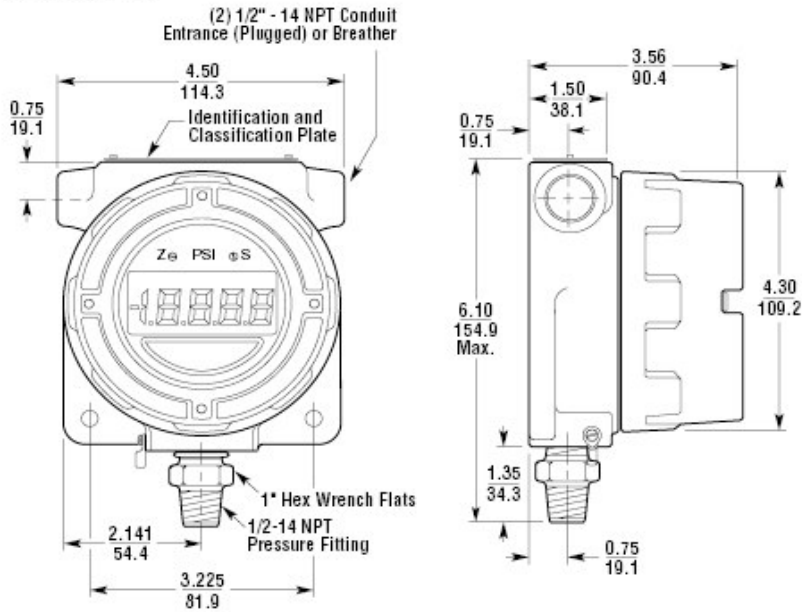
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■ Dimensions — in./mm

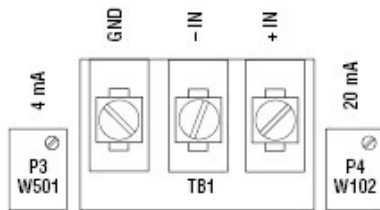
Standard Fitting



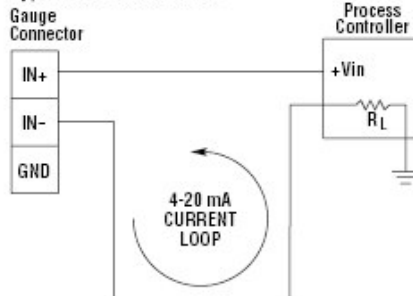
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■ Wiring

Connector Diagram



Typical 4-20 mA Circuit



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■ Option Tables

Unit of Measure Table

There are 9 choices available:

psi ▲	mmHg*
bar	inHg
mbar*	kgcm ²
kPa	fsw
inH2O*	

*Requires G2 option.
Other units of measure available.

Pressure Type Table

G ▲	Gauge
S	Sealed
CG	Compound gauge
A	Absolute
V	Vacuum

▲ This option is standard.

■ Ordering Information

PG-3000 - [Range] - [] - [] - [] - [] - [] - [] - [] - []

Unit of Measure	See Unit of Measure Table
Pressure Type	See Pressure Type Table
Location	
C	Commercial
EX	Certified for hazardous location
Operation	
L1	4-20 mA output (use E12)
L7 ▲	Dual "C" size lithium batteries (use E0)
Port	
F0 ▲	Bottom
F2	Bottom with O ₂ clean
Electrical Connection	
E0	No connector
E12	Terminal strip internal (use with 4-20 mA output)
Process Connection	
P1	1/2-14 NPTM
	Consult factory for other process connection options.
Accuracy	
N0	±0.25%
N1	±0.25% with NIST certification (selected ranges)
N2	±0.1% with NIST certification (selected ranges)
N3	±1% or better
N4	±1% or better with NIST certification
Materials	
M1 ▲	316L SS (under 100 psi, 316L SS/Hastelloy®)
M5	Hastelloy® (minimum quantities required)
	Consult factory for other material options.

Accessories

Please order separately, by part number.

Description	Part Number
Breather fitting	511606
Replacement lithium battery (requires 2)	511655
Sunscreen shield	511780



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