

P&R

INSTRUMENT SUPPLY, INC.



pressure products



PG-7

Digital Pressure Gauge

- Large, full 4 digit display with 0.5 in. characters
- Available ranges from vacuum up to 500 psi, and from 0 up to 10,000 psi
- Weather resistant
- Keypad operated microprocessor circuit has "TARE" (auto zero), peak hold and visual alarm as standard functions
- Display capability to 9999
- Sealed reference pressure
- Self-powered by standard 9 V battery
- $\pm 0.25\%$ accuracy of full scale (on selected ranges)

Options

- Other units of measure available
- Other process connection fittings available
- A 16 minute auto off circuit included at standard price
- Rear pressure port
- $\pm 0.1\%$ full scale accuracy with NIST certification, on select ranges
- External power
- Functional alarm as a normally closed transistor switch
- For OEM applications or other configurations, consult factory
- Cleaned for oxygen service

Accessories

- Panel mount flange (rear pressure port only)
- AC to DC external power supply
- Shock dampening rubber boot

■ Operational Description

Battery Powered Digital Gauge Offers Full Four Digit Display.

The latest in solid state design, the weather-resistant PG-7 utilizes a semi-conductor strain gage pressure transducer as the sensing element in conjunction with a microprocessor based electronics. The all-stainless steel sensor is resistant to most typical exposures of vibration and shock. The APG gauge is also less sensitive to the effects of pulsating pressures, a major advantage when compared to vibration sensitive dial gauges. State-of-the-art electronics in conjunction with the auto off circuit results in exceptional battery life. The 4-digit, 0.5 in. display and $\pm 0.25\%$ full-scale accuracy provides the opportunity to replace much larger mechanical analog gauges.

■ Applications

The PG-7 Digital Pressure Gauge provides an accurate measurement of any gas or non-cryogenic liquid media compatible with 15-5PH or 316L SS (optional).

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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: 10x full scale or 20,000 psig (whichever is less)	
Accuracy (linearity & hysteresis): ±0.25% of full scale (B.F.S.L.) or 2 digital counts, whichever is greater; NIST traceable certification also available for ±0.25% and ±0.1% accuracy	
Stability – One Year Zero Drift: 15-5: < ±0.5% F.S., 316: < ±1% F.S.	
Thermal Zero Shift	> 100 psi: ±0.02% F.S./°F ≤ 100 psi: ±0.04% F.S./°F
Thermal Sensitivity Shift	> 100 psi: ±0.02% F.S./°F ≤ 100 psi: ±0.04% 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: 0 to 160°F (-18 to 71°C)	
Electrical	
Batteries: Standard 9 V (1), user replaceable (2-year life typical with auto off option)	
External Power: 10-32 VDC	
Display Type: 4 digit LCD, 0.5 in. digits	
Display Resolution: 1 part in 9999	
Low-Battery Detection: Displays battery symbol @ 4.5 VDC ±2.5%	
Auto-Off: 16 min. (not available with the L4 or C1 options)	
Active Alarm (Optional): Normally closed, open drain FET transistor, PNP output V _{DS} = 60 V max, I _{DS} = 500 mA max, On resistance = 7.5 Ω, Power = 300 mW max	
Physical	
Weight: 0.42 lb.	
Case: Injection molded case material EMI-X® PDX-W-88341	
Wetted Materials: 15-5 SS; 316L SS available at no extra charge (High resolution ranges under 100 psi, in 316L SS incorporate a Hastelloy® C276 diaphragm); one piece Hastelloy® fitting also available (minimum quantities required)	
6-Pin Connector: Electrical receptacle, R04-R6M or equivalent (included with optional external power selection)	
6-Pin Mating Connector: 6R04-J6F or equivalent (included with optional external power selection)	
Process Cavity Volume: 0.07 ³ in	

Specifications are subject to change without notice.

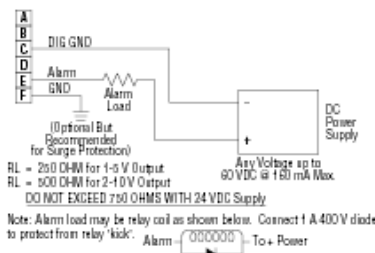
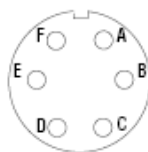
■ Wiring

PG-7 Pin Out Table

	Ex Pwr
A	+ Pwr
B	-Pwr (Com)
C	N/C
D	Alarm
E	GND
F	N/C

N/C indicates no connection.

6 Pin Connector



■ Common Pressure Ranges

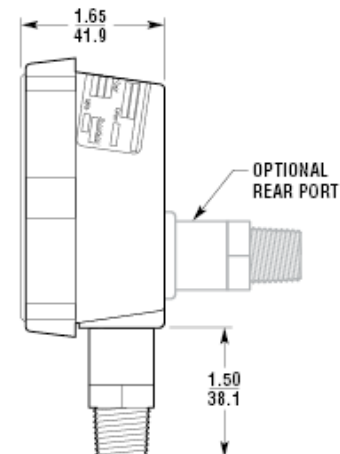
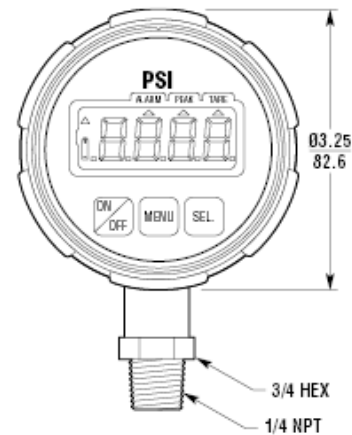
Range Option	Range	Unit of Measure	Display Resolution
30**	-30 to 0	inHg	0.1
20	0 to 20	psi	0.01*
30	0 to 30	psi	0.1
60	0 to 60	psi	0.1
100	0 to 100	psi	0.1
160	0 to 160	psi	0.1
250	0 to 250	psi	0.1
500	0 to 500	psi	0.1
1000	0 to 1000	psi	1
2000	0 to 2000	psi	1
5000	0 to 5000	psi	1
10000	0 to 10000	psi	1

Other ranges available.

*Requires G2 option when ordering.

**Requires Vac option when ordering.

■ Dimensions — in./mm



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Option Tables

Unit of Measure Table

There are 9 choices available:

psi [▲]	mmHg [*]
bar	inHg
mbar [*]	kg/cm ²
kPa	fsw
inH ₂ O [*]	

^{*}Requires G2 option.
Other units of measure available.

Pressure Type Table

G [▲]	Gauge
G2	High resolution gauge
CG	Compound gauge
A	Absolute
S	Sealed

Port Table

F0 [▲]	Bottom
F1	Rear
F2	Bottom with O ₂ clean
F3	Rear with O ₂ clean
F5	Remote transducer with mV sensor
F6	Rear port with panel bracket installed
F7	Bottom port with rubber boot installed

Process Connection Table

P0 [▲]	1/4-18 NPTM
P2	1 1/2 in. sanitary
P5	1/4-18 NPTF
P7	7/16-20 SAE male
P14	1/8-27 NPTM
P16	PT 1/4 (BSPM 1/4)
P22	G3/8 (3/8 BSPP) male

Other options available.

[▲] This option is standard.

Ordering Information

PG-7 - Range	
Unit of Measure	See Unit of Measure Table
Pressure Type	See Pressure Type Table
Auto Off	
A0 [▲]	No auto off
A4	16 minute auto off (not available with L4 or C1)
Port	See Port Table
Operation	
L0 [▲]	9 V battery (E0)
L4	External power (E1)
Alarms	
C0 [▲]	Visual alarm only
C1	Visual + active electrical output (E1 must be chosen below)
Electrical Connection	
E0 [▲]	No connector
E1	6 pin circular with mate
Process Connection	See Process Connection Table
Accuracy (see Linear Accuracy Chart for details)	
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	
M0 [▲]	15-5 SS
M1	316L SS (under 100 psi, 316L SS/Hastelloy [®])
Consult factory for other material options.	

Accessories

Please order separately, by part number. When ordering a flange or boot as an accessory, they will not be installed on the gauge.

Description	Part Number
Panel mount flange (rear port only)	512599
AC to DC external power supply	511642
Rubber boot	512626

Linear Accuracy Chart

Full Scale Display	Display Resolution	Standard Linear Accuracy	Accuracy Options
≥ 15.00 but < 20.00 [*]	0.01	0.25%	N0, N1
≥ 20.00 but < 80.00 [*]	0.01	0.25%	N0, N1, N2
≥ 20.0 but < 80.0	0.1	Better than 1%	N3, N4
≥ 80.0 but < 200.0	0.1	0.25%	N0, N1
≥ 200.0 but < 800.0	0.1	0.25%	N0, N1, N2
≥ 800 but < 2,000	1	0.25%	N0, N1
≥ 2,000 but < 10,000	1	0.25%	N0, N1, N2

^{*}Requires high resolution option

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