

1200 Series / 1600 Series- **psibar** an OEM Transducer Featuring Exceptional Proof Pressure and Stability Specifications

PRESSURE SENSORS

CVD TECHNOLOGY

PRESSURE TRANSDUCERS

- ▶ Gauge, vacuum, and compound pressure models
- ▶ General purpose and wash down enclosures
- ▶ High proof pressure achieved by thicker diaphragm construction
- ▶ Voltage and current output models

The **psibar** features stability and toughness via its CVD and ASIC design coupled with a thicker diaphragm. The thicker diaphragm enables **psibar** to survive most pressure spikes caused by pump ripple, solenoid valves, etc. The 1600 series extends the packaging options by providing an all welded stainless steel back end for demanding industrial applications. The **psibar**'s modular design enables special ordering of fittings, electrical cables, etc. for OEM applications. The ASIC and CVD technology enables Gems to offer almost any output over any pressure range.



Specifications

Input	
Pressure Range	Vacuum to 400bar (6000psi) Gauge datum only
Proof Pressure	4 x Full Scale (FS) (<1% FS Zero Shift)
Burst Pressure	>35 x FS <= 4bar (60psi)
	>20 x FS <=40bar (600psi)
	>5 x FS <= 400bar (6000psi)
Fatigue Life	Designed for more than 100 million FS cycles
Performance	
Supply Voltage Sensitivity	0.01% FS/Volt
Long Term Drift	0.2% FS/year (non-cumulative)
Accuracy	0.5 % FS typical
Thermal Error	2.0% FS typical
Compensated Temperatures	-20° to 80°C (-5° to 180°F)
Operating Temperatures	-40° to 125°C (-40° to 260°F) for elec. codes A, B, C, 1
	-20° to 80°C (-5° to 180°F) for elec. codes 2, D, G, 3
	-20° to 50°C (-5° to 125°F) for elec. code F
Zero Tolerance	1% of span
Span Tolerance	1% of span
Mechanical Configuration	
Pressure Port	See ordering chart
Wetted Parts	17-4 PH Stainless Steel
Electrical Connection	See ordering chart
Enclosure	316 SS, 17-4 PH ss
	IP65 for elec. codes A,B,C,G (with connector fitted) 1,2,3
	IP67 for elec. codes F
	IP30 for elec. code "3" with flying leads
Vibration	35g peak sinusoidal, 5 to 2000Hz
Acceleration	100g steady acceleration in any direction 0.032%FS/g for 1bar (15psi) range decreasing logarithmically to 0.0007%FS/g for 400bar (6000psi) range.
Shock	Withstands free fall to IEC 68-2-32 procedure 1
Approvals	CE
Weight	Approx. 100grams (additional; cable 75g/m)

Individual Specifications

Voltage Output units	
Output	See ordering chart
Supply Voltage (Vs)	1.5Vdc above FS output to 35Vdc
Min. Load Resistance	(FS output / 2) Kohms
Current Output units	
Output	4-20mA (2 wire)
Supply Voltage (Vs)	24Vdc, (7-35Vdc) Above 100°C supply limited to 24Vdc
Max. Loop Resistance	(Vs-7) x 50 ohms

Wire Code		Current Units (4-20mA)		
		(+)	(-)	EARTH
A, B, G	Industrial DIN	PIN 1	2	4
C	"10-6 Bayonet"	PIN A	B	E
D	Cable	R	BK	DRAIN
F	IP 67 cable	R	BK	DRAIN
1	"8-4-Bayonet"	PIN A	B	D
2	"Cable"	R	BK	DRAIN
3	"Conduit & cable"	R	BK	DRAIN

Wire Code		Voltage Units			
		IN+	COM	OUT+	EARTH
A, B, G	Industrial DIN	PIN 1	2	3	4
C	10-6 Bayonet	PIN A	C	B	E
D	Cable	R	BK	W	DRAIN
F	IP 67 cable	R	BK	W	DRAIN
1	"8-4-Bayonet"	PIN A	C	B	D
2	"Cable"	R	BK	W	DRAIN
3	"Conduit & cable"	R	BK	W	DRAIN

Cable Legend:

- R = Red
- BL = Blue
- BK = Black
- W = White

www.gemssensors.com

Dimensions (in mm)

psibar 1200 Series

psibar 1600 Series

Industrial DIN (mate supplied) Code "A"	IP67 Cable (Weatherproof) Code "F"	IP65 or NEMA 4 Cable Code "D" or "2"	10-6 or 8-4 Mil-C Connector 10-6 Code "C" 8-4 Code "1"	Large DIN 43650 Plug (mate supplied) Code "G"	Conduit Connector with Cable Code "3"	Conduit Connector with Flying Leads Code "3" with length "U"

G1/4 Internal	G1/4 External	1/4 - 18 NPT	G1/2 Manometer	7/16 - 20 UNF-2A (SAE J514)	G1/4 Soft Seal	1/8 NPT	R 1/4	G 1/8	7/16 Schraeder
Code "00"	Code "01"	Code "02"	Code "03"	Code "04"	Code "05"	Code "08"	Code "0A"	Code "09"	Code "1G"

How to Order

Use the **bold** characters from the chart below to construct a product code. For other pressure connections consult Sales Office

Series **1200** **1600**

Output
B - 4-20mA
C - 1-6V
D - 1-11V
H - 1-5V
J - 0.5-5.5V
R - 0-5V
S - 0-10V

Datum
G - Gauge

Pressure Range - psi
F15 - 0-15
F30 - 0-30
F60 - 0-60
G10 - 0-100
G15 - 0-150
G20 - 0-200
G30 - 0-300
G50 - 0-500
G60 - 0-600
H10 - 0-1.000
H15 - 0-1.500
H20 - 0-2.000
H30 - 0-3.000
H40 - 0-4.000
H50 - 0-5.000
H60 - 0-6.000
Vac = -15psi
1F5 - Vac-0
3F0 - Vac-15
6F0 - Vac-45
1G0 - Vac-135
1G5 - Vac-135
2G0 - Vac-185
3G0 - Vac-285

Pressure Range - bar
A10 - 0-1
A16 - 0-1.6
A25 - 0-2.5
A40 - 0-4
A60 - 0-6
B10 - 0-10
B16 - 0-16
B25 - 0-25
B40 - 0-40
B60 - 0-60
C10 - 0-100
C16 - 0-160
C25 - 0-250
C40 - 0-400
Vac = -1bar
1A0 - Vac-0
1A6 - Vac-0.6
2A5 - Vac-1.5
4A0 - Vac-3
6A0 - Vac-5
1B0 - Vac-9
1B6 - Vac-15
2B5 - Vac-24
4B0 - Vac-39

Performance Code
A

Cable Length
U - None
D - 1m

Electrical Connection
CE Approved **RU** usListed
1200 Series
A - Industrial DIN with mate
B - Industrial DIN without mate
D - IP65 Cable
F - IP67 Weatherproof Cable Gland
2 - NEMA 4 Cable (USA colour code)

Pressure Port
01 - G1/4 External
02 - 1/4 NPT External
03 - G1/2 Manometer
04 - 7/16 UNF External

1600 Series
C - 10-6 Mil C Connector
1 - 8-4 Mil C Connector
G - Large DIN 43650 Plug
3 - Conduit Connector with 1 Meter Leads (for cable specify length code)

05 - G1/4 Soft Seal
08 - 1/8 NPT External
09 - G1/8 Internal
Others - consult factory
1G - 7/16 Schraeder Depressor