PRESSURE SYSTEMS

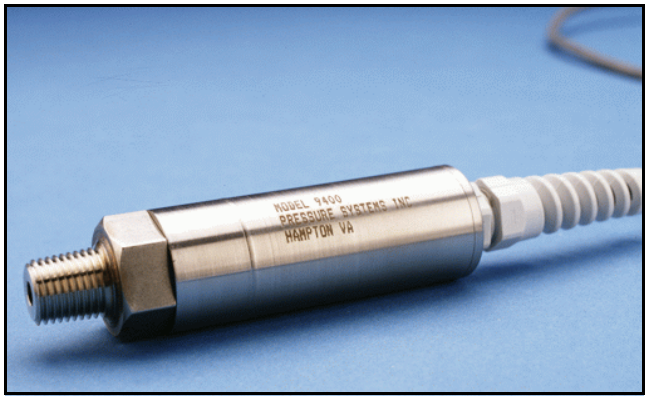
Digitally Compensated All-Media Pressure Transducer

ISO-9001 Certified

NetScanner™ System 9400

FEATURES

- Digital compensation capability
  - Up to ±0.05% FS static accuracy
  - Up to ±0.005%/ºC thermal stability
- Stainless steel construction
  - Compatible with liquid media
  - Withstands severe environmental conditions
- Pressure ranges: 0-5 psi (35 kPa) to 0-10000 psi (69 MPa) gage, absolute or differential



APPLICATIONS

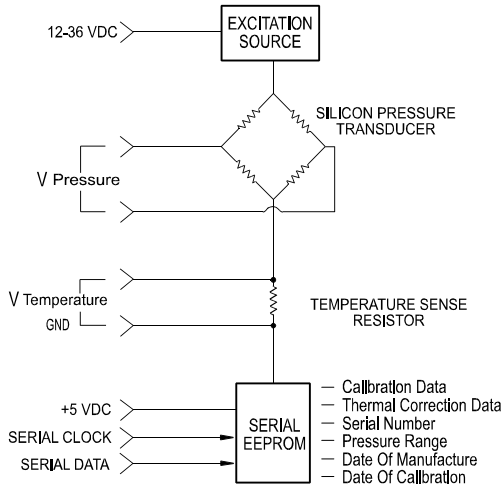
- Turbomachinery Test Stands
- Hydraulic/Pneumatic Systems
- Process Control
- Environmental Monitoring

CE

The Series 9400 are high accuracy, digitally compensated pressure transducers designed for industrial pressure measurement applications requiring all-media compatibility with high accuracy and stability. The transducer is designed to integrate directly with PSI's Model 9021 or 9022. Static accuracies of up to ±0.05% FS with thermal stability as good as ±0.005%/ºC are achieved through Digital Temperature Compensation. The Series 9400 incorporates an isolated diaphragm sensor specifically designed for use with corrosive fluids and gases. These sensors utilize a silicon pressure cell that has been fitted into a stainless steel housing with an integral, compliant stainless steel barrier diaphragm. Standard pressure ranges are available from 0-5 to 0-10000 psi.

The Series 9400 achieves high accuracy and thermal stability through the use of digital temperature compensation to correct zero, span, and linearity errors over the operating pressure and temperature range. Each digitally compensated transducer contains an integral semiconductor memory to store the factory generated calibration data. This data is uploaded into the 9021 or 9022 Intelligent Pressure Scanners upon power-up and used to compensate for the inherent transducer thermal errors during use. The 9021 and 9022 supply pressure measurements from each Series 9400 transducer in engineering units over an Ethernet TCP/IP or UDP interface.

The Series 9400 All-Media Pressure Transducer is a component of a networked data acquisition concept called NetScanner™ System. The NetScanner™ System solution permits a system configuration of cost effective rackmount scanners, rugged pneumatic or liquid scanners and high accuracy barometers via an Ethernet network.



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Series 9400 Specifications

After 1 hour warmup @ 25ºC unless otherwise stated, FS = Full Scale

Parameter	9400	9401	9402	Units	Comments
PNEUMATICS					
Pressure Reference	Gage[1]	Absolute	Differential		
Pressure Ranges	5 (35) 10 (70) 15 (105) 50 (350) 100 (700) 250 (1725) 500 (3500) 750 (5200) 1500 (10400) 3000 (20800) 5000 (35000) 10000(69000)	15 (105) 30 (210) 50 (350) 100 (700) 250 (1725) 500 (3500) 750 (5200) 1500 (10400) 3000 (20800) 5000 (35000) 10000(69000)	5 (35) 10 (70) 15 (105) 50 (350) 100 (700) 250 (1725)	psi / kPa	Contact factory for other ranges **>750 psi passive compensation only**
Proof Pressure[2]	3.0 1.5			x FS	#100 psi/700 kPa >100 psi/700 kPa
Burst Pressure	5x 3x 2x			x FS	5 - 500 psi >500 - 3000 psi >3000 psi
STATIC PERFORMANCE					
Static Accuracy[3] digital compensation passive compensation	±0.05 ±0.25 ±0.50		±0.1 N/A N/A	% FS % FS % FS	Using 9021/9022 >3000 psi
Total Thermal Error[4] digital compensation passive compensation	±0.005 ±0.05			% FS/ºC % FS/ºC	Using 9021/9022
Thermal Hysteresis	±0.2			% FS	After cycling over full temp range
Line Pressure Effect[5]	±0.01			% FS/psi	Max ref Px 1000
ENVIRONMENTAL					
Wetted Materials	316 SS & Viton				
Compensated Temp Range	0 - 50			ºC	Consult factory for other temperatures
Operating Temp Range	-30 to 100			ºC	
ELECTRICAL					
Excitation	12-36			VDC	
Power Supply Rejection	±.001			%/VDC	
Output Vo Vt	0-4.9 0.2-0.7			VDC VDC	

Notes:

1 Pressure ranges > 750 psi are "sealed" gage for the 9400

2 Maximum pressure which can be applied without causing calibration shift.

3 Static accuracy includes the combined errors due to nonlinearity, hysteresis and nonrepeatability. Models 9021and 9022 perform digital compensation using stored coefficients in 9400/9401/9402.

4 Includes effects of zero and span relative to 25ºC.

5 Primarily zero offset.

Specifications subject to change without notice.

Specifications Series 9400

After 1 hour warmup @ 25ºC unless otherwise stated, FS = Full Scale

Parameter	9400	9401	9402	Units	Comments
ELECTRICAL CONT'D					
Output Impedance Vo Vt	100 100			Ohm Ohm	Max Max
Insulation Resistance	50			M Ohm	@ 50 VDC
PHYSICAL/ENVIRONMENTAL					
Acceleration	±0.02 ±0.01			% FS/g % FS/g	Range #15 psi/105 kPa Range $30 psi/210 kPa
Vibration	±0.05			% FS/g	30 g peak 10 hz - 2kHz
Weight	6 / 170		17 / 480	oz / gm	
Pressure Connection	¼" NPT AN4 G¼				Consult factory for other fittings
Electrical Connection Standard Optional	PVC Jacketed Cable PTIH - 12-8P Bendix				

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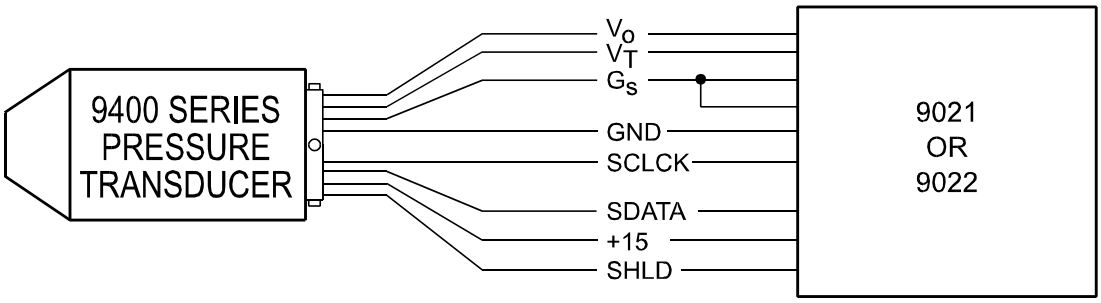
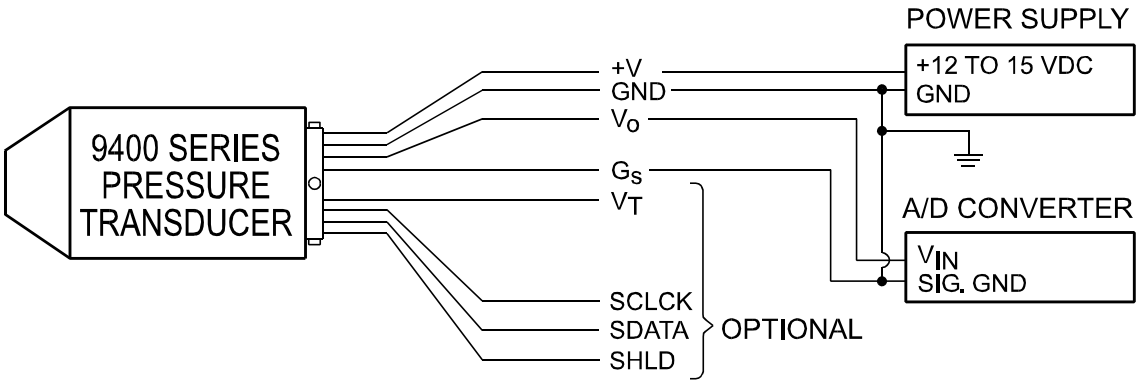


INTERFACE CONNECTION TO 9021 OR 9022



INTERFACE TO CUSTOM DATA ACQUISITION SYSTEM

Series 9400 Ordering/Part Number Information

Ordering Information:

PN: **9400-AAAABBC00E** 9400 All-Media Gage Pressure Transducer
PN: **9401-AAAABBC00E** 9401 All-Media Absolute Pressure Transducer
PN: **9402-AAAABBC00E** 9402 All-Media Differential Pressure Transducer

AAAA = Pressure Range

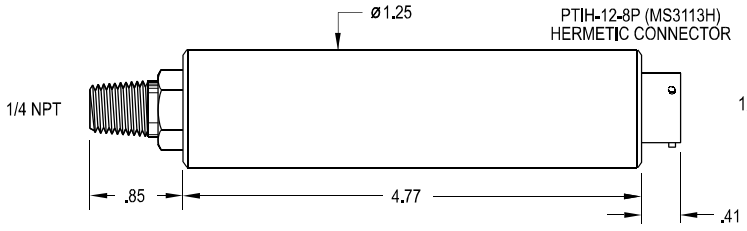
0005, 0-5 psi (35 kPa)	0100, 0-100 psi (690 kPa)	1500, 0-1500 psi (10400 kPa)
0010, 0-10 psi (70 kPa)	0150, 0-150 psi (1050 kPa)	2000, 0-2000 psi (13800 kPa)
0015, 0-15 psi (105 kPa)	0250, 0-250 psi (1725 kPa)	3000, 0-3000 psi (20800 kPa)
0030, 0-30 psi (210 kPa)	0500, 0-500 psi (3500 kPa)	5000, 0-5000 psi (35000 kPa)
0050, 0-50 psi (350 kPa)	0750, 0-750 psi (5200 kPa)	9999, 0-10000 psi (69000 kPa)
0075, 0-75 psi (525 kPa)		

BB = Pressure Fitting
01, ¼" NPT
02 AN4
03, G¼
04, 7/16 Female SAE O-Ring Boss

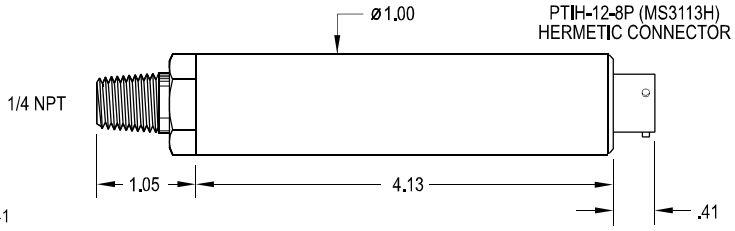
C = Electrical Connection
2, Bendix PTIH-12-8P
4, PVC Cable (for 9021)
6, PVC Cable (for 9022)

E = Temperature
0, Digital only (0-50ºC)
1, Analog only (0-50ºC)
8, Analog only (-30 to +40ºC)
9, Digital only (-30 to +40ºC)

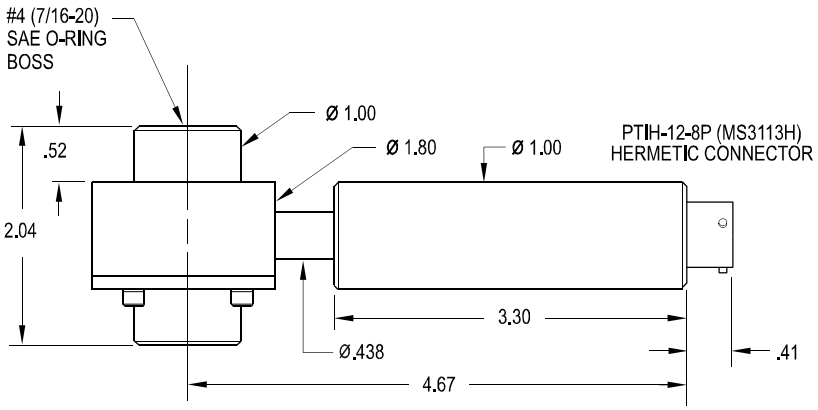
Example: 9400-0010012000 **9400 All-Media Pressure Transducer, 10 psig, ¼" NPT, Bendix Connector, 0-50ºC Digital Compensation**



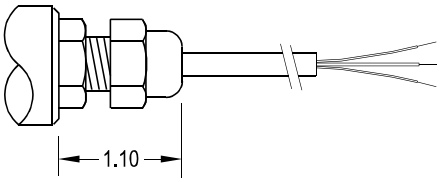
9400 or 9401 > 750 psi



9400 or 9401 # 750 psi



9402 Differential Unit



Strain Relief with Cable (Length to be specified)