PRESSURE SYSTEMS
A Roxboro Group Company

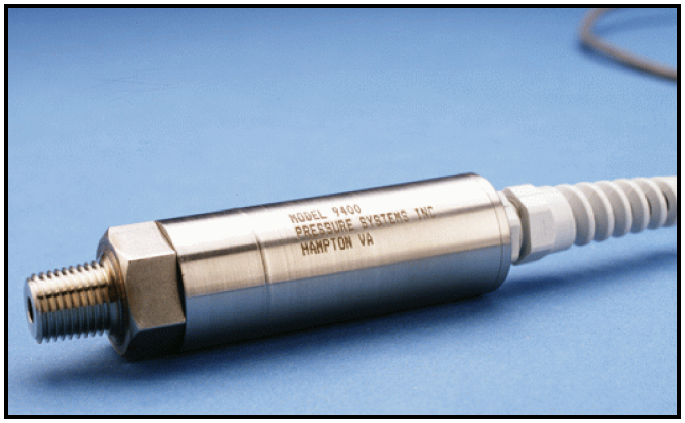
Digitally Compensated All-Media Pressure Transducer

ISO-9001 Certified

9400 Series

FEATURES

- Digital Compensation Capability
  - Up to ±0.1% 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
- Integrates with PSI System 9000, 8400 and NetScanner

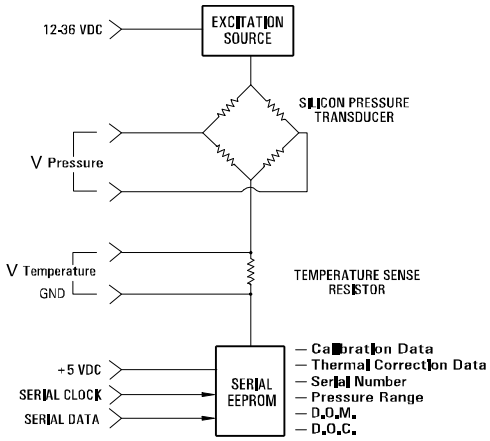


APPLICATIONS

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

The 9400 Series Pressure Transducer is designed for industrial pressure measurement applications requiring all-media compatibility with good accuracy and stability. The transducer is designed to integrate directly with PSI's 9020 All-Media Scanner, 9021 NetScanner or System 8400 All-Media Interface (8461). Static accuracies of up to ±0.1% F.S. with thermal stability as good as ±0.005%/ºC are achieved through digital compensation. The 9400 Series incorporate an isoated diaphragm sensor specifically designed for use with corrosive fluids and gasses. 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 9400 Series 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 transducer contains an integral semiconductor memory to store the factory generated calibration data. This data is uploaded into the 9020 or 9021 upon power-up and used to compensate for the inherent transducer thermal errors during use. The 9020 and 9021 supply pressure measurements from each 9400 Series transducer in engineering units over either serial RS-422/485 interface or via Ethernet TCP/IP.



Pressure Systems, Inc.
34 Research Drive
Hampton, VA 23666 USA
Phone: (757) 865-1243
Toll Free: 800-678-SCAN
Fax: (757) 865-8744
E-Mail: sales@psih.com
Website: www.psih.com

KPSI
a subsidiary of Pressure Systems, Inc.
specializing in all-media transducers
Phone: (757) 865-1243
Toll Free: 800-328-3665
Fax: (757) 865-8744
E-Mail: kpsi@cts.com
Website: www.kpsi.com

PSI Ltd.
124, Victoria Road
Farnborough, Hants
GU14 7PW, United Kingdom
Phone: +44 (1252) 510000
Fax: +44 (1252) 510099
E-Mail:dcopley@solartron.com

9400 Series 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	**9400 Gauge** 5 (35) 10 (70) 15 (105) 50 (350) 100 (700) 250 (1725) 500 (3500) 750 (5200) 1500 (10400) 3000 (20800) 5000 (35000) 10000 (69000)	**9401 Absolute** 15 (105) 30 (210) 50 (350) 100 (700) 250 (1725) 500 (3500) 750 (5200) 1500 (10400) 3000 (20800) 5000 (35000) 10000 (69000)	**9402 Differential** 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 F.S.	≤100 psi/700 kPa >100 psi/700 kPa
Burst Pressure	5x 3x 2x			x F.S.	5 - 500 psi >500 - 3000 psi >3000 psi
STATIC PERFORMANCE					
Static Accuracy[3] digital compensation passive compensation	 ±0.1 ±0.25 ±0.50			 % F.S. % F.S. % F.S.	 Using 9020/9021 Using 8461 or custom system ≤3000 psi >3000 psi
Total Thermal Error[4] digital compensation passive compensation	 ±0.005 ±0.05			 % F.S./ºC % F.S./ºC	 Using 9020/9021 Using 8461 or custom system
Thermal Hysteresis	±0.2			% F.S.	After cycling over full temp range
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. 9020 and 9021 perform digital compensation using stored coefficients in 9400/9401/9402.
4. Includes effects of zero and span relative to 25ºC.

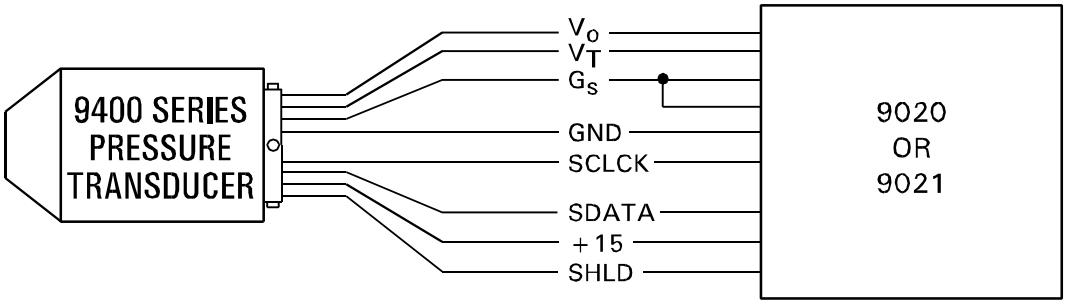
Specifications subject to change without notice.

Specifications 9400 Series

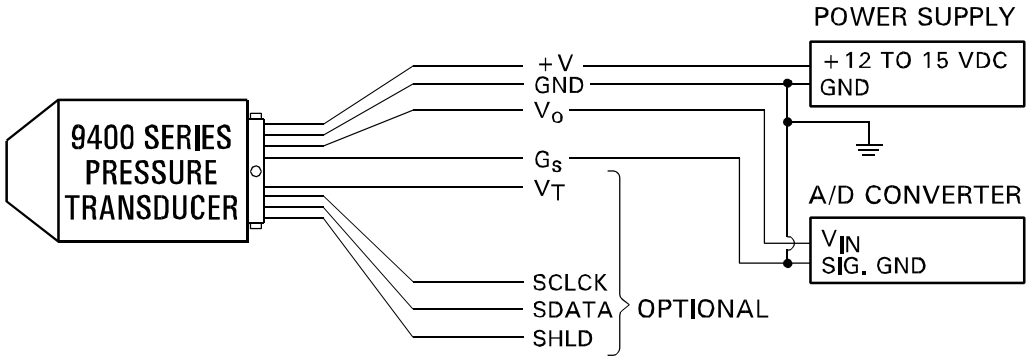
After 1 hour warmup @ 25ºC unless otherwise stated, FS = Full Scale

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		% F.S./g % F.S./g	Range ≤15 psi/105 kPa Range ≥30 psi/210 kPa
Vibration		±0.05		% F.S./g	30 g peak 10 hz - 2kHz
Weight		6 / 150		oz / gm	
Pressure Connection		¼" NPT AN4 G¼			Consult factory for other fittings
Electrical Connection Standard Optional		PVC Jacketed Cable PTIH - 12-8P Bendix			

Specifications subject to change without notice.



INTERFACE CONNECTION TO 9020 OR 9021



INTERFACE TO CUSTOM DATA ACQUISITION SYSTEM

9400 Series Ordering/Part Number Information

Ordering Information:

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

AAAA = Pressure Range

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

BB = Pressure Fitting
01, ¼" NPT
02 AN4
03, G¼

C = Electrical Connection
1, PVC Cable (for 9020/8400 AMI)
2, Bendix PTIH-12-8P
3, PVC Cable (for 9040)

DD = Specials
00, Standard

E = Temperature Compensation
0, Digital only (0-50ºC)
1, Analog only (0-50ºC)
2, Digital & Analog (0-50ºC)
3, Digital only (special)
4, Analog only (special)
5, Digital & Analog (special)

Example: 9400-0010011000 9400 All-Media Pressure Transducer, 10 psi, ¼" NPT, PVC Cable, 0-50ºC Digital Compensation