

High Accuracy Heavy Duty Pressure Transducers

SERIES 615/616

HIGH ACCURACY HEAVY DUTY PRESSURE TRANSDUCERS



NOSHOK Series 615/616 Pressure Transducers are designed for heavy duty applications requiring high accuracy and durability. Utilizing similar diffused semiconductor or sputtered Thin Film technology found in the 100 series, these transducers are stable, accurate, shock resistant, and extremely durable.

The durability is coupled with the mechanical integrity of the case, process connection, and wetted parts constructed of corrosion resistant stainless steel, completing the NOSHOK product characteristics you have come to expect.

Available in a wide variety of electrical and process configurations and fully adaptable to the 1800, 1900 and 2000 Series Smart System Digital Indicators, the Series 615/616 Pressure Transducers are the choice for heavy duty applications.

A final electrical output and calibration inspection is performed on all NOSHOK transducers prior to shipment to ensure 100% "out of the box" reliability.

FEATURES

- Advanced diffused semiconductor and sputtered thin film sensor for maximum stability
- High accuracy and long term stability
- Ranges from vacuum to 120000 psi
- Corrosion resistant stainless steel construction
- Span and zero adjustments
- Compatible with NOSHOK 1800, 1900 and 2000 Series SmartSystem Indicators

APPLICATIONS

- Hydraulic and pneumatic systems
- Industrial machinery and machine tools
- Injection molding machines
- Stamping and forming presses
- Pumps and compressors
- Laboratory and test equipment
- Railroad equipment
- HVAC systems
- Medical
- Refrigeration equipment
- Marine
- Power generation
- Construction
- Petrochemical
- Water management

SPECIFICATIONS

Output signals	4 mA to 20 mA, 2-wire; 1 Vdc to 5 Vdc, 1 Vdc to 6 VDC, 1 Vdc to 11 VDC, 3-wire; 0 Vdc to 5 VDC and 0 Vdc to 10 Vdc, 3-wire; 0 Vdc to 5 Vdc and 0 Vdc to 10 Vdc, 4-wire
Pressure ranges	Standard gauge ranges from vacuum to 120000 psig; Standard absolute ranges from 15 psia to 300 psia
Proof pressure	3 times Full Scale for ranges 0 psi to 2 psi through 0 psi to 200 psi 1.75 times Full Scale for ranges 0 psi to 300 psi through 0 psi to 10000 psi 1.5 times Full Scale for 0 psi to 15000 psi range 1.2 times Full Scale for ranges 0 psi to 20000 psi through 0 psi to 120000 psi
Burst pressure	3.8 times Full Scale for ranges 0 psi to 2 psi through 0 psi to 200 psi 4 times Full Scale for ranges 0 psi to 300 psi through 0 psi to 10000 psi 3 times Full Scale for 0 psi to 15000 psi range 1.5 times Full Scale for ranges 0 psi to 20000 psi through 0 psi to 120000 psi
Accuracy	± 0.25 % Full Scale (best fit straight line) Includes the combined effects of linearity, hysteresis and repeatability ± 0.125 % Full Scale (optional)
Repeatability	≤ ± 0.05 % Full Scale
Hysteresis	≤ ± 0.1 % Full Scale
Stability	≤ ± 0.2 % Full Scale for 1 year, non accumulating
Power supply	10 Vdc to 30 Vdc for current output 14 Vdc to 30 Vdc for voltage output
Load limitations	≤ (VPower-10)/0.020 Amp for 4 mA to 20 mA ≥ 10,000Ω for 0 Vdc to 10 Vdc, 3-wire ≥ 5,000Ω for 0 Vdc to 5 Vdc, 3-wire
Wetted materials	316 stainless steel for vacuum through 300 psi; 17-4PH stainless steel sensing diaphragm and 316 stainless steel pressure connection for higher ranges
Housing materials	316 stainless steel
Temperature ranges	Compensated 32 °F to 175 °F/0 °C to 80 °C Effect ± 0.01 %/°F for zero and span Storage - 40 °F to 212 °F/-40 °C to 100 °C Medium - 20 °F to 212 °F/-30 °C to 100 °C Ambient - 15 °F to 175 °F/-10 °C to 80 °C
Response time	Less than 1 ms (between 10 % and 90 % Full Scale)
Durability	>100,000,000 Full Scale cycles
Adjustment	± 10 % Full Scale for zero and span
Environmental protection	NEMA 4X, IP65 (IEC 529)
Electromagnetic rating	CE compliant to EMC norm EN61326: 1997/A1: 1998 RFI, EMI and ESD protection
Electrical protection	Reverse polarity, overvoltage and short circuit protection
Shock	Less than ± 0.05 % Full Scale effect or 1000 g's @ 20 ms on any axis
Vibration	Less than ± 0.01 % Full Scale effect for 15 g's @ 0 Hz to 2000 Hz on any axis
Weight	Approximately 7.2 oz.

ORDERING INFORMATION

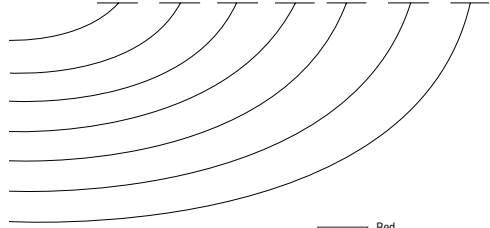
SERIES 615 (internal diaphragm)	SERIES 616 (front flush diaphragm)					
PRESSURE RANGES	-30 inHg to 0 psig 30V	0 psig to 2 psig 2	0 psig to 150 psig 150	0 psig to 3000 psig 3000	0 psig to 30000 psig 30000	0 psia to 15 psia 15A
	-30 inHg to 15 psig 30/15	0 psig to 3 psig 3	0 psig to 200 psig 200	0 psig to 4000 psig 4000	0 psig to 40000 psig 40000	0 psia to 30 psia 30A
	-30 inHg to 30 psig 30/30	0 psig to 5 psig 5	0 psig to 300 psig 300	0 psig to 5000 psig 5000	0 psig to 50000 psig 50000	0 psia to 60 psia 60A
	-30 inHg to 60 psig 30/60	0 psig to 10 psig 10	0 psig to 500 psig 500	0 psig to 6000 psig 6000	0 psig to 60000 psig 60000	0 psia to 100 psia 100A
	-30 inHg to 100 psig 30/100	0 psig to 15 psig 15	0 psig to 600 psig 600	0 psig to 7500 psig 7500	0 psig to 75000 psig 75000	0 psia to 150 psia 150A
	-30 inHg to 150 psig 30/150	0 psig to 30 psig 30	0 psig to 750 psig 750	0 psig to 10000 psig 10000	0 psig to 85000 psig 85000	0 psia to 200 psia 200A
	-30 inHg to 200 psig 30/200	0 psig to 60 psig 60	0 psig to 1000 psig 1000	0 psig to 15000 psig 15000	0 psig to 100000 psig 100000	0 psia to 300 psia 300A
	-30 inHg to 300 psig 30/300	0 psig to 100 psig 100	0 psig to 2000 psig 2000	0 psig to 20000 psig 20000	0 psig to 120000 psig 120000	
	psig = Gauge Pressure psia = Absolute Pressure Other ranges available on special request NOTE: Series 616 is not available in pressure ranges 10,000 psig and above.					
ACCURACY	1 ± 0.25 % Full Scale (Best fit straight line)			2 ± 0.125 % Full Scale (Best fit straight line)		
OUTPUT SIGNALS	1 4 mA to 20 mA, 2-wire		4 1 Vdc to 6 Vdc, 3-wire*		NOTE: 0 Vdc to 5 Vdc and 0 Vdc to 10 Vdc outputs are also available in 4-wire configurations for use with other electrical systems.	
*Ranges up to 0 psig to 60000 psig	2 0 Vdc to 5 Vdc, 3-wire		5 0 Vdc to 10 Vdc, 3-wire			
	3 1 Vdc to 5 Vdc, 3-wire		6 1 Vdc to 11 Vdc, 3-wire*			
PROCESS CONNECTIONS	615:	2 1/4 " NPT male	6 9/16 "-18 aminco (std on 60000 to 120000 psig)	8 1/2 " NPT male		
	616:	11 G 1/2 B	13 G 1 B	Other connections available upon request		
ELECTRICAL CONNECTIONS	1 36 " cable (connected to option 8)		8 Hirschmann w/mating connector		23 Cable gland with internal junction box	
Note 1 For pressure ranges 0 psi to 75000 psi and higher only the M12 or Hirschmann electrical connections are available	3 6-pin Bendix		14 Hirschmann type with 1/2 " NPT female conduit		29 1/2 " NPT female conduit with internal junction box	
	6 1/2 " NPT conduit w/36 " cable					
OPTIONS	ORF SS Threaded Orifice (.3 mm)					

Please consult your local NOSHOK Distributor or NOSHOK, Inc. for availability and delivery information.

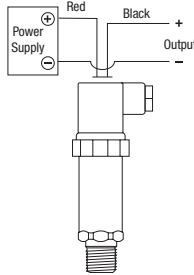
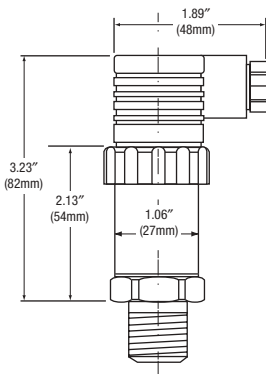
EXAMPLE

Series 615
Pressure Range 500 psig
Accuracy ± 0.25 %
Output Signal 4 mA to 20 mA, 2-Wire
Process Connection 1/2 " NPT Male
Electrical Connection 36 " Cable
Option Orifice

615 500 1 1 8 1 ORF

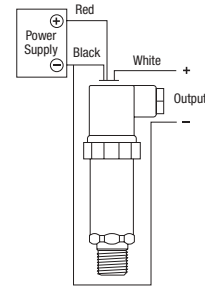


Outline Dimensions



CURRENT, 2-WIRE

	Hirschmann	Cable	M12	Bendix	Internal Junction Box
+ Supply	1	Red	1	A	1
+ Output	2	Black	3	B	2



VOLTAGE, 3-WIRE

	Hirschmann	Cable	M12	Bendix	Internal Junction Box
+ Supply	1	Red	1	A	1
+ Output	3	White	4	C	3
Common	2	Black	3	B	2

616 PROCESS CONNECTIONS

