



## FEATURES

- Advanced diffused semi-conductor and sputtered thin film sensor for maximum stability
- High accuracy and long term stability
- Ranges from vacuum to 145,000 psi
- Corrosion resistant stainless steel construction
- Span and zero adjustments
- Compatible with NOSHOK 1800, 1900 and 2000 Series Smart System 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



Also available with our 1800 Series Attachable Loop Indicator. See page 44 for more information.

# 615/616 SERIES

- Designed for heavy-duty applications requiring high accuracy and durability
- **Extreme high pressure ranges** from vacuum to 145,000 psi; Absolute ranges from 15 psia to 300 psia
- Span and zero adjustments
- Advanced diffused semi-conductor and sputtered thin film sensor for maximum stability
- Excellent accuracy, shock resistance, and long term reliability
- Rugged corrosion-resistant stainless steel construction
- Available in a wide variety of electrical and process configurations
- Compatible with NOSHOK 1900C and 2000 Series Smart System Indicators
- Also available with our 1800 Series Attachable Loop Indicator
- CE compliant to suppress RFI, EMI and ESD
- Final calibration tests prior to shipment ensures 100% "out of the box" reliability

## SPECIFICATIONS

<b>Output signals</b>	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
<b>Pressure ranges</b>	Standard gauge ranges from vacuum to 145,000 psig; Standard absolute ranges from 15 psia to 300 psia
<b>Proof pressure</b>	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 10,000 psi 1.5 times full scale for 0 psi to 15,000 psi range 1.2 times full scale for ranges 0 psi to 20,000 psi through 0 psi to 145,000 psi
<b>Burst pressure</b>	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 10,000 psi 3 times full scale for 0 psi to 15,000 psi range 1.5 times full scale for ranges 0 psi to 20,000 psi through 0 psi to 145,000 psi
<b>Accuracy</b>	± 0.25% full scale (BFSL); optional ± 0.125% full scale (BFSL); (includes the effects of non-linearity, hysteresis, non-repeatability, zero point and full scale errors)
<b>Repeatability</b>	≤ ± 0.05% full scale
<b>Hysteresis</b>	≤ ± 0.1% full scale
<b>Stability</b>	≤ ± 0.2% full scale for 1 year, non-accumulating
<b>Power supply*</b>	10 Vdc to 30 Vdc (4 mA to 20 mA, 2-wire) 10 Vdc to 30 Vdc (1 Vdc to 5 Vdc, 3-wire) 10 Vdc to 30 Vdc (1 Vdc to 6 Vdc, 3-wire) 10 Vdc to 30 Vdc (0 Vdc to 5 Vdc, 3-wire) 14 Vdc to 30 Vdc (0 Vdc to 10 Vdc, 3-wire) 14 Vdc to 30 Vdc (1 Vdc to 11 Vdc, 3-wire)
<b>Load limitations</b>	≤ (VPower-10)/0.020 Amp for 4 mA to 20 mA ≥ 10,000 Ω for 0 Vdc to 10 Vdc, 3-wire ≥ 5,000 Ω for 0 Vdc to 5 Vdc, 3-wire
<b>Wetted materials</b>	316 stainless steel for vacuum through 300 psi; 17-4PH stainless steel sensing diaphragm and 316 stainless steel process connection for higher ranges
<b>Housing materials</b>	316 stainless steel
<b>Temperature ranges</b>	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)
<b>Response time</b>	Less than 1 ms (between 10% and 90% full scale)
<b>Durability</b>	>100,000,000 full scale cycles
<b>Adjustment</b>	± 10% full scale for zero and span
<b>Environmental protection</b>	NEMA 4X, IP65 (IEC 529)
<b>Electromagnetic rating</b>	2004/108/EEC, EN 61326 Emission (Group 1, Class B) and Immunity (industrial locations)
<b>Electrical protection</b>	Reverse polarity, overvoltage and short circuit protection
<b>Shock</b>	Less than ± 0.05% full scale effect or 1,000 g's @ 20 ms on any axis
<b>Vibration</b>	Less than ± 0.01% full scale effect for 15 g's @ 0 Hz to 2,000 Hz on any axis
<b>Weight</b>	Approximately 7.2 oz.

High temperature version available upon request

\* Unregulated power supplies

ORDERING INFORMATION													
SERIES	615 (Internal diaphragm)				616 (Front flush diaphragm)								
PRESSURE RANGES	30vac	-30 inHg to 0 psig	2	0 psig to 2 psig	150	0 psig to 150 psig	2000	0 psig to 2,000 psig	20000	0 psig to 20,000 psig	145000	0 psig to 145,000 psig	
	30/15	-30 inHg to 15 psig	3	0 psig to 3 psig	200	0 psig to 200 psig	3000	0 psig to 3,000 psig	30000	0 psig to 30,000 psig	15A	0 psia to 15 psia	
	30/30	-30 inHg to 30 psig	5	0 psig to 5 psig	300	0 psig to 300 psig	4000	0 psig to 4,000 psig	36000	0 psig to 36,000 psig	30A	0 psia to 30 psia	
	30/60	-30 inHg to 60 psig	10	0 psig to 10 psig	500	0 psig to 500 psig	5000	0 psig to 5,000 psig	58000	0 psig to 58,000 psig	60A	0 psia to 60 psia	
	30/100	-30 inHg to 100 psig	15	0 psig to 15 psig	600	0 psig to 600 psig	6000	0 psig to 6,000 psig	72000	0 psig to 72,000 psig	100A	0 psia to 100 psia	
	30/150	-30 inHg to 150 psig	30	0 psig to 30 psig	750	0 psig to 750 psig	7500	0 psig to 7,500 psig	87000	0 psig to 87,000 psig	150A	0 psia to 150 psia	
	30/200	-30 inHg to 200 psig	60	0 psig to 60 psig	1000	0 psig to 1,000 psig	10000	0 psig to 10,000 psig	100000	0 psig to 100,000 psig	200A	0 psia to 200 psia	
	30/300	-30 inHg to 300 psig	100	0 psig to 100 psig	1500	0 psig to 1,500 psig	15000	0 psig to 15,000 psig	115000	0 psig to 115,000 psig	300A	0 psia to 300 psia	
	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				
ACCURACIES	1	±0.25% full scale (BFSL)			2	±0.125% full scale (BFSL)							
OUTPUT SIGNALS *Ranges up to 0 psig to 60,000 psig	1	4 mA to 20 mA, 2-wire			4	1 Vdc to 6 Vdc, 3-wire*							
	2	0 Vdc to 5 Vdc, 3-wire			5	0 Vdc to 10 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.				
	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 UNF 2B high pressure cone* (Standard on 30,000 to 120,000 psig)				8	1/2" NPT Male	
	616:	11	G 1/2 B (Pressure ranges ≤ 0 psig to 30 psig)			13	G 1 B (Pressure ranges ≤ 0 psig to 30 psig)				Other connections available upon request		
ELECTRICAL CONNECTIONS	1	36" cable (connected to option 8)			8	Hirschmann (DIN EN 175301-803 Form A)				25	M12 x 1 (4-pin)		
	3	6-pin Bendix			14	Hirschmann type with 1/2" NPT Female conduit				36	Integral 36" cable		
	6	1/2" NPT conduit w/ 36" cable											
OPTIONS	ORF	SS Threaded orifice			G1	G 1 Weld-on adapter (616 only)				G½	G 1/2 Weld-on adapter (616 only)		

\* Equivalent to F250C Parker Autoclave

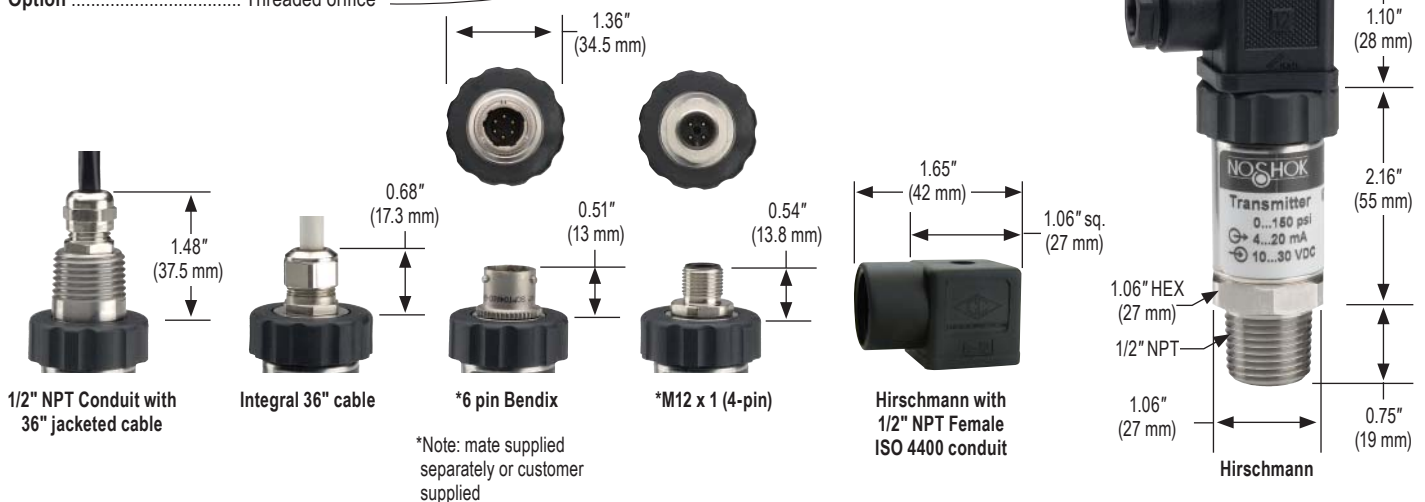
Please consult your local NOSHOK Distributor or NOSHOK, Inc. for availability and delivery information.

### EXAMPLE

Series ..... 615  
Pressure range ..... 0 psig to 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 ..... Threaded orifice

615 - 500 - 1 - 1 - 8 - 1 - ORF

### Outline Dimensions



### 2-WIRE WIRING

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

### 3-WIRE WIRING

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

### NOTE

See 621/622 Series  
for G1/2B and G1B  
Front Flush Process  
Connection Dimensions  
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