

# Explosion-Proof Pressure Transmitters



## 621/622 SERIES

- Designed for applications that require pressure measurement in hazardous locations
- Accuracy to  $\pm 0.25\%$  full scale (BFSL)
- Wide variety of pressure ranges available
- Advanced diffused semi-conductor and sputtered thin film sensor for maximum stability
- Available with a standard threaded connection as well as a flush diaphragm configuration
- Welded 316 stainless steel, and Elgiloy construction with no internal o-rings, gaskets or seals
- 1/2" NPT conduit connection
- Low power voltage outputs available
- Incorporate significant levels of RFI, EMI, and ESD protection
- CE compliant to suppress RFI, EMI, and ESD
- ANSI/ISA-12.27.01-2003 approved single seal
- Factory Mutual & Canadian Standards Association approved
- NACE MR0175/ISO 15156 compliant

### SPECIFICATIONS

<b>Output signals</b>	4 mA to 20 mA, 2-wire; 1 Vdc to 5 Vdc, 3-wire; .5 Vdc to 4.5 Vdc, 3-wire
<b>Accuracy</b>	$\pm 0.25\%$ full scale (BFSL); (Includes the effects of non-linearity, hysteresis, non-repeatability, zero point and full scale errors)
<b>Hysteresis</b>	$\leq \pm 0.1\%$ full scale
<b>Repeatability</b>	$\leq \pm 0.05\%$ full scale
<b>Stability</b>	$\leq \pm 0.2\%$ full scale for 1 year, non-accumulating
<b>Pressure ranges</b>	Standard ranges from vacuum to 15,000 psi
<b>Proof pressure</b>	3 times full scale for ranges 0 psi to 15 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
<b>Burst pressure</b>	3.8 times full scale for ranges 0 psi to 15 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
<b>Power supply*</b>	10 Vdc to 30 Vdc (4 mA to 20 mA, 2-wire) 6 Vdc to 30 Vdc (1 Vdc to 5 Vdc, 3-wire) 6 Vdc to 30 Vdc (0.5 Vdc to 4.5 Vdc, 3-wire) 14 Vdc to 30 Vdc (0 Vdc to 10 Vdc, 3-wire)
<b>Load limitations</b>	$\leq (V_{Power}-10)/0.020$ Amp for 4 mA to 20 mA $\geq 10,000 \Omega$ for 1 Vdc to 5 Vdc, 3-wire
<b>Zero/Span offset</b>	$\leq 0.5\%$ full scale
<b>Response time</b>	$\leq 1$ ms (between 10% and 90% full scale)
<b>Durability</b>	$>100,000,000$ full scale cycles
<b>Temperature ranges</b>	Compensated 32 °F to 176 °F (0 °C to 80 °C) Zero effect is $\pm 0.011\%$ full scale/ °F Span effect is $\pm 0.011\%$ full scale/ °F Ambient -22 °F to 212 °F (-30 °C to 100 °C); -46 °F to 220 °F optional Media -25 °F to 212 °F (-32 °C to 100 °C); -46 °F to 220 °F optional Storage -40 °F to 212 °F (-40 °C to 100 °C)
<b>Wetted materials</b>	Model 621 is 316 stainless steel for ranges up through 0 psi to 300 psi, 316 stainless steel with Elgiloy ranges 0 psig to 500 psig and higher; Model 622 is 316 stainless steel with NBR o-ring; (FKM o-ring optional)
<b>Housing material</b>	316 stainless steel
<b>Environmental rating</b>	NEMA 4x (IP67)
<b>Electromagnetic rating</b>	RFI, EMI and ESD protection
<b>Electrical protection</b>	Reverse polarity, over-voltage and short circuit protected
<b>Shock</b>	1,000 g's according to IEC 770 for mechanical shock
<b>Vibration</b>	20 g's according to IEC 770 under resonance conditions
<b>Hazardous approvals</b>	Factory mutual and CSA approved Explosion-proof with entity approve for: Class I, Division 1, Groups A, B, C and D Dust Ignition-proof with entity approval for class II/III, Division 1, Groups E, F and G Maximum electrical ratings 30V, 20 mA ANSI/ISA-12.27.01-2003, Approved single seal
<b>Weight</b>	Approximately 12 oz.

### FEATURES

- Accuracy to  $\pm 0.25\%$  full scale (BFSL)
- Advanced diffused semiconductor and sputtered thin film sensor for maximum stability
- Welded 316 Stainless steel, and Elgiloy
- 1/2" NPT conduit connection
- NACE MR0175/ISO 15156 compliant
- ANSI/ISA-12.27.01-2003 Approved single seal
- Low power voltage outputs available

### APPLICATIONS

- Hydraulic and pneumatic systems
- Pumps and compressors
- Test equipment and systems
- HVAC systems
- Power generation
- Water and wastewater
- Refrigeration equipment
- Laboratory and test equipment
- Chemical/Petrochemical
- Marine
- Pipeline gas compressors
- Oil field
- Offshore

# 621/622 SERIES

## ORDERING INFORMATION DIMENSIONS

## WIRING DIAGRAMS ELECTRICAL CONNECTIONS

ORDERING INFORMATION									
SERIES	621	Stainless steel threaded connection	622S	316 Stainless steel flush diaphragm	622H	Hastelloy C flush diaphragm			
<b>PRESSURE RANGES</b>	<b>30vac</b>	-30 inHg to 0 psig	<b>15</b>	0 psig to 15 psig	<b>500</b>	0 psig to 500 psig	<b>6000</b>	0 psig to 6,000 psig	
	<b>30/30</b>	-30 inHg to 30 psig	<b>30</b>	0 psig to 30 psig	<b>1000</b>	0 psig to 1,000 psig	<b>8000</b>	0 psig to 8,000 psig	
	<b>30/60</b>	-30 inHg to 60 psig	<b>60</b>	0 psig to 60 psig	<b>1500</b>	0 psig to 1,500 psig	<b>10000</b>	0 psig to 10,000 psig	
	<b>30/100</b>	-30 inHg to 100 psig	<b>100</b>	0 psig to 100 psig	<b>2000</b>	0 psig to 2,000 psig	<b>15000</b>	0 psig to 15,000 psig	
	<b>30/200</b>	-30 inHg to 200 psig	<b>200</b>	0 psig to 200 psig	<b>3000</b>	0 psig to 3,000 psig	<b>15A</b>	0 psia to 15 psia	
			<b>300</b>	0 psig to 300 psig	<b>5000</b>	0 psig to 5,000 psig	<b>100A</b>	0 psia to 100 psia	
		psig = gauge pressure    psia = absolute pressure    Other ranges available on special request							
	NOTE: Series 622 is available for pressure ranges up to 0 psig to 8,000 psig								
<b>ACCURACY</b>	<b>1</b>	±0.25% full scale (BFSL)							
<b>OUTPUT SIGNALS</b>	<b>1</b>	4 mA to 20 mA, 2-wire		<b>3</b>	1 Vdc to 5 Vdc, 3-wire, low power		<b>31</b>	0.5 Vdc to 4.5 Vdc 3-wire, low power	
	<b>2</b>	0 Vdc to 5 Vdc, 3-wire		<b>5</b>	0 Vdc to 10 Vdc, 3-wire				
<b>PROCESS CONNECTIONS</b>	<b>2</b>	1/4" NPT Male		<b>11</b>	G1/2B Male flush (model 622 only) (pressure ranges 0 psi to 30 psi)		<b>13</b>	G1/2B Male flush (model 622 only) (pressure ranges less than 0 psi to 30 psi and higher)	
	<b>8</b>	1/2" NPT Male							
<b>ELECTRICAL CONNECTIONS</b>	<b>6</b>	1/2" NPT Male conduit with 6' integral cable			<b>37</b>	1/2" NPT Male conduit with 6' flying leads with epoxy seal			
<b>OPTIONS</b>	<b>ORF</b>	Threaded orifice (model 621 only)		<b>20</b>	20' Cable/lead (attached to options 6 or 37)		<b>30</b>	30' Cable/lead (attached to options 6 or 37)	

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

### EXAMPLE

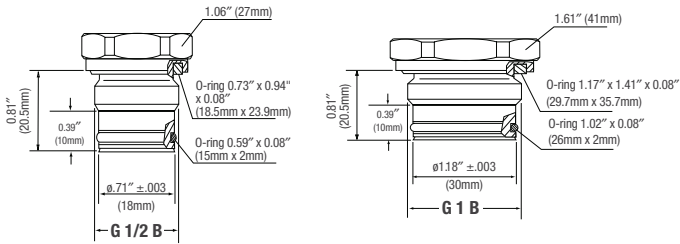
Series ..... 621  
 Pressure range ..... 0 psig to 500 psig  
 Accuracy ..... ±0.25% full scale  
 Output signal ..... 4 mA to 20 mA  
 Process connection ..... 1/2" NPT Male  
 Electrical connection ..... Integral cable  
 Option ..... Threaded orifice

621 - 500 - 1 - 1 - 8 - 6 - ORF

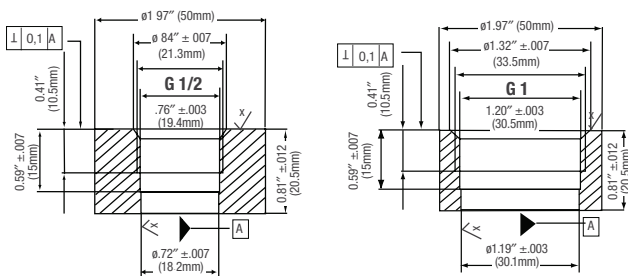
### Outline Dimensions

#### Front flush process connections

For ranges 0 psi to 30 psi and higher    For ranges less than 0 psi to 30 psi



#### Flush corresponding port weld-on adapters



#### 2-WIRE WIRING

+ Supply	Red
+ Output	Black

#### 3-WIRE WIRING

+ Supply	Red
Common	Black
+ Output	Brown