

Explosion-Proof Pressure Transmitters



SERIES 621/622

HAZARDOUS LOCATION PRESSURE TRANSMITTERS

The NOSHOK Series 621 and 622 pressure transmitters combine the reliability and long life of diffused semiconductor and sputtered thin film strain gage sensors with safe electronics for outstanding performance and value. These transmitters were designed for applications that require pressure measurement in hazardous environments. All wetted parts are made of stainless steel and Elgiloy welded with no internal O-rings, gaskets or seals.

These transmitters are available with a wide variety of pressure ranges to suit most applications. All units undergo extensive testing during the manufacturing process to ensure that the highest performance is achieved in the demanding environments found in today's applications. The transmitters are available with a standard threaded connection as well as a flush diaphragm configuration and are Factory Mutual approved. All models incorporate significant levels of RFI, EMI and ESD protection.

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

SPECIFICATIONS

| | |
|-------------------------------|--|
| Output signals | 4 mA to 20 mA, 2-wire; 1 Vdc to 5 Vdc, 3-wire; .5 Vdc to 4.5 Vdc, 3-wire |
| Accuracy | $\pm 0.25\%$ Full Scale (BFSL); (Includes the effects of non-linearity, hysteresis, non-repeatability, zero point and full scale errors) |
| Hysteresis | $\leq \pm 0.1\%$ Full Scale |
| Repeatability | $\leq \pm 0.05\%$ Full Scale |
| Stability | $\leq \pm 0.2\%$ Full Scale for 1 year, non-accumulating |
| Pressure ranges | Standard ranges from vacuum to 15000 psi |
| Proof pressure | 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 10000 psi 1.5 times Full Scale for 0 psi to 15000 psi range |
| Burst pressure | 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 10000 psi 3 times Full Scale for 0 psi to 15000 psi range |
| Power supply | 10 Vdc to 30 Vdc unregulated, for 4 mA to 20 mA output, 6 Vdc to 30 Vdc for 1 Vdc to 5 Vdc low power and .5 Vdc to 4.5 Vdc low power (≤ 2 mA for Power Supply ≤ 12 Vdc) output, unregulated |
| Load limitations | $\leq (V_{Power}-10)/0.020$ Amp for 4 mA to 20 mA $\geq 10,000 \Omega$ for 1 Vdc to 5 Vdc, 3-wire |
| Zero/Span offset | $\leq 0.5\%$ Full Scale |
| Response time | ≤ 1 ms (between 10 % and 90 % Full Scale) |
| Durability | $>100,000,000$ Full Scale cycles |
| Temperature ranges | 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) |
| Wetted materials | 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 BUNA N O-ring; (Viton® O-ring optional) |
| Housing material | 316 stainless steel |
| Environmental rating | NEMA 4x (IP67) |
| Electromagnetic rating | RFI, EMI and ESD protection |
| Electrical rating | Reverse polarity, over-voltage and short circuit protected |
| Shock | 1000 g's according to IEC 770 for mechanical shock |
| Vibration | 20 g's according to IEC 770 under resonance conditions |
| Hazardous approvals | 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 |
| Weight | Approximately 12 oz. |

ORDERING INFORMATION

| SERIES 621 | Stainless steel threaded connection | 622S | 316 stainless steel flush diaphragm | 622H | Hastelloy C flush diaphragm | | | |
|---|---|--------------------------|---|--|-----------------------------|--|----------------------|-------|
| PRESSURE RANGES | -30 inHg to 0 psig | 30V | 0 psig to 15 psig | 15 | 0 psig to 300 psig | 300 | 0 psig to 5000 psig | 5000 |
| | -30 inHg to 30 psig | 30/30 | 0 psig to 30 psig | 30 | 0 psig to 500 psig | 500 | 0 psig to 6000 psig | 6000 |
| | -30 inHg to 60 psig | 30/60 | 0 psig to 60 psig | 60 | 0 psig to 1000 psig | 1000 | 0 psig to 8000 psig | 8000 |
| | -30 inHg to 100 psig | 30/100 | 0 psig to 100 psig | 100 | 0 psig to 1500 psig | 1500 | 0 psig to 10000 psig | 10000 |
| | -30 inHg to 200 psig | 30/200 | 0 psig to 200 psig | 300 | 0 psig to 2000 psig | 2000 | 0 psig to 15000 psig | 15000 |
| | | | | | 0 psig to 3000 psig | 3000 | 0 psia to 15 psia | 15A |
| | psig = Gauge Pressure | psia = Absolute Pressure | Other ranges available on special request | | | | 0 psia to 100 psia | 100A |
| NOTE: Series 622 is available for pressure ranges up to 0 psig to 8000 psig | | | | | | | | |
| ACCURACY | 1 ±0.25 % Full Scale (BFSL) | | | | | | | |
| OUTPUT SIGNALS | 1 4 mA to 20 mA, 2-wire | | | 2 0 Vdc to 5 Vdc, 3-wire | | 3 1 Vdc to 5 Vdc, 3-wire, Low Power | | |
| | 5 0 Vdc to 10 Vdc, 3-wire | | | 31 .5 Vdc to 4.5 Vdc 3-wire, Low Power | | | | |
| PROCESS CONNECTIONS | 2 1/4 " NPT Male | | | 8 1/2 " NPT Male | | 11 G1/2B Male flush (model 622 only) | | |
| | 13 G1B Male flush (model 622 only) (pressure ranges 0 psi to 30 psi and higher) | | | | | (pressure ranges less than 0 psi to 30 psi) | | |
| ELECTRICAL CONNECTIONS | 6 1/2 " NPT Male conduit with 6 foot integral cable | | | 37 1/2 " NPT Male conduit with 6 foot flying leads with epoxy seal | | | | |
| OPTIONS | ORF Threaded Orifice (model 621 only) | | | 20 20 ' cable/lead (attached to options 6 or 37) | | 30 30 ' cable/lead (attached to options 6 or 37) | | |

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

EXAMPLE

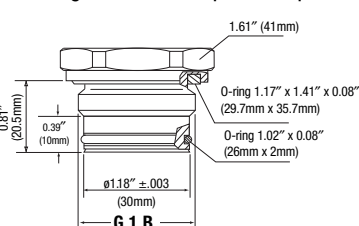
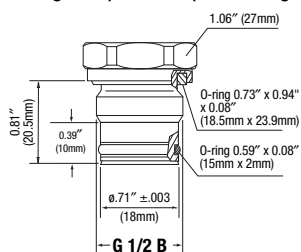
Series621
Pressure Range0 psig to 500 psig
Accuracy±0.25 % Full Scale
Output Signal4 mA to 20 mA
Process Connection1/2 " NPT Male
Electrical ConnectionIntegral cable
OptionThreaded orifice

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

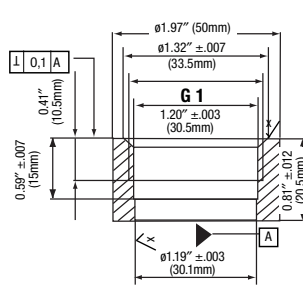
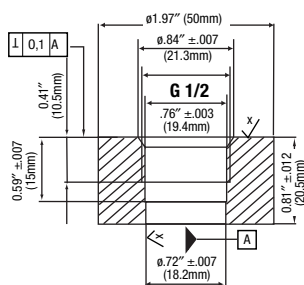
Outline Dimensions

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 |