

## Submersible Level Transducers



## SERIES 612

### SUBMERSIBLE LEVEL TRANSDUCERS

NOSHOK Series 612 Submersible Level Transducers were designed to provide a previously unequalled level of performance. Utilizing diffused semiconductor and thin film technologies, Series 612 transducers are accurate, shock resistant and extremely stable over long periods of time. Reverse polarity protection, short circuit protection and lightning protection have been installed as standard features.

Advanced manufacturing techniques combined with technologically advanced standard features allow NOSHOK to offer a level of performance previously found on transducers costing hundreds of dollars more.

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 0 inH<sub>2</sub>O to 50 inH<sub>2</sub>O through 0 psi to 500 psi
- Corrosion resistant stainless steel construction
- Nosecone standard
- Optional 6 VDC input .5 to 2.5 output for field applications

#### APPLICATIONS

- Irrigation
- Food and beverage
- Waste water
- Water distribution
- Level and depth
- Bore hole
- Offshore
- R&D

#### SPECIFICATIONS

<b>Output signals</b>	4 mA to 20 mA, 2-wire; 0 Vdc to 5 Vdc and 0 Vdc to 10 Vdc, 3-wire; 0.5 Vdc to 2.5 Vdc, 3-wire
<b>Pressure ranges</b>	0 inH <sub>2</sub> O to 50 inH <sub>2</sub> O through 0 psig to 500 psig
<b>Proof pressure</b>	2 times range
<b>Burst pressure</b>	4 times range
<b>Accuracy</b>	± 0.25 % Full Scale (best fit straight line) Includes the combined effects of linearity, hysteresis and repeatability ± .125 % Full Scale (optional)
<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>Load limitations</b>	≤ (VPower-10)/0.020 Amp-(0.043 Ω x length of cable in feet) Voltage output ≥ 100,000 Ω
<b>Wetted materials</b>	Housing: 316 stainless steel Cap: Polyamide, 316 stainless steel with weighted nose cone Cable: Polyurethane, Teflon available on special versions
<b>Power supply</b>	10 Vdc to 30 Vdc for current output 14 Vdc to 30 Vdc for voltage output 6 Vdc for 0.5 Vdc to 2.5 Vdc output
<b>Temperature ranges</b>	Compensated 32 °F to 122 °F/0 °C to 50 °C Effect ± 0.01 %/°F for zero and span Storage -22 °F to 175 °F/-30 °C to 80 °C Medium -14 °F to 175 °F/-10 °C to 80 °C
<b>Response time</b>	≤ 1 ms (between 10 % to 90 % Full Scale)
<b>Durability</b>	>100,000,000 Full Scale cycles
<b>Environmental protection</b>	NEMA 6P, IP68
<b>Electromagnetic rating</b>	CE compliant to EMC norm EN61326: 1997/A1: 1998 RFI, EMI and ESD protection
<b>Electrical protection</b>	Reverse polarity protection, short circuit and lightning protection
<b>Shock</b>	Less than ± 0.05 % Full Scale effect for 100 g's @ 20 ms on any axis
<b>Vibration</b>	Less than ± 0.01 % Full Scale effect for 15 g's @ 0 Hz to 2000 Hz on any axis
<b>Weight</b>	Approximately 7 oz. with standard nosecone – cable extra

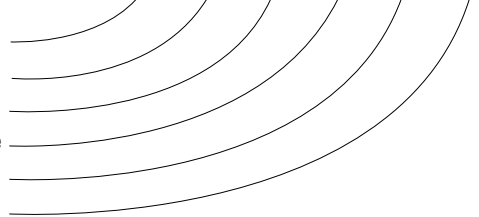
ORDERING INFORMATION								
<b>SERIES 612</b>								
<b>PRESSURE RANGES</b>	0 inH <sub>2</sub> O to 50 inH <sub>2</sub> O	<b>50 IN</b>	0 psig to 2 psig (4.6 ftH <sub>2</sub> O)	<b>2</b>	0 psig to 20 psig (46.2 ftH <sub>2</sub> O)	<b>20</b>	0 psig to 150 psig (346.3 ftH <sub>2</sub> O)	<b>150</b>
	0 inH <sub>2</sub> O to 100 inH <sub>2</sub> O	<b>100 IN</b>	0 psig to 3 psig (6.9 ftH <sub>2</sub> O)	<b>3</b>	0 psig to 25 psig (57.7 ftH <sub>2</sub> O)	<b>25</b>	0 psig to 200 psig (461.3 ftH <sub>2</sub> O)	<b>200</b>
	0 inH <sub>2</sub> O to 150 inH <sub>2</sub> O	<b>150 IN</b>	0 psig to 5 psig (11.5 ftH <sub>2</sub> O)	<b>5</b>	0 psig to 30 psig (69.2 ftH <sub>2</sub> O)	<b>30</b>	0 psig to 300 psig (692.5 ftH <sub>2</sub> O)	<b>300</b>
	0 inH <sub>2</sub> O to 200 inH <sub>2</sub> O	<b>200 IN</b>	0 psig to 10 psig (23.1 ftH <sub>2</sub> O)	<b>10</b>	0 psig to 60 psig (138.5 ftH <sub>2</sub> O)	<b>60</b>	0 psig to 350 psig (807.9 ftH <sub>2</sub> O)	<b>350</b>
	0 inH <sub>2</sub> O to 400 inH <sub>2</sub> O	<b>400 IN</b>	0 psig to 15 psig (34.6 ftH <sub>2</sub> O)	<b>15</b>	0 psig to 100 psig (230.8 ftH <sub>2</sub> O)	<b>100</b>	0 psig to 500 psig (1154.2 ftH <sub>2</sub> O)	<b>500</b>
	psig = Gauge Pressure Other ranges available on special request							
<b>ACCURACY</b>	<b>1</b>	± 0.25 % Full Scale		<b>2</b>	± 0.125 % Full Scale			
<b>OUTPUT SIGNALS</b>	<b>1</b>	4 mA to 20 mA, 2-wire		<b>5</b>	0 Vdc to 10 Vdc, 3-wire			
	<b>2</b>	0 Vdc to 5 Vdc, 3-wire		<b>11</b>	0.5 Vdc to 2.5 Vdc, 3-wire			
<b>PROCESS CONNECTIONS</b>	<b>N</b>	Nose cone		<b>W</b>	Nose cone w/added weight (1.1 lbs.)			
	<b>T</b>	NPT adapter, 1/2" NPT male outer thread with 1/4" NPT female inner thread attached to transmitter process connection with straight thread and O-ring seal						
<b>ELECTRICAL CONNECTIONS</b>	Submersible cable (specify length in feet)							

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

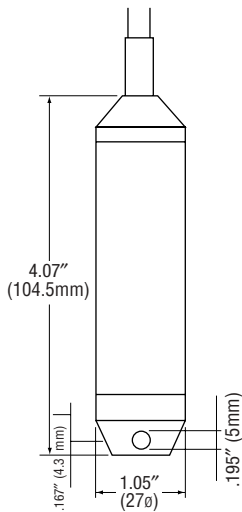
**EXAMPLE**

**Series** 612  
**Pressure Range** 0 psig to 5 psig  
**Accuracy** ± 0.25 %  
**Output Signal** 4 mA to 20 mA, 2-Wire  
**Process Connection** Nosecone  
**Electrical Connection** Submersible Cable

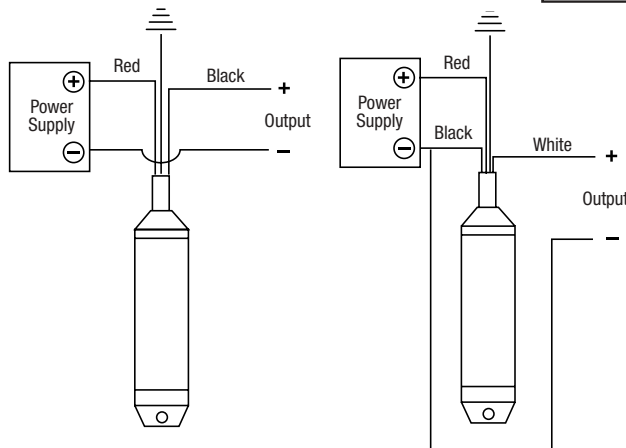
**612 5 1 1 N 50'**



**Dimensions**



**Wiring Diagrams and Electrical Connections**



**2-WIRE WIRING DIAGRAM**

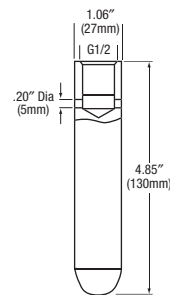
Series 612	4 mA to 20 mA 2-Wire
+ Supply	Red
+ Output	Black

**3-WIRE WIRING DIAGRAM**

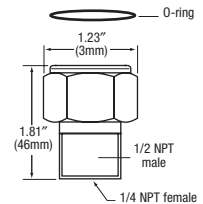
Series 612	Voltage Output
+ Supply	Red
Common	Black
+ Output	White

**Optional Accessories**

Moisture filter	612-Filter-Element
Desiccant Cartridge	612-Desiccant Cartridge
Cable Clamp	612-Cable Clamp



**Weighted nosecone**



**NPT adapter**