



FEATURES

- Advanced diffused semiconductor and sputtered thin film sensor for maximum stability
- High accuracy and long term stability
- Ranges from 0 inH₂O to 50 inH₂O through 0 psi to 1000 psi
- Corrosion resistant stainless steel construction
- Nosecone standard
- Optional 5-30 Vdc input for 0.5 to 2.5 Vdc output, for field applications
- Optional integrated temperature measurement (PT100 RTD)

APPLICATIONS

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

SERIES 612

SUBMERSIBLE LEVEL TRANSMITTERS

NOSHOK Series 612 Submersible Level Transmitters 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 and short circuit protection have been installed as standard features. Lightning protection is optional.

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.

SPECIFICATIONS

Output signals	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
Pressure ranges	0 in H ₂ O to 50 in H ₂ O through 0 psig to 1000 psig
Proof pressure	2 times range
Burst pressure	4 times range
Accuracy	± 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)
Repeatability	≤ ± 0.05 % Full Scale
Hysteresis	≤ ± 0.1 % Full Scale
Stability	≤ ± 0.2 % Full Scale for 1 year, non accumulating
Load limitations	≤ (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
Wetted materials	Housing: 316 stainless steel Cap: Polyamide, 316 stainless steel with weighted nosecone Cable: Polyurethane, Teflon available on special versions PVC with double water block
Power supply	10 Vdc to 30 Vdc for current output, unregulated 14 Vdc to 30 Vdc for voltage output, unregulated 5 Vdc to 30 Vdc for 0.5 Vdc to 2.5 Vdc output, unregulated
Temperature ranges	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 122 °F/-10 °C to 50 °C
Response time	≤ 1 ms (between 10 % to 90 % Full Scale)
Durability	>100,000,000 Full Scale cycles
Environmental protection	NEMA 6P, IP68
Electromagnetic rating	CE compliant to EMC norm EN61326: 1997/A1: 1998 RFI, EMI and ESD protection
Electrical protection	Reverse polarity protection, short circuit and optional lightning protection per EN 6100-4-5; 1.5J
Shock	Less than ± 0.05 % Full Scale effect for 100 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 oz. with standard nosecone - cable extra

ORDERING INFORMATION									
SERIES	612								
PRESSURE RANGES	0 inH ₂ O to 50 inH ₂ O	50 inH ₂ O	0 psig to 2 psig (4.6 ftH ₂ O)	2	0 psig to 20 psig (46.2 ftH ₂ O)	20	0 psig to 200 psig (461.3 ftH ₂ O)	200	
	0 inH ₂ O to 100 inH ₂ O	100 inH ₂ O	0 psig to 3 psig (6.9 ftH ₂ O)	3	0 psig to 25 psig (57.7 ftH ₂ O)	25	0 psig to 300 psig (692.5 ftH ₂ O)	300	
	0 inH ₂ O to 150 inH ₂ O	150 inH ₂ O	0 psig to 5 psig (11.5 ftH ₂ O)	5	0 psig to 30 psig (69.2 ftH ₂ O)	30	0 psig to 350 psig (807.9 ftH ₂ O)	350	
	0 inH ₂ O to 200 inH ₂ O	200 inH ₂ O	0 psig to 10 psig (23.1 ftH ₂ O)	10	0 psig to 60 psig (138.5 ftH ₂ O)	60	0 psig to 500 psig (1154.2 ftH ₂ O)	500	
	0 inH ₂ O to 400 inH ₂ O	400 inH ₂ O	0 psig to 15 psig (34.6 ftH ₂ O)	15	0 psig to 100 psig (230.8 ftH ₂ O)	100	0 psig to 750 psig (1733.3 ftH ₂ O)	750	
	psig = Gauge Pressure	Other ranges available on special request			0 psig to 150 psig (346.3 ftH ₂ O)	150	0 psig to 1000 psig (2311.0 ftH ₂ O)	1000	
ACCURACY	1	± 0.25 % Full Scale (BFSL)			2	± 0.125 % Full Scale (BFSL)			
OUTPUT SIGNALS	1	4 mA to 20 mA, 2-wire			5	0 Vdc to 10 Vdc, 3-wire			
	2	0 Vdc to 5 Vdc, 3-wire			11	0.5 Vdc to 2.5 Vdc, 3-wire			
PROCESS CONNECTIONS	N	nosecone			W	nosecone w/added weight (1.1 lbs.)			
	T	G 1/2 B x 1/2 " NPT Male with 1/4 " NPT Female							
ELECTRICAL CONNECTIONS	-XX	Standard Polyurethane cable							
	-22-XX	Optional Water-blocked PVC cable (200+ psi only)							
	-38-XX	Optional FEP cable							
		NOTE: XX=length of cable in feet.							
OPTIONS	PTI	PT100 RTD							

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

EXAMPLE

Series612
 Pressure Range0 psig to 5 psig
 Accuracy± 0.25 %
 Output Signal4 mA to 20 mA, 2-Wire
 Process Connectionnosecone
 Electrical ConnectionSubmersible Cable

612 - 5 - 1 - 1 - N - 50'

Outline Dimensions



Weighted nosecone



NPT adapter



2-WIRE WIRING

Wiring	Cable
+ Supply	Red
+ Output	Black

3-WIRE WIRING

Wiring	Cable
+ Supply	Red
Common	Black
+ Output	White

Optional Accessories

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

Intrinsically Safe Submersible Level Transmitters



SERIES 627

HAZARDOUS LOCATION LIQUID LEVEL TRANSMITTERS

The NOSHOK Series 627 level transmitter combines 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 liquid level measurement in hazardous environments. All wetted parts are made of stainless steel welded with no internal O-rings, gaskets or seals.

These transmitters are available with a stainless steel nosecone, a stainless steel weighted nosecone or NPT adapter and 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. Series 627 transmitters are Factory Mutual and Canadian Standards Association approved.

FEATURES

- Accuracy to $\pm 0.125\%$ Full Scale (BFSL)
- Advanced diffused semiconductor and sputtered thin film sensor for maximum stability
- Welded 316 stainless steel pressure chamber

APPLICATIONS

- Water and wastewater
- Chemical tanks
- Methane wells
- Marine applications

NOSHOK Model 627 transmitters are approved for use in hazardous location applications as follows:

Intrinsically Safe, entity approval for Class I, II and III, Division 1, Groups A, B, C, D, E, F and G; and Class I, Zone 0 Aex ia IIC
Dust Ignition-proof for Class II and III, Division 1, Groups E, F and G
Non incandive for Class I, Division 2, Groups A, B, C and D
FMRC 3600, 3610, 3611, 3810 (including supplement #1), ISA-S12.0. 01, IEC 60529 (including amendment #1)

SPECIFICATIONS

Output signal	4 mA to 20 mA, 2-wire
Accuracy	$\pm 0.25\%$ Full Scale (BFSL); Optional $\pm 0.125\%$ 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 0 inH ₂ O to 50 inH ₂ O through 0 psig to 350 psig
Proof pressure	2 times range
Burst pressure	3 times range
Power supply	10 Vdc to 30 Vdc unregulated
Load limitations	$\leq (V_{Power}-10)/0.020 \text{ Amp}-(0.043 \Omega \times \text{length of cable in feet})$
Wetted materials	Housing, diaphragm and cap: 316 stainless steel 17-4PH stainless steel diaphragm for 0 psig to 350 psig Cable: Fluorinated Ethylene Propylene for 0 to 50 inH ₂ O through 0 psi to 150 psi Polyurethane with Polyolefin shrink tubing for 0 psi to 200 psi through 0 psi to 350 psi
Response time	$\leq 1 \text{ ms}$ (between 10 % and 90 % Full Scale)
Durability	$> 100,000,000$ Full Scale cycles
Temperature ranges	Compensated 32 °F to 122 °F (0 °C to 50 °C) Zero effect is $\pm 0.011\%$ Full Scale/°F within compensated range Span effect is $\pm 0.011\%$ Full Scale/°F within compensated range Ambient 15 °F to 122 °F (-10 °C to 50 °C); Media 15 °F to 175 °F (-10 °C to 60 °C); Storage -30 °F to 175 °F (-34 °C to 60 °C)
Environmental rating	IP68, NEMA 6P continuously submersible
Electromagnetic rating	Meets EMC norm EN61326: 1997/A1 1998 RFI, EMI and ESD protected
Electrical rating	Reverse polarity, over-voltage and short circuit protected
Hazardous approvals	Factory Mutual and Canadian Standards Association approved
Weight	Approximately 7 oz. with standard nosecone - cable extra

ORDERING INFORMATION

SERIES 627 FM and CSA approved liquid level transmitter						
PRESSURE RANGES	0 inH ₂ O to 50 inH ₂ O	50IN	0 psig to 5 psig (11.5 ftH ₂ O)	5	0 psig to 100 psig (230.7 ftH ₂ O)	100
	0 inH ₂ O to 100 inH ₂ O	100IN	0 psig to 10 psig (23.1 ftH ₂ O)	10	0 psig to 160 psig (369.1 ftH ₂ O)	160
	0 inH ₂ O to 150 inH ₂ O	150IN	0 psig to 15 psig (34.6 ftH ₂ O)	15	0 psig to 200 psig (461.3 ftH ₂ O)	200
	0 inH ₂ O to 250 inH ₂ O	250IN	0 psig to 25 psig (57.7 ftH ₂ O)	25	0 psig to 300 psig (692.3 ftH ₂ O)	300
	0 inH ₂ O to 400 inH ₂ O	400IN	0 psig to 30 psig (69.2 ftH ₂ O)	30	0 psig to 350 psig (807.3 ftH ₂ O)	350
			0 psig to 60 psig (138.4 ftH ₂ O)	60		
psig = Gauge Pressure		inH ₂ O = Inches of water	ftH ₂ O = feet of water	Other ranges available on special request		
ACCURACY		1 ±0.25 % Full Scale (BFSL) 2 ±0.125 % Full Scale (BFSL) on ≥ 4 psi only				
OUTPUT SIGNALS		1 4 mA to 20 mA, 2-wire				
PROCESS CONNECTIONS		N Stainless steel nosecone				

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

EXAMPLE

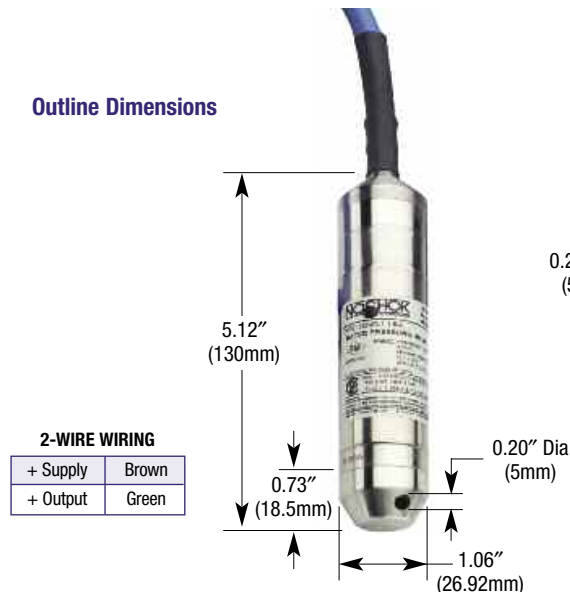
Series 627
 Pressure Range 0 psig to 350 psig
 Accuracy ±0.25 % Full Scale
 Output Signal 4 mA to 20 mA
 Process Connection Nosecone
 Electrical Connection . .300 foot cable, polyurethane

627 - 350 - 1 - 1 - N - 300

Optional Accessories

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

Outline Dimensions



Weighted nosecone



NPT adapter

