SWL

Seawater Submersible Level Transmitter with - Ceramic Sensor

- Ceramic, piezo-resistive sensor
- Accuracy: <±0.25% FS BFSL (0.1% optional)
- Pressure ranges from 5mWG to 200mWG
- Selection of housing & cable materials
- Variety of Outputs including mV, Volts and mA

The SWL has been designed for use in continuous submersion in seawater, brackish and Saline media. The ceramic sensor installed internally has excellentcorrosion resistance which is ideal for even installations in stagnant, hot seawater. Housed within a Marine Bronze, PVDF or PVC housing, this submersible level transmitter is the ideal product where conventional submersible products do not last! Every device is temperature compensated and calibrated and supplied with a traceable serial number and calibration certificate. The electronics incorporates a microprocessor based amplifier, this means there are no adjusting pots and therefore the electronics are very stable, especially in high vibration / shock applications.

There are many options available on the SWL level transmitter. These include the following :

- Pressure range and engineering units
- Pressure reference (G, SG or Abs)
- Output type
- Accuracy Level (Non-linearity & hysteresis)
- Thermal accuracy
- Cable material in PUR, FEP or TPE
- Housing material
- O ring seal material

SWL seawater level transmitter

Suitable for the following applications:

- River level monitoring
- Estuary level measurement
- Harbour wall protection
- Wave height monitoring
- Tsunami flood defence
- Brackish / Saline level measurement
- Sea level measurement
- Ballast tank level

CE

SWL seawater level transmitter

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Input Pressure Range

Nominal pressure, Gauge	mWG	5	7.5	10	15	30	50	100	200
Nominal pressure, Absolute	mWG	-	-	-	15	30	50	100	200
Permissible Overpressure	mWG	15	15	15	30	75	75	150	300

Output Signal & Supply Voltage

Wire system	Output	Supply Voltage
2-wire	4 - 20mA	9 – 32V dc
3-wire	0 – 5V dc	9 – 32V dc
	0 – 10V dc	13 – 32V dc
	1 – 5V dc	9 – 32V dc
	1 – 10V dc	13 – 32V dc
	1 – 6V dc	9 – 32V dc
	0 – 6V dc	9 – 32V dc
	0.5 to 4.5V dc	5V dc
4-wire	Passive mV/V (un-rationalised)	2 – 30V dc
	2mV/V (rationalised)	2 – 30V dc
	10mV/V (amplified)	3 – 12V dc

Performance

Accuracy (Non-linearity & hysteresis)	<±0.25% / FS (BFSL) <±0.1% / FS (BFSL) optional	
Setting Errors (offsets)	2-wire	Zero & Full Scale, <±0.5% / FS
	3-wire	Zero & Full Scale, <±0.5% / FS
	4-wire	See table
Permissible Load	2-wire	Rmax = [(VS – VS min) / 0.02] Ω
	3-wire	Rmin = 10 k Ω
	4-wire	Rmin = 11 k Ω
Influence Effects	Supply	mV/V & 0.5 to 4.5V – Ratiometric, other outputs - <0.005 % FS / 1V
	Load	0.05 % FSO / kΩ

Permissible Temperatures & Thermal Effects

Media temperature	-20°C to +60°C (non freezing)
Storage temperature	-20°C to +70°C
Compensated temperature range	20°C ±25°C
Thermal Zero Shift (TZS)	<±0.04% / FS / °C (option code 4) <±0.02% / FS / °C (option code 2) <±0.01% / FS / °C (option code 1)
Thermal Span Shift (TSS)	<-0.015% / °C

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Electrical Protection

Supply reverse polarity protection	No damage but also no function
Electromagnetic compatibility	CE Compliant

Mechanical Stability

Shock	100 g / 11 ms
Vibration	10 g RMS (20 ... 2000 Hz)

Materials

Housing	Marine Bronze (CA104) PVC (optional) PVDF (optional)
'O' ring seals	Viton NBR, Nitrile (optional) EPDM (optional)
Diaphragm	Ceramic Al_2O_3 96 %
Cable sheath material	PUR FEP (optional) TPE special seawater compatible (optional)
Media wetted parts	Housing, 'O' ring seal, diaphragm & Cable sheath

Miscellaneous

Current consumption	2-wire, 3-wire & 4-wire	Limits at 25mA, Typ. 6mA, Typ.2 – 5mA
Weight	Transmitter: Approx. 250g including nose cone Cable: 48g per mtr	
Installation position	Any	
Operation Life	> 100 x 10^6 cycles	

Typical Passive mV/V Outputs

Nominal pressure	mWG	5	7.5	10	15	20	30	50	100	200
Output	mV/V	1.0..1.75	1.5..2.6	2.0..3.5	1.5..3.0	2.0..4.0	1.4..2.7	2.4..4.5	3.6..6.0	2.5..4.0
Zero Setting Error	mV/V	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Span Setting Error	%	30	30	30	30	30	30	30	30	30

Wiring Designation

		PUR Sheath	FEP Sheath	TPE Sheath
2-wire	+ve Supply	Red	Brown	Brown
	-ve Supply	Blue	White	White
	Ground	White	Pink	Pink
	Cable Screen	Green	Green	Green
3-wire	+ve Supply	Red	Brown	Brown
	-ve Supply	Blue	White	White
	+ve Output	Yellow	Yellow	Yellow
	Ground	White	Pink	Pink
	Cable Screen	Green	Green	Green
4-wire	+ve Supply	Red	Brown	Brown
	-ve Supply	Blue	White	White
	+ve Output	White	Pink	Pink
	-ve Output	Yellow	Yellow	Yellow
	Cable Screen	Green	Green	Green

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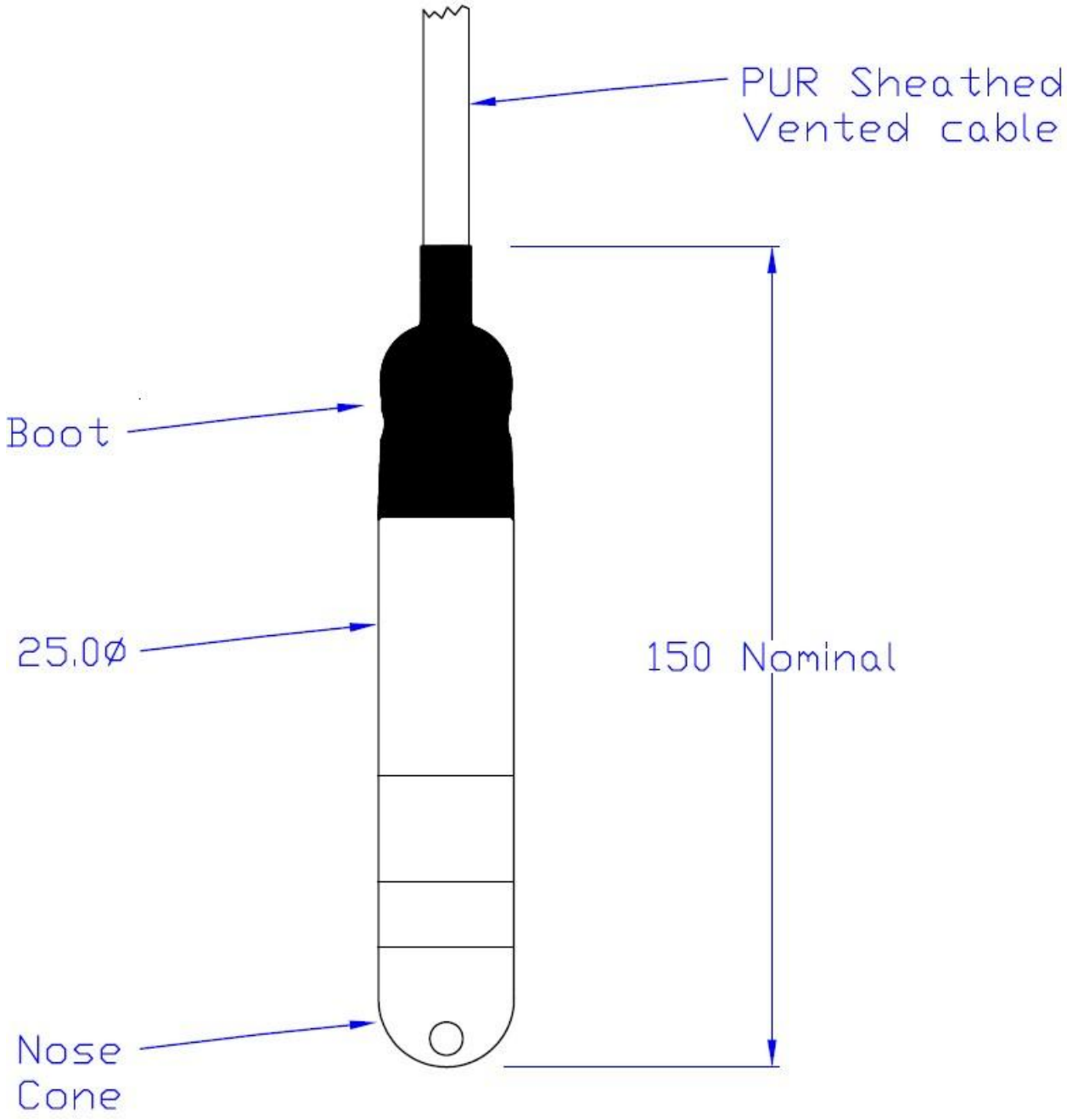
Outline Drawing



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