IWSL series

Water approved Submersible Level Transmitter - Silicon Sensor

- ***Piezo-resistive sensor***
- ***Stainless steel body and diaphragm***
- ***Accuracy <0.1% FS BFSL (0.06% option)***
- ***Various outputs including mV, Volts and mA. Others are available.***
- ***Pressure ranges from 1mWG to 100mWG***
- ***WRAS Approval pending***

Options available on the IWSL transmitter.

Pressure range and engineering units
Pressure reference (Gauge or Absolute)
Output type
Accuracy level (non-linearity and hysteresis)

Suitable applications

River level
Reservoir level
Tank level
Borehole level
Aquifer level
Environmental monitoring
V-notch weir flow measurement

The IWSL is designed for use in continuous submersion in water. The probe uses a piezo-resistive silicon sensing technology, isolated from the media by a stainless steel diaphragm within a 316L stainless steel housing

It offers excellent stability, repeatability and resolution, as required for use in rivers and reservoirs.

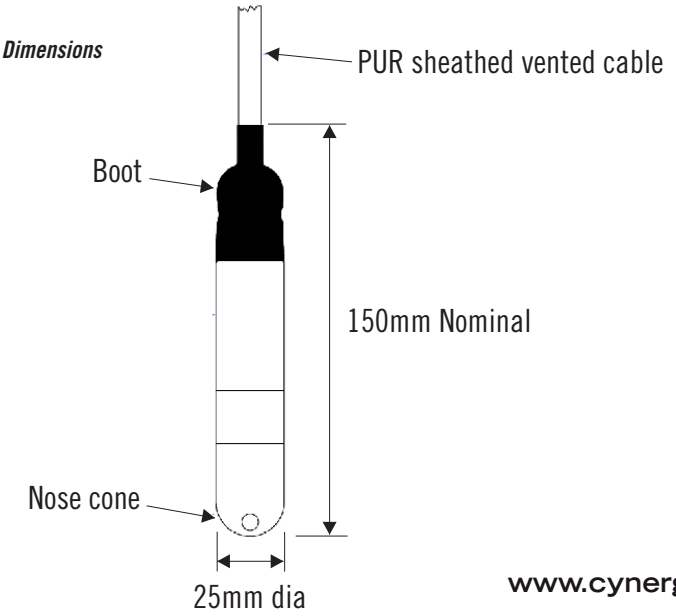
The electronics incorporate a microprocessor based amplifier, requiring no adjusting and giving stable electronics.

Each device is temperature compensated, calibrated and supplied with a traceable serial number and calibration certificate.

Performance

Accuracy (Non-Linearity)	<±0.1% / FS (BFSL)	
	<±0.06% / FS (BFSL)	
Hysteresis	<±0.05% / FS typ.	
Setting Errors (offsets)	2-wire	Zero & Full Scale, <±0.5% / FS
	3-wire	Zero & Full Scale, <±0.5% / FS
	4-wire	see passive output table
Permissible Load	2-wire	R_{max} = [(Supply-9)/0.02]Ohms
	3-wire	R_{min} = 10kOhm
Output Resistance	4-wire	<200mbar: 2.7-3.3kR, >200mbar: 4.0-6.0kR
Influence Effects	Supply	mV/V & 0.5 to 4.5V- ratiometric, other outputs - <0.005% FS / 1V
	Load	0.05% FSO / kOhm

Mechanical Dimensions



Custom versions can be made for particular applications.

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ISO9001 CERTIFIED

www.cynergy3.com

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Electrical Protection

Supply reverse polarity	No damage/no function
Lightning protection	Internally fitted
Electromagnetic compatibility	CE Compliant

Mechanical Stability

Shock	100g / 11s
Vibration	10g RMS (20 - 2000Hz)
Temperatures & Thermal Effects	
Media Temperature	-20ºC (Non-freezing) to +60ºC
Storage temperature	-20ºC to +70ºC
Compensated temperature range	20ºC±25ºC
Thermal Zero Shift (TZS)	<±0.02% /FS/ºC (option code 2) <±0.01% /FS/ºC (option code 1)
Thermal Span Shift	<±0.01% /ºC

Material Specifications

Housing	316L Stainless Steel
"O" ring seals	EPDM (Parker Elastomer E70C438)
Diaphragm	316L Stainless Steel
Cable sheath material	Polyurethane
Media wetted parts	Housing, "O" ring seal, diaphragm, cable sheath
Weight	Transmitter: approx 250g Cable: 48g per metre
Installation position	Any
Operational Life	> 100x 10^6 cycles
Approvals	WRAS Approval pending

Pressure Ranges and Passive mV/V Outputs

Nominal Pressure, Gauge	mWG	1	2.5	3.5	5	7	10	20	35	50	70	100
Nominal Pressure, Absolute	mWG							20	35	50	70	100
Permissible Overpressure	mWG	20	20	20	50	50	50	100	100	100	100	100
Output	mv @ 10V	50	50	60	100	70	100	100	100	100	100	100
Zero Setting Error	mV/V	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Output Signals and Supply Voltages

Wire system	Output	Supply Voltage	Connection	Wire Colour
2-wire	4-20mA	9-32Vdc	+ve Supply	Red
			-ve Supply	Blue
			Ground	White
			Cable Screen	Green
3-wire	0-5Vdc	9-32Vdc	+ve Supply	Red
	0-10Vdc	13-32Vdc	-ve Supply	Blue
	0-2.5Vdc	6-32Vdc	+ve Output	Yellow
	0.5-4.5Vdc	5Vdc	Ground	White
			Cable Screen	Green
4-wire	see Passive mV/V Output above		+ve Supply	Red
			-ve Supply	Blue
			+ve Output	White
			-ve Output	Yellow
			Cable Screen	Green

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