

# ILLS series

## Submersible Tank Gauging Level Transmitter



- **Piezo-resistive sensor**
- **Stainless steel housing and diaphragm**
- **Accuracy <0.5% FS BFSL**
- **Various outputs including Volts and mA.**
- **Pressure ranges from 1mWG to 10mWG**

### Options available on the ILLS transmitter.

Pressure range  
Voltage or current output  
Cable length

### Suitable applications

Static tank level  
Container or chamber level  
Vehicle tank level  
IBC, IBC Tote or Pallet Tank  
Rainwater harvesting

The ILLS is designed for use in continuous submersion in liquids such as water, oils and fuels in small tanks, where conventional mechanical level switches and sensors are not ideal and more level 'control' and measurement is required.

The probe uses a piezo-resistive silicon sensing technology, isolated from the media by a diaphragm within the stainless steel housing. It offers excellent stability, repeatability and resolution for applications where a small tank level is required, from as low as 1m through to 10 m high tanks.

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

### Performance

Accuracy (Non-Linearity & Hysteresis)	<±0.5% / FS (BFSL)	
Setting Errors (offsets)	2-wire	Zero & Full Scale, <±0.5% / FS
	3-wire	Zero & Full Scale, <±0.5% / FS
Permissible Load	2-wire	$R_{max} = [(Supply-9min)/0.02]\Omega$
	3-wire	$R_{min} = 10k\Omega$
Influence Effects	Supply	<0.005% FS / 1V
	Load	0.05% FSO / kΩ

Custom versions can be made for particular applications.

### Electrical Protection

Supply reverse polarity No damage/no function  
Electromagnetic compatibility CE Compliant

### Mechanical Stability

Shock 100g / 11s  
Vibration 10g RMS (20 - 2000Hz)

### Temperatures & Thermal Effects

Media Temperature -20°C (Non-freezing) to +60°C  
Storage temperature -20°C to +70°C  
Compensated temperature range 20°C±25°C  
Thermal Zero Shift (TZS) <±0.04% /FS/°C  
Thermal Span Shift (TSS) <±0.015% /°C

### Material Specifications

Housing 303 Stainless Steel  
"O" ring seals Viton  
Diaphragm 316L Stainless Steel  
Cable sheath material FEP standard  
Media wetted parts Housing, "O" ring seal, diaphragm, cable sheath  
Weight Transmitter: approx 75g  
Cable: 48g per metre  
Installation position Any, small zero shift when tilted through 90°  
Operational life > 100x 10<sup>6</sup> cycles  
Insulation resistance 50MΩ@50Vdc

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ISO9001 CERTIFIED

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\*Calibration data is supplied as a sticker affixed to the product packaging - do not discard



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### Pressure Ranges and Passive mV/V Outputs

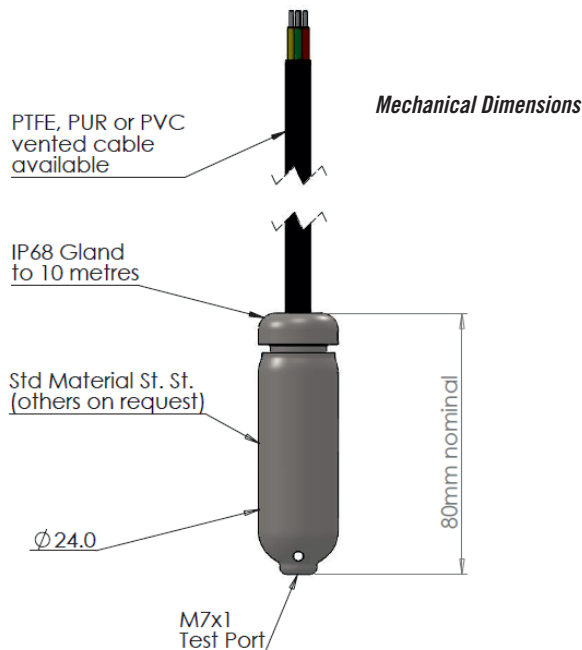
Nominal Pressure, Gauge	mW G	1	2.5	5	7	10
Permissible Overpressure	mW	20	20	10	50	50

### Output Signals and Supply Voltages

Wire system	Output	Supply Voltage	Connection	Wire Colours
2-wire	4-20mA	9-32Vdc	+ve Supply	Brown
			-ve Supply	White
3-wire	0.5-4.5Vdc non-ratiometric	9-32Vdc	Ground	Pink
			Cable Screen	Green
			+ve Supply	Brown
			-ve Supply	White
			+ve Output	Yellow
			Ground	Pink
			Cable Screen	Green

Care must be taken regarding screening and earthing when using voltage output

Part No	Pressure Range	Cable Length	Output
ILLS-G0100-5-003	0-1mWG (0-39"WG)	3M	4-20mA
ILLS-G0250-5-005	0-2.5mWG (0-98"WG)	5M	4-20mA
ILLS-G0500-5-007	0-5mWG (0-197"WG)	7M	4-20mA
ILLS-G0750-5-010	0-7.5mWG (0-276"WG)	10M	4-20mA
ILLS-G1000-5-015	0-10mWG (0-394"WG)	15M	4-20mA
ILLS-G0100-D-003	0-1mWG (0-39"WG)	3M	0.5 to 4.5V 3Wire
ILLS-G0250-D-005	0-2.5mWG (0-98"WG)	5M	0.5 to 4.5V 3Wire
ILLS-G0500-D-007	0-5mWG (0-197"WG)	7M	0.5 to 4.5V 3Wire
ILLS-G0750-D-010	0-7.5mWG (0-276"WG)	10M	0.5 to 4.5V 3Wire
ILLS-G1000-D-015	0-10mWG (0-394"WG)	15M	0.5 to 4.5V 3Wire



### Installation Note.

The vented cable is fitted with a filter (shown below) to prevent the entry of moisture. If removed, ensure vent tube is positioned in a clean, dry area.

