



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 IMTG 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 certificate.

Performance

Accuracy (Non-Linearity & Hysteresis) $\leq \pm 0.5\%$ / FS (BFSL)		
Setting Errors (offsets)	2-wire	Zero & Full Scale, $\leq \pm 0.5\%$ / FS
	3-wire	Zero & Full Scale, $\leq \pm 0.5\%$ / 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 / $k\Omega$

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 $+60^{\circ}\text{C}$
Storage temperature -20°C to $+70^{\circ}\text{C}$
Compensated temperature range $20^{\circ}\text{C} \pm 25^{\circ}\text{C}$
Thermal Zero Shift (TZS) $\leq \pm 0.04\%$ / FS/ $^{\circ}\text{C}$
Thermal Span Shift (TSS) $\leq \pm 0.015\%$ / $^{\circ}\text{C}$

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 $> 100 \times 10^6$ cycles
Insulation resistance $50M\Omega @ 50Vdc$

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ISO9001 CERTIFIED

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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
			Ground	Pink
			Cable Screen	Green
3-wire	0.5-4.5Vdc non-ratiometric	9-32Vdc	+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
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