

ILLS SERIES

SUBMERSIBLE TANK GAUGING LEVEL TRANSMITTER



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 7.5m high tanks.

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

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

Features

- Piezo-resistive sensor
- Stainless steel housing and diaphragm
- Accuracy <0.5% FS BFSL
- Various outputs including Volts and mA
- Pressure ranges from 1mWG to 7.5mWG

Suitable Applications

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

Options Available

- Pressure range
- Voltage or current output
- Cable length

SPECIFICATIONS

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	$R_{min} = 10 \text{ k}\Omega$
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 EMC directive - EN 61326-1:2013

Mechanical Stability

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

Temperature & Thermal Effects

Media Temperature	-20°C (Non-freezing) to +60°C
Storage Temperature	-20°C to +70°C
Compensated Temperature Range	+5°C to +75°C
Thermal Zero Shift (TZS)	<±0.04% /FS/°C
Thermal Span Shift (TSS)	<±0.015% /°C

Materials

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 ⁶ cycles	
Insulation Resistance	50MΩ@50Vdc	

PRESSURE RANGES

Pressure Ranges & Passive mV/V Outputs

Nominal Pressure, Gauge	mW G	1	2.5	5	7.5
Permissible Overpressure	mW	20	20	10	50

Output Signal & Supply Voltage

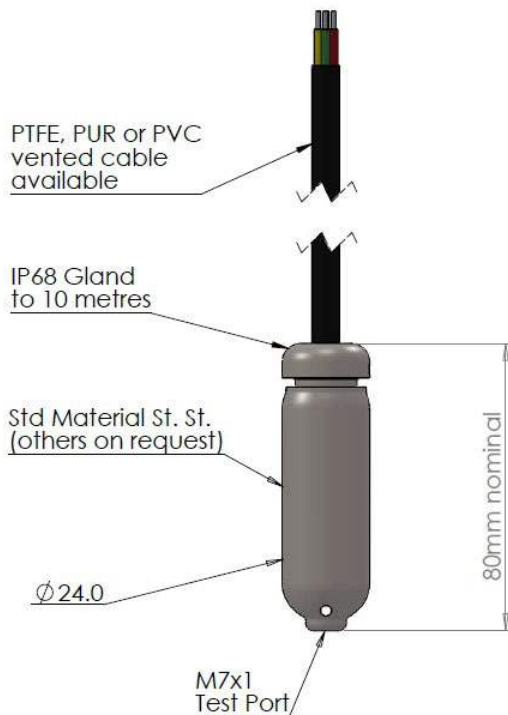
Wire System	Output	Supply Voltage	Connection	Wire Colours
2-wire	4 - 20mA	9 – 32V dc	+ve Supply	Brown
			-ve Supply	White
			Ground	Pink
			Cable Screen	Green
3-wire	0.5 - 4.5Vdc non-ratiometric	9 – 32V dc	+ve Supply	Brown
			-ve Supply	White
			+ve Output	Yellow
			Ground	Pink
			Cable Screen	Green

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-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

DIMENSIONS

All dimensions are in millimeters.



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.



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