

ILLSU 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.**
- **Depth ranges from 0-48" (0-4ft) to 0-480" (0-40ft) WG**

Options available on the ILLSU 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 ILLSU 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 3ft through to 40 ft 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

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

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ISO9001 CERTIFIED

ILLSU 2018

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 2.65oz (75g) Cable: 1.7oz (48g) per yard
Installation position	Any, small zero shift when tilted through 90°
Operational life	> 100x 10 ⁶ cycles
Insulation resistance	50MΩ@50Vdc



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Pressure Ranges and Passive mV/V Outputs

Nominal Pressure, Gauge	inchWG	40	100	200	280	400
Permissible Overpressure	inchWG	800	800	800	2000	2000

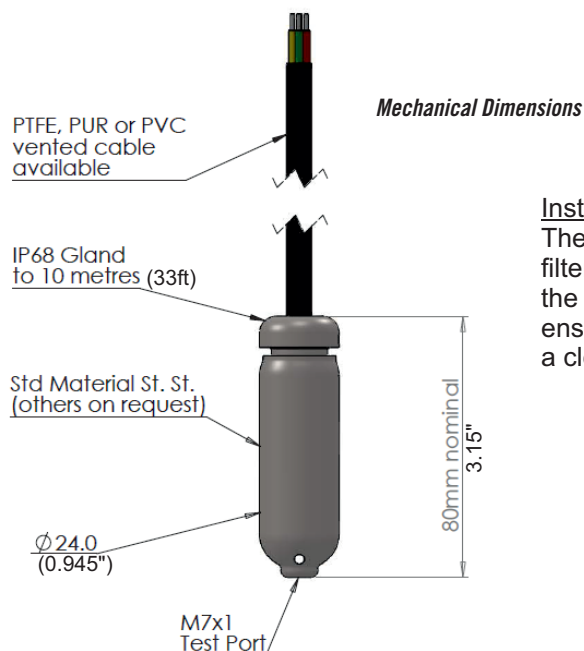
Output Signals and Supply Voltages

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
ILLSU-Gi048-5-003	0-48" WG	10ft	4-20mA
ILLSU-Gi120-5-005	0-120" WG	16ft	4-20mA
ILLSU-Gi240-5-008	0-240" WG	26ft	4-20mA
ILLSU-Gi360-5-012	0-360" WG	40ft	4-20mA
ILLSU-Gi480-5-016	0-480" WG	52ft	4-20mA
ILLSU-Gi048-D-003	0-48" WG	10ft	0.5 to 4.5V 3Wire
ILLSU-Gi120-D-005	0-120" WG	16ft	0.5 to 4.5V 3Wire
ILLSU-Gi240-D-008	0-240" WG	26ft	0.5 to 4.5V 3Wire
ILLSU-Gi360-D-012	0-360" WG	40ft	0.5 to 4.5V 3Wire
ILLSU-Gi480-D-016	0-480" WG	52ft	0.5 to 4.5V 3Wire

(Custom ranges and outputs available on request)



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.

