



ILTS SERIES

SUBMERSIBLE DUAL LEVEL & TEMPERATURE TRANSMITTER



The ILTS is designed for use in continuous submersion in liquids such as water, oil and fuels. The probe uses the latest piezo-resistive media-isolated silicon sensing technology and a stainless steel diaphragm. Housed within a 316L stainless steel, or high grade Duplex stainless steel housing, this submersible transmitter is the ideal product for hydrostatic level measurement where temperature is also a critical part of the measurement.

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

This type incorporates a Class 'B' accuracy platinum resistance thermometer.

Every 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.

Custom versions can be made for particular applications.



Suitable Applications

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

Features

- Stainless steel, piezo-resistive sensor
- Level accuracy: <0.1% FS BFSL
- Pressure ranges from 5mWG to 10mWG
- Temperature range: -20 to +60°C
- Dual independent 4-20mA outputs



SPECIFICATIONS

Temperature Range

Temperature Range	°C	-20 to +60
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Level Performance

Accuracy (Non-linearity & Hysteresis)	$\pm 0.1\% / FS (BFSL)$	
Setting Errors (Offsets)	Zero & Full Scale, $\pm 0.5\% / FS$	
Permissible Load	$R_{max} = [(Voltage\ Supply - 9) / 0.02] Ohms$	
Influence Effects	Supply	<math>< 0.005\% FS / 1V</math>
	Load	0.05% FSO / kOhm

Temperature Performance

Measurement Accuracy	(mA output/2000) or 5μA (whichever is the greater)
Thermal Drift	1 μA/°C
Loop Voltage Effect	0.2μA/V
Maximum Output Load	$[(V_{supply} - 10) / 21]$ kOhms (Example: 700 Ohms @ 24V)
Output Timing	Transmitter start up time: 4 seconds (I out <math>< 4mA</math> during start up)
	Warm up time: 1 minute to full accuracy
	Update time: 500ms
	Response time: 1 second

Output Signal & Supply Voltage

	Output	Supply Voltage	Connection	Wire Colors
Level (2-wire)	4 - 20mA	9 – 32V dc	+ve Supply	Red
			-ve Supply	Blue
			Ground & Cable Screen	Green
Temperature (2-wire)	4 - 20mA	9 – 32V dc	+ve Supply	White
			-ve Supply	Yellow
			Ground & Cable Screen	Green

Electrical Protection

Supply Reverse Polarity	No damage/no function
Lightning Protection	Internally fitted
Electromagnetic Compatibility	UKCA, CE EMC directive · BS 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 (Level only)	+5°C to +75°C
Thermal Zero Shift (TZS) (Level only)	<±0.02% /FS/°C
Thermal Span Shift (TSS) (Level only)	<-0.015% /°C
Thermal Drift (Temperature only)	1µA/°C

Material

Housing	316L Stainless Steel
"O" Ring Seals	Viton
Diaphragm	316L Stainless Steel
Cable Sheath Material	PUR
Media Wetted Parts	Housing, "O" ring seal, diaphragm, cable sheath

Miscellaneous

Current Consumption	Level transmitter limits at 28mA
	Temperature transmitter limits at 21.5mA
Weight	Transmitter: approx 300g inc. nose cone
	Cable: 48g per meter
Installation Position	Any, small zero shift when tilted through 90°
Operational Life	> 100x 10 ⁶ cycles



PRESSURE RANGES

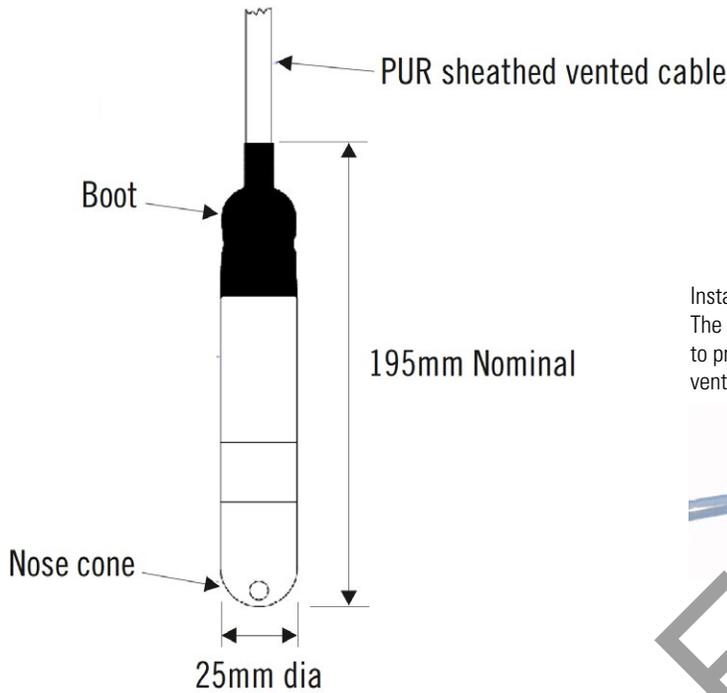
Nominal Pressure, Gauge	mWG	5	10
Permissible Overpressure	mWG	50	50

Part No	Pressure Range	Cable Length
ILTS-G0500-007	0-5mWG (0-197"WG)	7M
ILTS-G1000-015	0-10mWG (0-394"WG)	15M



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.



OBSOLETE

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