

## 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.

#### 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

#### Suitable Applications

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

## SPECIFICATIONS

### Temperature Range

<b>Temperature Range</b>	°C	-20 to +60
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## Level Performance

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

## Temperature Performance

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

## Output Signal & Supply Voltage

	<b>Output</b>	<b>Supply Voltage</b>	<b>Connection</b>	<b>Wire Colors</b>
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

<b>Supply Reverse Polarity</b>	No damage/no function
<b>Lightning Protection</b>	Internally fitted
<b>Electromagnetic Compatibility</b>	CE EMC directive · EN 61326-1:2013

## Mechanical Stability

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

## Temperature & Thermal Effects

<b>Media Temperature</b>	-20°C (Non-freezing) to +60°C
<b>Storage Temperature</b>	-20°C to +70°C
<b>Compensated Temperature Range (Level only)</b>	+5°C to +75°C
<b>Thermal Zero Shift (TZS) (Level only)</b>	<±0.02% /FS/°C
<b>Thermal Span Shift (TSS) (Level only)</b>	<-0.015% /°C
<b>Thermal Drift (Temperature only)</b>	1µA/°C

## Material

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

## Miscellaneous

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



## PRESSURE RANGES

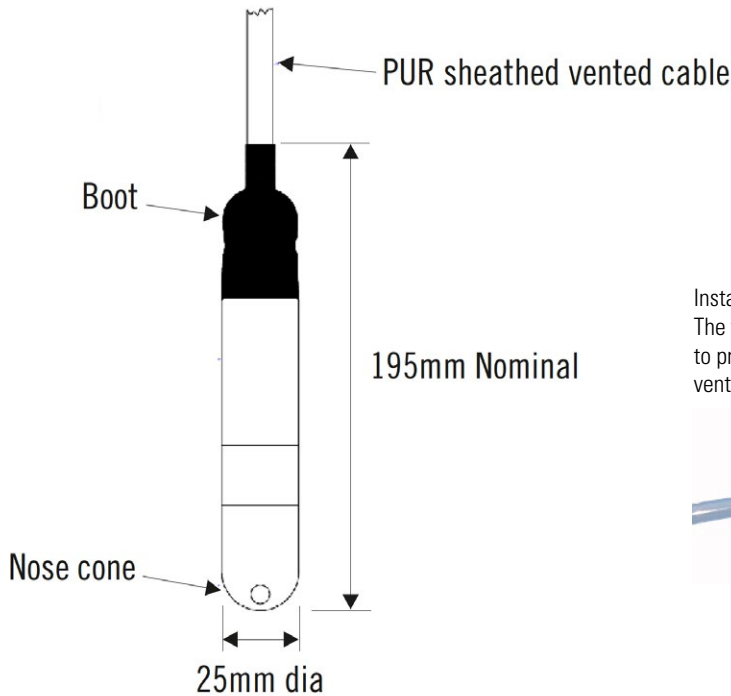
<b>Nominal Pressure, Gauge</b>	mWG	5	10
<b>Permissible Overpressure</b>	mWG	50	50

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.



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