



# ILTSU series

## Submersible Dual Level & Temperature Transmitter



- **Stainless steel, piezo-resistive sensor**
- **Level accuracy: <0.1% FS BFSL**
- **Depth ranges from 0-48" (0-4ft) to 0-360" (0-30ft) WG**
- **Temperature range: -20 to +60°C**
- **Dual independent 4-20mA outputs**

### Suitable applications

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

### Pressure Ranges

Nominal Pressure, Gauge	inchWG	40	200	400
Permissible Overpressure	inchWG	400	2000	2000

### Temperature Range

Temperature range	°C	-20 to +60
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### Level Performance

Accuracy (Non-Linearity & Hysteresis)	<±0.1% / FS (BFSL)
Setting Errors (offsets)	Zero & Full Scale, <±0.5% / FS
Permissible Load	$R_{max} = [(Voltage\ Supply - 9) / 0.02] Ohms$
Influence Effects	Supply <0.005% FS / 1V
	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	[(Vsupply-10)/21] kOhms (Example: 700 Ohms @ 24V)
Output Timing	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 Signals and Supply Voltages

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

The ILTSU 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 certificate.

Custom versions can be made for particular applications.

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ISO9001 CERTIFIED

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### Electrical Protection

Supply reverse polarity	No damage but also no function
Lightning protection	Internally fitted
Electromagnetic compatibility	CE Compliant

### Mechanical Stability

Shock	100g / 11ms
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(level only)	20°C±25°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 Specifications

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 10.5oz (300g) inc. nose cone Cable: 1.7oz (48g) per yard (meter)
Installation position	Any, small zero shift when tilted through 90°
Operational Life	> 100x 10 <sup>6</sup> cycles

Part No	Pressure Range	Cable Length
ILTSU-Gi048-003	0-48" WG	10ft
ILTSU-Gi180-007	0-180" WG	22ft
ILTSU-Gi360-015	0-360" WG	48ft

(Custom ranges and outputs available on request)

