

TECHNICAL DATA

FOZMULA
INNOVATION IN SENSORS

T/LL360 Liquid Level Sensor Extended Temperature Range



The **Model T/LL360** is an extended temperature range variant of the T/LL350 series of highly advanced sensors for continuously measuring the contents of a tank. Capable of operating at temperatures as low as -40°C the T/LL360 series auto compensates when a liquid with a different dielectric constant is used. For example, if it is used in a tank of conventional diesel, the user can refill with biodiesel and the sensor will correct the output level automatically.

Options include a high/low level alarm point, fitment of any suitable connector and compensation for non-linear shaped tanks.

SPECIFICATION

Liquid Types

Diesel, biodiesel, kerosene, petrol, water or any liquid which is compatible with the materials of construction.

Construction

Housing: Die cast aluminium & stainless steel
Sensor tube: Anodised aluminium
Wetted materials: PTFE, polypropylene, FVMQ, fluorosilicone, aluminium & stainless steel

Dimensions

Probe length: Min 150mm
Max 2000mm static applications & 1000mm for mobile applications

Electrical

Supply voltage: 9-32 VDC with 80V over voltage protection
Supply current: 15mA @ 12Vdc + output load
Connections: 430mm long 18AWG XLPE flying leads#

Outputs

Resistive: Any values between 3-500 Ω or 500-3 Ω (3 Ω Steps)
Resolution: 3 Ω
Max dissipation: 250mW
Current: 0-20mA, 4-20mA
Resolution: 20 μA
Max load: 250 Ω (Including interconnecting cable resistance)
Voltage:
12VDC system: Any values between 0-5V/5-0V
24VDC system: Any values between 0-10V/10-0V
Resolution: 10mV
Max Load: 10mA source (dependent on minimum supply voltage)
Accuracy: $\pm 2.0\%$ of probe length @ 20°C ($+68^{\circ}\text{F}$) in diesel (For probes lengths 300mm and above)

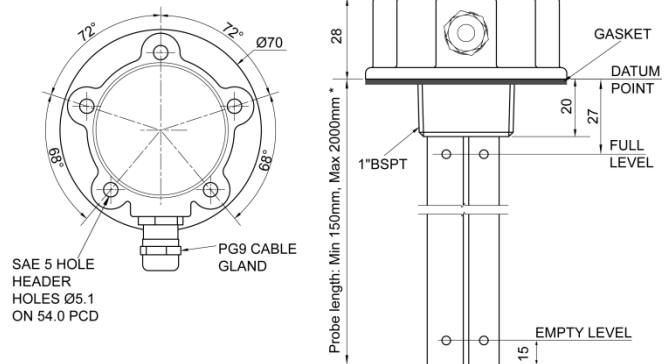
Environmental Ratings

Operating Temperature: -40°C to $+85^{\circ}\text{C}$ (-40°F to $+185^{\circ}\text{F}$)
Sealing: IP67
Weight: 300g (10oz) (1000mm long unit)
Max tank pressure: 0.75 bar (10 psi)
EMC: Type approval in accordance with EN ISO 13766:2006
Vibration: 500mm sensor type tested to 1.88grms to BS EN 60068-2-64:1993*
Shock: 500ms $^{-2}$, 11ms to BS EN 60068-2-27:1993

Options

Alarm: One position at either high level (switch to ground above level) or low level (switch to ground below level). Switch point can be set between 7% and 90% of measuring range (hysteresis 5%). **Max load:** 100mA.
Custom empty/full points: Specific empty and full levels can be provided within the allowable measurement range of the probe.
Non-linear Tanks: Compensation for non-linear tank shapes available.
#Connections: Any suitable customer specified connector can be fitted. Terminated wire ends should be fitted with suitably sealed connectors to maintain specified IP rating.

† Due to 3 Ω resolution, accuracy of resistive output variants is specified accuracy $\pm 3\Omega$.



* Up to 1000mm in mobile applications or up to 2000mm in static applications.

Model Variant Table

Model No	Output
T/LL360	Resistive
T/LL361	Voltage
T/LL362	Current
T/LL363	Resistive + alarm
T/LL364	Voltage + alarm
T/LL365	Current + alarm

* Vibration Testing

Frequency	G2/Hz
10	0.005
150	0.020
220	0.010
350	0.002

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