

## TECHNICAL DATA

**FOZMULA**  
INNOVATION IN SENSORS

### T/LL312 Liquid Level Sensor Large Temperature Range



The **T/LL312** series of advanced sensors is designed to continuously monitor the contents of a tank in extreme temperature applications such as defence and off-highway vehicles. Capable of operating at temperatures between  $-40^{\circ}\text{C}$  and  $+125^{\circ}\text{C}$ , the sensor 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 bio-diesel and the sensor will correct the output level automatically.

Options include 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:** Anodised die cast aluminium.  
**Sensor tube:** Anodised aluminium.  
**Wetted materials:** PTFE, FVMQ, Nylon (PA66), fluorosilicone, aluminium & stainless steel.

### Dimensions

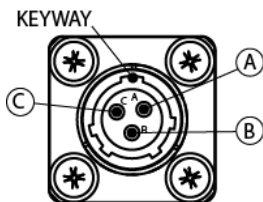
**Probe length:** Min 150 mm.  
Max 1200 mm static applications, supported in mobile applications for probe lengths greater than 500 mm.

### Electrical

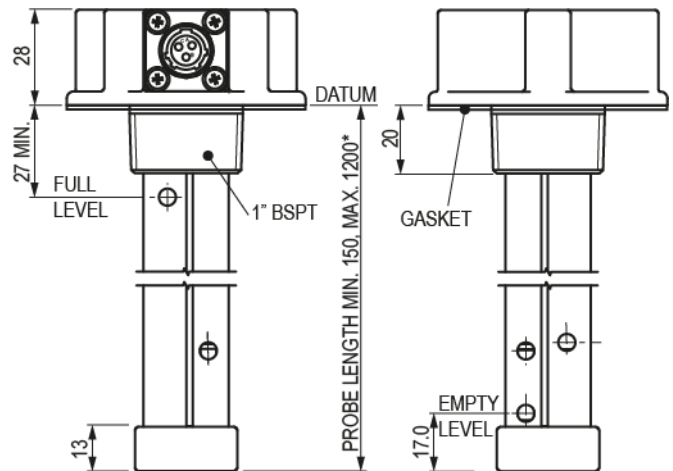
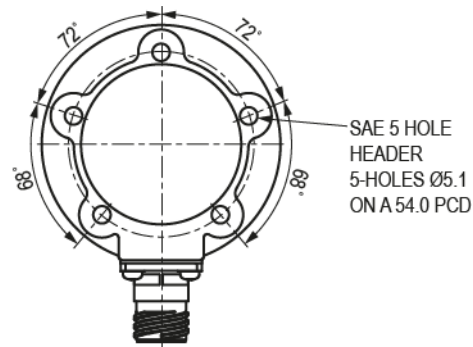
**Supply voltage:** 9-36 VDC  
**Supply protection:** 80V over voltage & reverse polarity protection.  
**Supply current:** 15 mA @ 12 VDC + output load.  
**Connections:** Military connector; D38999/20WA98PN.

### Outputs

**Current:** 0-20 mA, 4-20 mA.  
**Resolution:** 20  $\mu\text{A}$ .  
**Max load:** 250  $\Omega$  (Including interconnecting cable resistance).  
**Accuracy:**  $\pm 2.0\%$  of probe length @ 20  $^{\circ}\text{C}$  in diesel.



Connector Pin Out	
Pin	Connection
A	V+ (Supply)
B	GND
C	Signal



### Environmental Ratings

Designed to meet:  
**Operating Temperature:**  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .  
**Sealing:** IP67.  
**Weight:** 300 g (1000 mm long unit).  
**Max tank pressure:** 1.7 bar (25 psi).  
**EMC:** Type approval in accordance with EN ISO 13766:2006.  
**Vibration:** 500 mm sensor type tested to 1.88 grms to BS EN 60068-2-64:1993\*.  
**Shock:** 500  $\text{ms}^{-2}$ , 11 ms to BS EN 60068-2-27:1993.

### Options

**Custom empty/full points:** Specific full levels can be provided within the allowable measurement range of the probe.  
**Non-linear Tanks:** Compensation for non-linear tank shapes available.

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

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