

## TECHNICAL DATA

**FOZMULA**  
INNOVATION IN SENSORS

### S99 capacitance oil level switch



The **Model S99** is an active device which is designed to give an alarm signal if fluid falls below a preset level. It will only signal an alarm after a few seconds of low level to eliminate false alarms due to turbulence.

The **S99** will output one of two distinct voltage levels (customer specified) dependent upon whether the probe detects a safe or alarm condition. For example, the output can be set to give 1V out in the safe condition and 4V out in the alarm condition of low oil. In this way, any voltage level other than 1V or 4V can be assigned an error code.

## SPECIFICATION

### Electrical Rating

**Supply Voltage:** 5 VDC or 7 - 35 VDC  
**Supply Current:** 1.5mA + source output  
**Max. Load Current:** 10mA (source) 0-5v  
**Alarm Delay Time:** 0 - 25 secs rising or falling (factory set)  
**Connection:** 4 way Delphi Packard connector  
**Start up Delay:** 1 - 5 secs

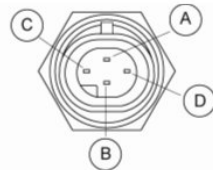
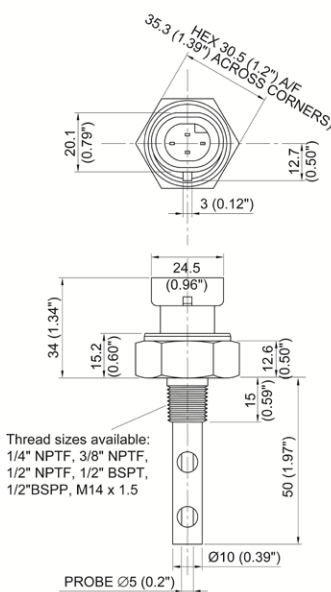
### Fluid Types

Mineral oils, typically used in engines or hydraulic actuators, compatible with Brass, PTFE and NBR rubber

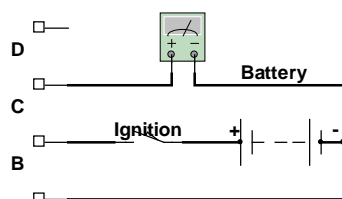
### Environmental Ratings

**Sealing:** IP67  
**Max. pressure:** 5.0 Bar (72 psi)  
**Temp. ranges:** Fluid: -40°C to +130°C (-40°F to + 266°F)  
 Storage: -40°C to +140°C (-40°F to + 266°F)  
**Weight:** 53g (2 oz)  
**EMC:** Type approval to EN ISO 13766:2006

Note: Torque setting on installation should not exceed 22Nm. Unit should be tightened with a 31mm ring spanner or 31mm socket.



- A NOT TO BE CONNECTED
  - B GND Negative power supply or GND
  - C V+ Positive power supply
  - D Output voltage signal
- Body not connected



### Construction

**Body:** Brass  
**Probe:** PTFE  
**Terminals:** SAE CA210Brass, Tin Plated  
**Seals:** NBR rubber  
**Connector:** 30% Glass Filled Nylon 6

### Connections

See diagram below

Note: Output is factory programmable between 0-5V ±0.1V

### Vibration (15.3 grms)

3 orthogonal planes for 3 hours per plane

Frequency (Hz)	G2/Hz
24	0.4
60	0.5
100	0.5
240	0.1
2000	0.1

Testing performed in accordance with BSEN 60068-2-64:1993

### Optional accessories:

Mating connector kit to suit harness wire cross sectional area of 0.8 to 1.0mm<sup>2</sup> and sleeve Ø1.60 to 2.15mm:

**Our Part no** C/K1  
**Description**  
 Connector kit comprising of:  
 Crimp Terminals (x4)  
 Cable seals (x4)  
 Cavity plug (x1)  
 Connector assembly 4 way (x1)  
 TPA lock (x1)

From the Packard Metri-Pack 150 series of connectors.

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