

## TECHNICAL DATA

# S281 Coolant Level Switch – Capacitance Type

**FOZMULA**  
INNOVATION IN SENSORS



The **S281** is an active device designed to give an alarm signal if coolant falls below, or rises above, a preset level. It can be specified with a delay to eliminate false alarms due to turbulence.

Containing a factory programmable microprocessor, the switch offers sink to ground or source voltage output. Its small footprint with limited intrusion into the tank means a reduced risk of damage and a wide range of customer specifiable options make it suitable for most applications.

For high accuracy the S281 is ideally mounted horizontally at the point where an alarm or control signal is required. However, the switch can be mounted vertically – contact Fozmula with your application requirements.

## SPECIFICATION

### Liquid types:

Water based liquids, such as coolant or washer fluid, compatible with brass, PTFE, EPDM and FVMQ.

### Electrical rating

**Supply voltage:** 9-36 VDC.  
**Supply current:** 7 mA + source output.  
**Max. load current:** 1.0 A (sink) or 20 mA (source).  
**Alarm delay time:** 0 to 25 s rising or falling (factory set).  
**Connection:** 4 way DIN 72 585 connector  
**Power up delay:** 0 to 10 s (factory set).  
**Power up state:** 'In Liquid' or 'Out of Liquid' (factory set).  
**Output type:** Sink (open collector) and/or Source (supply voltage).  
**Output pin:** Pin 3 (sink) or Pin 4 (source).  
**Output state:** Sink Open / Closed in liquid (factory set).  
 Source On / Off in liquid (factory set).

### Construction

**Body:** Brass.  
**Probe:** PTFE.  
**Terminals:** Brass, Tin Plated.  
**Seals:** EPDM & FVMQ.  
**Connector:** PA66 30% Glass Filled Nylon.  
**Thread sealant:** Vibra-Seal 516 (taper thread variants only).

### Connections:

See diagram below.

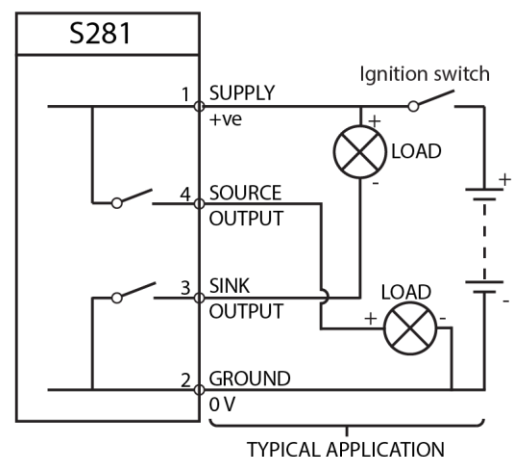
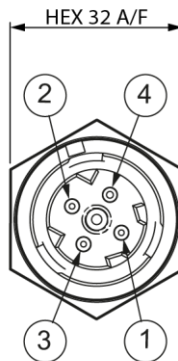
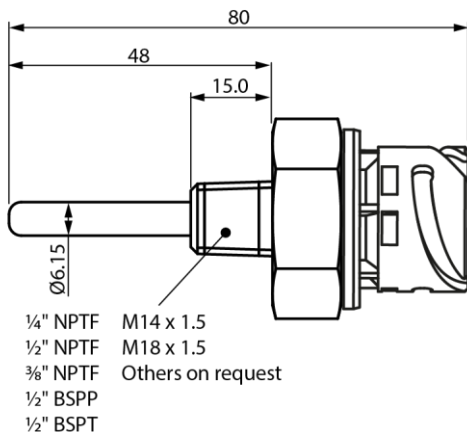
### Environmental Ratings

**Ingress:** IP67 (with mating connector fitted).  
**Max. pressure:** 5.0 Bar (72 psi)  
**Temp. range:** -40 °C to +125 °C  
**Weight:** 70 g typical (dependent on thread size)  
**EMC:** ISO13766-1:2018

### Vibration (15.3 Grms)

3 orthogonal planes for 3 hours per plane  
 Testing performed in accordance with BSEN 60068-2-64:1993

**Drop test:** 1 m to concrete surface.



TYPICAL APPLICATION

NOTE: IF SINK ONLY OUTPUT IS REQUIRED THEN PIN 4 IS NOT USED.

### Recommended Installation Tightening Torques:

Thread	Torque (Nm)	Thread	Torque (Nm)
1/4" NPTF	9 Nm	M14x1.5	10 Nm
3/8" NPTF	11 Nm	M18x1.5	15 Nm
1/2" NPTF	20 Nm		
1/2" BSPP	15 Nm		
1/2" BSPT	20 Nm		

### Optional accessories

**C/K2:** Mating connector kit to suit harness wire cross sectional area of 1 to 2.5 mm<sup>2</sup>, insulation diameter 1.2 to 3 mm: Ø1.60 to 2.15 mm. Comprising of: Crimp Terminals (x4), Cable seals (x4) and Connector assembly 4 way (x1).

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