

# Optical Liquid Level Switch

## SL-LLHP-521 (Data Center Cooling Applications)

- Reverse polarity, ESD, transient over-voltage, surge and short circuit protected
- N type output configuration, with an internal 10kΩ pull-up resistor
- Rugged stainless-steel construction paired with a chemically resistant Polysulfone sensing tip
- Wide supply voltage range

### Description

SST's optical sensors, designed specifically for data center cooling applications, comprise a robust stainless-steel housing with a polysulfone sensing tip. They detect liquid via infrared refraction and work virtually in any fluid (including glycol/water mixtures and synthetic hydrocarbon dielectric fluids).

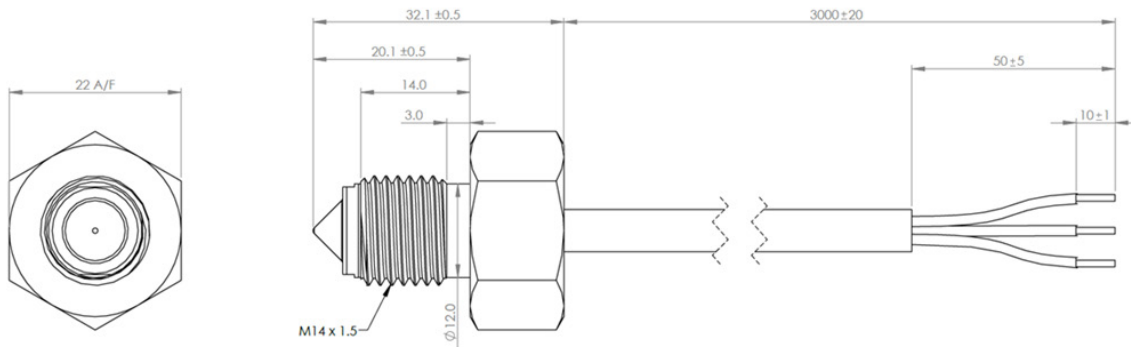
### Specifications

Technical Specifications	
Supply voltage (Vs)	8...30V <sub>DC</sub>
Supply current (Is)	7.5mA max.
Output sink current (Iout)	35mA max.
Operating pressure	0...12bar (0...174psi)
Housing material	Stainless steel (316 type) with polysulfone glass tip (Nitrile seal)
Switch termination	3m Cable 3 Core, 22 AWG, PVC Insulated UL/CSA AWM/STYLE 2576 VW-1
Temperatures	
Operating temperature	Process: -25...+75°C (-13...+167°F)
	Ambient: -20...+75°C (-4...167°F)
Storage temperature	-30...+80°C (-22...+176°F)
Output Values	
Output Voltage (Vout):	
Output logic	Low in Air
Output high	Vout = Vs - 1.5V max
Output low	Vout = 0V + 1.5V max



## Outline Drawing

All dimensions shown in mm. Tolerances =  $\pm 0.5$ mm



## Housing Specifications

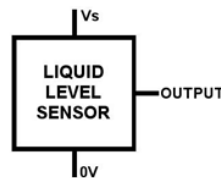
Housing	
Thread	M14 x 1.5 (for use with O-ring sealing)
Pressure <sup>a</sup>	12 bar / 174 psi max
Tightening Torque <sup>b</sup>	5 Nm / 44.25 in-lbs max

<sup>a</sup> When correctly sealed

<sup>b</sup> Do NOT over-tighten as this can permanently damage the switch

## Electrical Interface

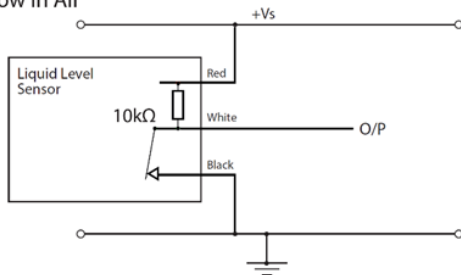
### 3 Core Cable



Wire	Designation
Red	Vs
White	Output
Black	0V

## Circuit Diagram

### N-Type with Internal 10kΩ Pull-Up Resistor Low in Air



### Caution

Take care when connecting loads. The minimum load impedance should not be less than Vs/max output current.

### Caution

Do not exceed maximum ratings and ensure sensor(s) are operated in accordance with their requirements.

Carefully follow all wiring instructions. Incorrect wiring can cause permanent damage to the device.

SST Sensing Ltd recommend using alcohol-based cleaning agents. Do NOT use chlorinated solvents such as trichloroethane as these are likely to attack the sensor material.

**Failure to comply with these instructions may result in product damage.**

### Information

As customer applications are outside of SST Sensing Ltd.'s control, the information provided is given without legal responsibility. Customers should test under their own conditions to ensure that the equipment is suitable for their intended application. Before use, check that the fluids in which you wish to use these devices are compatible with the sensor materials as described above.

General Note: SST Sensing Ltd. reserves the right to make changes to product specifications without notice or liability. All information is subject to SST Sensing Ltd.'s own data and considered accurate at time of going to print.

**For technical assistance or advice, please email: [sensors@dwyeromega.com](mailto:sensors@dwyeromega.com)**