Optical LLIS

Liquid Level Switches

Intrinsically safe for hazardous areas

Hazardous area approved, PST's range of intrinsically safe optical liquid level switches are designed and certified for use in demanding applications where direct contact with hydrocarbons, fuels, and flammable or explosive liquids is likely.

Using infrared technology and the principle of total internal reflection, our liquid level switches detect the presence or absence of most liquids. An almost instantaneous response time is standard, and switch point repeatability is +/- 1 mm.

PST liquid level switches have an operating temperature range between -30 °C and +80 °C (-22°F...+176°F). Stainless steel housing and a choice of sensing tip materials ensure they are extremely robust and resistant to chemical attack.

Highlights

- ATEX, UKCA and IECEx certified
- Ambient and liquid temperature – 30 °C...+80 °C (-22 °F...+176 °F)
- Metric and imperial process connection options
- NAMUR output
- Speed of response from the optical sensor is almost instantaneous
- No calibration required
- 316 stainless steel housing.

Applications

- Presence or absence of any liquid
- Petrochemicals / Oil and gas
- Heavy -duty automotive
- Leak detection
- Hydraulic reservoirs
- Tank / container level-control
- Downstream analyzer protection.

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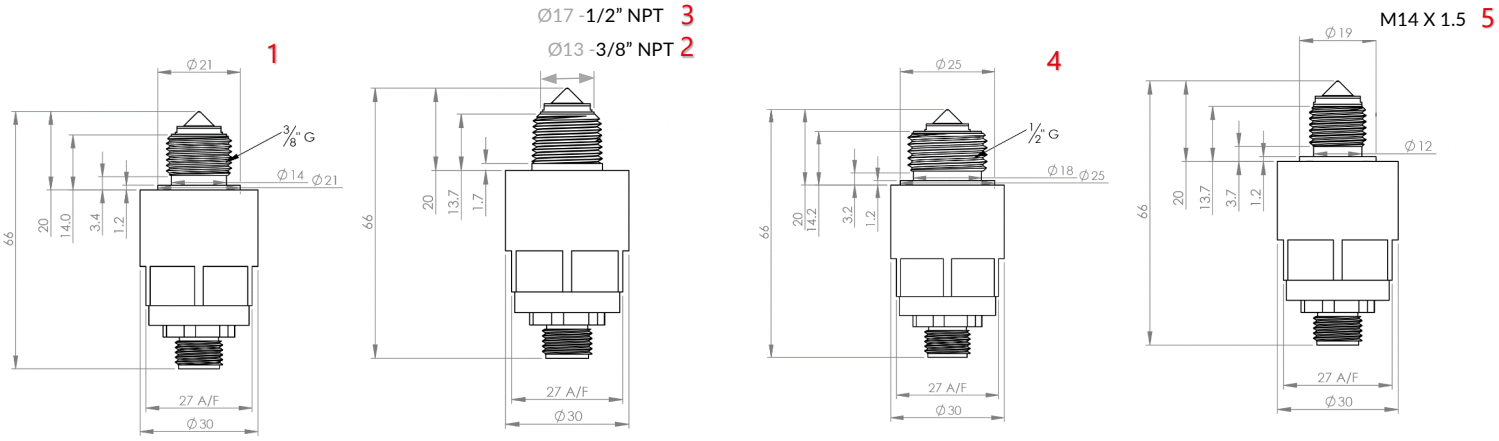
LLIS process connection dimensions



Note: The red numbers correspond to order information. See last page.

Accessories

Cable connector, NAMUR

- M12 angled female socket
- 4-pin A-coded
- Single-ended
- IP68 / IP69 protection
- Suitable for NAMUR technology
- Can be specified with Zinc diecast or SS 316L screw connection
- PUR cable - blue
- Various lengths available.

Single sensor barrier / controller

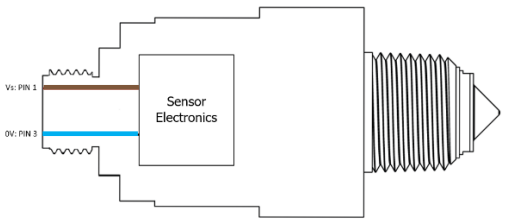
- 1-channel isolated barrier
- ATEX, IECEx, cULus hazardous area approved
- SIL2 capable
- Can be configured as:
  - Signal splitter
  - Line fault detection (LFD)
  - Reversed mode of operation
- 24 V DC supply.

Technical specifications

Process connections					
Thread	3/8" G	3/8" NPT	½" NPT	½" G	M14 x 1.5
Tightening torque	3 Nm / 26.5 in-lbs maximum				
Electrical input/output					
Power supply	+5 V DC...12 V DC (+8.2 V nominal)				
Supply current	Liquid detected: >3 mA; Air detected: <1 mA				
Output type	NAMUR				
Maximum input values	Ui = 12V, Ii = 130 mA, Pi = 85 mW, Ci = 1.08µF				
Interface	M12, 4-pin, A-coded connector (see accessories)				
Mechanical					
Sensor tip options	Polysulfone / Trogamid / Grilamid				
Seal O-Ring options	Viton / Nitrile				
Operating temperatures	-30 °C...+80 °C (-22 °F...+176 °F)				
Storage temperatures	-40 °C...+80 °C (-40°F...+176°F)				
Pressure	32 bar (464 psi) maximum				
Ingress protection	IP68				
Housing material	316 Stainless steel				
Weight	<100 g (<3.5 oz)				

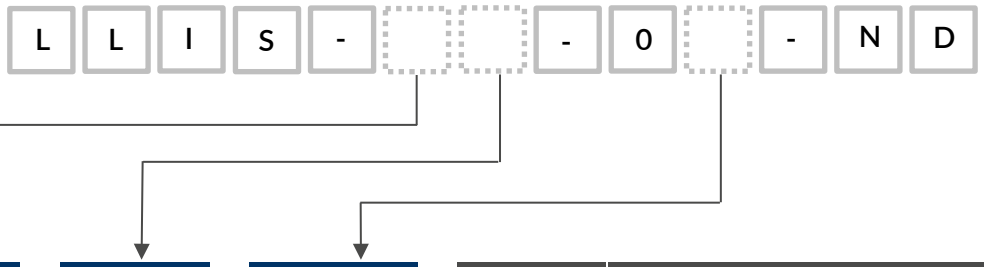
Hazardous area certification		
ATEX / UKCA	IECEx	US/Canada/Japan
II 1 G Ex ia T4 Ga (-30 °C to +80 °C)	Ex ia IIC T4 Ga (-30 °C to +80 °C)	Certification in progress.

*Pin connection	
Pin	Designation
1	+ Vs
2	NC
3	0 V
4	NC



Order information

Generate your specific part number using the convention below. Fill the dotted boxes with the red letters and numbers that correspond with the switch output options you require.



Sensor tip material
P: Polysulfone
T: Trogamid
G: Grilamid

Seal O-ring
V: Viton
N: Nitrile

Process connection
1: $^{3}/_{8}$" G
2: $^{3}/_{8}$" NPT
3: ½" NPT
4: ½" G
5: M14 x 1.5

Accessory	Part number		
Cable with connector REACH EC 1907/2006	**CABSET02SS** - Female cordset - M12 4-pin A-coded - Length 2m - SS 316L body	**CABSET05** - Female cordset - M12 4-pin A-coded - Length 5m - Zinc diecast body	**CABSET10** - Female cordset - M12 4-pin A-coded - Length 10m - Zinc diecast body
	(Other cable options available)		
1-channel isolated barrier	**SSTC-KCD2-SOT-Ex1.LB**		

CAUTION

Do not exceed maximum ratings and ensure switch(es) is operated in accordance with requirements. Carefully follow all wiring instructions, as incorrect wiring may cause permanent damage to the device, and only apply power to the switch after all connections have been made.

PST recommends using alcohol-based cleaning agents. Do NOT use chlorinated solvents such as trichloroethane, as these are likely to attack the sensor material.

INFORMATION

As customer applications are outside of PST control, the information provided is given without legal responsibility.Customers should test under their own conditions to ensure the equipment is suitable for the intended application(s).

We adopt a continuous development program which sometimes necessitates specification changes without notice.

For technical assistance or enquiries about other options, please contact:
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