

Liquid Level Switches

Relay Series

PST offers a broad range of solid-state, optical liquid level switches to suit a variety of applications. They are compact, only protrude a small distance into the application, and can detect small amounts of almost any liquid type, water or oil-based.

With no moving parts and a selection of housing materials, our switch sensors operate reliably in a wide range of harsh environments.

PST level switches also include built-in intelligence to achieve low sensitivity to: ambient light, foam in air, or small bubbles in a liquid.

Our relay switches, with volt-free contacts, are the ideal choice when it is necessary to switch a load independently of the sensor's 24 V DC supply. This includes switching AC loads.

If our standard range of optical liquid level switches does not meet your requirements, housings, cabling, and connectors can be customized to suit your application needs.



Highlights

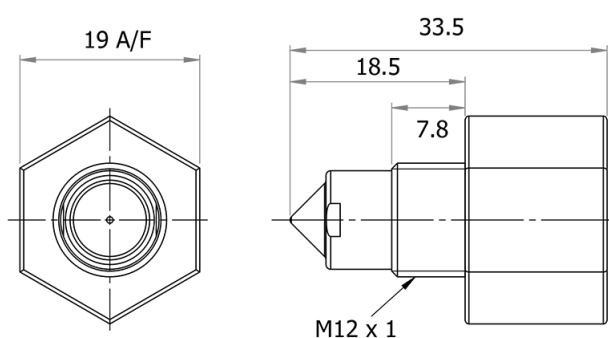
- Choice of material; Polysulfone or Trogamid®
- Choice of threads
- High Power
- Industrial supply voltage
- Direct load drive design (Volt-Free Contacts)

Applications

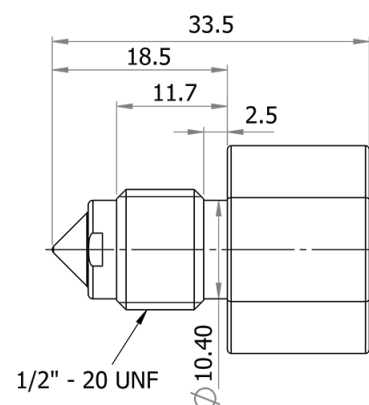
- To detect the presence or absence of almost any type of liquid, oil, or water-based
- These level switch sensors fall into two main categories of application; leak detection and single point level control (maximum or minimum)
- Medical, process control, domestic products, food, and beverage applications, fluid levels in off-road vehicles, aircraft, and static equipment

Product Dimensions

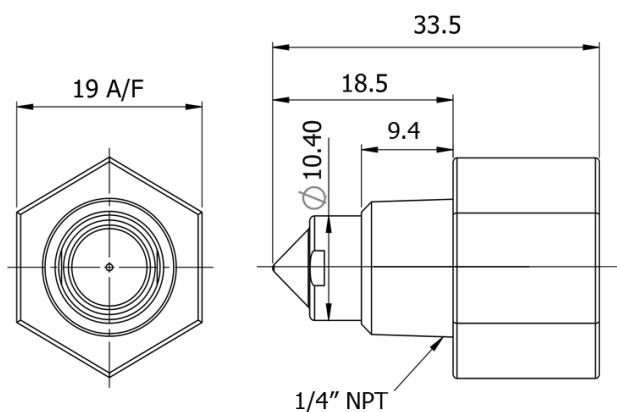
LLX 200 Series



LLX 600 Series



LLX 700 Series



Housing Specifications

| | Housing Series | | |
|--------------------------|-------------------------------|---------------|----------|
| | 200 | 600 | 700 |
| Thread | M12 x 1, 8 g | 1/2" - 20 UNF | 1/4" NPT |
| Pressure | 7 bar / 101 psi maximum | | |
| Tightening Torque | 1.5 Nm / 13.26 in-lbs maximum | | |

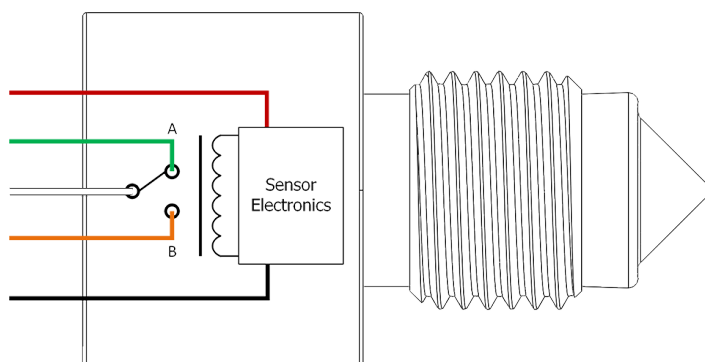
Technical Specifications

| | |
|---|--------------------------------|
| Supply Voltage (Vs) | 8 V DC to 30 V DC |
| Supply Current | 50 mA max. (Vs = 24 V DC) |
| Output Current (I_{out}) Through Relay | 30 V AC / DC @ 1A |
| Operating Temperatures | -25 °C to +70 °C |
| Storage Temperatures | -25 °C to +70 °C |
| Housing Material | Polysulfone or Trogamid® |
| Housing Mounting | M12 x 1, 1/2"-20 UNF, 1/4" NPT |

NOTE: Before use, check that the fluid which you wish to use in the device is compatible with either Polysulfone or Trogamid®.

Electrical Interface

| Pin Connections | | |
|-----------------|------------|-------------|
| Pin | Wire Color | Designation |
| 1 | Red | Vs |
| 2 | Black | 0 V/ GND |
| 3 | White | COM |
| 4 | Orange | N.O. |
| 5 | Green | N.C. |



Switch Variants

In order to suit any application, these sensors have been designed with various output configurations. They are identified by the 3-digit code in the part number as shown in Order Information.

The following tables refer to the output configurations:

006 Output

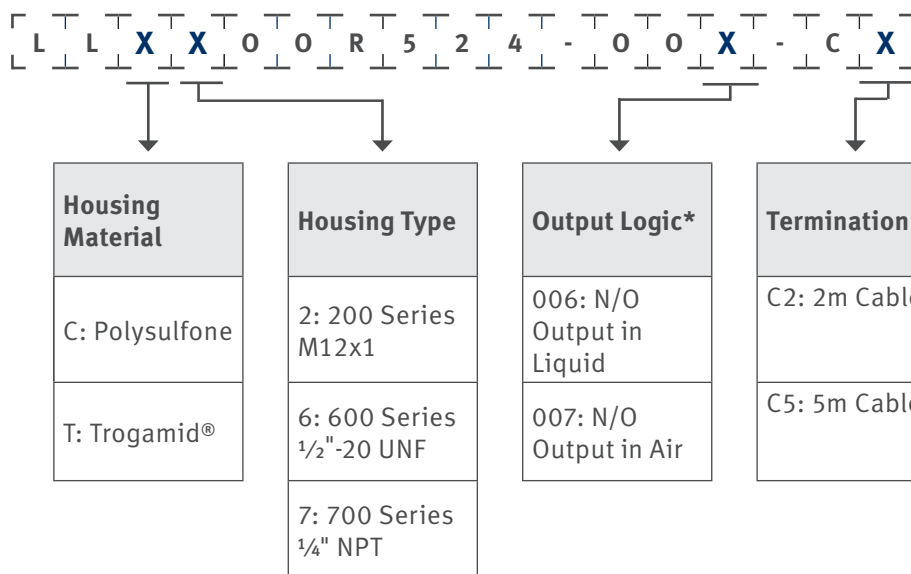
| Switch Power (Vs) | Switch Condition | COM Wire Connected To |
|-------------------|------------------|-----------------------|
| OFF | Wet or Dry | N.C. |
| ON | Dry | N.O. |
| ON | Wet | N.C. |

007 Output

| Switch Power (Vs) | Switch Condition | COM Wire Connected To |
|-------------------|------------------|-----------------------|
| OFF | Wet or Dry | N.C. |
| ON | Dry | N.C. |
| ON | Wet | N.O. |

Order Information

Generate your specific part number using the convention shown below. Use only those letters and numbers that correspond to the sensor and output options you require.



***NOTE:** For an application where dry is the safe state and wet is the fail state, choose the -006 output logic option.

In this version, the sensor will energize the relay when the tip is dry and de-energize the relay when the tip is wet.

For an application where wet is the safe state and dry is the fail state, choose the -007 output logic option.

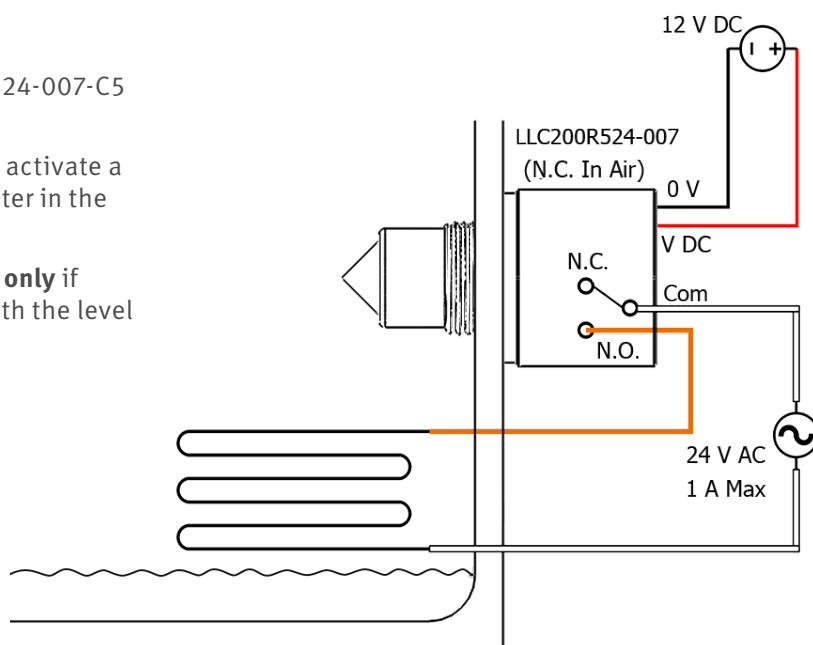
In this version, the sensor will energize the relay when the tip is wet and de-energize the relay when the tip is dry.

Example.

Heated water tank example using LLC200R524-007-C5 and a 24 V AC heater.

This example uses the liquid level sensor to activate a water heater providing there is sufficient water in the tank.

As a failsafe, the water heater will be active **only** if there is water above the level sensor **and** both the level sensor and heater are powered.



**CAUTION**

Do not exceed maximum ratings and ensure sensor(s) are operated in accordance with their requirements. Carefully follow all wiring instructions^{*} and only apply power to the sensor after all connections have been made. Incorrect wiring can cause permanent damage to the device.

PST recommends 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.

^{*} Only apply power to the device after all **other** connections are complete.

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 that the equipment is suitable for their intended application.

PST adopts a continuous development program which sometimes necessitates specification changes without notice.

For technical assistance or enquiries on other sensor options, please contact uk.sst.sales@processsensing.com