

# Polysulphone optical liquid level switches - Basic version

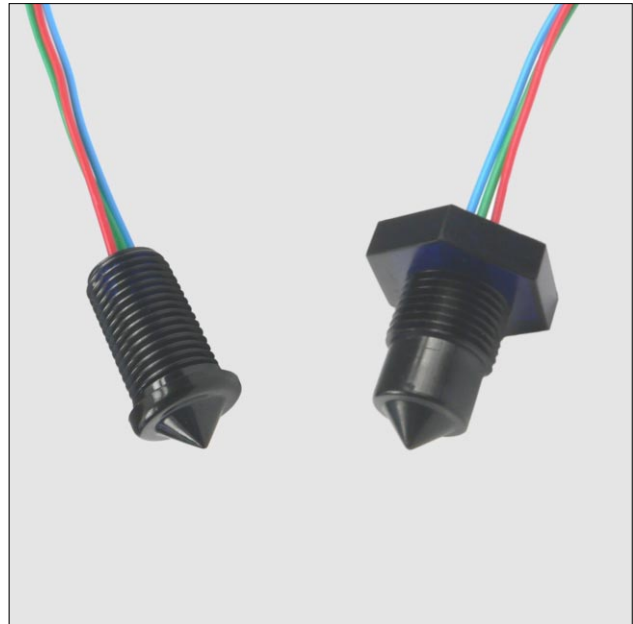
---

## FEATURES

- Solid state technology, no moving parts
- Miniature size, easy to install
- 10 mA output current
- Polysulphone housings
- High media compatibility
- Fast response, electrically robust

## WETTED MATERIALS

Tip and housing: Polysulphone



## SPECIFICATIONS

### Maximum ratings

Supply voltage	24 V
Supply current	15 mA
Output current*	10 mA
Operating temperature range	-25...80°C
Pressure range	
M10 thread housing	20 bar
M12 thread short housing	7 bar
Dielectric strength	4 kV
Protection class	IP 67

\* 10 mA sink current, source current depends on  $V_s$  and  $R_L$

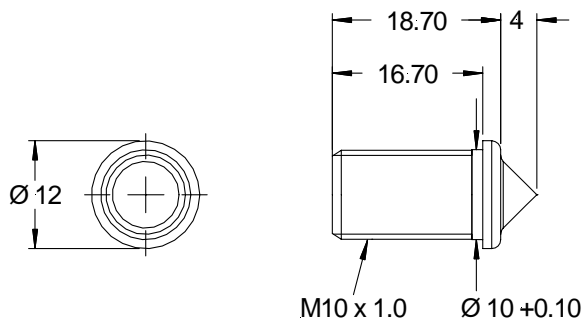
# Polysulphone optical liquid level switches - Basic version

## PERFORMANCE CHARACTERISTICS

Characteristics	Min.	Typ.	Max.	Unit
Repeatability			±1	mm
Hysteresis (depending on liquid)			1	
Response time rising liquid			50	µs
Response time falling liquid (ethanol)			1	s

## OUTLINE DRAWING

### M10 thread

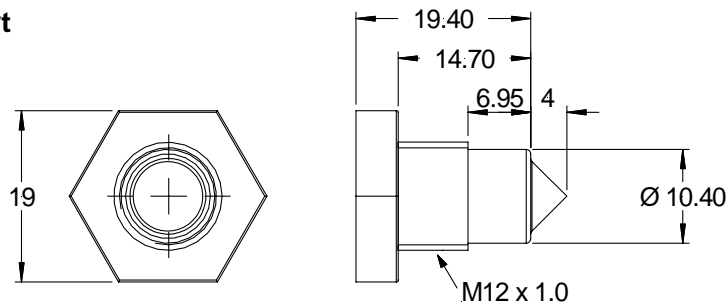


mass: 5 g

M10 x 1.0    Ø 10 +0.10

dimensions in mm

### M12 thread short



mass: 6 g

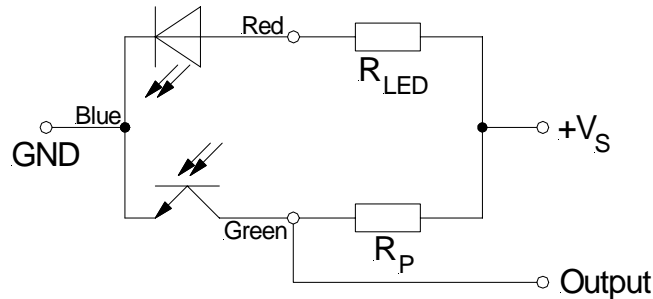
M12 x 1.0

dimensions in mm

**Note:** All devices are supplied with lead wires. The wire lengths are 200 mm -0, +30 mm measured from the back of the housing. Wire diameters are 0.511 mm (AWG 24).

# Polysulphone optical liquid level switches - Basic version

## ELECTRICAL CONNECTION



**Note:** The customer has to select suitable resistors for the chosen supply voltage. The forward voltage of the LED is 1.3 V and LED current should be 10 mA (depending on the application liquid).  $R_{LED}$  can be calculated as follows (e.g. for  $V_S=12$  V):

$$R_{LED} = \frac{(V_S - 1.3) V}{10 \text{ mA}} = \frac{12 - 1.3}{0.01} = 1070 \Omega \approx 1.1 \text{ k}\Omega$$

As a guidance the output voltage for different pull-up resistors can be found in the table below.

Pull-up resistor ( $R_P$ )	Output (reference condition $R_L \geq 10 \text{ k}\Omega$ , $T_A = 25 \text{ }^\circ\text{C}$ )									
	$V_S = 3.3 \text{ V}$		$V_S = 5 \text{ V}$		$V_S = 10 \text{ V}$		$V_S = 15 \text{ V}$		$V_S = 24 \text{ V}$	
	In air	In water	In air	In water	In air	In water	In air	In water	In air	In water
1 k $\Omega$	1 V	2.9 V	2 V	4.4 V	7 V	9 V	12 V	13.5 V	20 V	21 V
2 k $\Omega$	0.75 V	2.7 V	1 V	4.1 V	3 V	8.2 V	7 V	12.4 V	15 V	19.5 V
4 k $\Omega$	0.5 V	2.3 V	0.3 V	3.5 V	1 V	7 V	3 V	10.6 V	9 V	17 V

## ORDERING INFORMATION

Options	Series	01B:	Output			Housing type	Termination
			Current	Type	Function		
	OLP		10 mA	basic	0:	F: M10 thread K: M12 thread short	3: 3 wire 4: 4 wire*
							* on request, MOQ may apply
Example:		OLP	01B		0	F	3

Fixing nuts and washers are available on request.  
Please contact your nearest Sensortechics sales office for further information.

Sensortechics reserves the right to make changes to any products herein. Sensortechics does not assume any liability arising out of the application or use of any product or circuit described herein, neither does it convey any license under its patent rights nor the rights of others.