

# OLP Series

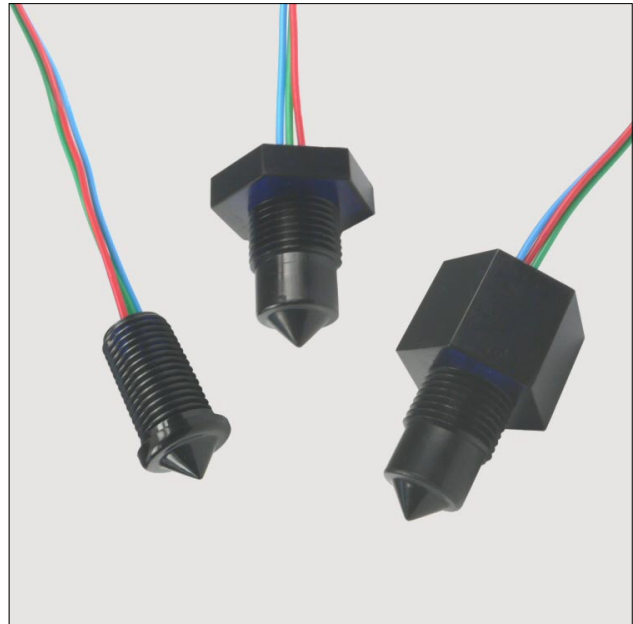
## Polysulphone optical liquid level switches

### FEATURES

- Solid state technology, no moving parts
- Miniature size, easy to install
- TTL compatible or transistor output versions
- 10, 250 or 500 mA output current
- Polysulphone housings
- High media compatibility
- Fast response, electrically robust

### WETTED MATERIALS

Tip and housing: Polysulphone



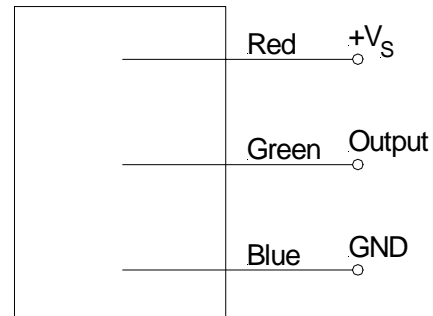
### SPECIFICATIONS

#### Maximum ratings

Supply voltage	
OLP01...	5...12 V
OLP25X...	5...16 V
OLP25U...	10...28 V
OLP50...	10...40 V
Supply current	
OLP01..., OLP25...	15 mA
OLP50...	25 mA
Output current	
OLP01...*	10 mA
OLP25...	250 mA
OLP50...	500 mA
Operating temperature range	
OLP01..., OLP50...	-25...80°C
OLP25...	-40...125°C
Pressure range	
OLP...F	20 bar
all others	7 bar
Dielectric strength	4 kV
Protection class	IP 67

### ELECTRICAL CONNECTION

#### 3 wire version



#### 4 wire version



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

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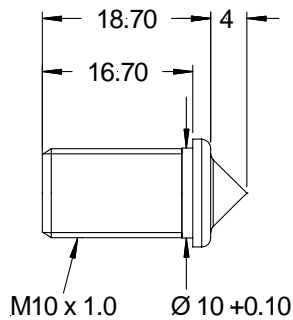
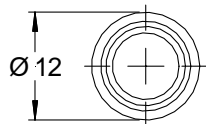
## Polysulphone optical liquid level switches

### 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

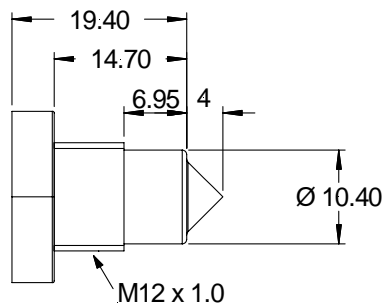
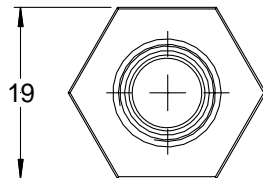
**M10 thread**  
(Housing type OLP...F...)



mass: 5 g

dimensions in mm

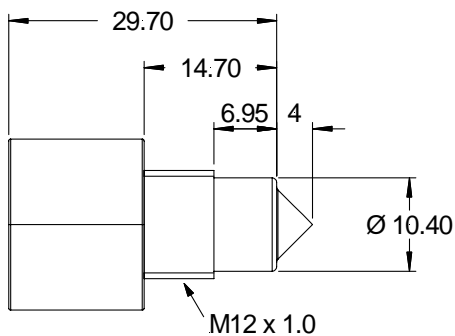
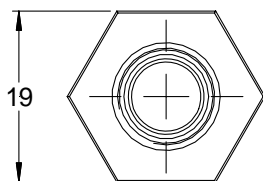
**M12 thread short**  
(Housing type OLP...K...)



mass: 6 g

dimensions in mm

**M12 thread long**  
(Housing type OLP...L...)



mass: 10 g

dimensions in mm

**Note:** Do not mount the sensor with prism pointing downwards.  
The prism should be at least 10 mm away from any infrared-reflecting surface.

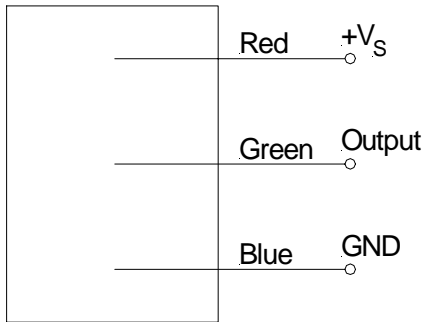
# OLP Series

## Polysulphone optical liquid level switches

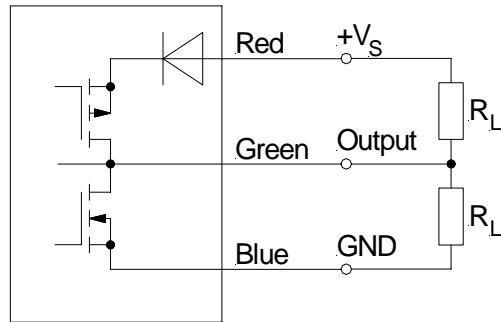
### ELECTRICAL CONNECTION (cont.)

#### 3 wire versions

##### TTL compatible\*

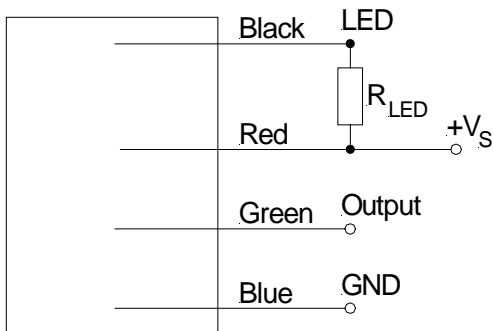


##### Push-Pull (current sinking and sourcing)\*



#### 4 wire versions

##### TTL compatible\*



**\* Note:**  
 When low, the sensor output gives approx. 0 V.  
 When high, the sensor output provides the supply voltage minus approx. 0.5 V.

**Note:** The nominal LED current ( $I_{LED}$ ) is 10 mA and may be adjusted by  $\pm 3$  mA in order to handle specific applications.  $I_{LED}$  is adjusted by connecting the LED anode (black wire) to the sensor's supply voltage ( $V_S$ ) via a current limiting resistor ( $R_{LED}$ ).  $I_{LED}$  is dependent on the supply voltage used.  $R_{LED}$  is calculated as follows:

$$R_{LED} = \frac{(V_S - 1.3V)}{I_{LED}}$$

Failure to select the correct resistor value can lead to the sensor not operating or being damaged.

**Note:** All OLP... 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) for all OLP01... devices and 0.812 mm (AWG 20) for all OLP25/50... devices.

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## Polysulphone optical liquid level switches

### ORDERING INFORMATION

#### TTL compatible output devices

Options	Series	01T	Output			Housing type	Termination			
			Current	Type	Function		3	4		
	OLP		10 mA	TTL compatible	0	Low in air	F	M10 thread	3	3 wire
					1	High in air	K	M12 thread short	4	4 wire*
									* on request, MOQ may apply	
Example:		OLP	01T		0		F		3	

#### Transistor output devices

Options	Series	25X	Output			Housing type	Termination			
			Current	Type	Function		3			
	OLP	25X	250 mA	Push-Pull (V <sub>s</sub> = 5...16 V)	0	Low in air	L	M12 thread long	3	3 wire
		25U	250 mA	Push-Pull (V <sub>s</sub> = 10...28 V)	1	High in air				
		50U	500 mA	Push-Pull						
Example:		OLP	50U		0		L		3	

#### **Accessories** (please order separately using the following order numbers)

Order No.	Description	Use with
<b>F I X I N G N U T S</b>		
ZA000910	M12 x 1, nickel plated brass	OLP...K..., OLP...L...
ZA000911	M12 x 1, stainless steel (303, clear passivated)	
ZA000912	M10 x 1, plastic	OLP...F...
<b>W A S H E R S</b>		
ZA000913	M12 x 1, VAMAC	OLP25...L... ( <i>high temperature devices</i> )
ZA000914	M12 x 1, nitrile	OLP01...K..., OLP50...L... ( <i>standard temperature devices</i> )
ZA000915	9.5 x 1, silicone O-ring, shore ~60	OLP01...F...

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