

Trogamid optical liquid level switches

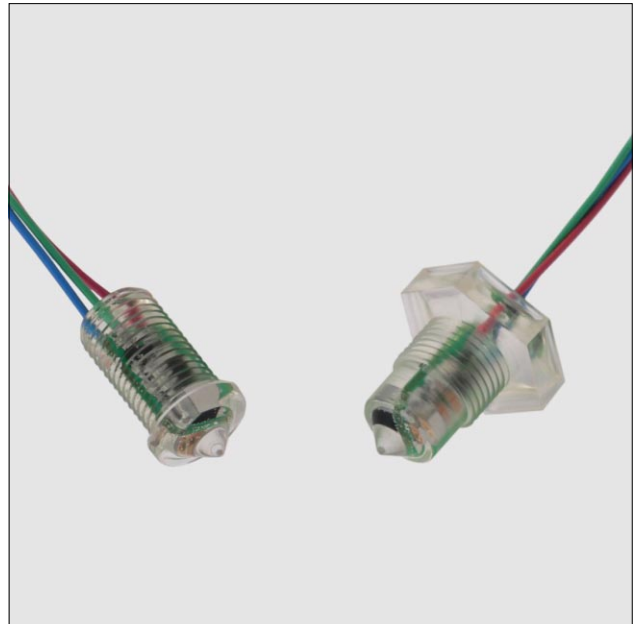
- Basic version

FEATURES

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

WETTED MATERIALS

Tip and housing: Trogamid



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

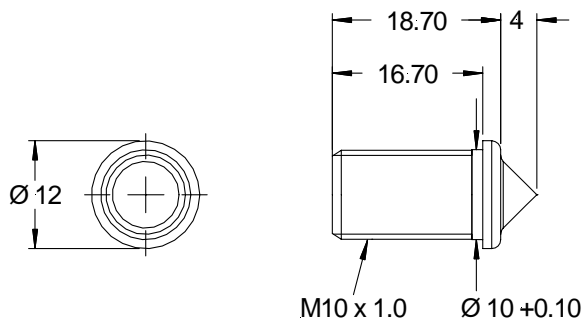
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PERFORMANCE CHARACTERISTICS

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

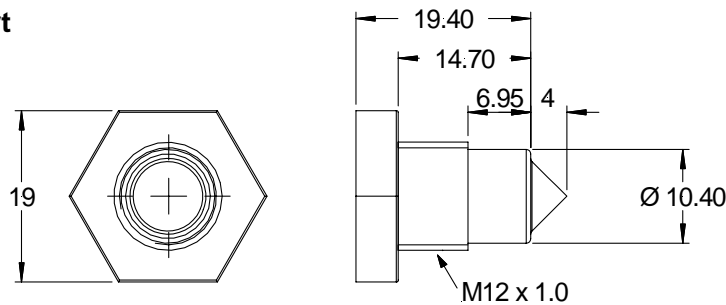
M10 thread



mass: 5 g

dimensions in mm

M12 thread short



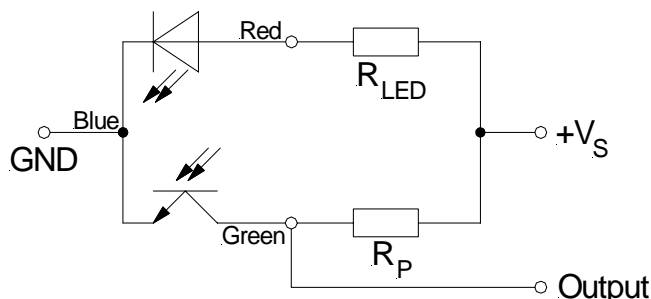
mass: 6 g

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).

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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 Ω	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 Ω	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 Ω	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		
	OLT		10 mA	basic	0:	F: M10 thread K: M12 thread short	3: 3 wire 4: 4 wire*
							* on request, MOQ may apply
Example:		OLT	01B		0	F	3

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

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