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Optoelectronic level switch For sanitary applications Model OLS-F1

Applications

- Food and beverage production
- Pharmaceutical industry, biotechnology industry, production of active ingredients
- Aseptic applications

Special features

- Autoclavable
- Compact design
- No moving components
- Mounting position as required
- Accuracy ±2 mm

Optoelectronic level switch with circular connector M12, model OLS-F1

Description

The model OLS-F1 optoelectronic level switch is used for monitoring the level of liquids in sanitary applications. The optoelectronic sensor consists of an infrared LED and a light receptor.

The light from the LED is directed at a prism which forms the tip of the sensor. So long as the tip is not immersed in liquid, the light is reflected within the prism to the receiver.

When the liquid rises within the vessel and surrounds the tip, the light beam is refracted by the liquid, so that the receiver is no longer or only weakly reached by the light and reacts to this change by triggering a switching operation.

The OLS-F1 optoelectronic sensor has been specifically designed for sanitary applications and is suitable for a wide range of applications. Autoclavable applications can be performed up to a temperature of +134 °C.

Data sheets showing similar products:
Magnetic float switch for vertical installation; model FLS; see data sheet LM 30.01
Optoelectronic level switch, standard and high-pressure version; models OLS-S, OLS-H; see data sheet LM 31.01
Optoelectronic level switch, high-pressure version; model OLS-C20; see data sheet LM 31.02
Optoelectronic level switch, refrigerant version with relay output; model OLS-C29; see data sheet LM 31.03

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Specifications

General data	
Measurement accuracy	±2 mm
Minimum distance from the glass tip to an opposite surface	≥ 10 mm ≥ 20 mm with electropolished surface
Mounting position	as required
Insertion length EL	Standard: 30 mm, max. 300 mm other lengths on request
Process connection	Clamp connections: ■ ¾" ■ 1" ■ 1 ½" Others on request
Surface	R_a < 0.8 µm

Design data	
Responsiveness	Preset for the detection of aqueous media
Medium temperature	-30 … +100 °C autoclavable, max. 134 °C at saturated steam conditions
Ambient temperature	-25 … +70 °C
Operating pressure	0 … 2.5 MPa (0 … 25 bar)
Materials ■ Light guide ■ Case und process connection	 Quartz glass, fixed with epoxy resin Stainless steel 1.4435

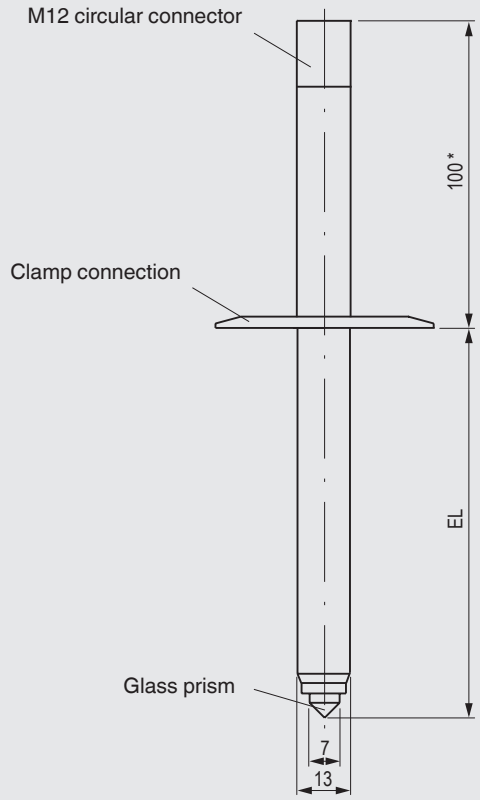
Electrical data	
Power supply	DC 12 ... 32 V
Max. current supply	40 mA
Electrical connection	M12 x 1 circular connector, 4-pin
Output signal	PNP transistor, protected against reverse polarity, 200 mA switching current
Switching function	Normally open (closed in medium) or normally closed (open in medium)
Ingress protection	IP65 with connector IP69K with protection cap
Number of switch points	1

Switching delay of up to 7 s on request

Options

- Other versions on request

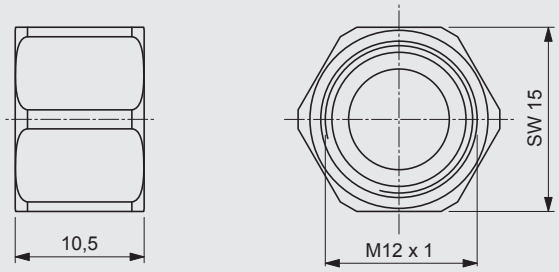
Dimensions in mm



Weight: 60 g (¾" clamp) + 25 g/100 mm insertion length

* customer-specific modifications on request

Protection cap for circular connector M12 x 1



Electrical connection diagram

Assignment, M12 x 1 circular connector	
1	Power supply DC 12 … 32 V
3	0
4	Output DC 12 … 32 V

Accessories

Description		Order number
Protection cap for circular connector M12 x 1, PTFE sealing, maximum torque 5 Nm, SW 15 Material: CuZn/Ni		14113588

Approvals

Logo	Description	Country
CE	**EU declaration of conformity** ■ EMC directive EN 61326 emission (group 1, class B) and interference immunity (industrial application) ■ RoHS directive	European Union

Manufacturer‘s information and certificates

Logo	Description
-	**Manufacturer's declaration** Conformity per reg. (EC) no. 1935/2004

Approvals and certificates, see website

Ordering information

Model / Process connection / Insertion length / Switching function / Accessories (optional)

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The specifications given in this document represent the state of engineering at the time of publishing.
We reserve the right to make modifications to the specifications and materials.

07/2017 EN

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