

FO-04



Optoelectronic Level Switch for General Applications

Features

/ Compact design
/ Accuracy ± 2 mm
/ Status LED
/ Easy to mount
/ No moving parts
/ Easy to maintain
/ Cost-effective

Description:

An optical sensor is mounted in a robust stainless steel housing. It consists of a borosilicate glass tip which contains an infrared diode, as a transmitter, and a light-sensitive semi-conductor as the receiver. If no fluid moisture touches the sensor tip, the infrared light will be fully reflected by the inside of the borosilicate glass. However, as soon as it dips into the medium a large portion of the transmitted light can pass into the fluid. Registering this, the receiver initiates a switching operation at the device's PNP transistor output which is then directly displayed by a red LED.

Application:

The applications for the optoelectronic level switch include tapping limit values in a number of fluids. The main advantage is that the method of measurement is to a large extent independent of physical parameters like refractive index, colour, density, dielectric constant or conductivity. The compact design, the possibility of installation in any position as well as the attractive price level recommends the FO-04 especially for general industrial applications.

Typical applications:

- level detection of fluids, such as e.g. oil, water, aqueous media, etc.
- full or empty reporting
- overfill protection
- dry run protection



Technical Specifications:

•

Electrical Specifications:

Accuracy / ± 2 mm

Response sensitivity / preset, for the detection of

watery media and oils

-25. . .+70°C

 max. Pressure /
 0...25 bar

 max. Media temp. /
 -30...+100°C

Materials /

Light guide: borosilicate glass

Housing and

max. Ambient temp. /

process connection

G 3/8" and M 12 x 1: stainless steel 1.4305

Housing and process

connection G ½": stainless steel 1.4571

Mounting position / any

min. Clearance from ≥ 10 mm,

the glass tip to an ≥ 20 mm (with electropolished surface)

opposite surface /

Visual indication of the switching status / 1x yellow LED

Process connection / G 3/8", G ½" or M12 x 1

Supply voltage / 12...32 VDC max. Consumption / 40 mA

Output / PNP-Transistor, protected against

reverse polarity

200 mA switching circuit

Electr. connection /

Circular connector: M8 x 1, 3-pin

PUR cable: standard lengths: 2 m or 5 m

diameter: 3 x 0.25 mm² cable end: open

Switching function / NO (closed when immersed) or

NC (open when immersed)

Switch points / 1

Protection class / IP 65 (counter plug screwed on)

Options / adjustable responsiveness (Trimmer)

for other liquids and foaming media

Cable configuration/ BN: U_+

WN: U

GN: SP

M8 rounded plug configuration /

1: U₊ 3: U

4: SP

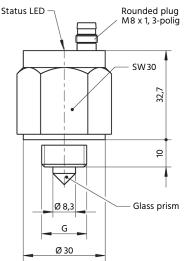


Ordering Codes:

FO-04. 1. 3. 1. 1. Order number 1 FO-04 Optoelectronic Level Switch Process connection / 1 = G 1/2" - male 2 = G 3/8" - male $3 = M 12 \times 1 - male$ Electrical connection / 1 = 2 m PUR cable 2 = 5 m PUR cable 3 = rounded plug M8 x 1, 3-pin (without counter plug) Output / 1 = NC (closed when immersed) 2 = NO (open when immersed) Media / 1 = water 9 = other (please specify in text) Options / 0 = none

Dimensions in mm:

Version: FO-04.1.3.x.x.0





2 = Trimmer

1 = counter plug M8 x 1 with 2 m cable

9 = other (please specify in text)