



FO-03

Optoelectronic Level Switch



Features

- / Compact design
- / Under pressure removable electronic part
- / Easy to mount
- / No moving parts
- / Easy to maintain
- / Cost-effective

Description:

The optoelectronic level switch is used for monitoring of liquid levels. An optical sensor is mounted in a glass fiber reinforced polyamide housing. It consists of a quartz glass tip which contains an infrared diode, as a transmitter, and a light-sensitive semi-conductor as the receiver. If the sensor is not immersed in the fluid, the infrared light will be fully reflected by the inside of the quartz glass. However, as soon as it immerses 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 potential-free relay output, which is also indicated by a light emitting diode directly. The electronic part can be replaced without opening the process, due to the fact that the screw-in part including the glass prism remains installed.

Application:

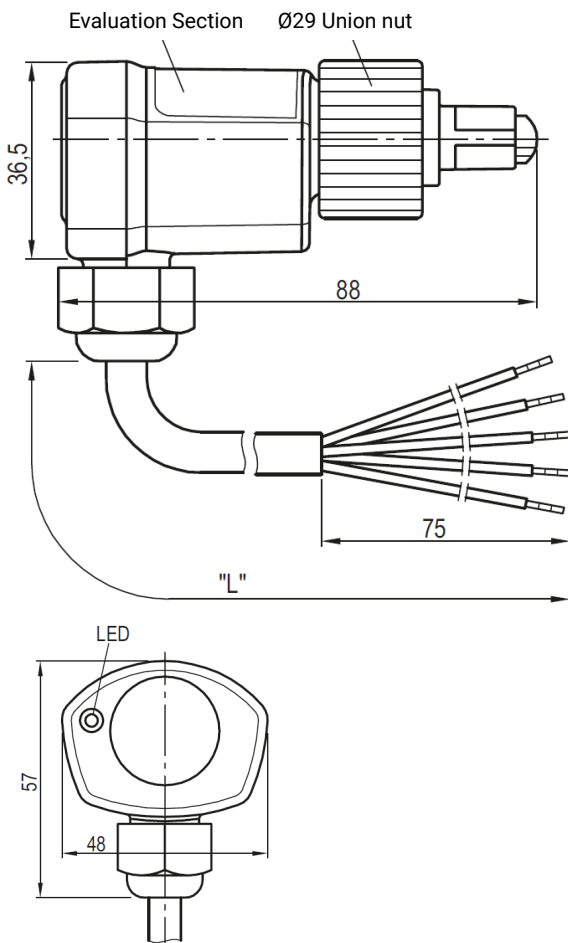
The area of applications for the optoelectronic level switch is the detection of number of fluids. The main advantage is that the method of measurement is to a large extent independent of physical parameters like refractive index, colour, density, dielectric constant or conductivity. The extremely compact design guarantees minimum space; consequently, measurements in very small volumes becomes convenient. The high pressure and temperature ranges assure a broad spectrum of applications.



Technical Specifications:

max. Pressure /	46 bar (-10...+120°C) 31.5 bar (-30...-10°C)
max. Media temp. /	+120°C (<16000h) +100°C
max. Ambient temp. /	-30...+60°C
Electronic housing /	PA66/PA6, fiber reinforced
Screw-in part /	steel nickel-plated
Prisma /	borosilicate glass
Mounting of case to process connection /	union nut
opt. Setpoint indication /	red LED
Minimum distance sensor tip to any opposite wall /	> 10 mm
Switch-on delay time /	3 sec, ± 1 sec

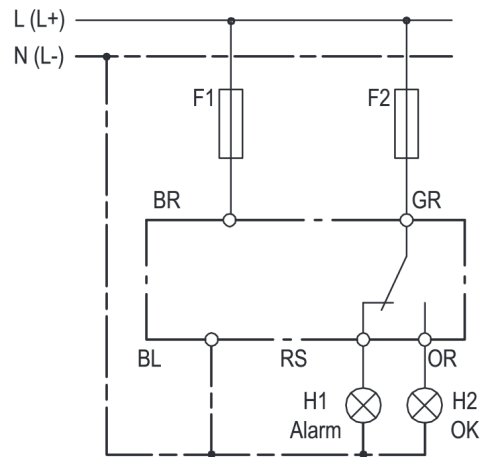
Dimensions in mm:



Electrical Specifications:

Supply voltage /	110...230 VAC ±10%, 3 VA or 24 DC/AC ±10%, 3 VA
allowed rel. Humidity /	10-95% r.H. without condensation
Output /	potential-free relay (change-over)
Switching voltage /	min. 24V, 20mA
Switching current /	max. 2.5 A C300
Mech. lifetime /	ca. 10 ⁶ switch cycles
connection /	1 m PVC cable 5 x 0.75 mm ²
Protection class /	IP 54

Electrical Connection:



Ordering Codes:

Order number	FO-03.	1.	1.	2.	[0][1].	0
FO-03 Optoelectronic Level Switch						
Process connection /						
1 = M20 x 1,5						
2 = 1/2" NPT						
3 = G 1/2" A						
Electrical connection /						
1 = 1 m PVC cable with free cable ends						
Supply voltage /						
1 = 230 VAC ± 10 %						
2 = 24 VDC ± 15 %						
Switch-on delay time /						
[0][5] = standard (approx. 5 s)						
[X][X] = up to approx. 12 s						
Options /						
0 = none						
9 = specify special features in detailed text						