

Optoelectronic level switch

Intrinsic safety Ex i

Model OLS-C51

WIKA data sheet LM 31.04



for further approvals
see page 4

Applications

- Machine tools
- Hydraulics
- Plant construction and machine building
- Water technology
- For liquids such as oils, water, distilled water, aqueous media

Special features

- Application at medium temperatures up to +135 °C
- Mounting position as required
- Accuracy ± 2 mm
- Explosion-protected version Ex i



Optoelectronic level switch, model OLS-C51

Description

The model OLS-C51 optoelectronic level switch is used for monitoring the level of liquids. 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.

As an explosion-protected version, the model OLS-C51 level switch is designed for medium temperatures up to +135 °C in zone 0 and 1.

Specifications

General data	
Measurement accuracy	±2 mm
Minimum distance from the glass tip to an opposite surface	≥ 10 mm (≥ 20 mm with polished surfaces)
Mounting position	as required
Process connection	G 1/2" male

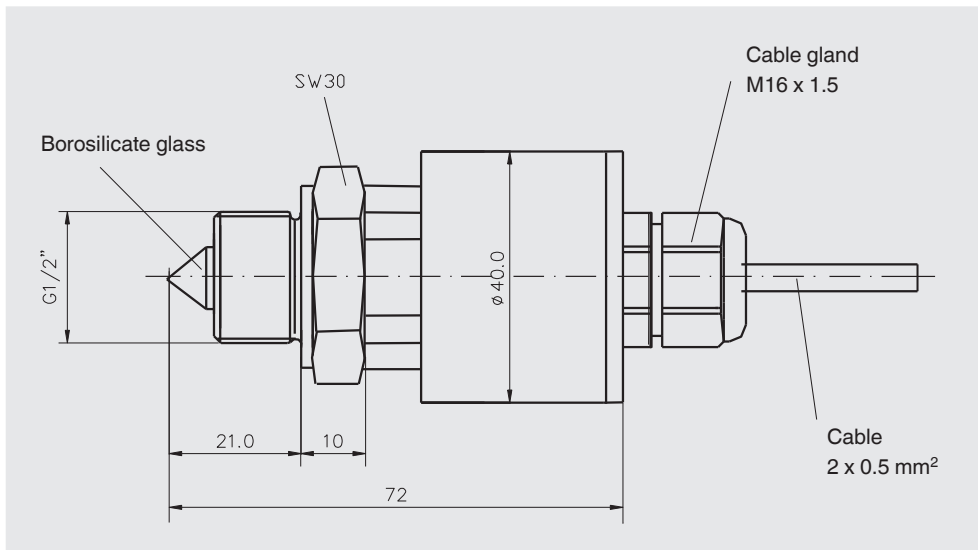
Design data	
Responsiveness	Preset for the detection of aqueous media and oils
Medium temperature	-30 ... +135 °C
Ambient temperature	-30 ... +80 °C
Operating pressure	40 bar (4.0 MPa)
Materials	Borosilicate glass, fixed with epoxy resin Stainless steel 1.4305 (non-wetted parts) Stainless steel 1.4571
■ Light guide	
■ Case	
■ Process connection	

Electrical data	
Power supply	DC 7.5 ... 30 V
Safety-related maximum values	$I_o = 100 \text{ mA}$ $U_o = 30 \text{ V}$ $P = 1 \text{ W}$
Output	4 ... 20 mA, protected against reverse polarity "Closed": ≥ 4 mA to < 10 mA "Open": ≥ 12 mA to 18 mA Fault: < 4 mA, > 20 mA
Electrical connection	<ul style="list-style-type: none"> ■ PUR cable halogen-free ■ Cable length freely definable ■ Diameter: 2 x 0.5 mm²
Output function	"Normally open" (closed in medium) or "normally closed" (open in medium)
Ingress protection	IP65
Number of switch points	1

Options

- Other versions on request


Dimensions in mm






Electrical connection diagram

Cable assignment	
U ₊	1
U ₋	2

Accessories

Description	Order number
 <p>Intrinsically safe repeater power supply, model IS Barrier Input 0/4 ... 20 mA, supplying and non-supplying Bidirectional HART® signal transmission</p> <p>For details see data sheet AC 80.14</p>	14117118

Approvals

Logo	Description	Country
 	EU declaration of conformity <ul style="list-style-type: none"> ■ EMC directive EN 61326 emission (group 1, class B) and interference immunity (industrial application) ■ RoHS directive ■ ATEX directive Hazardous areas (approved model designation OPG 051) - Ex i Zone 0/1 gas II 1/2G Ex ia IIC T4 Ga/Gb 	European Union
	IECEX Hazardous areas (approved model designation OPG 051) - Ex i Zone 0/1 gas Ex ia IIC T4 Ga/Gb	International

Manufacturer's information and certificates

Logo	Description
-	China RoHS directive

Approvals and certificates, see website

Ordering information

Model / Process connection / Switching function / Cable length

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