

Optoelectronic level switch

High-temperature version

Model OLS-C05

WIKA data sheet LM 31.33

Applications

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

Special features

- Use at temperatures of up to +170 °C [+338 °F]
- Mounting position as required
- Accuracy ± 2 mm
- Choice of electrical connections: PUR, PVC cable, circular connector M12 x 1 or angular connector EN 175301-803 A



Optoelectronic level switch, model OLS-C05, with angular connector

Description

The model OLS-C05 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.

For versions with trimmer, the switching status can be read directly on the sensor (internal red LED).

The model OLS-C05 level switch is designed for use with liquids at high temperatures of up to +170 °C [+338 °F].

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
Process connection G	G ½ male

Design data	
Responsiveness	Preset for the detection of aqueous media and oils Option: Adjustable responsiveness (trimmer) for other liquids and foaming media
Medium temperature	-40 ... +170 °C [-40 ... +338 °F]
Ambient temperature	-30 ... +80 °C [-22 ... +176 °F]
Operating pressure	0 ... 25 bar [0 ... 2.5 MPa / 0 ... 363 psi]
Materials	Borosilicate glass, fixed with epoxy resin Stainless steel 303 (non-wetted parts) Stainless steel 316Ti
<ul style="list-style-type: none">■ Light guide■ Case■ Process connection	

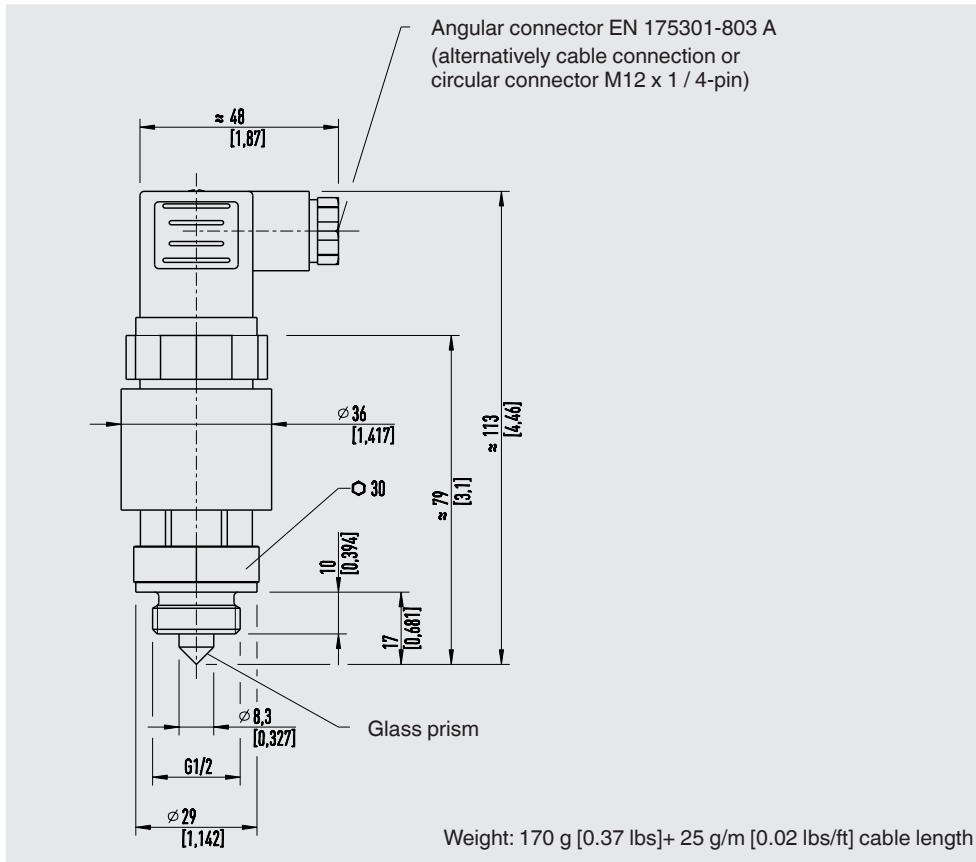
Electrical data	
Power supply	DC 12 ... 32 V
Max. current supply	40 mA
Electrical connection	Cable length freely definable Diameter: 3 x 0.25 mm ² Cable end: Cut to length
<ul style="list-style-type: none">■ PUR, PVC cable■ Circular connector■ Angular connector	M12 x 1 (4-pin) per EN 175301-803 A
Output 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
Number of switch points	1
Response time	0.5 s

Switching delay of up to 7 s on request

Options

Other versions on request

Dimensions in mm [in]



Electrical connection diagram

Cable assignment		
	BN	U+
	WH	U-
	GN	SP



Assignment, M12 x 1 circular connector		
	1	U+
	3	U-
	4	SP


Assignment, angular connector per EN 175301-803 A		
	1	U+
	2	U-
	3	SP

Legend


SP	Switch point
U+	Positive power supply
U-	Negative power supply
WH	White
BN	Brown
GN	Green

Accessories

Description	Temperature range	Cable Ø	Order no.
M12 connector with moulded cable			
	-20 ... +80 °C [-4 ... 176 °F]	4.5 mm [0.18 in]	Straight version, cut to length, 4-pin, 2 m [6.6 ft], PUR cable, UL listed, IP67 14086880
			Straight version, cut to length, 4-pin, 5 m [16.4 ft], PUR cable, UL listed, IP67 14086883
			Straight version, cut to length, 4-pin, 10 m [32.8 ft], PUR cable, UL listed, IP67 14086884
	-20 ... +80 °C [-4 ... 176 °F]	4.5 mm [0.18 in]	Angled version, cut to length, 4-pin, 2 m [6.6 ft], PUR cable, UL listed, IP67 14086889
			Angled version, cut to length, 4-pin, 5 m [16.4 ft], PUR cable, UL listed, IP67 14086891
			Angled version, cut to length, 4-pin, 10 m [32.8 ft], PUR cable, UL listed, IP67 14086892

Connection cable M12 x 1 with integrated LED indicator				
Description	Temperature range	Cable length	Order no.	
	-20 ... +80 °C [-4 ... +176 °F]	Connection cable, 4-pin, PUR cable, UL listed, IP67 1x LED green, 2x LED yellow 2 m [6.6 ft] 14252834		
		Connection cable, 4-pin, PUR cable, UL listed, IP67 1x LED green, 2x LED yellow 5 m [16.4 ft] 14252835		

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 	European Union

Manufacturer's information and certificates

Logo	Description
-	China RoHS directive

Approvals and certificates, see website

Ordering information

Model / Process connection / Electrical connection / Switching function / Cable length / Options

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