

Optoelectronic level switch

Compact design, high-pressure version

Model OLS-C20

WIKA data sheet LM 31.02

Applications

- Level detection for liquid media
- Level control and monitoring of distinct filling levels
- Machine building
- Wastewater and environmental engineering

Special features

- Compact design, no moving components
- Temperature ranges from -30 ... +135 °C
- Versions for pressure ranges from vacuum to 50 bar
- Mounting position as required
- Visual inspection of the switching status



Optoelectronic level switch, model OLS-C20

Description

The model OLS-C20 optoelectronic level switch is used for the detection of limit levels in liquids. This is widely independent of physical characteristics such as refractive index, colour, density, dielectric constant and conductivity. Measurement is also done in small volumes.

The switch consists of an infrared LED and a phototransistor. The light of the LED is directed into a prism. So long as the sensor tip of the prism is in the gaseous phase, the light is reflected within the prism to the receiver. When the liquid in the vessel rises and wets approximately 2/3 of the glass tip, the infrared light beam into the liquid is interrupted and only a small portion reaches the receptor.

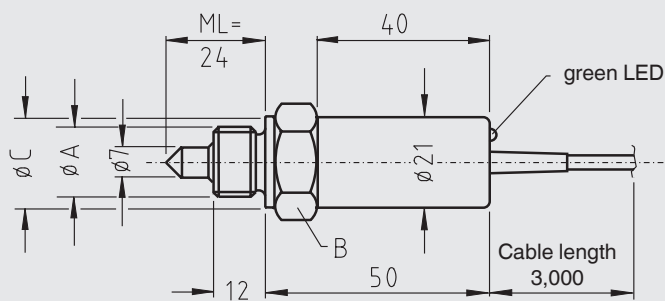
The O. C. pnp transistor output may be connected directly to the input of a control system or energise an external relay. The output is short-circuit-proof and also current, voltage and power limited.

The switching status can be read directly on the sensor (green LED).

Specifications

Specifications	
Measurement accuracy	±0.5 mm
Light source	IR light 930 nm
Ambient light	max. 10,000 Lux
Minimum distance from the glass tip to an opposite surface	> 10 mm > 20 mm with electropolished surface
Mounting position	As required
Visual inspection	
Switching status	Green LED
Switching direction	Is factory-set
Medium temperature	-30 ... +135 °C
Ambient temperature	-25 ... +70 °C
Pressure range	0 ... 50 bar
Materials	
Sensor housing	Stainless steel
Light guide	Fused quartz
Sealing packing	Graphite/PTFE
Case	Stainless steel
Supply voltage	DC 24 V, -25 ... +30 %
Max. current supply	40 mA
Output	O. C. pnp transistor, short-circuit-proof, current, voltage and power limitation
Switching current ($T_u = 70\text{ °C}$)	0.5 A
Electrical connection	
PVC cable	3 x 0.14 mm ²
Connector	4-pin series 713, M12
Ingress protection per EN 60529	
With connector	IP65
With cable	IP66

Dimensions in mm

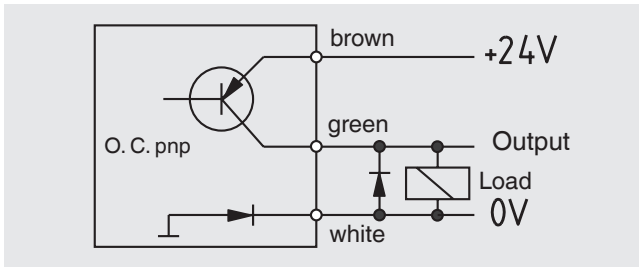


Legend

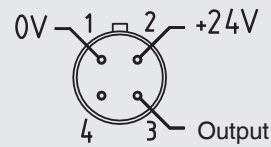
ML fixed measuring length 24 mm

Process connection Ø A	Spanner width B	Sealing face Ø C
M16 x 1.5	SW 24	21
G 1/2	SW 30	26
1/2 NPT	SW 24	-

Electrical connection



Connector assignment



Model overview

Process connection	Switching direction	Electrical connection	Cable length	Connector/cable	Material	Order number
M16 x 1.5	SE	Connector	-	M12	Stainless steel 1.4571	100256
	SA	Connector	-	M12	Stainless steel 1.4571	100255
	SE	Cable	3 m	PVC	Stainless steel 1.4571	35125004
	SA	Cable	3 m	PVC	Stainless steel 1.4571	500222
G 1/2	SE	Connector	-	M12	Stainless steel 1.4571	14281705
	SA	Connector	-	M12	Stainless steel 1.4571	14211284
	SE	Cable	3 m	PVC	Stainless steel 1.4571	500233
	SA	Cable	3 m	PVC	Stainless steel 1.4571	14273247
1/2 NPT	SE	Connector	-	M12	Stainless steel 1.4571	On request
	SA	Connector	-	M12	Stainless steel 1.4571	100257
	SE	Cable	3 m	PVC	Stainless steel 1.4571	500229
	SA	Cable	3 m	PVC	Stainless steel 1.4571	500227

SE = immersing when switching (normally open on rising level)
SA = emerging when switching (normally closed on rising level)

Ordering information

To order the described product the order number (if available) is sufficient.

Alternatively:

OLS-C20 / Process connection / Switching direction / Electrical connection

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