

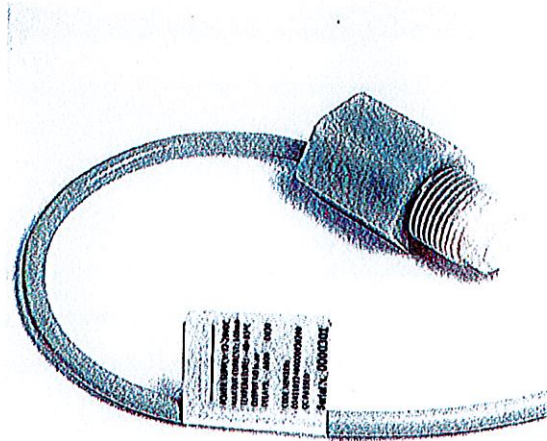
Optical Sensors Jacob Typ LO

THE APPLICATIONS

The optical sensors are suitable to use in high pressure applications for level detection of liquids in Tanks, containers, vessels, Heating- climate- and cooling Installations, Refrigeration compressors and Engines.

IMPORTANT CHARACTERISTICS

- Available in plastics and stainless steel
- Setting of sensitivity by factory adjustment
- Application with high pressure ranges max. 10...40 bar (plastic), max. 40...60 bar (stainless steel)
- The body material is glass-fiber reinforced polysulfone (PSU) or stainless steel with sensor dome of glass
- Transistor exit for the direct connection to a SPC
- Time delay can be adjusted over a SPC or optionally over the integrated timer ex factory
- LED displays for operating and switching status (Type LO 142 + LO 144)
- Simple operational principle for a large application scope
- No moving parts
- Small installation dimensions, installation position arbitrary
- The PSU type is FDA conformal, applicable in the food industry
- Available with an 4-20 mA temperature output signal

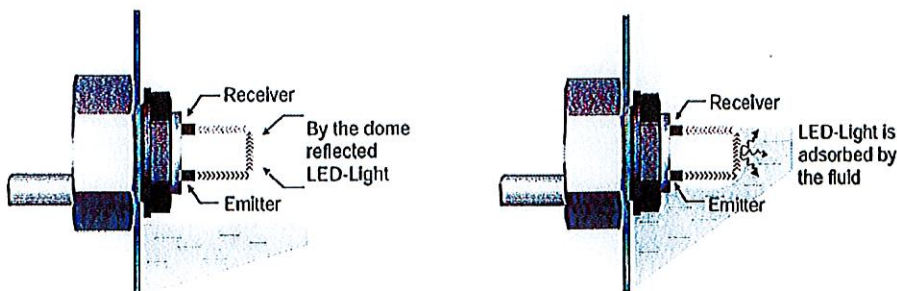


FIELD OF APPLICATIONS

- Mechanical Engineering
- Chemical industry
- Pharmaceutical industry
- Energy industry
- Food and beverage industry
- Water economy

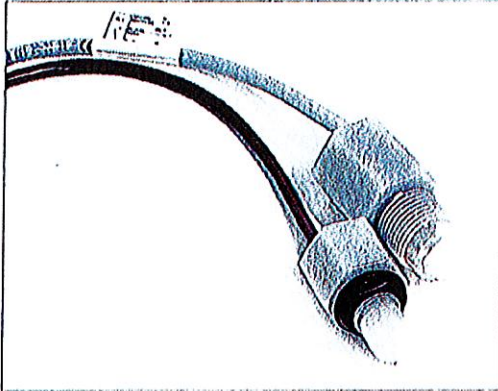
THE MEASURING PRINCIPLE

The optical sensors work with infrared ray emitter and an optical receiver. In air (liquid not present), all the light is reflected - internally - by the dome and then redirected to the receiver. When the liquid reaches the sensor dome, a big amount of the light emitted is lost in the liquid and the sensor senses its presence. The switching function is alternatively selectable as NC or NO contacts with liquid contact. The delay time for the switching signal can be adjusted over a SPC, or optionally by an integrated timer, ex works preset.





Optical infrared sensors from Jacob Type LO 1xx



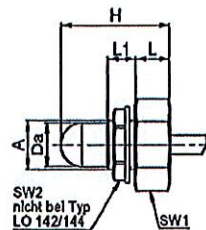
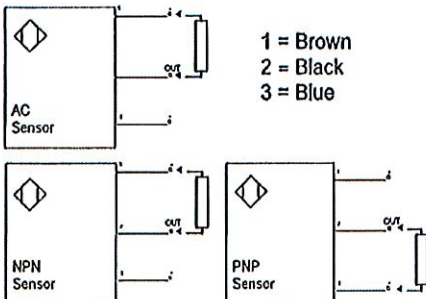
	LO 112, LO 114	LO 142, LO 144
Body	polysulfone glas-fiber reinforced	polysulfone glas-fiber reinforced
Cable	PVC	PVC
Nut	Nylon 6.6	----
LED	----	Green / Red
Torque Tighten	5 Nm	5 Nm
Weight g	40	50
Protection grade	IP54	
Repeatability	± 2mm	
Output Type	NPN open collector, PNP at 12-28 VDC Version	
Special design	24 VAC, AC-Output or NPN	
Electronic Protections	reverse polarity, output short circuits	
Scope of supply	1 meter PVC-cable, special lengths are possible on request	

Type	Process-connection	Function	Output	Power supply	Output current (depending on Temperature range)	PN max.	Temperature range
LO 112	M12x1	NO in air	NPN open collector	12-28 VDC	max. 100mA	10 bar	0°C to +60°C
LO 114	M12x1	NC in air	PNP	12-28 VDC	max. 100mA	10 bar	0°C to +60°C
LO 142	G 3/8"	NO in air	NPN open collector	12-28 VDC	max. 100mA	40 bar	-40°C to +85°C*
LO 144	G 3/8"	NC in air	PNP	12-28 VDC	max. 100mA	40 bar	-40°C to +85°C*

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* Temperature range by using in water is 0°C to 60°C.

LO 144 G 3/8" NO in air PNP = 32990



Type	A	L	L1	SW1	SW2	H	Da
LO 112 /114	M12x1	16,5	7,30	19	15	36	10,5
LO 142/144	G 3/8"	25	10	22	--	47,25	14