

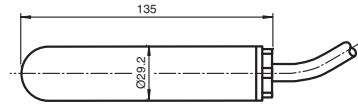
Features

- Switch element: Float switch with initiator, **mercury-free**
- Electrical connections 2-wire, 6 V DC ... 60 V DC
- Limit value detection for fluids
- Sleeve design: small diameter, mounting through G1 tap hole possible
- Ball design: high buoyancy

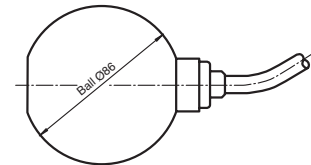
Function

The initiator is integrated in a PP float and is activated in the event of deviations from the horizontal position. The switching ball in the float, which moves along an axis, activates the switching event in the initiator inductively. The switch output provided by the initiator is a mechanical contact (6 V DC ... 60 V DC).

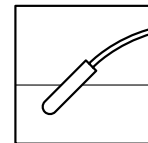
Assembly



Sleeve design LFL1-CK-Z*



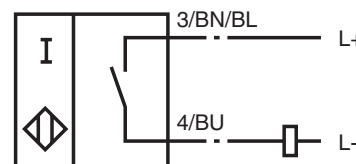
Ball design LFL1-BK-Z*



Connection

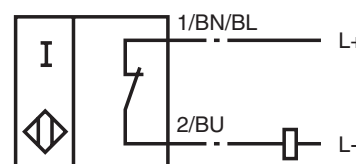
Cable colours
brown or black = L+
blue = L-

Z0



Z0 floating up closing

Z1



Z1 floating up opening

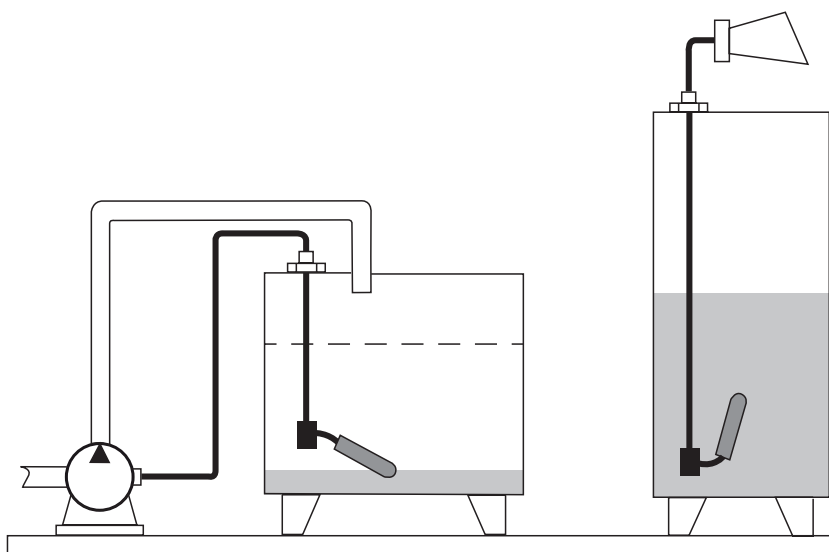
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Supply		
Rated voltage	U_n	6 ... 60 V DC
Voltage drop		approx. 4.7 V at 100 mA
No-load supply current		0.73 mA
Current consumption		4 ... 100 mA
Reverse polarity protection		yes
Short-circuit protection		no
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 60947-5-2:2007 + A1:2012
Conformity		
Degree of protection		IEC 60529:2001
Application		
Description		inductive proximity switch with switching ball Z0 = floating up closing, normally open Z1 = floating up opening, normally closed
Function and system design		
Equipment architecture		A measuring system consists of a float switch LFL1-**-Z* and a load switched in series.
Operating conditions		
Installation conditions		
Installation instructions		range of application and minimum length between mounting and float: - PVC version: ≥ 50 mm (2 inch), preferred for water - PUR version: ≥ 100 mm (4 inch), preferred for fuels, heating oils, oily fluids - CSM/CM version: ≥ 100 mm (4 inch), preferred for many acids and lyes mounting: - The float switch is mounted either from sideways through a cable gland $\geq G1A$ into the vessel or - by means of a counter weight or rods (e. g. float switch assembly) from the top. The pivot of the cable should always be horizontal.
Process conditions		
Process pressure (static pressure)		sleeve design: ≤ 3 bar at 20 °C (68 °F) ball design: ≤ 2 bar at 20 °C (68 °F)
Density		sleeve design: ≥ 0.8 g/cm ³ ball design: ≥ 0.6 g/cm ³
Ambient conditions		
Ambient temperature		PVC version: 5 ... 70 °C (41 ... 158 °F) PUR version: 5 ... 70 °C (41 ... 158 °F) CSM/CM version: -20 ... 70 °C (-4 ... 158 °F)
Storage temperature		-25 ... 70 °C (-13 ... 158 °F)
Altitude		≤ 2000 m above MSL
Mechanical specifications		
Degree of protection		IP68
Mechanical construction		
Material		float: PP (Polypropylene) cable: - PVC version: PVC cable, highly flexible (2 x 0.75 mm ²) - PUR version: PUR cable, highly flexible (2 x 0.50 mm ²) - CSM/CM version: CSM/CM cable (chlorinated polyethylene, (2 x 0.75 mm ²))
Switching point		switch angle: upper switching point +12°, lower switching point -12°, measured against the horizontal
General information		
Supplementary information		Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com .

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Application

Controlling pumps and valves with one switch or signal level height or limit



Mounting

Mount the float switch in the following way:

- Insert the float switch into the tank through a tapped hole G1A.
- Screw the float switch with the gland screw connection G1A.
- If it is installed from above, use the counter weight LFL-Z32 or LFL-Z33 for mounting.



The fulcrum of the cable should always be horizontal.

The cable length between the fixture and the floating body is dependent on the cable type.

When using the counter weight, place an extra strain relief (e. g. a knot in the cable) behind the gland screw connection – on the outside of the tank.

Accessories

- LFL-Z231, counter nut, G1A, PVC
- LFL-Z32, counter weight, grey cast iron with plastic coating (Polycarbonate)
- LFL-Z33, counter weight, grey cast iron with ECTFE coating (Halar)
- LFL-Z131, gland screw connection G1A, PVC
- LFL-Z132, gland screw connection G1A, brass
- LFL-Z161, gland screw connection G2A, PVC
- LFL-Z431, gland screw connection 1 NPT, PVC
- LFL-Z432, gland screw connection 1 NPT, brass
- LFL-Z461, gland screw connection 2 NPT, PVC

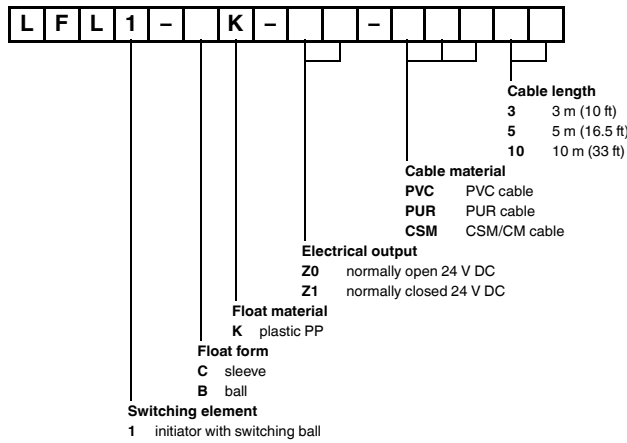


Users should take appropriate precautions when using accessories in potentially hazardous areas.



The counter weights LFL-Z32 and LFL-Z33 must not be used in hazardous area.

Type code/model number



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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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