Float Switch

LFL3-**-U

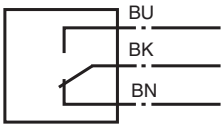
- Switch element: mercury (Hg)
- Limit value detection for fluids
- Sleeve design: small diameter, mounting through G1 tap hole possible
- Ball design: high buoyancy

CE

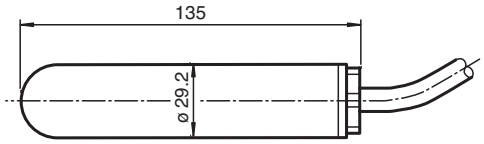
Function

The mercury (Hg) mechanical contact (change-over contact) is encapsulated in the PP float and is activated in the event of deviations from the horizontal position.

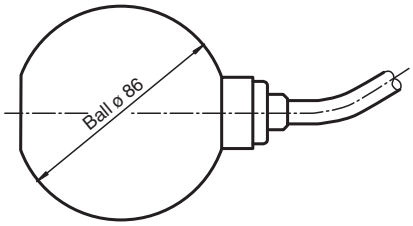
Connection



Dimensions



Sleeve design LFL3-CK-U



Ball design LFL3-BK-U

Technical Data

Electrical specifications		
Contact loading		230 V AC/3 A/200 VA; 150 V DC/3 A/100 W resistive load
Rated insulation voltage		300 V
Pulse withstand voltage		4 kV
Directive conformity		

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Technical Data

Low voltage	
Directive 2014/35/EU	EN 60947-5-1:2004 + Cor.:2005 + A1:2009
Conformity	
Degree of protection	IEC 60529:2001
Application	
Description	mercury (Hg) change-over contact
Function and system design	
Equipment architecture	This device may be used with any sequential circuit, as long as the circuit can support the electrical circuit values of the switching elements.
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 - TPK version: ≥ 100 mm (4 inch), preferred for many acids and lyes mounting: - The float switch is mounted either from sidewards through a cable gland ≥ G1A into the vessel or - by means of a counter weight or rods (e. g. float switch combination) 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/cm³ ball design: ≥ 0.6 g/cm³
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) TPK version: 5 ... 70 °C (41 ... 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 (3 x 0.75 mm²) - PUR version: PUR cable, highly flexible (3 x 0.50 mm²) - CSM/CM version: CSM/CM cable (chlorinated polyethylene, (3 x 0.75 mm²)) - TPK version: TPK cable, (3 x 0.75 mm²)
Switching point	switch angle, measured against the horizontal: - upper switch point +15° ±5° - lower switch point -15° ±5°
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.
Accessories	
Designation	- 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

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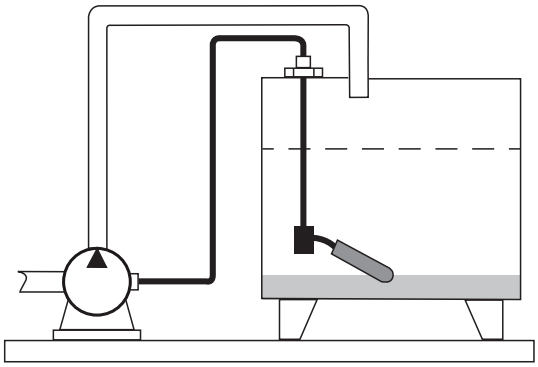
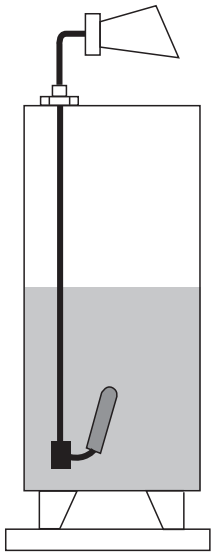
Application

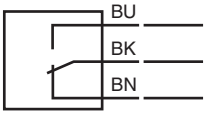
Level control via pump



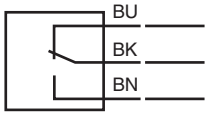
Level message via switching signal



Minimum fail safe mode connection



Maximum fail safe mode connection



Mounting

Mount the float switch in the following way:

- Insert the float switch into the tank through a tapped hole G1A.
- Srcew 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.

Type Code

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This overview does not mark options which are mutually exclusive.
*Option with * = on request/in preparation*

Device	
LFL	Float switch

Switching element	
3	Mercury (Hg) switching contact with switching ball

Float	
B	Ball
C	Sleeve

Float material	
K	Plastic PP

Electrical output	
U	Change-over contact, 250 V AC, 150 V DC

Cable material	
CSM	CSM/CM
PUR	PUR
PVC	PVC
TPK	TPK

Cable length	
3	3 m
5	5 m
10	10 m

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