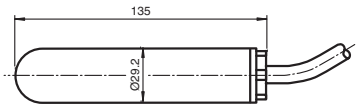
## Features

- Switch element: Micro switch, **mercury-free**
- Limit value detection for fluids
- Sleeve design: small diameter, mounting through G1 tap hole possible
- Ball design: high buoyancy

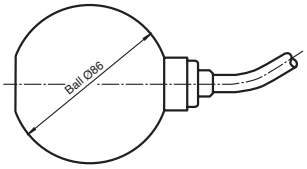
## Function

The microswitch (change-over contact) 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 microswitch.

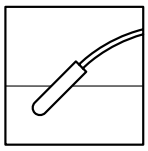
## Assembly



Sleeve design LFL2-CK-U



Ball design LFL2-BK-U



## Connection

| | | |
|---|---|---|
| Cable colours | | when floating |
| black-brown | = | contact open |
| black-blue | = | contact closed |

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| | |
|---|---|
| **Electrical specifications** | |
| Contact loading | 250 V AC/3 A; 150 V DC/0.25 A resistive load; 60 V DC/1 A resistive load |
| Rated insulation voltage | 300 V |
| Pulse withstand voltage | 4 kV |
| **Directive conformity** | |
| Low voltage | |
| Directive 2006/95/EC | EN 60947-5-1:2004 + Cor.:2005 + A1:2009 |
| **Conformity** | |
| Degree of protection | IEC 60529:2001 |
| **Application** | |
| Description | microswitch with switching ball, 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:<br>- PVC version: ≥ 50 mm (2 inch), preferred for water<br>- PUR version: ≥ 100 mm (4 inch), preferred for fuels, heating oils, oily fluids<br>- CSM/CM version: ≥ 100 mm (4 inch), preferred for many acids and lyes<br><br>mounting:<br>- The float switch is mounted either from sidewards through a cable gland ≥ G1A into the vessel or<br>- by means of a counter weight or rods (e. g. float switch combination) from the top.<br>The pivot of the cable should always be horizontal. |
| Process conditions | |
| Process pressure (static pressure) | sleeve design: ≤ 3 bar at 20 °C (68 °F)<br>ball design: ≤ 2 bar at 20 °C (68 °F) |
| Density | sleeve design: ≥ 0.8 g/cm$^3$<br>ball design: ≥ 0.6 g/cm$^3$ |
| **Ambient conditions** | |
| Ambient temperature | PVC version: 5 ... 70 °C (41 ... 158 °F)<br>PUR version: 5 ... 70 °C (41 ... 158 °F)<br>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)<br>cable:<br>- PVC version: PVC cable, highly flexible (3 x 0.75 mm$^2$)<br>- PUR version: PUR cable, highly flexible (3 x 0.50 mm$^2$)<br>- CSM/CM version: CSM/CM cable (chlorinated polyethylene, (3 x 0.75 mm$^2$)) |
| Switching point | switch angle: upper switch point +25° ±10°, lower switch point -14°±10°, 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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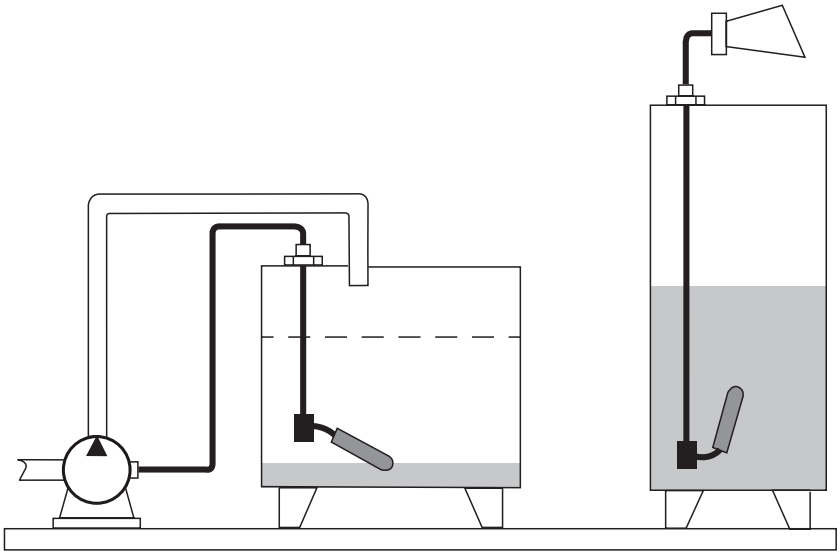
## Application

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.
- 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.*

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## 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

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## Type Code

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

| Device | |
|---|---|
| LFL | Float switch |

| Switching element | |
|---|---|
| 2 | Micro switch with switching ball |

| Float | |
|---|---|
| B | Ball |
| C | Sleeve |

| Float material | |
|---|---|
| K | Plastic PP |

| Electrical output | |
|---|---|
| U | Changeover contact, 250 V AC, 150 V DC |

| Cable material | |
|---|---|
| CSM | CSM/CM |
| PUR | PUR |
| PVC | PVC |

| Cable length | |
|---|---|
| 3 | 3 m |
| 5 | 5 m |
| 10 | 10 m |

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