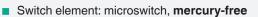




# Float Switch

LFL2-BK-U-PUR5-EMS



- Limit value detection for fluids
- Ball design: high buoyancy



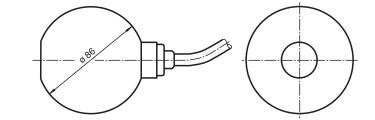
#### Function

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.

#### Connection

 BU	
BK	
ΒN	

### Dimensions



## **Technical Data**

#### Electrical specifications Contact loading

Rated insulation voltage

250 V AC/3 A; 150 V DC/0.25 A resistive load; 60 V DC/1 A resistive load 300 V

### Float Switch

#### LFL2-BK-U-PUR5-EMS

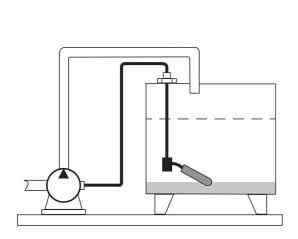
Pulse withstand voltage     4 kV       Electrical life     2 5 x 10° switching cycles       Directive conformity     EN 60947-5-1:2004 + Cor.:2005 + A1:2009       Conformity     EC 60529:2001       Application     EC 60529:2001       Description     microswitch with switching ball, change-over contact       Function and system design     E       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     Erange of application and minimum length between mounting and float: serifloat is mounted by means of a counter weight or rods (e.g. float switch combination) from the top. The fload switch is mounted by means of a counter weight or rods (e.g. float switch combination) from the top. The fload switch is should always be horizontal.       Process conditions     s 2 bar (29 psi) at 20 °C (68 °F)       Density     ≥ 0.6 g dcm <sup>3</sup> Ambient temperature     -25	Technical Data			
Electrical life   ≥ 5 x 10 <sup>4</sup> switching cycles     Directive conformity   EN 60947-51:2004 + Cor.:2005 + A1:2009     Conformity   EN 60947-51:2004 + Cor.:2005 + A1:2009     Conformity   EC 60529:2001     Application   EC 60529:2001     Description   microswitch with switching ball, change-over contact     Function and system design   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   Trange of application and minimum length between mounting and float: mounting: The fload switch is mounted by means of a counter weight or rods (e.g. float switch combination) from the top. The privation of the switch for mounted by means of a counter weight or rods (e.g. float switch combination) from the top. The privation of the switch is mounted by means of a counter weight or rods (e.g. float switch combination) from the top. The privation of the cable should always be horizontal.     Process conditions   2 bar (29 psi) at 20 °C (68 °F)     Density   2 0.6 g/cm <sup>3</sup> Ambient conditions   570 °C (41158 °F)     Storage temperature   570 °C (41158 °F)     Storage temperature   570 °C (41158 °F)     Storage temperature   570 °C (41158 °F)     Cable   10     Length   L   5 m <t< td=""><td></td><td></td><td></td></t<>				
Directive conformity     Installation       Directive 2014/35/EU     EN 60947-5-1:2004 + Cor.:2005 + A1:2009       Conformity     EN 60947-5-1:2004 + Cor.:2005 + A1:2009       Degree of protection     IEC 60529:2001       Application     microswitch with switching ball, change-over contact       Function and system design     microswitch with switching ball, change-over contact       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     arage of application and minimum length between mounting and float: arage of application and minimum length between mounting and float: arage of application and minimum length between mounting and float: arage of application and minimum length between mounting and float: arage of application and minimum length between mounting and float: arage of application and minimum length between mounting and float: arage of application and minimum length between mounting and float: arage of application and minimum length between mounting and float: arage of application and minimum length between mounting and float: arage of application and minimum length between mounting and float: arage of application and minimum length between mounting and float: arage of application and minimum length between mounting and float: arage of application and minimum length between mounting and float: arage of application and minimum length between mounting and float: arage of application and minimum length between mounting and flo	Pulse withstand voltage		4 kV	
Low voltage Image: Construit (Construit Construit Constr	Electrical life		$\geq$ 5 x 10 <sup>4</sup> switching cycles	
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Conformity   IEC 60529:2001     Application   microswitch with switching ball, change-over contact     Function and system design   Equipment architecture     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: soft of multi, herefored for fuels, heating oils, oily fluids mounting: mounting: The float switch is mounted 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   < 2 bar (29 psi) at 20 °C (68 °F)	Low voltage			
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Description     microswitch with switching ball, change-over contact       Function and system design     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     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     range of application and minimum length between mounting and float: > 100 mm (4 inch), preferred for fuels, heating oils, oily fluids mounting: The float switch is mounted 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     < 2 to 2 for (29 pi) at 20 °C (68 °F)       Density     ≥ 0.6 g cm <sup>3</sup> Ambient conditions        Ambient conditions        Ambient conditions        Degree of protection     1P68       Cable        Degree of protection     IP68       Cable         Mechanical specifications         Begree of protection     IP68        Cable          Mechanical construction	Degree of protection		IEC 60529:2001	
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Process pressure (static pressure)   ≤ 2 bar (29 psi) at 20 °C (68 °F)     Density   ≥ 0.6 g/cm³     Ambient conditions      Ambient temperature   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     Cable      Length   L     Material   float: PP (Polypropylene) cable: PUR, highly flexible (3 x 0.50 mm²)     Switching point   switch angle, measured against the horizontal: - upper switch point +25° ±10° - lower switch point +25° ±10°     Supplementary information   Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepper-	Installation instructions		100 mm (4 inch), preferred for fuels, heating oils, oily fluids mounting: The float switch is mounted by means of a counter weight or rods (e. g. float switch combination) from the top.	
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Ambient temperature   5 70 °C (41 158 °F)     Storage temperature   -25 70 °C (-13 158 °F)     Altitude   ≤ 2000 m above MSL     Mechanical specifications   Image: Storage temperature     Degree of protection   IP68     Cable   Image: Storage temperature     Length   L     Mechanical construction   Image: Storage temperature     Material   float: PP (Polypropylene) cable: PUR, highly flexible (3 x 0.50 mm²)     Switching point   switch angle, measured against the horizontal: - upper switch point +25° ± 10° lower switch point +25° ± 10°     General information   Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.peperl-	Density		≥ 0.6 g/cm <sup>3</sup>	
Storage temperature   image: image	Ambient conditions			
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Mechanical specifications   IP68     Cable   Image: Cable     Length   L     Mechanical construction   Sm     Meterial   float: PP (Polypropylene) cable: PUR, highly flexible (3 x 0.50 mm²)     Switching point   switch angle, measured against the horizontal: - upper switch point +25° ±10° - lower switch point +14° ±10°     General information   Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-	Storage temperature		-25 70 °C (-13 158 °F)	
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Cable   Image: Cable definition     Length   L   5 m     Mechanical construction   float: PP (Polypropylene) cable: PUR, highly flexible (3 x 0.50 mm²)     Switching point   switch angle, measured against the horizontal: - upper switch point +25° ±10° clower switch point +25° ±10° clower switch point -14° ±10°     General information   Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-	Mechanical specifications			
Length   L   5 m     Mechanical construction   Material   float: PP (Polypropylene) cable: PUR, highly flexible (3 x 0.50 mm²)     Switching point   switch angle, measured against the horizontal: - upper switch point +25° ±10° - lower switch point -14° ±10°     General information   Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-	Degree of protection		IP68	
Mechanical construction   float: PP (Polypropylene) cable: PUR, highly flexible (3 x 0.50 mm²)     Switching point   switch angle, measured against the horizontal: - upper switch point +25° ±10° - lower switch point -14° ±10°     General information   Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-	Cable			
Material   float: PP (Polypropylene) cable: PUR, highly flexible (3 × 0.50 mm²)     Switching point   switch angle, measured against the horizontal: - upper switch point +25° ±10° - lower switch point -14° ±10°     General information   Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-	Length	L	5 m	
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- upper switch point +25° ±10°     - lower switch point -14° ±10°     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-	Material		float: PP (Polypropylene) cable: PUR, highly flexible (3 x 0.50 mm²)	
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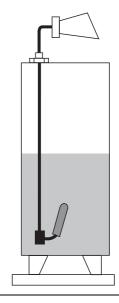
# Accessories Image: Second se

#### Application

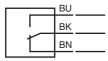
Level control via pump

Level message via switching signal

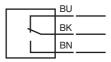




Minimum fail safe mode connection



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.



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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.

#### ООО "РусАвтоматизация"