



**EKF**



## **TECHNICAL MANUAL**

**Float switch RL-1**

## 1 DESCRIPTION

Float switch RL-1 is designed to control the level of liquids. The device is used as a level sensor (relay) in automated water/liquid tank fill/drain systems.

Float switch RL-1 is suitable for SPS (sewerage pumping stations) and septic tank systems automation. The float switch is capable of operating in liquids with high particulate content.

Device is made of chemically inert materials, resistant to the following:

- chlorinated water;
- black water;
- gray water;
- liquid manure;
- alkaline and cleaning solutions;
- organic acids, spirits;
- fuel, fat, and oil emulsions.

Float switch RL-1 complies with IEC 60335-1 requirements.

## 2 TECHNICAL DATA

Table 1 - Characteristics of the integrated switch

Characteristics	Value
Rated AC switching voltage V	230
Rated DC switching voltage, V	24
Maximum switching current, A	16
Switching angle, degrees	50 (±10)
Signal type	Transfer switch (NO or NC)

Table 2 – Design

Characteristics	Value
Float material	Polypropylene (PP)
Cable material	Polyvinyl chloride (PVC)
Outer cable diameter, mm	6,5
Max. conductor cross-section, mm <sup>2</sup>	1
Degree of protection	IP68

Table 3 – Operation Conditions

Characteristics	Value
Medium temperature, °C	0...70
Medium pressure, MPa	Max. 0,5
Medium density, kg/m <sup>3</sup>	950...1050

### 3 TYPE CODE

#### RL-1-X

X – Cable length

5 – 5 meters;

10 – 10 meters;

20 – 20 meters.

### 4 OVERALL DIMENSIONS

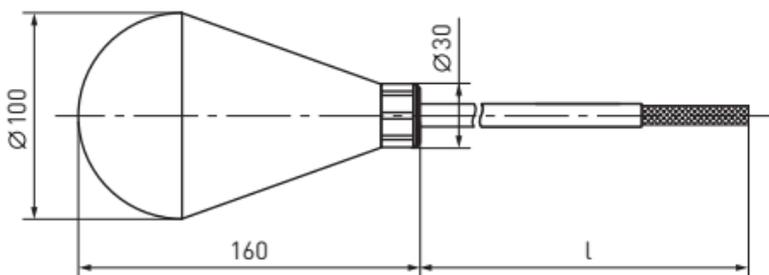


Fig. 1- RL-1 Overall dimensions

## 5 INSTALLATION

Float switch RL-1 shall be installed hanging free from the integrated cable. It must not be installed lying on the bottom of the tank. Length of the cable between the hanging point and RL-1 float switch must be at least 0,5 meters (see Fig. 2).

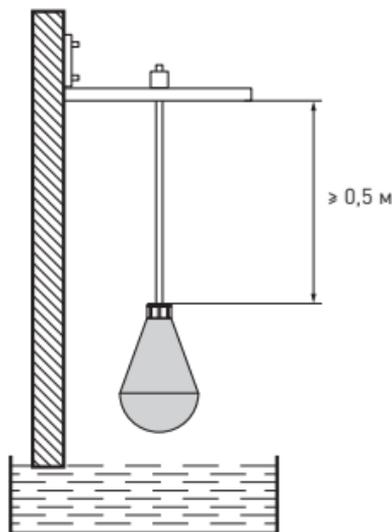


Fig. 2 – RL-1 installation

## 6 OPERATION

A change in the vertical orientation of the RL-1 housing, when submerged in a liquid, will trigger the integrated switch (relay), switching the circuit (opening or closing it) and sending the signal to the controlled device (pump, valve, etc.). Refer to Fig. 3 for float switch operating principle.



**WARNING!** A wire that is not used to connect the float switch to a circuit must be properly insulated.

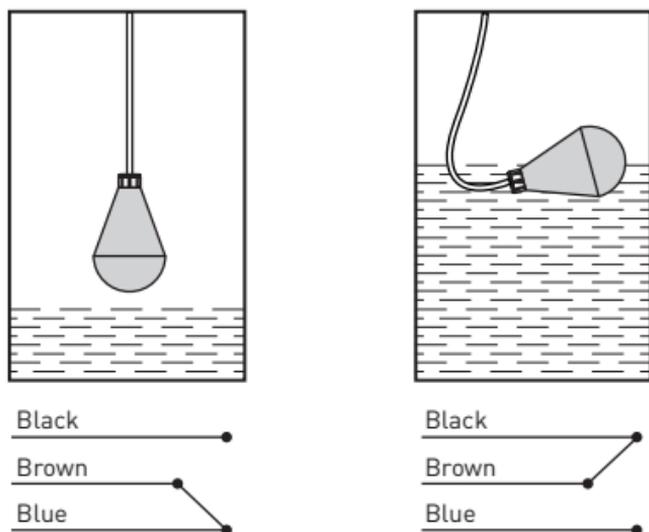


Fig. 3 – RL-1 operating principle

**Recommendation:** When using float switches to control multiple levels of liquid in a tank, we recommend using a separate RL-1 float switch per each controlled level (see Fig. 4).

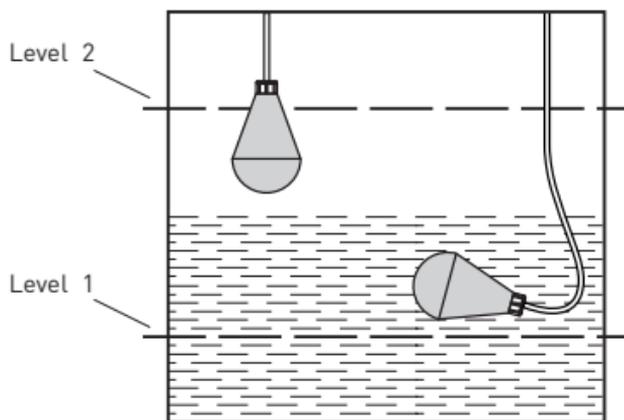


Fig. 4 – Controlling two levels of liquid using two RL-1 float switches

## **7 DELIVERY SCOPE**

The float switch RL-1 is supplied in an individual package. For all available documentation, scan the QR-code on the insert or on the inside of the package.

## **8 SAFETY REQUIREMENTS**

Do not operate float switches with visible mechanical damage.

Float switches shall be operated and serviced only by qualified personnel. Failure to follow the guidelines herein may result in severe injury and damage to the equipment.

Prior to using the float switch, make sure that the medium is not corrosive to the device housing and materials.

## **9 STORAGE AND TRANSPORTATION**

Float switches can be transported by any means of enclosed transport that protects the packed goods from mechanical impact and weather exposure.

Float switches shall be stored indoors in their original packaging at the ambient temperatures from -25°C to +55°C.

## **10 DISPOSAL**

Life-expired and failed float switches shall be disposed of in compliance with the effective national and local laws and regulations. To dispose of the product, send it to an authorized company for recycling in compliance with the effective national and local laws and regulations.

## **11 MANUFACTURER'S WARRANTY**

The manufacturer guarantees the compliance of float switches with the applicable standards, regulations and specifications, subject to following any and all operation, transportation and storage requirements.

Warranty period: 3 years from the date of sale.

Shelf life: 3 years from the date of manufacture specified on the product package or housing.

Service life: 10 years.

**Manufacturer:** for information, refer to the product package.

**Importer and EKF trademark service representative:** EKF ELECTRICAL SOLUTION – FZCO, Dubai Silicon Oasis, DDP, Building A2, Dubai, United Arab Emirates.

**Importer and EKF trademark service representative on the territory of the Russian Federation:**

OOO «Electroresheniya», Otradnaya st., 2b bld. 9, 5th floor, 127273, Moscow, Russia. Tel.: +7 (495) 788-88-15.

**Importer and EKF trademark service representative on the territory of the Republic of Kazakhstan:**

TOO «Energoresheniya Kazakhstan», Kazakhstan, Almaty, Bostandyk district, Turgut Ozal st., 247, apt 4.

## 12 CERTIFICATE OF ACCEPTANCE

Float switches RL-1 have been approved for operation.

Date of manufacture:  
for information, refer to the product package.

Quality control stamp

