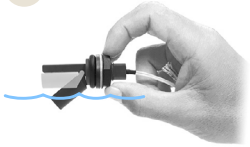


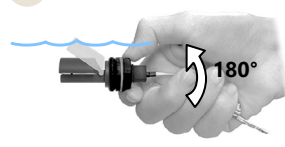
## Operation

**NO** Normally Open

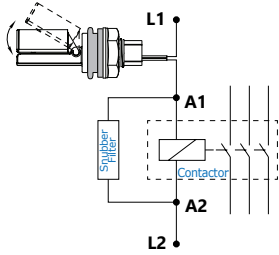


NO or NC rotating the sensor

**NC** Normally Closed



## Typical connection to contactor



Switch **NO/NC - SPST**  
Output **Contact ON/OFF**  
Enclosure Rating **IP66**

**! Never connect the sensor to a motor, pump, lamp or any other load over 20W. Always use a contactor or relay.**

The sensors work in all voltage and current ranges displayed in the table below:

Operating Voltage	Max. Switching Power	Max. Switching Current	Peak Current
110Vac	20VA	0.2A	0.5A @20ms
220Vac	20VA	0.1A	0.5A @20ms
5Vdc	2.5W	0.5A	1A @20ms
12Vdc	5W	0.5A	1A @20ms
24Vdc	10W	0.5A	1A @20ms

24Vac: NOT recommended

## Term of Warranty

For installations according to this guide:

01 (one) year warranty - **Incorrect installation cancels the warranty.** All sensors have been tested and approved during the manufacture process.

**Chemical products** require tests by the customer to verify compatibility with the constructive material of the sensor.

**Liquids with ferrous particles** require technical analysis: the sensor has magnetic component inside.

On [datasheets.icos.us](http://datasheets.icos.us) available technical specifications

**+55 (15) 3032.9190**

## Electrical contact of sensors - Attention to install

**Reed Switch 20W/VA: Protect the electrical contact of your sensor**



Reed Switches are hermetically sealed contacts actuated by a magnetic field.

The life expectancy of a reed switch refers to a kind of load to be used. Reed Switches of the highest reliability are applied in our sensors, and their life expectancy can reach above two million operations. However, when they are switching lamps, inductive or capacitive loads, this number may decrease.

## Switching Power

It is important to consider that the power specified by an electrical load is often referred to the permanent working state.

For higher power, use an auxiliary relay or contactor as recommended below.

### Siemens 3RT1015 Contactor

Initial: 31.7VA  
Rated: 5.1VA

### Weg CW07 Mini Contactor\*

Initial: 19.3VA  
Rated: 5.5VA

### Schneider CA2KN Contactor

Initial: 30VA  
Rated: 4.5VA

**Note:** Reed Switches have reached over one million operations in tests with contactor and **K8\*** snubber filter.

\*On [accessories.icos.us](http://accessories.icos.us) check models and prices of Filters and Mini Contactor

## LF122E-40 Level Switch



**WARNING!**

Recommendations for installation of ICOS Level Sensors

For automotive use, refer to the back of this manual.

Connection with cable length **20 to 40 meters:**

For distances longer than 40m, use 24Vdc voltage (without the resistor)

Conexión con:  
- Timing Relay  
- Frequency Inverter

For installation with Relay Coupler, use 4K7 10W resistor

Resistor **22R 5W** in series is required



Resistor **220R 5W** in series is required



Connection with Contactor 24Vdc

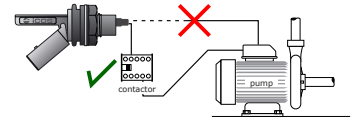
**KD Filter** is required



Connection with Contactor

**Initial Power**  
**Rated Power**

Should be less than **20W**



\*For sale on [accessories.icos.us](http://accessories.icos.us)

Questions? Call us **BEFORE** you install:

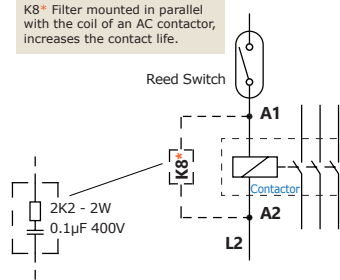
**+55 (15) 3032.9190**

[levelsensor.icos.us](http://levelsensor.icos.us) | [datasheets.icos.us](http://datasheets.icos.us) | [videos.icos.us](http://videos.icos.us)

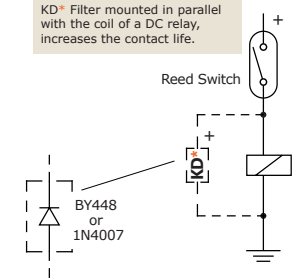
## PROTECTION PROCEDURES BELOW DESCRIBED CAN IMPROVE THE REED SWITCH PERFORMANCE

• Switching inductive loads

**K8\*** Filter mounted in parallel with the coil of an AC contactor, increases the contact life.

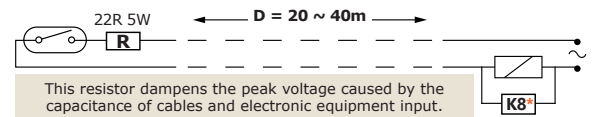


**KD\*** Filter mounted in parallel with the coil of a DC relay, increases the contact life.



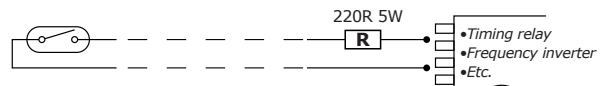
**? Risk of failure (welding of the Reed Switch Contact)** due to CAPACITANCE, which can occur depending on the distance and cable used in the connection to the contactor.

• Connecting the sensor to a contactor in long distances, use resistor:



**! Important:** For distances **greater than 40m**, use 24Vdc voltage.

• Connecting the sensor to an electronic equipment:



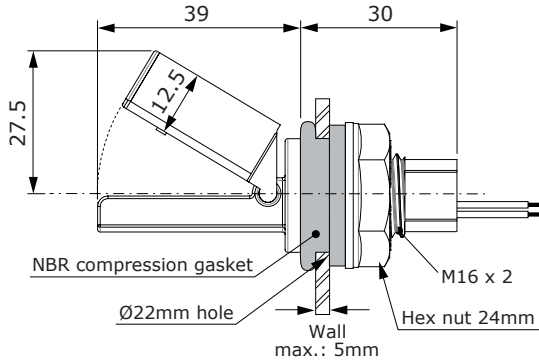
**! Important:** For installation with **relay coupler**, use 4K7 10W resistor.

### With NBR Compression Gasket for Ø22mm Hole



Technical Specifications	LF122E-40
Material	POM
Operating temperature range	-10°C to 100°C
Maximum operating pressure	2bar
Color	Orange
Liquid minimum density (SG)	0.85
Output connection	40cm cable
Maximum switching voltage	Até 220Vac
Maximum switching capacity	20W/VA

- External mounting on tank with NBR compression gasket through Ø22mm hole;
- Recommended NC mounting (float upwards, as shown in the picture);
- Installation in closed tanks;
- Detects the presence of liquids in pipes and tanks, including automotive tanks.



#### Constructive Materials

**POM Polyacetal:** Ideal for water and lubricants.  
*Not suitable for fuel.*

On [datasheets.icos.us](https://datasheets.icos.us) available technical specifications

**+55 (15) 3032.9190**

## Level Switches

Manual: Model for Radiator



**IMPORTANT !**  
**YOU MUST CHECK BEFORE INSTALLATION**



**Tank dimensions**

Check the dimensions of the Sensor and internal space of the tank **before** drilling it



**Ø22mm hole**

For perfect sealing, make a 22mm diameter hole and remove any burrs



**Float**

Install the Sensor with the float upwards (check images below)



The **LF122E-40 Level Switch** can be used on radiator tanks of any brand or car model, provided that the above guidelines are followed.

Questions? Contact us **BEFORE** you install:

[sensor@icos.us](mailto:sensor@icos.us) | +55 (15) **3032.9190**

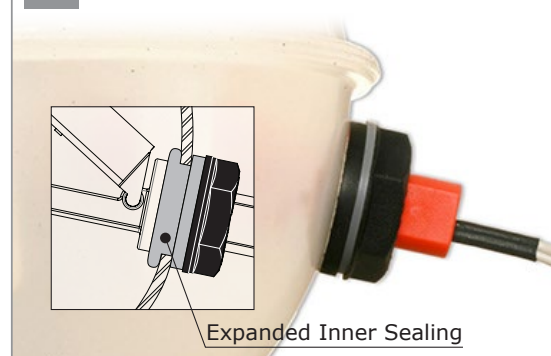
[levelsensor.icos.us](https://levelsensor.icos.us) | [datasheets.icos.us](https://datasheets.icos.us) | [videos.icos.us](https://videos.icos.us)

### Mounting Instructions of Radiator Coolant Level Switch for Automotive Tanks

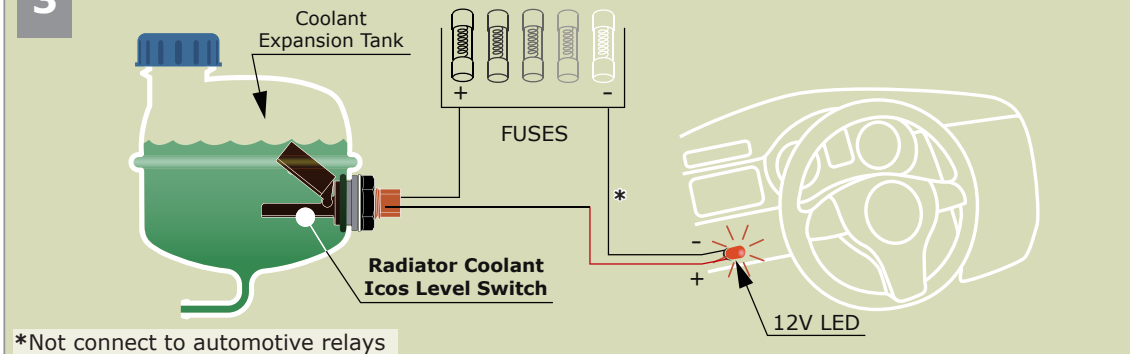
- 1 Make a hole of Ø22mm (+0,2) below the bottom half of the tank.



- 2 Insert the Level Switch with the float upwards and screw until it's totally sealed.



- 3 Connect the Level Switch in series with a fuse and a 12V LED installed in the car panel.



Dimensions in millimeters

On [levelsensor.icos.us](https://levelsensor.icos.us) check models and prices of Level Switches

Flow Switches & Level Switches for liquids

Make it Easy