

L-ED

Conductive level indicator
for liquids

Operating Instructions

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- ▶ **Read these Safety instructions before using the switch for the first time and follow the Operating instructions.**

Safety instructions

1. The installation, initial operation and maintenance should only be carried out by a qualified expert with electrical know-how.
2. Comply with the local and statutory rules and/or the VDE0100.
3. Before electrical connection, check the specifications on the data plate and the technical data of this manual.
4. A fuse must be connected in series to the supply voltage, according to the Standard and Normative documents.
5. Protect the signal contacts of the limit switch against voltage peaks when inductive or capacitive loads are connected.
6. The device may be put into operation only if the electrical connection is correct.
7. Switch off the power supply, before disconnecting the device.

Operating instructions

1. Specification

1.1 Intended use

The conductive control level relay L-ED with the conductive probes is used to control the level or to keep between 2 points the level of conductive liquids like water, oil, chemical products, etc., in tanks or recipients.

Conductive probes could be supplied under request, as well as the undecal socket for the mounting in a DIN rail.

1.2 Function

The conductive level indicator L-ED bases its work in the conductivity of the liquids to control. They have a level controllers associated with a relay.

It is necessary an electrode or a probe for each level and a common electrode. If the tank is conductive, it could be used as the common electrode.

As shown in 2.3, to keep the level of liquid between two points, it is necessary to connect the 2 probes and the common reference to the L-ED.

If only an independent signal should be indicated, it would be enough to place a probe in the desired point, as well as the common and a jumper connection must be mounted between the terminals (5) and (6).

The DC L-EDs (24 V DC and 12 V DC), are manufactured with a built-in selector. Changing this selector position, allows to choose the operation mode between filling and emptying, without modifying the relay output's connections.

1.3 Technical data

Manufacturer	Talleres Filsa, S.A.U.	
Address	Bernat Metge, 33 08100 Mollet del Vallès (Barcelona)	
Name	Level control relay	
Type	L-ED	ref: 2750-1-...
Supply voltage		
2750-1-230	230 V AC (50 ... 60 Hz)	
2750-1-115	115 V AC (50 ... 60 Hz)	
2750-1-024	24 V AC (50 ... 60 Hz)	
2750-1-024-DC	24 V DC	
2750-1-012-DC	12 V DC	
Power consumption		
AC models	1.7 W	
DC models	1.2 W	
Maximum cable section	Ø 1 ... 2.5 mm ²	
Maximum cable length		
AC models	150 m, without shielding	
DC models	100 m, without shielding	
Relay output AC mod. for load		
Resistive AC	10 A / 250 V	
Resistive DC	0.4 A / 200 V or 10 A / 24 V	
Inductive AC	5 A / 250 V	
Inductive DC	5 A / 24 V	

Relay output DC mod. for load

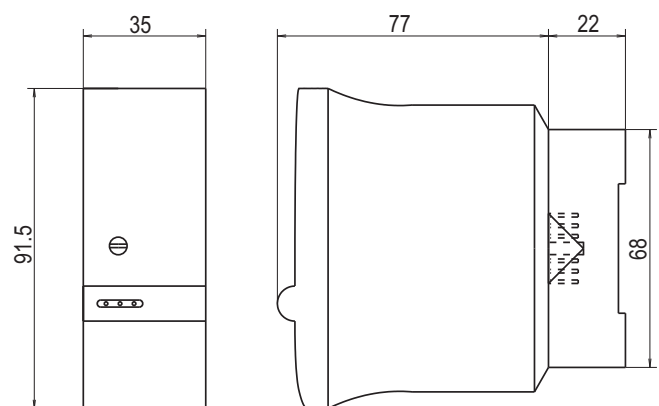
Resistive AC	10 A / 250 V
Resistive DC	0.4 A / 200 V or 10 A / 24 V
Inductive AC	5 A / 250 V
Inductive DC	5 A / 24 V
Function status	Relay engaged: red LED Under voltage: green LED
Ambient temperature	-20 °C ... +50 °C
Relative humidity	30 % ... 85 %
Protection	IP20 according DIN EN60529
Weight	0.18 kg
Current in probes line	
AC models	4 mA
DC models	3.2 mA
Voltage in probes line	
AC models	24 V AC
DC models	6.2 V AC
Insulation voltage	2.500 V AC
Insulation resistance	>10 ⁴ MΩ
Mechanical life	30x10 ⁶ operations
Sensitivity	
AC models	7 ... 100 kΩ
DC models	8 ... 45 kΩ

1.4 Materials

Housing	Cycology
LED visor	Lexan
Buttons	Technyl
Terminals	Brass

1.5 Dimensions

Approximate measures are given in mm.



LED-001

2. Installation

2.1 Preparing for use

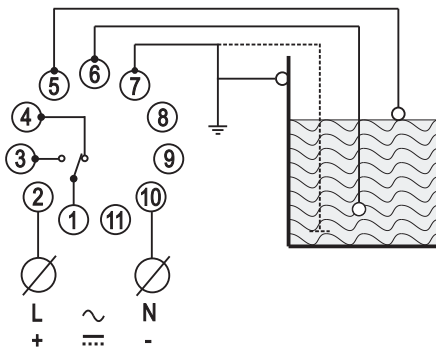
- Read the Safety Instructions and the Operating Instructions before using the controller.
- Verify if you have got all the parts:
 - Conductive control level relay.
 - Conductive probes, if required.
 - Undecal socket, if required.

2.2 Mechanical connection

It is simple: the device has to be installed in a DIN rail using the undecal socket.

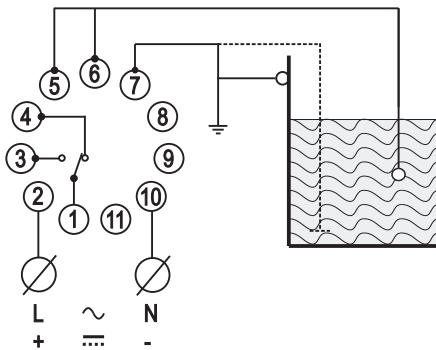
2.3 Electrical connection

Connection diagram



Example: control of a signal level

LED-001



LED-002

Function in emptying

The relay operates when the liquid reaches the maximum level electrode (5), and it releases when the liquid goes below the minimum level (6). For the DC models the selector must be in the emptying position (☐).

Function in filling

For the AC models, the relay's output connections must be modified. For the DC models, the selector must be in the filling position (☐). The relay operates when the liquid level is below the minimum electrode (6), and it releases when the liquid level is above the maximum electrode (5).

3. Use

3.1 Commissioning

- Put the controller into operation only if the installation and the electrical connection have been done correctly.

3.2 Normal operation

- Use the controller in its intended application only.
- Comply with the specifications on the data plate and the technical data of this manual.
- If the controller is damaged, disconnect it immediately.
- It is forbidden to make changes to the device. This violates the Normative.

3.3 Inexpert handling

- Ignoring the Safety instructions and the Operating instructions.
- Not intended use.
- Making changes or handling the float switch.
- Violation against applicable Law and Standards.
- Using of non original parts.

4. Maintenance, servicing and spare parts

4.1 Maintenance

- If used correctly, no specific maintenance is required.

4.2 Servicing

- Check and review the state of the housing, the probes and the correct commutation of the electrical contact, as well.

4.3 Spare parts

- There are no spare parts for these controllers.

5. Storage

- Store the controller in a dry and dust-free environment.

6. Disposal

- Switch off the power supply, before disconnecting the device.
- The controller can be recycled.
- The disposal applies to the valid environmental Guidelines according to the location of the carrier and the local manufacturing conditions.

FILSA constantly strives to improve its products and reserves the right to modify designs, materials and data without prior notice.

Keep this manual for further questions!