

LIT-2, LIT-VL, LIT-VP, LIT-VT & LIT-VTM

Flow switch
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. To secure the type of protection, the sealing cap and the gasket must be placed correctly.
7. The earth connection of the device has to be installed in such a way that mechanical damage will be excluded.
8. For a proper function, the paddle must not touch the pipe and it is necessary to ensure the free movement of the paddle.
9. For a proper function, the device must be installed in straight pipes with a minimum length at least of five times the diameter and far from valves or filters to avoid turbulence.
10. Switch off the power supply, before disconnecting the device.

**Operating instructions****1. Specification****1.1 Intended use**

The flow switches are used to control the flow of waters, oil, chemical products, etc. through the device.

Depending on the model, it can be controlled a range flow from 0.5 l/min up to 24 l/min.

1.2 Function

Depending on the model, there is a paddle or a free movement system inside the device. When the liquid flow of the pipe pulls the paddle actuates a microswitch or a REED switch depending on the model.

There are models with different process connections and made of different materials to can control the flow in a wide range of applications.

1.3 Technical data

Manufacturer	Talleres Filsa, S.A.U.	
Address	Bernat Metge, 33 08100 Mollet del Vallès (Barcelona)	
Name	Flow switch	
Type	LIT-2 3/8"	ref: 2606
	LIT-2 1/2"	ref: 2606-1
	LIT-2 3/4"	ref: 2606-2
	LIT-2 1"	ref: 2606-3
	LIT-VL	ref: 2606-4
	LIT-VP	ref: 2606-5
	LIT-VT	ref: 2606-6
	LIT-VTM	ref: 2606-7

Maximum pressure

LIT-2	+25 bar
LIT-V...	+10 bar (+20 °C)

Cable output

LIT-2	DIN 43650 connector
LIT-VL and LIT-VP	2 wires x 2 meters
LIT-VT and LIT-VTM	2 wires x 0.5 meters

Maximum voltage

LIT-2	250 V AC
LIT-VL	250 V AC and 200 V DC
LIT-VP	250 V AC
LIT-VT and LIT-VTM	250 V AC and 200 V DC

Contact function

1 NO + 1 NC

LIT-2 contact

Capacity of the contact 5 A / 250 V AC
(resistive load)

For capacitive or inductive loads reduce at 50%

LIT-VL contact

Max. power consumption 40 VA in AC; 40 W in DC
Contact current 1 A (resistive load)

For capacitive or inductive loads reduce at 50%

LIT-VP contact

Contact current 1 A (resistive load)

For capacitive or inductive loads reduce at 50%

LIT-VT and VT-M contact

Max. power consumption 40 VA in AC; 40 W in DC
Contact current 1 A (resistive load)

For capacitive or inductive loads reduce at 50%

Temperature range

LIT-2	-20 °C ... +110 °C
LIT-VL	-30 °C ... +100 °C
LIT-VP, LIT-VT and LIT-VTM	-30 °C ... +85 °C

Protection

IP65 according DIN EN60529

Weight

LIT-2 3/8"	0.30 kg
LIT-2 1/2"	0.30 kg
LIT-2 3/4"	0.35 kg
LIT-2 1"	0.39 kg
LIT-VL	0.36 kg
LIT-VP	0.14 kg
LIT-VT and LIT-VTM	0.07 kg

1.4 Materials

LIT-2 housing ABS

Body

LIT-2 and LIT-VL	Brass
LIT-VP	Noryl
LIT-VT and LIT-VTM	Copper

Paddle or contact material

LIT-2	Stainless Steel
LIT-V...	Noryl

LIT-V... cable

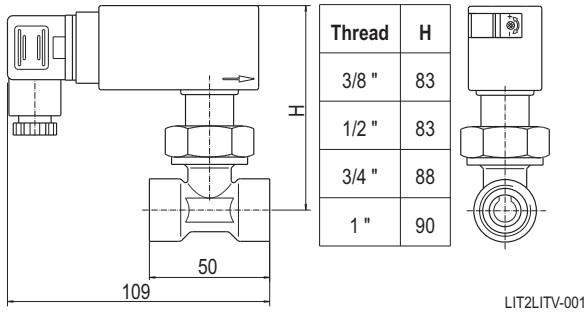
LIT-VL and LIT-VP	Single insulation PVC
LIT-VT and LIT-VTM	Double insulation PVC



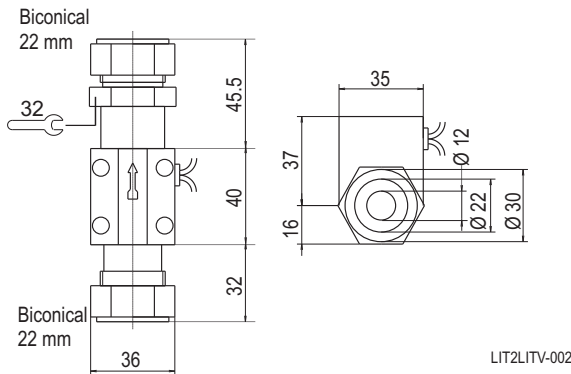
1.5 Dimensions

Approximate measures are given in mm.

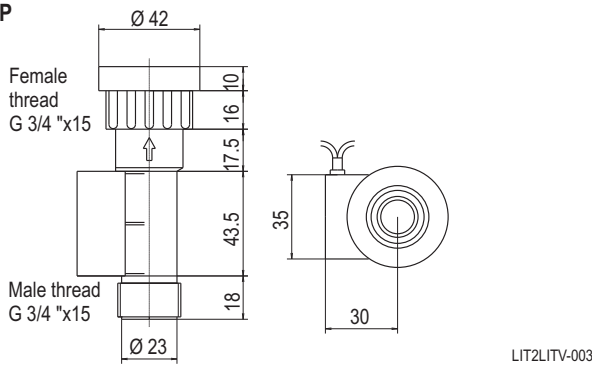
LIT-2



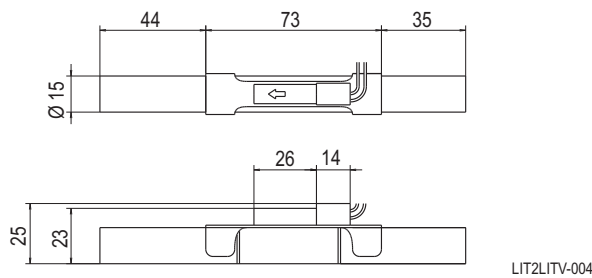
LIT-VL



LIT-VP



LIT-VT y LIT-VTM



2. Installation

2.1 Preparing for use

- Read the Safety Instructions and the Operation Instructions before using the controller.
- For a proper function, the device must be installed in straight pipes with a minimum length at least of five times the diameter and far from valves or filters to avoid turbulence.

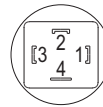
2.2 Mechanical connection

The switch has to be inserted between a pipe welding the device or using process accessories depending on the model. The models LIT-2 and LIT-VT can be side or vertically mounted due to a return spring meanwhile the others has to be inserted vertically. The indication arrow in the body has to be faced to the flow.

2.3 Electrical connection

Connection diagram

LIT-2



Terminal	Contact
1	NO
2	Common C
3	NC
4	⊕

LIT2LITV-005

DIN connector

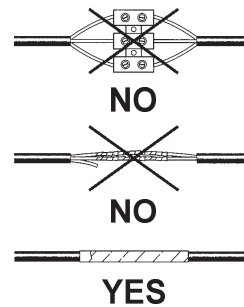
- Fasten the DIN connector after making the electrical connection.
- Fix and fasten the screw of the DIN connector to ensure the water-tightness.

LIT-V...

Output 2 wires, NC with flow.

Cable connections

Connections must be safe and water-tight. The connections should be out of the tank.

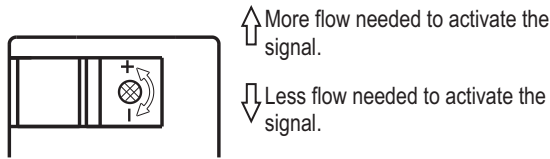


LIT2LITV-006



Sensitivity adjustment

- The flow switches LIT-VL/VP/VT switch with a fix flow of 1 l/min.
- The flow switch LIT-VTM switches with a fix flow of 0.5 l/min.
- The flow switch LIT-2 has a regulation system that allows the adjustment of the sensitivity. Open the cap in the back of the device body and turn the screw to reduce the sensitivity and increase the strain of the flow to activate the microswitch. Underclockwise insensitive. The device is adjusted at the maximum sensitivity.



LIT2LITV-007

- The range of flow can be consulted in the following table (LIT2LITV-008)

Diameter of pipe	Flow range
G "	l/min
3/8	5 ... 6
1/2	6 ... 7
3/4	7.5 ... 11
1	19 ... 24

* Tolerance \pm 15% scale range.
Minimum hysteresis 0.7 l/min.

LIT2LITV-008

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 device 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 flow 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 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!