

# SHV2 – FLOOD DETECTORS (LEVEL SENSORS)

L02.02en

## DESCRIPTION AND APPLICATION

**Level sensors (flood sensors)** consists of a plastic head containing evaluation electronics and an external probe formed by a silicone cable, at the end of which is a plastic box with sensing electrodes. Metal electrodes are made of stainless steel DIN 1.4301, the length of the sensing electrodes is 50 mm, standard length of the connection cable is 2 m. The connection of 24VDC or 24VAC supply voltage as well as the resting state of the relay or transistor output are indicated by a green LED. The failure state (forming of a conductive connection between the electrodes) is indicated by a red LED inside the box and a change of the state of the output transistor or relay contact. The selection of the relay output is done through the placement of a jumper on the PCB. The supply cables of the power supply and output contacts are connected to the terminal board through bushings, which are part of the plastic head. The basic material of the head is POLYAMIDE.

**Level sensors (flood sensors)** operates on the principle of different conductivity of air and water. Water becomes conductive to a certain extent due to dissolved mineral and organic substances. Under normal conditions (rain water), it has a conductivity of 5 mS/m and higher. This value reflects also on the setting of the sensitivity of the sensor with a margin (less than 1 mS/m). Current flows between immersed electrodes (of the order of  $\mu A$ ), which is then detected by the evaluation electronics. This leads to state indication by a red LED, activation of the output transistor (open collector) or closing/opening of the relay (according to the jumper settings).

**Level sensors (flood sensors)** with an external probe is to indicate fault conditions associated with water leakage in industrial plants as well as in rooms, offices or production halls within the range of 0 to 80 °C. The level sensors (flood sensors) meet the ingress protection of IP 65 according to EN 60529, as amended and satisfy the conditions for operation in a normal, non-aggressive environment. The method of use must be chosen with regard to the temperature resistance of the sensor head and chemical resistance of the sensor housing and head.

## DECLARATION, CERTIFICATES, CALIBRATION

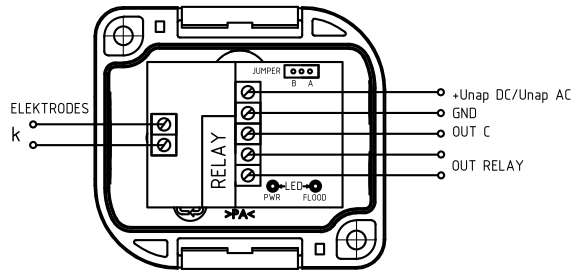
Manufacturer provides **EU Declaration of Conformity**.



## SPECIFICATIONS

| Level sensor type                        | SHV2 OUT R   | SHV2 OUT C   |
|--|--|--|
| Supply voltage                           | 15 to 30 V DC/V AC for rele output; recommended 24 V DC/V AC                     | 12 to 30 V DC/V AC for open collector output; recommended 24 V DC/V AC |
| Temperature range                        | around the head: 0 to 80°C<br>sensing elektrode: max. 100 °C                     |  |
| Output signal                            | relay output   | output terminal of the open collector type                             |
| Max. consumption without load            | approx. 15 mA  |  |
| Max. consumption with load               | approx. 35 mA  |  |
| Max. switching current                   | 6 A  |  |
| Switching voltage                        | up to 24 VvDC/VvAC   |  |
| Indication                               | red LED – alarm state<br>green LED – in operation, inactive alarm state          |  |
| Switching sensitivity                    | alarm function active at fluid conductivity above 1 mS/m-1                       |  |
| Insulation resistance                    | between electrodes $\geq$ 500 V DC (between electrodes not connected to the PCB) |  |
| Ingress protection of the head           | IP65 acc. to EN 60529, as amended  |  |
| Ingress protection of the external probe | IP67 acc. to EN 60529, as amended  |  |
| Head material                            | POLYAMIDE  |  |
| Electrode amterial                       | stainless steel DIN 1.4301   |  |
| External box material                    | SILAMID  |  |
| External probe cable length standard     | 2 m, custom up to 15 m   |  |
| External probe cable type                | silicone unshielded 2 x 0.22 mm <sup>2</sup>                                     |  |
| Dimensions                               | head 90 x 63 x 34 mm<br>external probe 61 x 24 x 25 mm                           |  |
| Weight                                   | 190 g (with a 2m external probe)   |  |



## WIRING DIAGRAM



-  POSITION A: during flooding the outputs are active
-  POSITION B: during flooding the outputs are not active

## DIMENSIONAL DRAFT

