



Home in your hands

Water Leak Alarm – Water leak sensor with acoustic signaling

Type S4H-WLA-02

Installation and Operating Instructions

1. Description of water leak sensor

The Water leak sensor consists of a probe and assessment electronics. The assessment electronics measure the resistance between the probe's electrodes. The sensor recognizes three conditions: the probe is not connected, the probe is connected and not flooded, the probe is flooded. The condition of the probe takes place in a 2-sec interval; the moment of measurement is indicated by a flashing green LED. When the sensor detects flooding of the probe, a yellow LED will light up. Disconnection of the probe is indicated by a red LED.

The water leak sensor is equipped with acoustic signaling and a relay for control of other equipment. The acoustic signaling function and relay in individual states of the probe can be programmed using the switches.

2. Installation manual



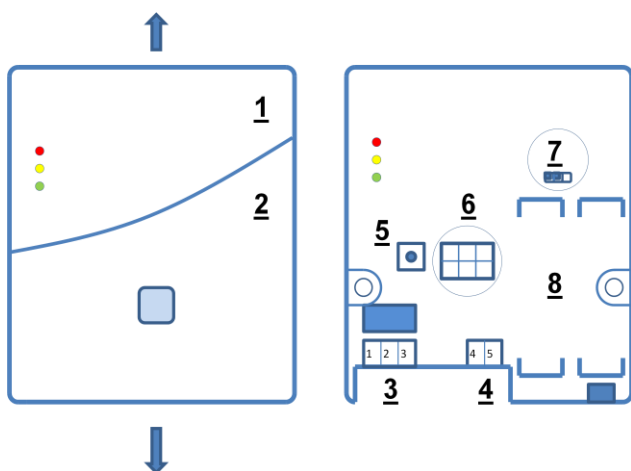
The probe is placed under the carpet where it is protected from stress or damage (to the wall, under heating etc.) The electrodes should not touch any conducting objects. Flooding is indicated in case of connection of both electrodes by water. The detector cable length is 2 m. The cable between the probe and the detector can be shortened as needed.



Warning! It is forbidden to connect the probe's electrodes to any voltage!

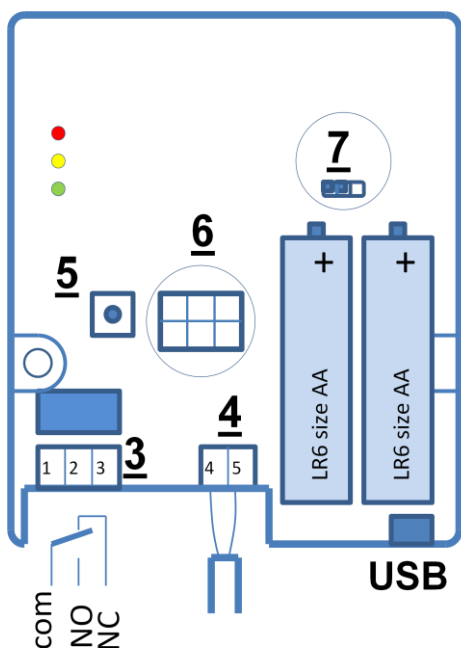


Note: The assessing electronics of the detector contains two parts sensitive to electro-static charge; do not touch the parts during installation, except for the terminal block bolts, switches and buttons



Detector is mounted using two bolts and dowel pins, included in the packaging, or double-sided adhesive tape on a dry, smooth and solid surface. The bolt holes are accessible after removing the cap 2.

2.1. Sensor connection



The probe cable is connected to the assessment electronics using the screw terminal 4 (terminals 4-5).

Control equipment is connected to the terminal 3 (terminals 1, 2, 3).

Note 1: NC – relay contact in idle condition (probe not flooded) is in contact, it disconnects upon flooding

NO – relay contact in idle condition is disconnected, upon probe flooding the contact connects

Note 2: A switching diagram for individual modes is provided in Article 2.3



Only circuits with low safety voltage PELV/SELV can be connected to the terminal block 3.



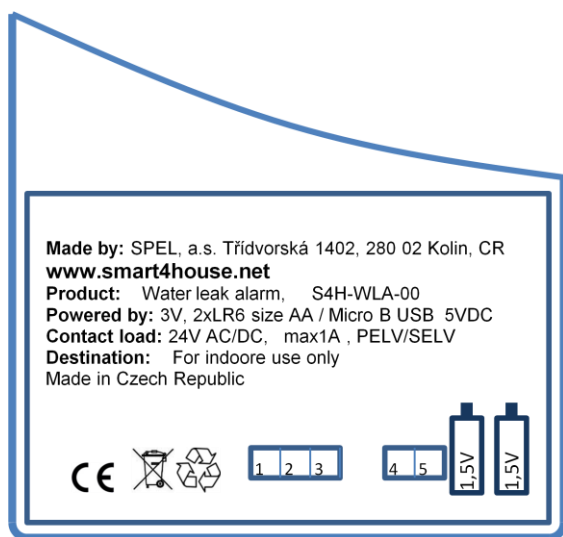
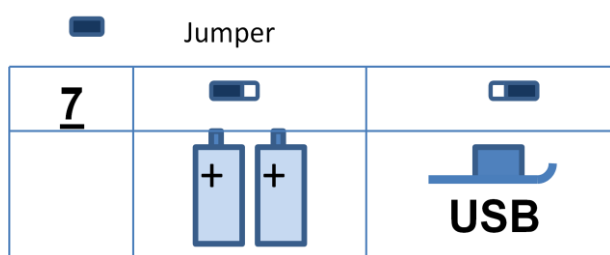
The sensor should be located in an accessible location to enable easy battery replacement. The detector has to be located in an area without water vapour condensation at temperatures from 0-40°C, resp. 32-104°F.

2.2. Input power select

The water leak sensor can be powered by batteries or through a USB connector from a 5 VDC source. The source selection is performed using a jumper marked 7 (see the following Figure).



If the battery power supply is used, the supplied batteries are installed in the sensor according to the designated polarity.



The battery polarity and terminal block layout is shown on the label in the removable cap 2.

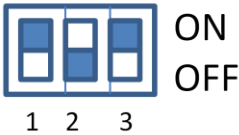
2.3. Mode select





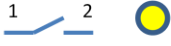





The acoustic signaling mode, switching of the control relay and the yellow LED lighting is selected with the DIP switch 6 setting. The switches setting for individual modes is illustrated in the following figures

Note .: The acoustic alarm can be enabled or disabled in all modes, switch 6 - 3 (in the pictures below is the acoustic signal allowed).

2.3.1. Mode 1

6 MODE 1



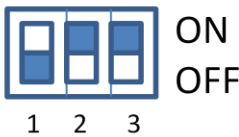
<u>4</u> 4-5		
<u>5</u>		 ON OFF
<u>3</u> 1-2		 ON OFF
<u>3</u> 1-3		 ON OFF
		









In this mode the switching relay contact is connected upon assessment of the probe flooding (terminal block 3, terminals 1-2), disconnection of the disconnect relay contact (terminal block 3, terminals 1-3), yellow LED light up and acoustic signaling (intermittent beeping)

This condition, even after water level drop, initial state is set after pressing button item 5 (the cover item 2 has to be removed)

2.3.2. Mode 2

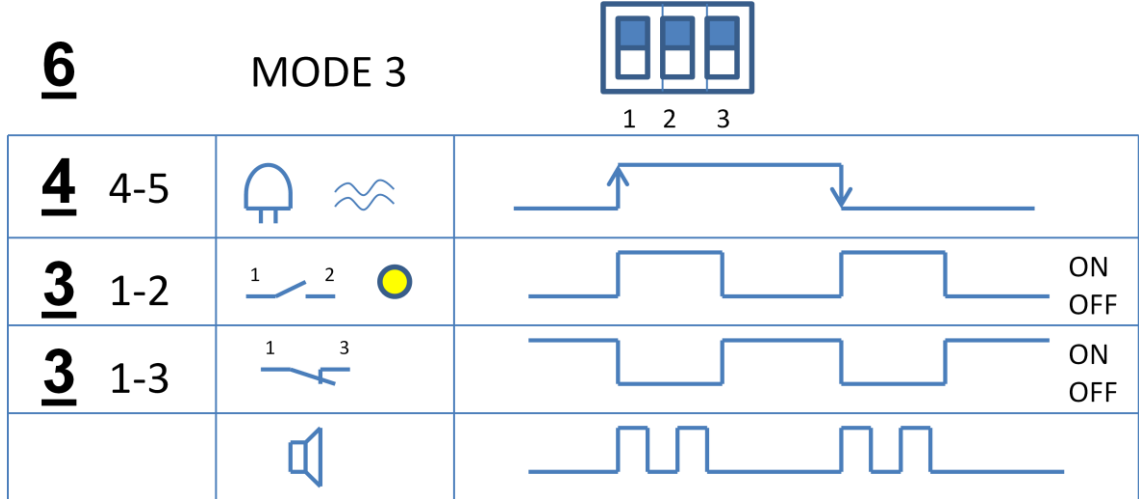
6 MODE 2



<u>4</u> 4-5		
<u>3</u> 1-2		 ON OFF
<u>3</u> 1-3		 ON OFF
		

In this mode the switching relay contact is connected upon assessment of the probe flooding (terminal block 3, terminals 1-2), disconnection of the disconnect relay contact (terminal block 3, terminals 1-3), yellow LED light up and acoustic signaling (intermittent beeping). This condition is automatically terminated after water level drop.

2.3.3. Mode 3



In this mode the switching relay contact is connected upon assessment of the probe flooding (terminal block 3, terminals 1-2), disconnection of the disconnect relay contact (terminal block 3, terminals 1-3), yellow LED light up and acoustic signalling (intermittent beeping) for approx. 3 seconds. If the flooding persists the sensor returns to the initial condition. Upon water level drop the sensor repeats the function as upon flooding and then returns to the initial condition again.

3. Meaning of LED signaling

A green LED indicates the moment of measurement. In normal condition this LED flashes in approx. 2 second intervals.

The yellow LED is activated the moment the sensor indicates a flooded condition. This LED copies the switching of the control relay.

Permanent lighting of the red LED indicates the interruption, respectively disconnection of the probe. In case of a battery voltage drop below 2.1 V this LED starts to flash.

4. Sensor testing function

The water leak sensor function can be tested using the button 5. By pressing the button we connect the relay, the yellow LED lighting and acoustic signaling.

5. Battery replacement

The flashing red LED informs you about the drop of battery capacity to a critical level. To replace batteries, remove the cover 2 and replace the batteries with new ones of the same type – alkaline or lithium batteries LR6 AA size. Observe the correct polarity of the batteries during replacement – it is illustrated on the label on the cover. The operational status of the detector will be re-established after battery replacement without any further manipulation; the green LED 8 will start flashing in an approx. 2 second interval. We recommend checking the function by briefly pressing the button 5.

Note Do not leave discharged batteries in the detector.

Store used batteries separately from the household waste for recycling or disposal. Hand batteries over to a recycling point according to local legislation.

6. Help desk

In case of any trouble contact the manufacturer at the following address: www.smart4house.net

7. S4H-WLA-02 technical data

Manufactured by:	SPEL, a.s. Třídvorská 1402, 280 00 Kolín, CZ
Dimensions:	90x103x21mm (3.54X4.06X0.82 inch)
Sensor weight:	130 g (4.6 oz) inc. batteries
Probe cable length:	2 m (6.56 ft)
Power supply:	2 pc. alkaline batteries LR6 – AA size / USB Micro B – 5VDC
Battery life:	approx. 1 year
Relay contacts rating:	24 V AC/DC max. 1 A
Acoustic power:	80 dB/0.1 m
Operating temperature:	0-40°C, (32-104°F)
Use:	designed for indoor use only
Certification:	CE



Note: The control relay can only be connected into a PELV/SELV class circuit.



8. Limitations

The manufacturer is not responsible for damages arising from incompetent installation or operation.

The instrument is not designed for security applications.

9. Equipment disposal

Remove batteries from the water leak sensor. Dispose of the sensor and the batteries according to the local regulation on waste disposal.

RoHS – The detector does not contain any dangerous substances. Directive 2002/95/EC

10. Standards and certification

The detector corresponds with the following requirements:

- ČSN EN 300 328 V1.7.1
- ČSN EN 301 489-1, V1.8.1, EN 301 489-17, V1.3.2
- ČSN EN 60950-1

CE Declaration of Conformity

11. Data

- Acoustic alarm
- Optical alarm
- Programmable relay output
- Status indication
- Power supply by USB or batteries

12. Photo

