EN

Leak

Leakage sensor for water and pipe breakage reporting

Technical specifications and installation instructions

Item number 30161

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1. Description

The **Leakage sensor Leak** includes an evaluation unit and a probe. If there is water between the electrodes of the probe, the evaluation unit produces an acoustic alarm. Additionally, the alarm output of the evaluation unit switches on. The output can be used to transmit the alarm signal to other systems (e.g. klaxons, light indicators, stop valves, building control system, alarm system). The changeover contact design of the output makes it possible to detect wire breakage in the alarm line by suitable systems.

Functions:

- Detection of water on the probe
- Acoustic alarm signal by the evaluation unit during a water alarm (sustained beeping tone). Short beeping during the follow-up time (1 minute after the end of the alarm).
- Output for alarm reporting (potential-free changeover contact)

1.1. Deliverables

- Evaluation unit with mains power supply
- Probe with BNC cable
- Cable guide for alarm output

1.2. Technical specifications

1.2.1. Analysis unit

Casing	Plastic
Colour	Grey
Installation	Surface mounted
Protection category	IP 20
Dimensions	approx. 118 × 86 × 65 (W × H × D, mm),
Weight	approx. 460 g
Ambient temperature	Operation -20…+70 °C, storage -55…+90°C.
Ambient humidity	max. 95 % RH, avoid condensation
Operating voltage	230 V AC, 50 Hz
Power consumption	no alarm: approx. 1 W with alarm: approx. 4 W
Probe input	1 x electrode probe, plug-in BNC terminal
Alarm output	1 × potential-free changeover contact, max. 230 V AC / 3 A, max. 30 V DC / 3 A, Connector NC/Com/NO

The product is compliant with the provisions of EC guidelines.

1.2.2. Probe

Casing	Polished stainless steel
Installation	for placing on the floor
Protection category	IP 68
Electrode chemical resistance	Water
Dimensions	Diameter: approx. 77 mm
Cable length	approx. 140 mm (plus cable grip and plugs)
Weight	approx. 200 g

The product is compliant with the provisions of EC guidelines.

2. Installation and commissioning

If the alarm output is used, the installation, testing, commissioning and troubleshooting of the unit may only be performed by an electrician (pursuant to VDE 0100).

2.1. Installation notes

DANGER!
Risk to life from live voltage (mains voltage)!
There are unprotected live components within the device.

- VDE regulations and national regulations are to be followed.
- Ensure that all lines to be assembled are free of voltage and take precautions against accidental switching on.
- Do not use the device if it is damaged.
- Take the device or system out of service and secure it against unintentional use, if it can be assumed, that risk-free operation is no longer guaranteed.

The device is only to be used for its intended purpose. Any improper modification or failure to follow the operating instructions voids any and all warranty and guarantee claims.

After unpacking the device, check it immediately for possible mechanical damage. If it has been damaged in transport, inform the supplier immediately.

The device may only be used as a fixed-site installation; that means only when assembled and after conclusion of all installation and operational start-up tasks and only in the surroundings designated for it.

Elsner Elektronik is not liable for any changes in norms and standards which may occur after publication of these operating instructions.

2.2. Evaluation unit installation

The evaluation unit may only be installed and operated in dry, indoor spaces.

Never expose the evaluation unit to water (e.g. rain) or dust. This can damage the electronics.

The evaluation unit can be screwed to the wall with mounting brackets.

Fig. 1
Evaluation unit exterior view
1 *Mains supply line (mains supply 230 V AC, 50 Hz)*
2 *Bushing for alarm output line (sealed in the delivered state)*
3 *BNC terminal for the probe*
4 *Loudspeaker (behind the opening in the side wall of the casing)*
5 *Mounting brackets*

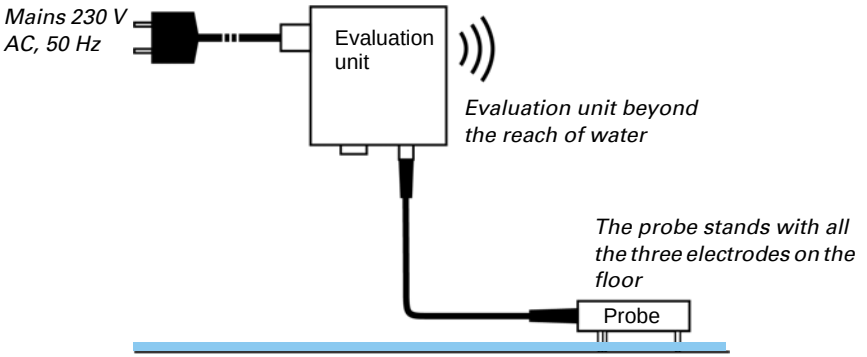
2.3. Probe placement

The electrode probe is placed on the floor with the contacts facing downwards. Ideally, the probe should be located in a place that, in case of water damage, would be the first to be flooded — e.g. close to washing machines, sinks, baths, water pipes or pump sumps.

Fig. 2
Probe
1) 3 electrodes on the lower side
2) Connection lead (for evaluation unit)

2.4. Leakage sensor commissioning

Fig. 3 Overview



1. Connect the probe to the evaluation unit (insert the BNC plug).
2. Connect the mains supply line to the evaluation unit. Line voltage 230 V AC, 50 Hz.
3. The device is ready for operation.

2.5. Alarm output use

If the alarm output is used, the installation, testing, commissioning and troubleshooting of the unit may only be performed by an electrician (pursuant to VDE 0100).

DANGER!
Risk to life from live voltage (mains voltage)!
There are unprotected live electric components inside the device.
- Observe the VDE provisions.

1. Disconnect the device from voltage supply (disconnect the mains plug).
2. Open the casing of the evaluation unit (four screws under the cover and in the corners of the casing)
3. Replace the seal on the alarm output with the enclosed cable bushing and insert the alarm line into the casing.
4. Connect the output device to the relay contact. Please observe the *internal view* in the figure below.
5. Close the casing.
6. Connect the mains supply line. Line voltage 230 V AC, 50 Hz.
7. The device is ready for operation.

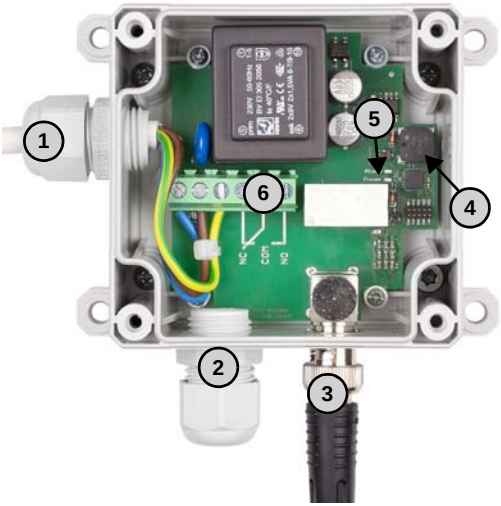


Fig. 4 Inside view
1) Mains supply line (mains supply 230 V AC, 50 Hz)
2) Bushing for alarm output line
3) BNC terminal for the probe
4) Loudspeaker
5) LEDs:
Alarm (red during alarm and follow-up time),
Power (green)
6) Alarm output:
potential-free changeover contact NC/Com/NO

3. Behaviour in case of alarm

The alarm will be triggered if there is water between the electrodes of the probe for more than 3 seconds. If there is no more water contact detected on the electrodes, the alarm will continue for 1 additional minute (follow-up time).

Operation state	Water between the electrodes?	Beeping sound (once per second)	'Alarm' LED (red)	Output relay setting
No alarm	No	No	off	NC – Com
Alarm	Yes	sustained	on	NO – Com
Alarm Follow-up time	no (1 minute follow-up time)	short:	on	NO – Com

3.1. Signal tone

If there is water contact, the evaluation unit produces sustained beeping sounds once per second. The beeping sounds are shorter during the follow-up time.

3.2. Output

Fig. 5

If no alarm is active:

Contact between
NC (Normally Closed) and
Com (Common) is closed.

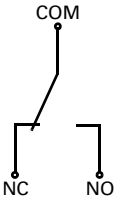


Fig. 6

If there is an active alarm and during the follow-up time:

Contact between
NO (Normally Open) and
Com (Common) is closed.