

Leakage probe

Description



Performance features

- Operating principle conductometry
- High reliability, safe evaluation
- Waterproof design
- Gold-plated inter-digital structure on FR4 substrate
- Alternating current signal evaluation, low AC test current
- Stable mounting plate with spacer
- Electrolytic conductivity measurement

Fields of application

- Leakage monitoring in cooling systems
- Monitoring of collection trays
- Monitoring of water installations
- Industrial applications, lab technology

Technical data

Leakage probe	
Measuring range	10...200 μ S
Sensor element	Gold-plated inter-digital structure on FR4 substrate
Temperature range	+5...+60 °C
Mounting plate	PVC, 10 mm
Connection	RJ12-plug, 6-pole (strands on request)
Cable gland	PG7, nylon
Connecting cable	5 meter, 6-core, PUR insulated, oil resistant
Connection	Modular plug RJ12, 6-pin
Operating voltage	12...24 V AC/DC
EMC-emission	compression fitting 1,5 mm ²
EMC-immunity	EN 61000-6-3:2011
EN 61000-6-1:2007	EN 61000-6-3:2011
CE conformity	2014/30/EU
Dimensions (W x H x D)	96x96x19 mm
Article	Art.-No.
Leakage probe	0636 0015

Functional description

The probe serves to detect water or other conductive liquids. Facing downward the sensor is fixed in a mounting plate which spacers keep appr. 5mm above the ground.

The probe detects the ion flow through conductive liquids. The gold-plated surface and the supply with alternating current prevent electrolysis effects and ensure a reliable switching characteristic even in contaminated media. Typical applications include leakage detection or monitoring of collection trays. The probe is water-resistant.

The dead weight of the probe is usually sufficient for a firm stand.

In addition, the probe can be fixed with two screws.

The leakage probe is designed to be connected to the B+B sensor switching modules and leakage detector which performs the evaluation and provides a switch output with potential-free relay.

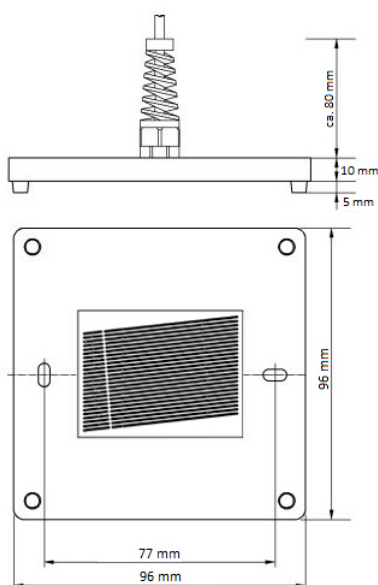
The device is not suitable for use in medical devices or in swimming pools. The user must take precautions by suitable measures (e.g. grounding of metal containers) to prevent dangerous contact voltage. The user must strictly adhere to safety norms applying to specific applications.

Suitable liquids are all watery, conductive liquids, such as tap water. The device is not suitable for flammable, aggressive, caustic or electrically insulating liquids. The suitability of the probe for special applications must be checked before installation.

Leakage probe

Instructions for Use

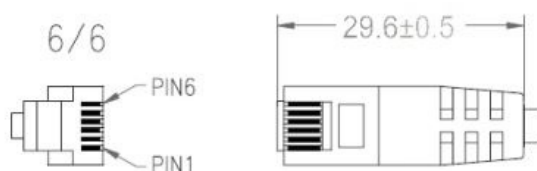
In order to achieve an optimum long-term stability the sensor is gold-plated at the surface and partially covered by a protective varnish. Occasionally the surface should be cleaned with a damp cloth. This applies in particular if the sensor is used in a contaminated medium.



Pin Assignment

Pin 2 and Pin 4 are internally bridged in the probe. The inter-digital structure of the conductivity sensor is connected from Pin 2/4 to 3/5.

At the universal sensor switching module Pin 4 is connected to the AC signal (output) and Pin 2 is the input of the measuring amplifier. Pin 3 and 5 are connected to ground via a bypass capacitor.



Pin	Function	Description	Color
2	OUT	AC output	Green
3	CAP	Capacitive mass	--
4	IN	Signal (input)	White
5	CAP	Capacitive mass	Yellow

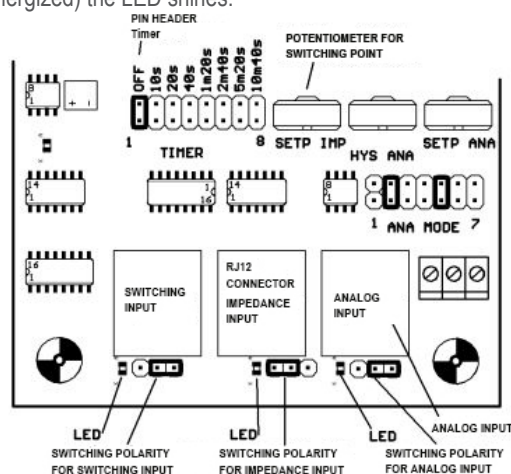
Connection to Universal regulator

The RJ12-plug connector is provided for direct connection to the sensor switching module. The plug connector is led through the hole on the housing and the PG7 screw connection is properly installed. The plug connector of the probe is plugged into the central RJ12 socket "IMPEDANCE INPUT" (see drawing).

Configuration of Jumpers

As the three inputs of the module are OR-linked the jumpers "switching polarity" of the two other, unused inputs must stick in the unconnected inactive position (see drawing). The respective LEDs below the input sockets must not shine. If this is neglected the relay is always energized.

The switching behavior of the device is determined by the jumper below the input socket: As outlined in the position on the right the relay switches on if a medium is recognized. In the left position the switching behavior is inverted, i.e. the relay switches on if a medium is lacking (closed-circuit loop). The switching behavior of the device can be observed from the LED. In active state (= relay energized) the LED shines.



Setting the switching point

As a rule, the trimmer potentiometer can remain in middle position for most applications.

Otherwise, the calibration is made to a certain conductance by means of a comparison standard or a testing resistor.

The setting range stretches from appr. 10µS (almost left-hand stop of potentiometer, i.e. counter-clockwise) to appr. 30 µS (right-hand stop).

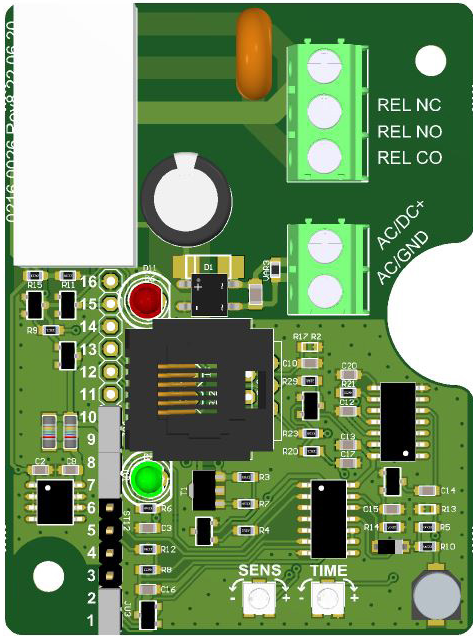
Setting the follow-up time

Finally, the follow-up time is set by placing the jumper on the cable connector "TIMER" at the position desired. Then the device is ready for use.

OPERATION MANUAL

Leakage probe

Connection universal switching module



The RJ12-plug connector is provided for direct connection to the sensor switching module (SENSOR plug socket). A suitable switchpoint can be adjusted with the „SENS“ potentiometer. The switch-off delay can be set using the „TIME“ potentiometer.

Zubehör

Switching devices	Article number
Universal regulator module 12V	0557 0005
Universal regulator module 24V	0557 0005-01
Universal regulator device 230V AC / 5A in case	0557 0005-02
Universal switching module 12V	0557 0002
Universal switching module 24V	0557 0002-01
Further probes	Article number
Leakage probe	H636 0002
Conductance probe / Leakage probe	0636 0002
Dew point probe / Leakage probe	0636 0007
Room humidity probe	0636 0001
Brightness probe, weatherproof	0636 0007