

For the detection of conductive liquids (e.g. water, ...): Plate electrodes and cable electrodes

For signalling the presence of a conductive liquid caused, for example, by a burst pipe.

Plate and cable electrodes can, for example, be used on normally dry floors or false ceilings or in normally dry pipeline and cable ducts.

Cable electrodes can also be used alongside pipes or in double-pipe systems.

If the two electrode plates of a plate electrode or the two sensor cables of a cable electrode come into contact with a conductive liquid (e.g. water, acid etc.), an electrical contact is made and an alarm signal given.

Leakage detectors for conductive and non-conductive liquids also available. See page 14.

versions also available. Detailed information on request.

PE, PE-Z10, PEK and PEK-Z10 plate electrodes

These leakage detectors are also available in versions for direct connection to a PLC, a small-scale control system, a DDC controller or a field bus coupling element. Detailed information on request.



PE or PE-Z10
plate electrode,
sensor side

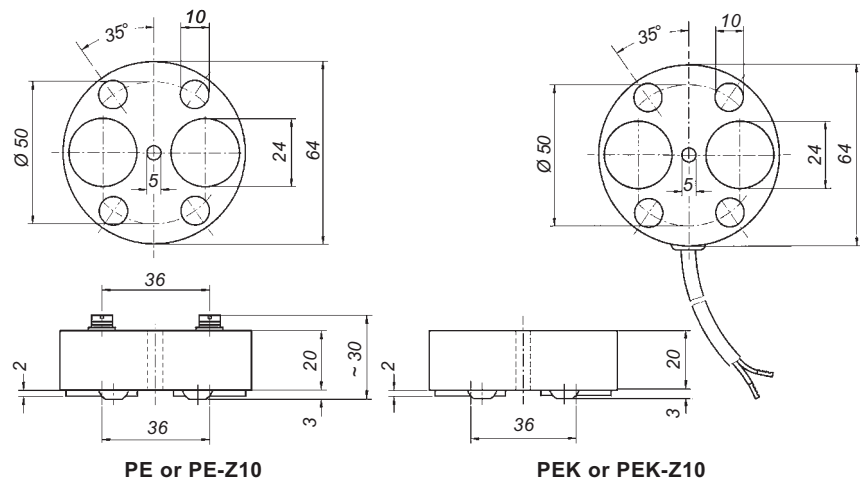
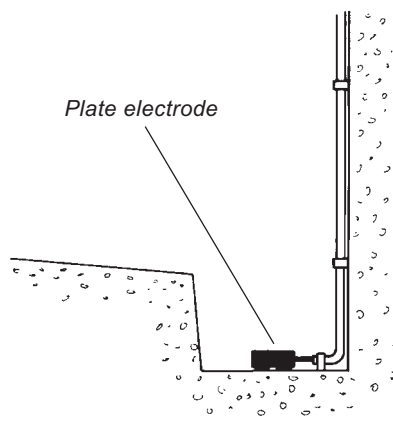


PE-Z10
plate electrode,
connection side



PEK-Z10
plate electrode,
connection side

Application example

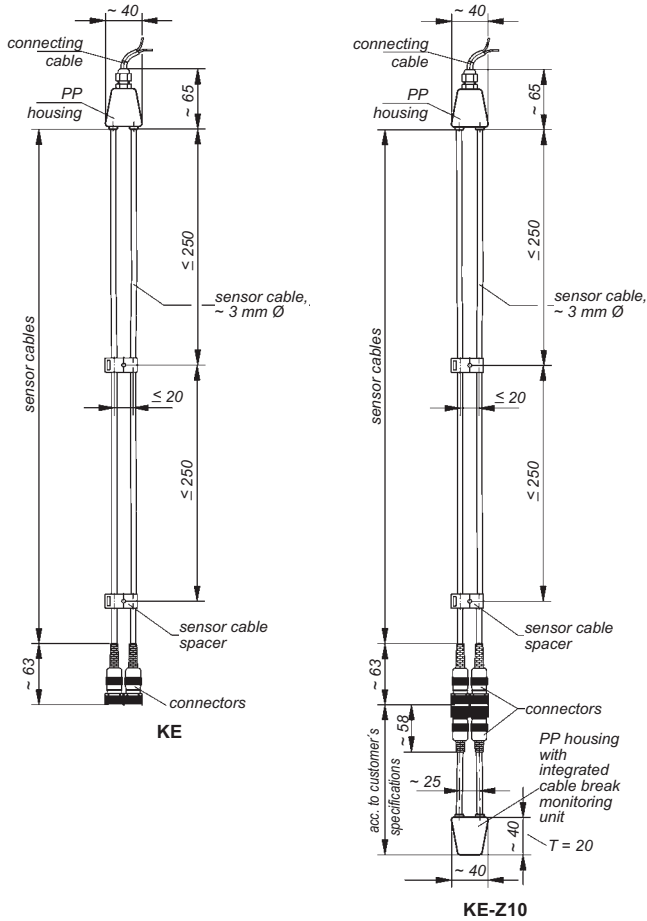


Technical data	PE	PE-Z10	PEK	PEK-Z10
Design	1 control electrode and 1 earth electrode			
Electrode plate material	stainless steel 316 Ti			
Housing	PP and cast resin			
Electrical connection	screw-type / crimp connection		connecting cable 2 x 0.75, length 2 m, longer cable on request; halogen-free connecting cable on request	
Temperature application range	from - 20°C to + 60°C, higher temperatures on request			
Cable break monitoring	without	with integrated Z10 cable break monitoring unit	without	with
Max. length of connecting cable between PE-Z10 or PEK-Z10 and electrode relay	1,000 m			

The PE and PEK plate electrodes may only be connected to the Leckstar 5 electrode relay.

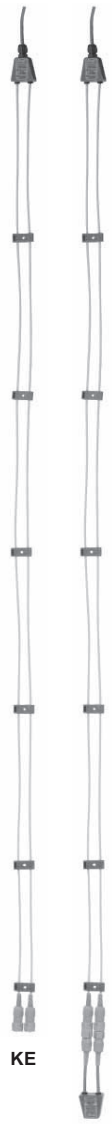
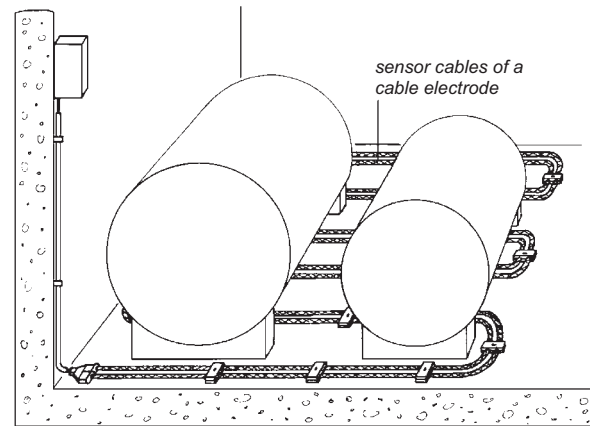
Only one PE-Z10 or one PEK-Z10 plate electrode or a plate electrode combination consisting of one or more PE + one PE-Z10 or consisting of one or more PE + one PEK-Z10 may be connected to the Leckstar 101 electrode relay. The connection must be made as shown in the circuit diagrams on page 13.

KE and KE-Z10 cable electrodes



These leakage detectors are also available in versions for direct connection to a PLC, a small-scale control system, a DDC controller or a field bus coupling element. Detailed information on request.

Application example



KE-Z10

Technical data	KE	KE-Z10
Design	1 control electrode and 1 earth electrode	
Sensor cables	2 ropes made of stainless steel 316 or 316 Ti, each 3 mm in dia., each covered by a halogen-free protective polyester sheath; length: 2 m each, longer on request	
Max. length of sensor cables when laid in a relatively straight line	100 m; if the sensor cables are wound round a pipe or tank, the possible lengths may be considerably shorter depending on the type and method of laying.	
Supplied mounting accessories	4 sensor cable spacers made of PP per metre of sensor cable	
Electrical connection	connecting cable 2 x 0.75, length: 2 m; longer cable on request; halogen-free connecting cable on request	
Temperature application range	from - 20°C to + 60°C	
Cable break monitoring	without	with
	integrated Z10 cable break monitoring unit to monitor the connecting cable and the sensor cables	
Max. length of connecting cable between cable electrode and electrode relay	1,000 m minus the length of the sensor cable pair	

Notice for the mounting of the cable electrode

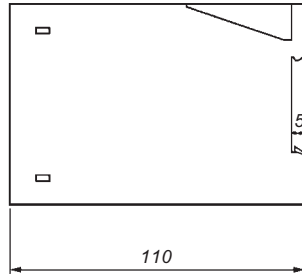
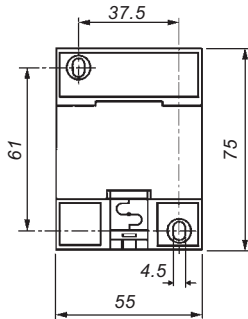
The 2 sensor cables of the cable electrode must be mounted parallel to one another at a distance of approx. 2 cm using the sensor cable spacers, as a greater or lesser spacing affects the response level of the system in the event of leakage.

The KE cable electrode may only be connected to the Leckstar 5 electrode relay.

The KE-Z10 cable electrode may only be connected to the Leckstar 101 electrode relay.

Leckstar 5 and Leckstar 101 electrode relays

Electrode relays for U-bar mounting, with connection terminals on top of housing, with switchable self-hold function and with built-in LED(s) for signalling the operating status.



The units are designed for switch cabinet mounting or installation in a suitable protective housing and may therefore only be mounted/installed in these locations. They are suitable for use in clean environments only.



Self-hold:

- If the switch for self-hold is switched on, an alarm is stored. The relay continues to signal the alarm even if the cause of the alarm (e.g. the presence of water or a cable break) is no longer present - in other words, if the sensor is dry again or if the line has contact. The alarm is acknowledged by switching off the switch for self-hold.
- If the switch for self-hold is not switched on, the alarm is not maintained when the cause of the alarm has been remedied.

Technical data

Alternative supply voltages
(AC versions: terminals 15 and 16;
DC versions: - terminal 15: -,
- terminal 16: +)

Power input
Electrode connection (terminals 7 and 8)

- no-load voltage
- short-circuit current
- response sensitivity
- **Cable break monitoring**

Controlled circuit (terminals 9, 10 and 11)
Switching status indicators

Switching voltage
Switching current
Switching capacity
Housing
Connection
Protection class
Mounting
Temperature application range
Mounting orientation
Max. length of connecting cable between electrode relay and Z10 cable break monitoring unit
EMC

Leckstar 5

- AC 230 V supplied if no other supply voltage is specified in the order) or
- AC 240 V or
- AC 115 V or
- AC 24 V or
- DC 24 V or } only for connection to a safety low voltage which corresponds to the safety regulations relating to the application
- DC 12 V or }
- further supply voltages on request

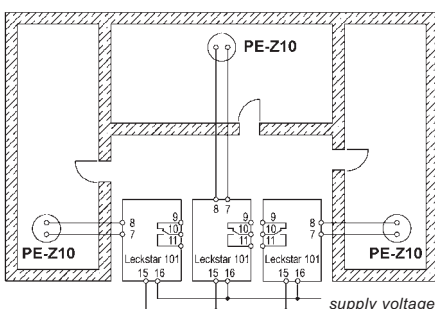
approx. 3 VA
2 terminals under SELV (safety extra low voltage) acting on 1 output relay with switchable self-hold
18 V_{eff} 10 Hz SELV (safety extra low voltage)
max. 0.5 mA_{eff}
approx. 30 kΩ or approx. 33 μS (electric conductance)

1 single-pole potential-free changeover contact based on the quiescent current principle
- red LED permanently lit: leakage alarm, output relay not energized
- yellow LED flashing: cable break, output relay not energized
- green LED permanently lit: OK status, output relay energized
- red LED permanently lit: leakage alarm, output relay not energized

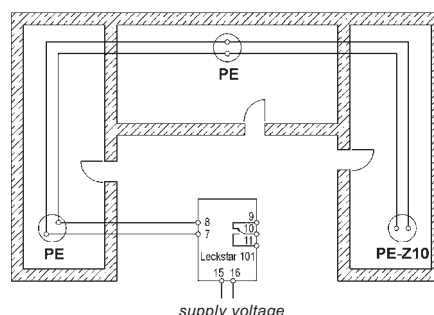
max. AC 250 V
max. AC 4 A
max. 500 VA
insulating material, 75 x 55 x 110 mm
terminals on top of housing
IP 20
clip attachment for U-bar to DIN 46 277 and EN 50 022
from - 20°C to + 60°C
any

1,000 m
for interference emission in accordance with the appliance-specific requirements for households, business and commerce as well as small companies, and for interference immunity in accordance with the appliance-specific requirements for industrial companies.

Leckstar 101 circuit diagrams (position of contacts when Leckstar ... without voltage)



Connection of several plate electrodes to several Leckstar 101 electrode relays - separate alarms



Connection of several plate electrodes to one Leckstar 101 electrode relay - group alarm