

Leakage Detection System DATASHEET

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Tel: (+351) 21 843 64 00
Fax: (+351) 21 843 64 09
geral@bhb.pt www.bhb.pt



System Overview

Features

- No system calibration required
- Simple integration into the building surveillance
- Sensor cable and point sensor can be combined

Description

Water leak monitoring in buildings with sensitive electric and electronic equipment or valuables is today an elementary part of building supervision and guarding.

The BARTEC water leakage detection systems are used for the surveillance of rooms, piping and individual items. Each leakage is detected with metre accuracy and reported directly in the building surveillance. This ensures that the location of the leakage can be found quickly so that countermeasures can be introduced immediately. The sensor cable and point sensors can be combined at will. The monitoring electronics are available with or without locating.

Fields of application

Computer centres, telephone exchanges, libraries, museums, archives, book stores, clean air rooms, air-conditioning and heating centres, etc.

- **Surfaces** double floors above or below computer equipment
- **Piping** heating cables, process cables
- **Individual** items drip pans

System components

- **Sensor**
 - SCR sensor cable
 - PS point sensor
- **Monitoring**
 - RLW monitoring electronics with locating as a wall-mounted enclosure
 - RDW 03 monitoring electronics without locating as a wall-mounted enclosure
 - RDA 01 monitoring electronics without locating in the latch-on enclosure



SCR sensor cable

Features

- Simple and quick installation
- Highly flexible; supplied in running metres

Description

The SCR sensor cable is used for detecting conductive liquids such as water, acids and alkalis. This sensor cable can detect the location of the leak precisely. The SCR is a 4-core flexible round cable with protective braiding.

The installed sensor cable may not be wetted by dripping condensation water.

Technical data

Sensors	2 x 0.25 mm ² , protected by partially permeable PTFE insulation Colour: red, white Rated resistance: 6 Ω/m
Return conductor	2 x 0.25 mm ² with FEP insulation Colour: red, white
Protective braiding	made of FEP Colour: natural
Cable diameter	5 mm
Minimum bending radius	6 x cable diameter
Tensile strength	210 N
Temperature resistance	-50 °C up to +180 °C
Fire protection	V 0 according to fire protection standard UL 1581

Designation

Sensor cable SCR

Supplied by the metre

Accessories

Supplied by the metre LIYY 4 x 0.5 mm²

SCR end plug

SCR end resistor

SCR zone divider module

SCR tee branch

Fixing tape (pack of 50)

Label "Sensitive sensor cable"

Connection kit, SCR connector

Connection kit, SCR socket

PS point sensor



Technical data

Model	flat point sensor with cable gland and waterproof terminal area
Dimensions	Ø 80 mm x 26 mm height
Cable gland	M 12 x 1.5 terminal area 3 to 6.5 mm
Enclosure material	PVC
Temperature resistance	-10 °C to +50 °C
Leakage alarm	as of 3 mm water level
Electrodes	2 made of stainless steel
Connecting terminals	terminal screws at the input and output
Miscellaneous	integrated end resistor 220 kΩ

Features

- Individual connection lengths
- Series connection, up to 50 point sensors are possible
- Can be combined with SCR sensor cable
- Locating possible

Description

The point sensor is used to detect conductive liquids such as e. g. water. With this point sensor the location of the leak can be detected quickly.



RLW monitoring electronics with locating

Features

- System status with plain text report
- Quick and precise localisation of the leakage location
- Monitoring lengths to 3.000 m
- No system calibration required
- Simple integration into the building surveillance
- With combinable sensor cable and point sensor

Description

The RLW monitoring electronics can be easily integrated into the building surveillance. System calibration is not necessary.

To safeguard the system, the software is password-protected. RLW can be combined both with the sensor cable and also with the point sensor.

The system status appears as a plain text report. The menu texts in the display are stored in 3 languages, German, English and French. The front membrane texts are in three languages as standard.

The location of the leakage appears in the display quickly and precisely. This ensures that the location of the leakage can be found rapidly and countermeasures introduced immediately.

The max. monitoring length is 3.000 m and can be displayed in metres or feet. For each measuring channel up to 1.500 m of sensor cable can be connected. The monitoring length can be divided into 50 zones per measuring channel.

➤ Technical data

Model	plastic wall-mounted enclosure with transparent protective cover, terminal connection chamber and cable glands
Dimensions	284 x 217x 143 mm (W x H x D); (dimension H without cable glands)
Inputs	<ul style="list-style-type: none">- voltage supply (standard) AC 230 V or AC 115 V/50 to 60 Hz/8VA or DC 12V or DC 24V/W- sensor connection
Outputs	<ul style="list-style-type: none">- two floating change-over contacts for leakage report: per measuring channel (3 A at AC 230 V)- two floating change-over contacts for fault (fail-safe) power failure surveillance: 3 A at AC 230 V- RS 232 interface (standard) and RS 485 (options) block-oriented, secured single-master protocol for connecting to the building services management
Event logger	storage of the last 20 events with date, time and plain text
Measuring accuracy	±0.1 % of the measurement range end level
Method of measurement	conductive (conductive liquids > 30 µS)
Self-monitoring	sensor rupture and power failure
Date/time	automatic switch-over from summer/winter time
Operating elements	membrane keyboard operation of all functions including the plain text inputs
Signal	optical: LED displays; operation/leakage/rupture/fault acoustic: piezoelectric buzzer (can be switched on and off)
Ambient temperature	0 °C up to +50 °C
Protection class	IP 65



RDW 03 monitoring electronics without locating

Features

- Rapid detection of leaks
- Monitoring lengths to 1.000 m
- No system calibration required
- Simple integration into the building surveillance
- Can be combined with sensor cable and point sensor

Description

The system detects even small liquid leakages quickly and reliably. There is an optical and acoustic alarm signal. At the same time floating contacts are set for signals to the building services management and control tasks.

➤ Technical data

Model	Wall-mounted enclosure with membrane keyboard and separate terminal area
Dimensions	166 x 160 x 84 mm (W x H x D)
Inputs	voltage supply AC 230 V/50 to 60 Hz/8 VA or DC 24 V/7W as standard sensor via two-wire lead sensor cable length max. 1.000 m point sensors max. quantity of 50
Outputs	alarm relay, two separate change-over contacts (6 A at AC 230 V/6 A at DC 24 V) rupture/power failure relay, 1 change-over contact in fail safe function (6 A at AC 230 V/6 A at DC 24 V)
Memory	alarm/rupture relay memory
Method of measurement	conductive (conductive liquids > 2 µS)
Response sensitivity	adjustable
Self-monitoring	sensor rupture and power failure
Operating elements	two-stage confirm button (stage 1: buzzer off); on/off button
Signal	optical: LED displays operation/alarm/rupture acoustic: piezoelectric buzzer
Ambient temperature	0 °C up to +60 °C
Protection class	IP 54



RDA 01 monitoring electronics without locating

Features

- Rapid detection of leakages
- Monitoring lengths to 1 000 m
- No system calibration required
- Simple integration into the building surveillance
- Can be combined with sensor cable and point sensor

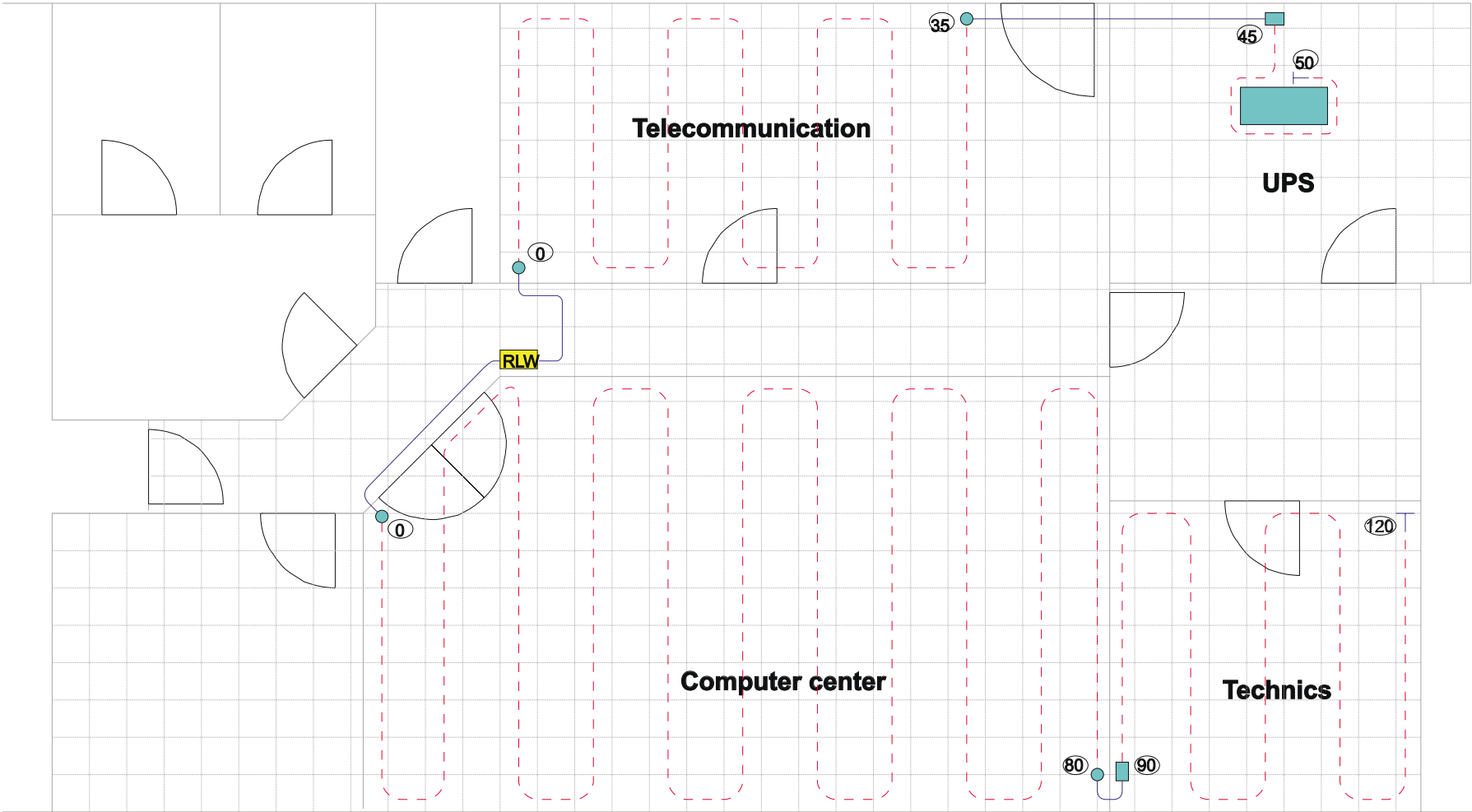
Description

The system detects quickly and reliably even small quantities of liquid leaks. An optical and acoustic alarm signal is given. At the same time floating contacts are set for signals to the building services management and control tasks.

➤ Technical data

Model	clip-on enclosure for mounting rail TS 35
Dimensions	22.5 x 82 x 101 mm (W x H x D)
Inputs	<ul style="list-style-type: none">- Voltage supply<ul style="list-style-type: none">Type 2322 AC 230 V/50 to 60 Hz/1.2 VAType 2422 DC 24 V/0.8 W- Sensor via two-wire lead<ul style="list-style-type: none">Sensor cable length: max. 1 000 mPoint sensors: max. 50 pcs
Outputs	Group alarm relay, two change-over contacts 0.25 A at AC 230 V/1 A at DC 24 V
Memory	Alarm/rupture relay memory
Method of measurement	conductive (conductive liquids > 2 µS)
Response sensitivity	adjustable
Self-monitoring	sensor rupture and power failure
Operating elements	reset button
Signal	optical: LED displays; operation/alarm/rupture acoustic: piezoelectric buzzer
Ambient temperature	-25 °C up to +60 °C
Protection class	IP 20

Sector Electronic-Data-Processing



Water warning systems for leakage detection of fluids

● Plug-in connection	■ Zone separation 10 m	— Connection cable	■ Aircondition
⊥ End plug	⊗ Leakage reference point	- - - Sensor cable	RLW Monitoring device

CUSTOMER'S NAME

WaterWarningSystem RLW with sensor cable SCR

Instructions for flush-mounting in walls

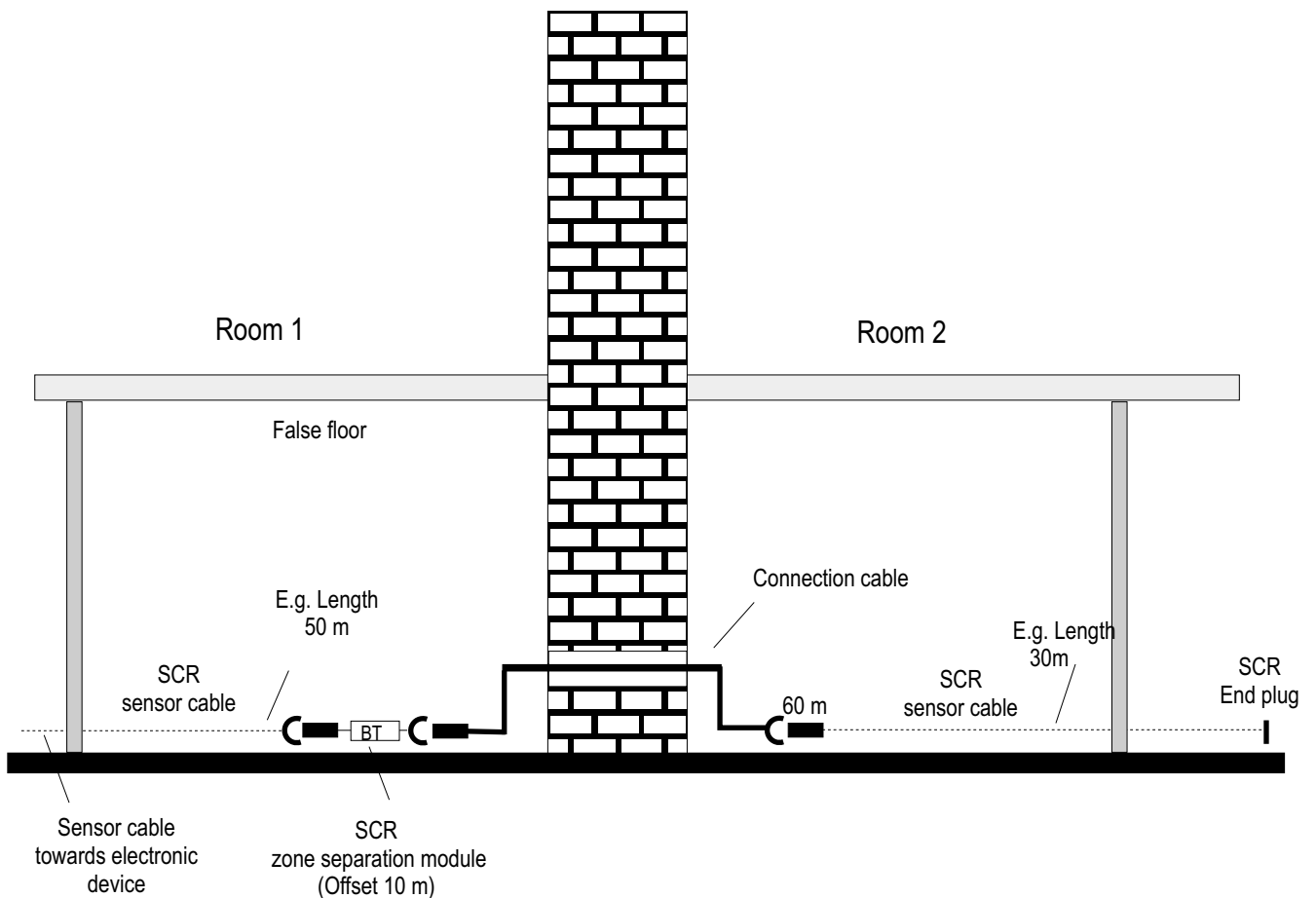
The zone separation module provides a very good partition of leakage detection between two rooms.
The offset of the zone separation (10 m) has to be taken into account in the installation plan (see drawing).

Example: 50 m sensor cable in room 1 and 30 m sensor cable in room 2.
That means 80 m total sensor length + 10 m zone separation.
The monitoring device observes 90 m.
The connection cable doesn't influence the length.

A room description can also be stored in addition to the metre readout.
This is done with the menu "canal zone".

Zone 1: 0 to 50 m text: e.g. EDP-Room 1
Zone 2: 60 to 90 m text: e.g. EDP-Room 2

Up to 50 zones can be realized.



WaterWarningSystem with localization

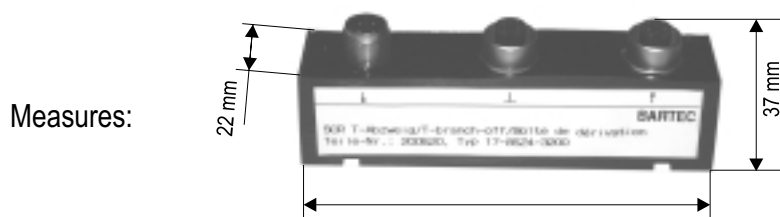
Example of connection: sensor cable SCR with T-joint

Type: 17-85Z4-3200

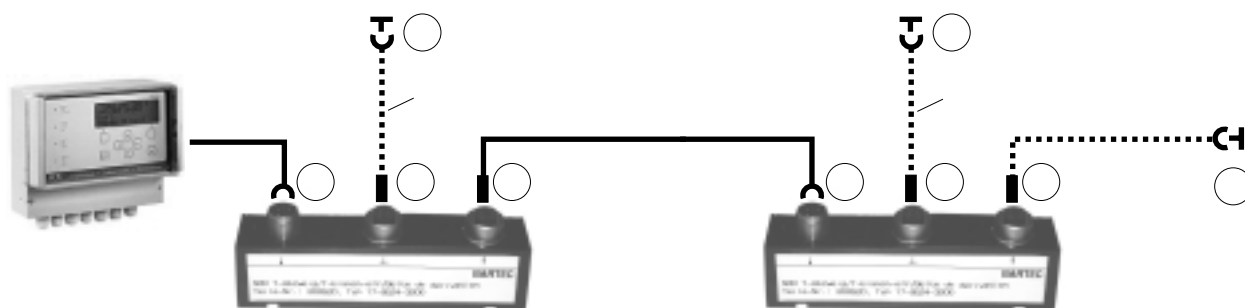
Applications:

- Arm within a line of sensor cable
- separation between rooms and floors

In the T-joint integrated is a zone separation. This guarantees exact identification of rooms and floors. The connection cable doesn't influence information on leak localization.



Example:



Function zone separation

10m sensor cable are simulated between input and T-output
and
10m sensor cable are simulated between T-output and output.

The additional length is registered by the monitoring device RLW.

Legend:

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(Xm)

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Contactos/Contacts:

Comercial/Commercial:

Fernando Mena Costa

e-mail: fcosta@bhb.pt

Tel: (+351) 21 843 64 00

Fax: (+351) 21 843 64 09

Assistência/Service:

Patricia Costa

e-mail: ppcosta@bhb.pt

Tel: (+351) 21 843 64 00

