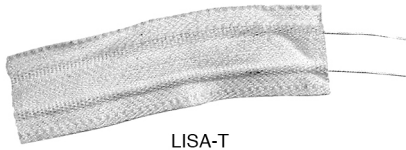
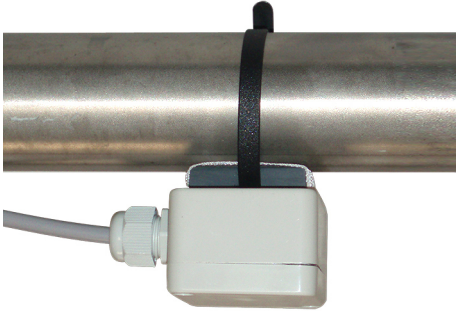


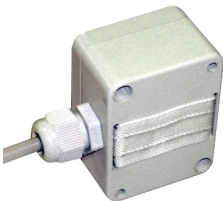
Leakage detection: Liquid Intrusion Safety Alarm LISA



LISA-T



LISA-B



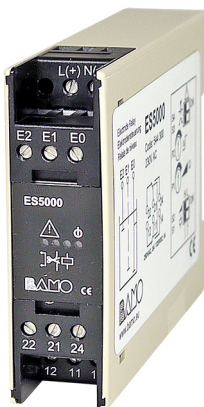
LISA-G



LISA-T-K2



LISA-T-K1



ES 5000

- Detection of water leaking (1 drop is sufficient)
- Alarm signal before flooding
- Self diagnostic of measuring loop integrity, LED display (Short circuit or ribbon sensor break off)
- Protection of equipment and exposed areas
- Suitable to any surface

CONCEPT

Detection of flood, leakage, presence of water or moisture in exposed area or special environment.
LISA system combines a detector (linear or point) with a relay dedicated to this application, the ES 5000.

APPLICATIONS

The LISA system is dedicated for leakage detection of water distribution (pipes, sprinklers) and alarming in case of water, condensates or humidity in areas where water is prejudicial for equipments (Computer rooms, machinery, power plants, medical equipments, HVAC, museum, stores, etc.).

DESCRIPTION

The ribbon detector consists of two metal wires connected at the end by a resistor and insulated by an absorbent fabric.

The special material used for the ribbon, contains ionic ingredients, which allow detection of demineralised water.

This flexible ribbon is placed in all positions and fits all shapes.

As soon as there is humidity somewhere on the ribbon, the relay detects the change of resistivity and switch on the alarm signal, even before a significant amount of water could be find out.

The relay ES 5000 includes a self diagnostic of the integrity of measuring loop (alarm in case of short circuit, or ribbon sensor break off) in order to warrant a positive safe detection system.

INSTALLATION

The ribbon is applied on any horizontal or vertical surface/ support for monitoring an area, or, the one point detector is used for a local detection.

The ribbons is fixed on the ground with a special adhesive, or wrapped round a pipe/ a valve.

An adequate grid of the area will allow to locate the leak.

Depending on the system and expected monitoring result, one or more detectors will be used with one or more relays.

After an alarm and repair of the leakage, the ribbon sensor is easily dried out without dismantling it.

Components of a system LISA:

LISA-T : Ribbon sensor	LISA-T-K1: Connection kit "Start of detection loop"
LISA-B: One point detector	LISA-T-K2: Connection kit "End of detection loop"
LISA-G: Floor detector	ES 5000: Relay

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Leakage detection: Liquid
Intrusion Safety Alarm
LISA

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TECHNICAL FEATURES

Relay ES 5000

Power supply	230, 115, 48, 24 V AC – 50/60 Hz 24, 12 V DC
Consumption	< 2 VA
Ambient temperature	-15 ... +45 °C
Mass	100 g
Mounting	Rail DIN 46277
Dimensions	22.5 x 75 x 99 mm
Protection	IP40 – Tropicalized on request (varnish)
Hysteresis	About 10 %
Adjustable timer	0.5 ... 3 s (increase and decreasing signal)
Sensitivity:	Low range = 5 to 70 kOhm High range = 15 to 150 kOhm
Current loop output	Galvanic insulated < 6 V AC / < 2 mA
Relay outputs (2)	Max. 250 V AC, 3 A Max. 125 V DC, 1 A
EC Conformity	In accordance with low voltage guidelines (2006/95/EEC) and (89/336/CEE)

Ribbon sensor LISA-T

Width	20 mm
Packaging	Roll of 50 m (or supply at required length; per meter)

Floor detection: LISA-G

Mass	< 50 g
Dimensions (Excluding PG 9)	Length: 65 mm; Width: 50 mm; Height: 35 mm

One point detection: LISA-B

Mass	About 50 g
Dimensions (Excluding PG 9)	Length: 65 mm; Width: 50 mm; Height: 45 mm

Connection kits

LISA-T -K1 and LISA-T -K2

Mass	< 50 g
Dimensions (Excluding PG 9)	Length: 65 mm; Width: 50 mm; Height: 45 mm

To assure the self diagnostic of the measuring loop (short circuit; ribbon break off) using the relay ES5000:

- Length of the ribbon: 50 m Max.
- Independently of ribbon length, an extension may be use to reach the relay: 50 m Max. (2-wire; 2 x 0.5 mm²)

CODE NUMBERS AND REFERENCES

Code	Reference	Description
544 300	ES 5000 / 230 V AC	Relay ES 5000; IP 40; 230 V AC – 50/60 Hz
544 310	ES 5000 / 115 V AC	Relay ES 5000; IP 40; 115 V AC – 50/60 Hz
544 320	ES 5000 / 48 V AC	Relay ES 5000; IP 40; 48 V AC – 50/60 Hz
544 330	ES 5000 / 24 V AC	Relay ES 5000; IP 40; 24 V AC – 50/60 Hz
544 352	ES 5000 / 12 V DC	Relay ES 5000; IP 40; 12 V DC
544 354	ES 5000 / 24 V DC	Relay ES 5000; IP 40; 24 V DC
544 135	LIBA-B	One point detector
544 136	LISA-T	Ribbon sensor / per metre
544 137	PL400	Special adhesive (O/A - on request) for ribbon
544 140	LISA-T-50	Ribbon sensor / Roll of 50 m
544 141	LISA-G	Floor detector
544 142	LISA-T-K1	Connexion kit "Start detection loop"
544 143	LISA-T-K2	Connexion kit "End of detection loop"

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