

# LEAKAGE, INUNDATION AND HUMIDITY DETECTION

## LISA (Liquid Intrusion Safety Alarm)



Ribbon like detector  
**LISA-T**



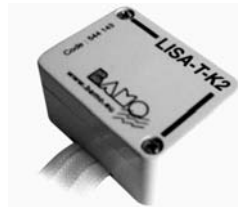
One point detector  
**LISA-B**



Floor detector  
**LISA-G**



Ribbon Starting line  
connection kit  
**LISA-T-K1**



Ribbon End  
connection kit  
**LISA-T-K2**



Relay **ES5000**

- Detects a drop of water
- Easy determination of the leakage location
- Alarm signal before inundation
- Self diagnostic with instant alarm for:  
Short circuit on the loop detection  
Ribbon like sensor break off
- For protection of high cost electronic devices  
and prevention of damages due to inundation
- Suitable on any support / surface

### PRESENTATION

L.I.S.A. or "Liquid Intrusion Safe Alarming" system is designed for alarming as soon as humidity or a drop of water is detected on a ribbon like sensor. The fail safe alarming system LISA includes, as a minimum, one ribbon like sensor or one-point detector, plus one alarm relay ES5000.

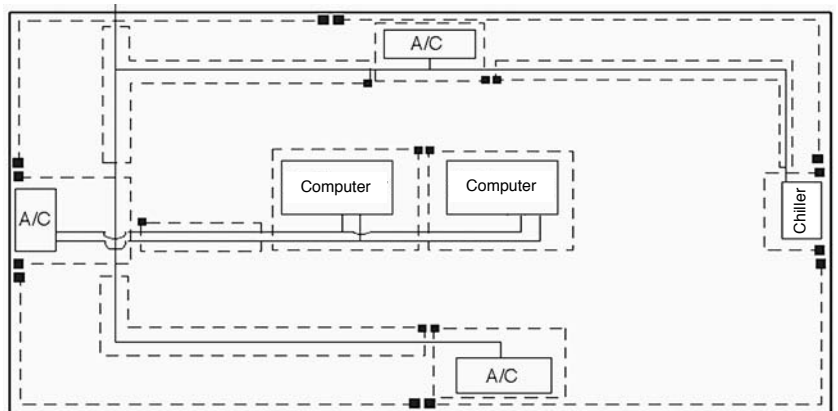
### APPLICATIONS

The LISA system is dedicated for leakage detection on water distribution (pipes, sprinklers) and alarming in case of water, condensates or humidity in areas where water is prejudicial for equipments:

*Computers, electronic devices, machinery - High electric power station - Computer rooms, medical equipments - HVAC moisture prevention - Museum - Stores, etc.*

### PRINCIPLE

The ribbon like sensor is designed with two metallic wires strapped together at one end with a resistance as a shunt. Both wires are insulated from each other by an absorbent fabric ribbon. The special material used for the ribbon, contains ionic ingredients, which allowed detection of water, even demineralised water. The ribbon is applied all along any surface or following curves of pipes. As soon as there is humidity somewhere on the ribbon, the system resistivity changes and switch on the alarm signal, even before a significant amount of water could be find out! The relay ES5000 includes a self diagnostic of the detection loop (*short circuit on the loop detection and ribbon sensor break off*) in order to warranty a positive safe detection system.



Net work on humidity detection by water leakage in a computer room

# BAMO MESURES

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**LISA**

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NIV

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## MOUNTING

The ribbon is applied on any horizontal surface (few of them as a net for a location determination), glued on the surface with a special glue. The one point detector may be glued on a surface or strapped on a pipe, for a local survey. After an alarm and repair of the leakage, the detection system is easily dried out without dismantling it. The fabric in use allows a quick drying.

## TECHNICAL FEATURES

### Relay ES5000

Power supply input: 230, 115, 48, 24 V AC - 50/60 Hz  
 12, 24 V DC  
 Consumption: < 2 VA  
 Ambient temperature: -15 to +45°C  
 Mass: 100 g  
 Mounting: DIN 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, 3 A [AC]  
 Max 125 V, 1 A [DC]

**CE Labels:** In accordance with low voltage guidelines (2006/95/EEC) and (89/336/CEE)

### Ribbon alike detector LISA-T

Width: 20 mm  
 Length: Supplied per meter and multiple or by roll of 50 m long ribbon

### One point detector LISA-B


Mass: 50 g  
 Dimensions L x W x H: 65 x 50 x 45 mm (*cable gland excepted*)

### Floor detector LISA-G

Mass: < 50 g  
 Dimensions: L x W x H: 65 x 50 x 35 mm (*cable gland excepted*)

### Ribbon Starting line connection kit LISA-T -K1 and Ribbon End connection kit LISA-T -K2

Mass: < 50 g  
 Dimensions: L x W x H: 65 x 50 x 35 mm (*cable gland excepted*)



To assure the self diagnostic of the detection loop (*short circuit on the loop detection and ribbon sensor break off*) using the relay ES5000:

- The total length of the sensor Ribbon alike detector LISA-T, is **50 m as a maximum** and
- For an additional extension cable (*2 wires 0.5 mm<sup>2</sup>*) added to the ribbon alike detector LISA-T, **the maximum is 50 m**

## CODE NUMBERS AND REFERENCES

Code	Reference	Designation
544 300	ES5000 /230	Relay, input power supply 230 V / 50-60 Hz
544 310	ES5000 /115	Relay, input power supply 115 V / 50-60 Hz
544 320	ES5000 /48	Relay, input power supply 48 V / 50-60 Hz
544 330	ES5000 /24	Relay, input power supply 24 V / 50-60 Hz
544 352	ES5000 /12 V dc	Relay, input power supply 12 V DC
544 354	ES5000 /24 V dc	Relay, input power supply 24 V DC
544 135	LISA-B	One point detector
544 136	LISA-T	Ribbon like detector ( <i>per meter</i> )
544 140	LISA-T-50	One roll of 50 m long ribbon like detector
544 141	LISA-G	Floor detector
544 142	LISA-T-K1	Ribbon starting line connection kit
544 143	LISA-T-K2	Ribbon end connection kit

## WIRING

