



USER MANUAL

- Additional equipment
LCS-1.C01 Condensation detector

Written by SMARTEH d.o.o.
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User Manual

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STANDARDS AND PROVISIONS: Standards, recommendations, regulations and provisions of the country in which the devices will operate, must be considered while planning and setting up electrical devices. Work on 230 VAC network is allowed for authorized personnel only.

DANGER WARNINGS: Devices or modules must be protected from moisture, dirt and damage during transport, storing and operation.

WARRANTY CONDITIONS: For all modules LONGO LCS-1 - if no modifications are performed upon and are correctly connected by authorized personnel - in consideration of maximum allowed connecting power, we offer warranty for 24 months from date of sale to end buyer. In case of claims within warranty time, which are based on material malfunctions the producer offers free replacement. The method of return of malfunctioned module, together with description, can be arranged with our authorized representative. Warranty does not include damage due to transport or because of unconsidered corresponding regulations of the country, where the module is installed.



This device must be connected properly by the provided connection scheme in this manual. Misconnections may result in device damage, fire or personal injury.



Hazardous voltage in the device can cause electric shock and may result in personal injury or death.
NEVER SERVICE THIS PRODUCT YOURSELF!

If the unit is used in a manner not specified by the manufacturer, the degree of protection provided by the equipment may be impaired.

LONGO Condensation detector LCS-1.C01 complies to the following standards:

- EMC: EN 60945: 1997
- LVD: IEC 61010-1: 2001

MANUFACTURER:

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1 DESCRIPTION

The LCS-1.C01 condensation detector in combination with the input/output unit is used to avoid condensation on pipes or on the surface of cooling ceiling elements and with this preventing “room rain”.

Trimer T1 enables sensitivity adjustment. Default setting of trimmer is set to middle position. In case adjustment to local conditions is needed, turn trimmer to the right (clockwise) for early detector response. For late detector response turn trimmer to the left (anticlockwise).

Detector indicates its state with two LED's. Green LED1 indicates detector is powered, red LED2 indicates presence of dew detection (see Table 3).



2 FEATURES

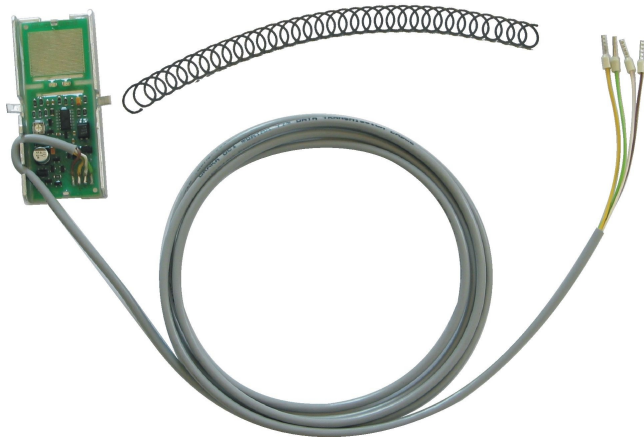


Figure 1: LCS-1.C01 Condensation detector

Table 1: Technical data
wide power supply range: 10 - 24 V AC/DC
output volt free contact
operation LED indication
dew LED indication
provided spring for on pipe mounting



3 INSTALLATION

3.1 Connection scheme

Figure 2: Connection scheme

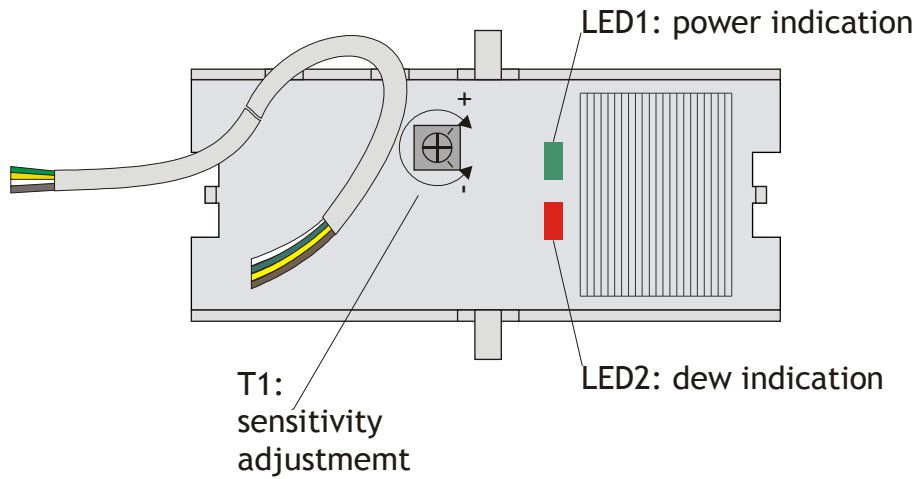


Figure 3: Connection scheme for single sensor

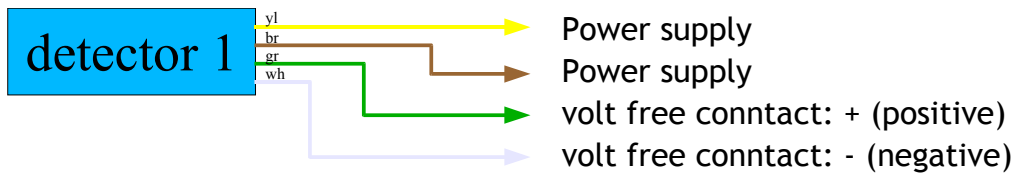


Figure 4: Connection scheme for multiple sensor's

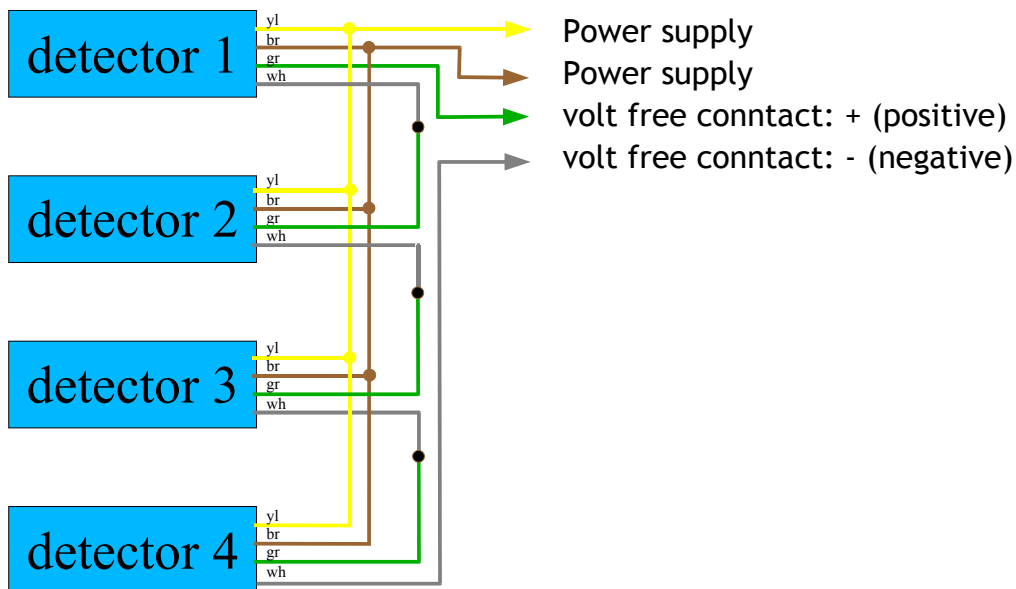


Table 2: Flying lead wires

Yellow (yl) (24V)	24 v AC/DC	Power supply
Brown (br) (24V)	24 v AC/DC	Power supply
Green (gr) (24VDC)	24 V DC (positive)	NC volt free contact
White (wh) (0VDC)	0 V DC (negative)	NC volt free contact

Table 3: LEDs & Trimmers

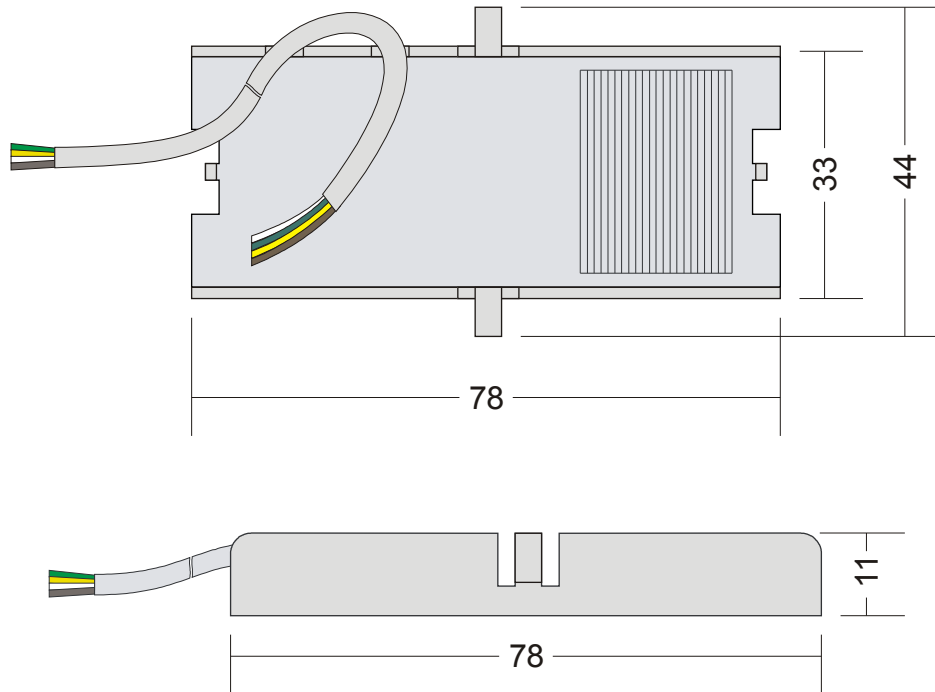
LED1	Green LED: indicates power presence	On: power supply present Off: no power supply
LED2	Red LED: indicates dew presence	On: dew present, output contacts open Off: no dew, output contacts closed
T1	Sensitivity trimmer	rotating clockwise: increasing sensitivity rotating anticlockwise: decreasing sensitivity

NOTE: When wiring several sensors to one input, output of detector must be connected serially (see Fig. 4).



3.2 Mounting instructions

Figure 3: Housing dimensions



- Dimensions in millimeters.



All connections, module attachments and assembling must be done while module is not connected to the main power supply.

Mounting instructions:

The condensation detector should be mounted on the coldest spot of the cooling area or directly on the chilled water supply inlet pipe. The condensation detector housing should have good thermal contact to the measured surface. Use of thermo-contact grease between detector and measuring surface is recommended. Before mounting make sure that the surface is completely clean and dry. Don't paint the condensation detector and avoid contact with other metal pieces.

1. Mount LCS-1.C01 detector on the measuring surface. On pipe fixing should be performed with spring provided.
2. Connect wires to input/output unit.



4 TECHNICAL SPECIFICATIONS

Table 5: Technical specifications

Supply voltage	10 - 24 V AC/DC
Consumption [mA]	Max. 15
Output type	Transistor (NC)
Output current [mA]	Max. 15, internally limited
Dimensions (L x W x H)[mm]	78 x 44 x 11
Weight [g]	60
Wire length connection[m]	2
Ambient temperature [°C]	0 to 50
Transport and storage temperature [°C]	-20 to 60



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5 NOTES





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EC Declaration of Conformity

Company/manufacturer: **Smarteh d.o.o.**
Address: **Trg tigrovcev 1, 5220 Tolmin, Slovenija**

Declares under its sole responsibility that the product:

Product/test object: **Longo condensation detector**
Trademark: **LCS-1.C01**
Model/type reference: **LCS-1.C01**

to which this declaration relates is in conformity with the following directives and/or standards

Directives : **89/336/EEC - Electromagnetic compatibility (EMC)**
73/23/EEC - Low voltage equipment (LVD)

Test standards: **EMC: EN 60945: 1997**
LVD: IEC 61010-1: 2001

Authorised Signature:
Miroslav Črv - General Manager

Place/Date of issue:
Tolmin 25.04.2005

