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e-Multisensor Bus DALI

Instruction sheet

EN

Motion detector and light sensor for DALI-2 networks
Product reference : MS.082002-000 / MS.082002-001

INS10155120010

e-Multisensor Bus DALI is a multisensor for automatic lighting control in DALI -2 networks. It is used to switch on/off and dim lights to save energy optimally. The device includes a motion sensor and a light sensor that provides the occupancy status and the light level of a zone, and provides this information to a DALI-2 Gateway to manage the lights.

The device includes two movable flanges to adjust the vision angle of a motion sensor that allows it to be adapted to different environments, like corridors and open space zones, and also a potentiometer to adjust the sensitivity of the motion sensor with precision.

Product description

The e-Multisensor Bus DALI device is a multisensor for lighting control in installations with DALI-2 communication, which has a high sensitivity motion sensor to switch on/off lights automatically and a light sensor to dim the lights depending on the daylight facing inside the building.

The device provides the motion sensor status instantly to the communication bus to allow a DALI-2 gateway to switch on the lights with minimum delay. The light level is requested constantly from the gateway and is used to adjust the light level of the luminaries depending on the predefined lighting setpoint of the working area.

The device is compliant with the DALI-2 sandard and can be installed in a network with up to 16 multisensors and 64 ballasts for lighting control. It can also be part of 16 lighting groups to do any flexible control of the installations.

Two movable flanges placed next to the motion sensor lens are used to adjust the coverage area of the sensor to adapt it to different type of zones, like corridors in open spaces, where it is interesting to distinguish between people moving in the corridor in respect the ones working in adjacent zones. A potentiometer also in the side of the device can be used to adjust the sensitivity of the motion sensor. To do this the device must be connected to the bus and powered.

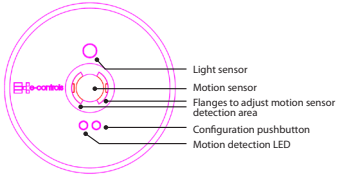
The LED indicator in front of the device lights on briefly when motion is detected. It is possible to enable/disable the LED indicator pressing the front pushbutton up to 3 seconds.

Through the Wink DALI command it is possible to identify the device in the commissioning process.

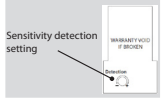
The device includes a label with the identifier and serial number that can be used to document the project.

Mechanical description

Front view



Side view



Product installation

Important:

- Follow the DALI-2 standard recommendations for the wiring installation.
- For an optimal operation of the light sensor avoid reflections of sun light that can affect directly to the device. Avoid shelfs and bright floors over which the sun can be reflected and falsify the light measurement in the zone.

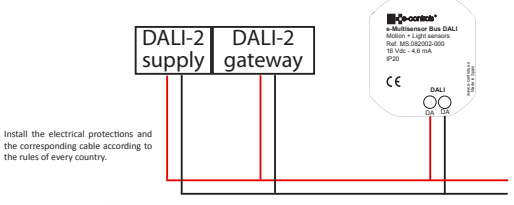
Mounting instructions:

1. Drill a 65mm diameter hole on the ceiling.
2. Connect wires on the correct terminals as shown in the wiring diagram.
3. Adjust the potentiometers of time and sensibility
4. Clip the springs and insert the product into the hole, releasing the springs when placed in.
5. Power up the supply voltage and after 1 minute check the lights are switched on when motion is detected.
6. Configure light set-point depending to the desired level.

Caution:

- The device can't be installed over shelves, behind curtains, near heat/cool air handling units and avoid direct sun radiation over the device.
- Disconnect the device from the power supply before mounting or moving the sensor.
- Do not leave cables peeled or turned around the device.
- Do not connect the device with the hands wet.
- Do not open or hole the device.
- Keep the device and cables away from humidity and dust.
- Clean the front cover with a water moisture soft cloth.

Wiring diagram

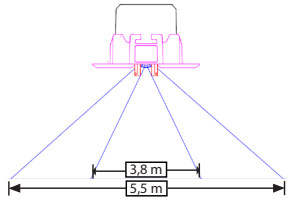


(*) Uo to 300 m cable in free topology, using cable cross section 1,5mm².

Motion sensor

Detection diagram

Cross section view (installed at 2,5 m height)



Motion sensor detection area (*)

Installation height	Detection diameter	Detection width with flanges
2	5,0	3,6
2,5	5,5	3,8
3	6,0	3,9
3,5	7,0	4,0
4	7,5	5,5
5	8,0	6,5

NOTE: Dimensions shown in meters

(*) In optimal sensitivity conditions

Technical features

Supply power
Operating voltage . . . 16Vdc ± 30%
Maximum rated current . . . 4,6 mA
NOTE: Use only DALI-2 power supply.

Communications
Technology . . . DALI-2
Standard . . . IEC 62386-101 ed2, 103 ed1 (input device), 303 ed1 (PIR), 304 ed1 (lux sensor)
Interface . . . DALI
Communication speed . . . 1200 bps

Motion sensor
Technology . . . PIR (Infrared)
Number of detection zones . . . 88
Detection angle (X, Y) . . . ± 50º
Detection range . . . See table
Maximum detection distance . . . 8 m
Maximum time for stabilization after reset . . . 60 s
Sensitivity adjustment . . . Potentiometer
Coverage adjustment . . . Mechanical flanges

Light sensor
Detection range on the sensor . . . 0ºC a +50ºC (32ºF a 104ºF)
Resolution . . . 12 bits
Spectral bandwidth range . . . 400 to 800 nm
Maximum sensivity wavelength . . . 570nm

Led indicator
Motion detection . . . Red ON
Wink DALI command (*) . . . Blink red 30 s

Side Led indicator (marked SL)
Activity in DALI bus . . . Blink yellow

Commissioning in DALI network (*)
Unique identifier at learning time
Front led blinks every second in Wink state
GTIN unique identification code . . . 8435483900011

Temperature values
Operating . . . 0ºC to +50ºC (32ºF to 104ºF)
Storage . . . -20ºC to +85ºC (-4ºF to +185ºF)

Humidity values (no condensation)
Operating . . . 10% to 90% RH at 50ºC
Storage . . . 95% RH at 50ºC

Mechanical installation
Installation . . . Flush mounting in false ceiling
Fixing . . . Two metal springs
Hole diameter . . . 65 mm
Max ceiling thickness . . . 19 mm
Available space behind ceiling . . . 45 mm

Mechanical features
Dimensions . . . 80x50mm (ØxH)
Weight . . . 75 gr
Colour (front) . . . RAL 9016
Enclosure material . . . PP

Cable cross section . . . 0,5 mm² - 2,5 mm² (14 AWG)
Terminals . . . Screw type
Electrical security . . . Class III
Protection degree . . . IP20 (EN 60529:1991)

CE Conformity
Marking . . . CE

Applicable harmonized standards
Product standard . . . EN 60730-1:2011
Electrical security . . . EN60730-1:2011
Electromagnetic compatibility . . . EN61000-6-3
EN 61000-6-1

NOTES:
1) The device is not intended for use as part of a security system detector.
2) For an optimal detection of the motion sensor, the installer should adjust the sensitivity potentiometer to the environment where device will be installed.

(*) Refer to the DALI-2 gateway insallation manual for the commissioning process.

Product references

e-Multisensor Bus DALI White, Motion detector and light sensor for DALI bus, white finished . . . MS.082002-000
e-Multisensor Bus DALI Anthracite, Motion detector and light sensor for DALI bus, anthracite finished . . . MS.082002-010
e-Multisensor Surface, Flush mounting enclosure . . . AC.000001-000

The package of this product is considered as industrial packaging; intended for professional use only.
The manufacturer is not responsible of the incorrect installation or use of the products.
Specifications are subject to change without notice.

CE