

# Multilux 180° Bus DALI

Motion detector and light sensor with DALI interface for corridors

Ordering number: ML.082001-001

**Multilux 180 DALI** is a multisensor designed to operate in high bay applications, which has a special lens to detect motion in a very narrow area like corridors. A light sensor is also included in the device to measure light level in the zone.

The device includes a DALI-2 communication interface to transmit the information into a control system using this protocol, to manage the on/off switching and light dimming of DALI luminaires through a DALI-2 communication gateway.

## Instruction sheet

EN



### General features

- High sensitivity motion sensor for detection up to 14 m height.
- Maximum detection coverage of 22 m diameter.
- Detection sensitivity adjustment with potentiometer.
- Motion detection led indicator state.
- Light sensor range up to 500 lux.
- DALI-2 standard communication port.
- Slave type device to operate with a Master controller.
- Supply power through DALI cable.
- Firmware upgradeable through the DALI bus.
- IP65 enclosure protection degree.
- Operating temperature from -20 °C to +50 °C to operate in cooling chambers.

### Functional description

#### Introduction

The control system to install with this product must be based at least with three elements: This multisensory, a DALI-2 gateway compliant with the DALI-2 standard and a set of DALI luminaires over which the lighting control through the DALI bus will be done.

#### Operating

The device is constantly measuring any motion detection in the area of operation, providing instantly any change as a detection event to the DALI network.

### 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 shelves and bright floors over which the sun can be reflected and falsify the light measurement in the zone.
- The device is designed to be mounted in a flat surface.

#### Installation process

1. Disconnect the DALI bus power supply of the device.
2. Unscrew the four screws of the multisensor cover to access the bus terminal.
3. Feed the cable through the fitting conduit and connect the wires into the terminals. The DALI bus does not have polarity.
4. Fix the device and screw the fitting conduit nut. Be sure that the jacket has been correctly fastened, otherwise the waterproof can't be guaranteed.
5. Make two holes on the ceiling and fix the device firmly.
6. Close the device with the cover in correct position and fix it with the four screws.

The light level is also measured and remains as a value in the device for a polling query from the DALI-2 gateway. With this information, the DALI -2 gateway is responsible for the lighting control over the lighting groups defined previously in the lighting project.

#### Operating

A red LED indicator in the multisensor blinks when a valid detection is detected by the device. This LED can be seen through the semi-transparent lens in front of the device.

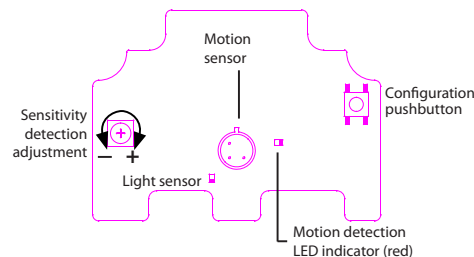
7. Ensure that the cover is closed, otherwise the waterproof can't be guaranteed.
8. Power the device with the DALI-2 supply and check the red LED indicator is ON for around 60 seconds.
9. Configure the device with a DALI tool.

#### Caution:

- The device includes active parts inside. Do not open the device or manipulate it without disconnecting previously the DALI-2 power supply.
- The device can't be installed over shelves, behind curtains, near heat/cool air handling units and avoid direct sun radiation over the device.
- 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.
- Clean the front cover with a water moisture soft cloth.

### Mechanical description

#### Front view



### Motion sensor

#### Motion sensor detection area (\*)

Height (m)	Length (m)	Width (m)
3	6,0	1,4
4	8,0	1,2
6	11,0	1,0
8	12,0	1,0
10	15,0	0,5
>12	18,0	0,5

(\*) In optimal sensitivity conditions

### Technical features

#### Supply Power

Operating voltage . . . . . 16 Vdc ± 30%  
Maximum rated current . . . . . 4,6 mA  
NOTA: 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 . . . . . 11  
Detection angle (longitudinal) . . . . . 90°  
Detection range . . . . . See table  
Maximum detection distance . . . . . 18 metros  
Sensitivity adjustment . . . . . Potentiometer  
Maximum time for stabilization after reset . . . . . 60 s

#### Light sensor

Detection range on the sensor . . . . . 0 a 500 lux  
Resolution . . . . . 12 bits  
Spectral bandwidth range . . . . . 400 a 800 nm  
Maximum sensitivity wavelength . . . . . 570 nm

#### Led indicator

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

#### Commissioning in DALI network (\*)

Unique identifier at learning time  
Front led blinks every second in Wink state  
GTIN unique identification code . . . . . 8435483900035

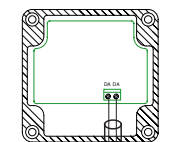
#### Temperature values

Operating . . . . . -20°C to +50°C (-4°F to 104°F)  
Storage . . . . . -20°C to +85°C (-4°F to + 185°F)

### Installation drawing

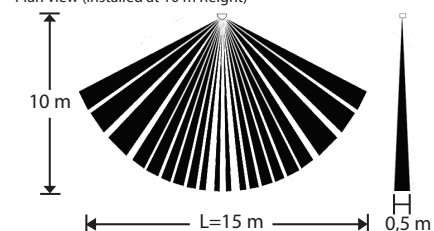
DALI cable  
2x1,5 mm²  
Max. Dist. 300 m

DALI-2  
Controller



#### Detection diagram

Plan view (installed at 10 m height)



#### Humidity values (no condensation)

Operating . . . . . 10% to 90% RH at 50°C  
Storage . . . . . 95% RH at 50°C

#### Mechanical installation

Type . . . . . Surface mounting  
Fixing . . . . . Screws

#### Mechanical features

Dimensions . . . . . 80x82x85 mm  
Weight . . . . . 250 g  
Enclosure colour . . . . . RAL7035  
Enclosure material . . . . . Polycarbonate  
Cable cross section . . . . . 0,5 mm² - 2,5 mm² (14 AWG)  
Jacket diameter . . . . . Min 4,5 mm - Max 10 mm  
Electrical security . . . . . Class III  
Protection degree . . . . . IP65 (EN 60529:1991)

#### CE Conformity

Mark . . . . . CE

#### Applicable harmonized standards

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

#### NOTAS:

- 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 installation manual for the commissioning process.

### Ordering number

**Multilux 180° Bus DALI**, Motion and light high bay multisensor with 180° detection area, bus DALI. . . . . ML.082001-001