DMD3-1

EN Combined detector

Characteristics

- DMD3-1 is a combined detector for ceiling mounting.
- DMD3-1 can be used in two basic ways:
  - Motion detector
  - Sensor luminescence
- The unit is equipped with two communication interfaces:
  - Installation iNELS BUS
  - DALI
- The motion detector is used to detect people moving in the area. Using the passive scanning infrared spectrum for detection.
- Integrated luminescence sensor can be used for sensing current luminescence at the point of installation of the unit. This information can be used in tasks to maintain a constant luminescence. In space where it is possible, thanks to the contribution of natural light from the outside to adjust the artifi cial light, which can reduce energy consumption.
- Setting the communication interface is done using the SET button.
- The unit can be configured via the iNELS3 Designer & Manager software, which, among other things it is possible to:
  - Set the desired function depending on detected motion.
  - Resolve jobs based on the value of luminescence.
  - Enable / disable the alarm LED on the detector housing.
- DMD3-1 detector is designed for indoor installation and is not intended for outdoor use.
- DMD3-1 detector is powered directly via the iNELS BUS installation (nominal 27 V DC) or DALI BUS (nominal 16 V DC).

General instrucions

CONNECTION TO THE SYSTEM, INSTALLATION BUS

iNELS3 peripheral units are connected to the system through the BUS installation. Installation BUS conductors are connected to the terminal units to BUS + and BUS-terminals, wires cannot be interchanged. For installation of BUS it is necessary to use a cable with a twisted pair of wires with a diameter of at least 0.8 mm, the recommended cable is iNELS BUS Cable, whose features best meet the requirements of the BUS installation. Bearing in mind that in terms of all the properties iit is it is possible in most cases also use the cable JYSTY 1x2x0.8 or JYSTY 2x2x0.8, however it is not recommended as the best option. In the case of a cable with two pairs of twisted wires it is not possible to use the second pair of the other for modulated signal due to the speed of communications; it is not possible within one cable to use one pair for one segment BUS and the second pair for the second segment BUS. For installation of BUS it is vital to ensure that it is kept at a distance from the power lines of at least 30 cm and must be installed in accordance with its mechanical properties. To increase mechanical resistance of cables we recommend installation into a conduit of suitable diameter. Topology installation of BUS is free except for a circle, each end of the BUS must terminate at terminals BUS + and BUS-. While maintaining all the above requirements, the maximum length of one segment of the installation BUS can reach up to 550 m. Due to the data communication and supply of units in one pair of wires, it is necessary to keep in mind the diameter of wires with regards to voltage loss on the lead and the maximum current drawn. The maximum length of the BUS applies provided that they comply with the tolerance of the supply voltage.

For the management of DALI BUS there is not an exact cable type recommended, but it is important to keep some installation conditions. For DALI BUS lines up to 100 m the recommended min. conductor cross section is 0.5 mm^2. For management between 100 m -150 m a cross section of 0.75 mm^2 and more than 150 m the recommended min is 1.5 mm^2. Management of more than 300 m is not recommended. The voltage drop at the end of the installation may not be greater than 2 V.

CAPACITY AND CENTRAL UNIT

It is possible to connect to the central unit CU3-01M or CU3-02M two independent BUSes by means of terminals BUS1+, BUS1- and BUS2+, BUS2-. It is possible to connect to each BUS up to 32 units, so it is possible to connect directly to the central unit a total of 64 units. It is necessary to comply with the requirement of a maximum load of one BUS line - maximum up to 1000 mA current. It is the sum of the rated currents of the units connected to the BUS line, other units can be connected using the units MI3-02M, which generate further BUSes. These are connected to the CU3 unit via the system BUS EBM and you can connect a total of 8 units via EBM BUS to the central unit MI3-02M .

SUPPLYING THE SYSTEM

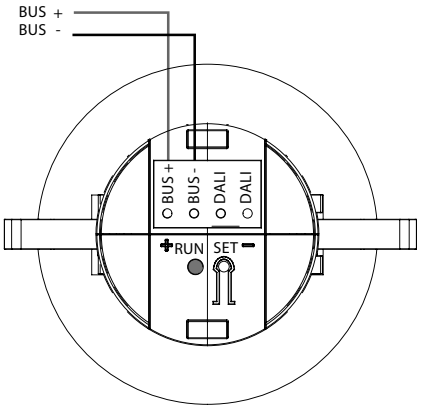
For supplying power to system units, it is recommended to use the power source of ELKO EP titled PS3-100/iNELS. We recommend backing up the system with backup batteries connected to the source of PS3-100/iNELS (see sample diagram of connecting the control system).

GENERAL INFORMATION

To operate the unit, it is necessary that the unit is connected to a central unit CU3 series, connected to the central unit of the system CU3, or to a system that already contains this unit as its expansion to include further system. All unit parameters are set through the central unit CU3-01M in the software iDM3.

There is LED diode on the PCB for indication of supply voltage and communication with the central unit series CU3. In case that the RUN diode flashes at regular intervals, so there is standard communication between the unit and BUS. If the RUN diode lights permanently, so the unit is supplied from BUS, but there is no communication between BUS and unit. In case that RUN diode is OFF, so there is no supply voltage on the terminals BUS+ and BUS-.

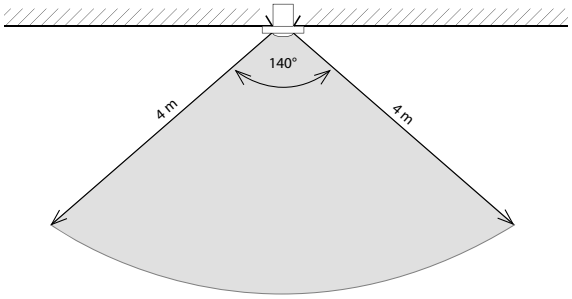
Connection



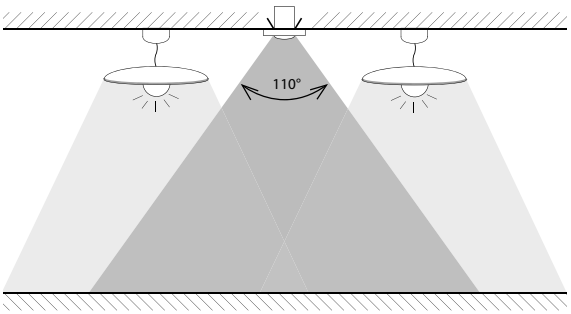
Scanning range

- For proper function of the detector it is necessary to eliminate all interference from heat or light sources in the sensing area.
- The detector cannot be installed on an unstable or vibrating surface.
- Lower mounting height will reduce the overall size of the detection zone.
- The distance from the unit and the colour of the illuminated area affects the resulting value of the measured illumination by the DMD3-1 unit.

Motion detector



Light sensor



Setting

- Long press of SET key (> 8s): BUS change (DALI/BUS)
- Short press of SET key (< 1s): Signalling of the selected BUS:
  - DALI - LED RUN flashes 1x long flash
  - BUS - LED RUN 3x flash

Technical parameters

DMD3-1	
Inputs	
Angle of motion detection:	140 °, 4 m
Recommended installation height:	2.5 - 3 m
Changing the PIR sensitivity:	Yes, 0.. 127 (max. sensitivity)
PIR scan type:	single / dual
Default setup PIR:	99 dual
Temperature measuring:	YES, built-in temperature sensor
Scope and accuracy of temp. measurement:	-25.. +110 °C; ± 0.3 °C
Humidity measurement:	YES
Humidity meas. range:	0 .. 99% RH
Humidity meas. accurancy:	± 4 % RH
Light Metering:	YES
Detection angle:	± 55 °
Measuring range:	1 - 100 000 lx
Number of control buttons:	1
Outputs	
Indication red LED:	identification DALI MASTER / communication options
Indicating blue LED:	PIR Activation
Indication green LED RUN:	communications / unit status
Communication	
Interface:	Installation BUS iNELS DALI
Power supply	
From iNELS BUS:	27 V DC, -20 / +10 %
Rated current:	18 mA
From DALI BUS:	16 V (max. 23 V)
Rated current:	27 mA
Connection	
Terminals:	0.3 - 0.8 mm^2
Operating conditions	
Operating temperature:	-20 .. +55 °C
Storing temperature:	-30 .. +70 °C
Protection degree:	IP20
Operation position:	vertical
Installation:	celling
Dimension and weight	
Dimension:	Ø 76 x 73 mm
- installation hole diameter:	60 mm
- diameter visible:	76 mm
Weight:	81 g

Warning

Before the device is installed and operated, read this instruction manual carefully and with full understanding and Installation Guide System iNELS3. The instruction manual is designated for mounting the device and for the user of such device. It has to be attached to electro-installation documentation. The instruction manual can be also found on a web site www.inels.com. Attention, danger of injury by electrical current! Mounting and connection can be done only by a professional with an adequate electrical qualification, and all has to be done while observing valid regulations. Do not touch parts of the device that are energized. Danger of life-threat! While mounting, servicing, executing any changes, and repairing it is essential to observe safety regulations, norms, directives and special regulations for working with electrical equipment. Before you start working with the device, it is essential to have all wires, connected parts, and terminals de-energized. This instruction manual contains only general directions which need to be applied in a particular installation. In the course of inspections and maintenance, always check (while de-energized) if terminals are tightened.