

2-CHANNEL FLUSH CEILING MOUNTED MOTION DETECTOR DM TEC 002



INSTRUCTIONS MANUAL

Technical Specifications

- **Power supply:** 230V_{AC} ±10% ~50 Hz
- **Power consumption:** <1W
- **Load:** 16A cosφ= 1
 - Output I (L'): no free-voltage contact
 - LED lamps: 400W
 - Incandescence: 3000W
 - Fluorescence: 1300W (130μF)
 - Output II (D1-D2): free-voltage contact
 - LED lamps: 400W
 - Incandescence: 3000W
 - Fluorescence: 1300W (130μF)
- **Coverage:** 360°, max. Ø7 at 2,5m high and 18°C
- **Settings:** Via Potentiometer or Remote Control (EM MAN DM0)
- **Level of luminosity:** 3 ~ 100Lux (only Output I)
- **Timing:**
 - Output I (L'): 6 seconds ~ 12 minutes
 - Output II (D1-D2): 10 seconds ~ 30 minutes
- **Dimensions (mounted):** 80mm x 18,5mm
- **Environmental protection:** IP40, Class II
- **Operating temperature:** -10°C ~ +45°C

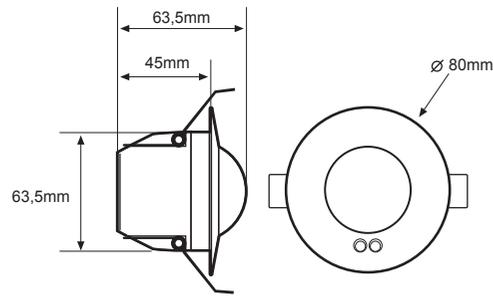
CAUTION

- Installation of electric equipment must be carried out by qualified professionals.
- Before you start making any connections, disconnect the power supply to avoid any risk.
- When some kinds of lamps blow, they can produce a very high current which could damage the detector.

1 DESCRIPTION

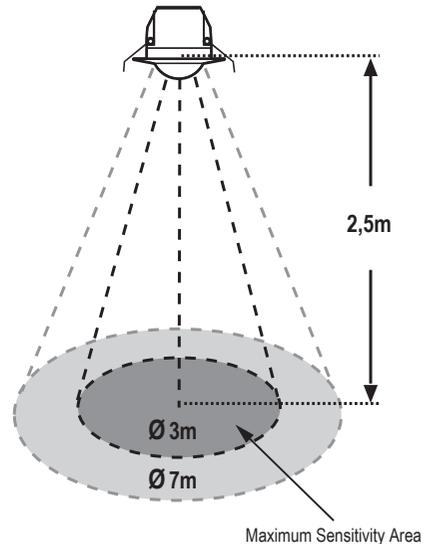
- Indoor motion detector for flush-ceiling mounting.
- Focus type assembly allows its installation in ceilings with different thickness.
- Circular detection area, 360°
- Two switching outputs, one of them free-voltage contact.
- High capacity relay with "zero crossing" control, which allows switching practically any type of load.
- Natural light measurement, allowing condition its operation to daylight level.
- High sensitivity PIR sensor, which detects very small movements.
- Possibility to connect several detectors in parallel to expand the area to be covered in a single line of lighting.
- Optional IR remote control for easy and quick setting: EM MAN DM0.

2 DIMENSIONS



3 RANGE

The optimal height for its assembly is 2,5m, which can cover up to Ø7m.



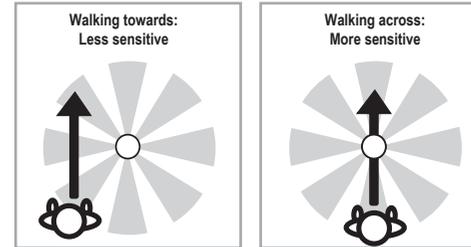
4 INSTALLATION

A. Setting the device:

Given that the sensor responds to movement and to heat, avoid the following situations:

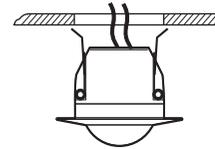
- Pointing the detector towards objects with reflective surfaces such as mirrors.
- Positioning the sensor near heat sources such as ventilation systems, air conditioning devices or lamps.
- Pointing the detector towards objects which could be moved by draughts, such as curtains, plants...

Take into account the walking direction when installing. It is less sensitive to movement across the detector and more sensitive to movement directly toward the sensor, which will reduce the detection coverage.



B. Mounting:

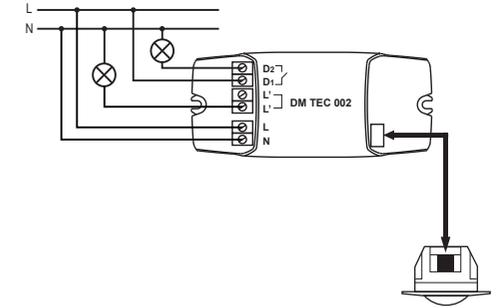
Drill a hole of Ø65mm in the ceiling:



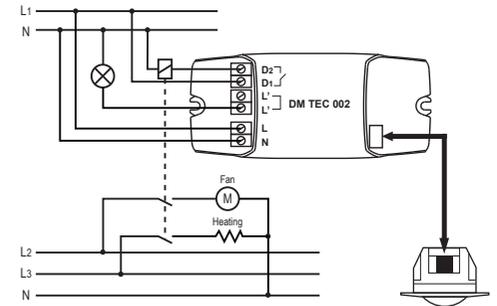
Make the wiring connections following the installation diagrams and set the desired values of Lux and Time.

5 WIRING DIAGRAM

• Installation with 2 lighting circuits:



• 3-phase installation with light, ventilation and heating (with contactor):



6 SETTINGS AND TEST

SETTINGS

"Lux" and "Time" values can be adjusted via its control knobs or also by remote control.

LUX setting (front side):

· The Output II (D1-D2) can not be controlled by the Lux adjustment. Only the Output I (L) can be controlled by the Lux control knob. If the adjustment is done by remote control, EM MAN DMO, it will also set the Lux setting of the Output I.

· This setting allows to select the minimum level of natural light in which the detector would detect movement. In case it detects movement and natural light is below the indicated level, the device will not respond.

· The user can set this value between 3 and 100 Lux.

· If the detector is expected to work despite of surrounding natural light, set the potentiometer in "☀☾".

· On the contrary, if you want the detector to work only at night (without any natural light), set the potentiometer on "☾".



SENSITIVITY setting (back side):

· It adjusts the sensitivity of the PIR sensor to the movement.

· Placing the SENS control knob to "-" the sensor will operate with a very narrow coverage area.

· Placing the SENS control knob to "+" the sensor will operate in a wider coverage area.

· This setting will affect to both outputs.



TIME settings:

· This setting allows to select the span of time during which lamps will remain on, after movement detection.

· The control knob "TIME" will adjust the time delay from the Output I and it can be set between 6 seconds and 12 minutes.

· The control knob "TIME 2" will adjust the time delay from the Output II and it can be set between 10 seconds and 30 minutes.



SETTING USING A REMOTE CONTROL (EM MAN DMO)

· Remote Control can only be used to adjust the parameters of Output I (L).

· It is possible to adjust timing, Lux and Sensitivity settings through this remote control, without the need to access the potentiometer of the device itself.

· Indications of the detector LED when using the remote:

- The red LED will flash twice the moment it receives a telegram from the remote control.

- The red LED will be on for 1sec and off for 5sec after receiving the signal "Permanent ON/OFF" from the remote control.

COVERAGE TESTING

The objective of this test is checking and adjusting the coverage.

Note The detector will need ~2min to warm up after being powered up. Then, it begins working normally.

The red LED which is within the lens can be used as an indicator when performing the testing process without any load. This LED lights whenever motion is detected and stays on until the time delay expires.

Test:

· Power up the detector.

· Wait ~2min for the detector to warm up, with the power supply and the LED on. After this time, they will go out.

· Set the "Lux" potentiometer on "☀☾" and "Time" in the minimum.

· Walking from outside cross the coverage area, until the power is switched on.

· Repeat the two previous steps until the desired coverage is achieved

7 MASKING CLIPS

There are three covers available to restrict the coverage area.

To fix the restriction covers, the decorative frame has a slot on its rear side, where the projection of the cover fits.

8 PROBLEM SOLVING

When the detector stops working, check the possible failures and the solutions suggested in the following table that maybe will help you to solve the problem:

Problem	Possible cause	Suggested solution
Lamp does not light up	<ol style="list-style-type: none"> 1. Power supply does not reach the detector 2. Incorrectly connected 3. Incorrectly adjusted Lux 4. Defective lamp 5. Permanently OFF set using the remote (if used) 	<ol style="list-style-type: none"> 1. Adequately power up the detector 2. Check the connections and follow the wiring diagram 3. Check the adjustment 4. Change the lamp 5. Change its state by pushing OFF on the remote
The lamps do not switch off	<ol style="list-style-type: none"> 1. The set disconnection time is too long 2. The detector activates when not required 3. Incorrectly connected 4. Permanently ON set using the remote (if used) 	<ol style="list-style-type: none"> 1. Reduce disconnection time and check that lamps are off after that time 2. Keep away from the coverage area to avoid false activation 3. Check that the power supply and feed are correctly connected 4. Change its state by pushing ON from the remote
Lamp is switched on/off cyclically	The load (fluorescence, contactor,...) is continuously generating harmonics triggering the detector in each switching	Keep away the detector from the load or connect a RC harmonic suppression filter between L' and N
Unwanted activations	Heat sources, draughts, highly reflective surfaces or objects moving due to the wind	Avoid pointing the detector at heat sources such as air conditioning, fans, radiators. Check that there are no objects moving due to the wind