DIM MULTI

Light and motion sensor
Operating instructions

Description

Purpose and application

The DIM MULTI sensor controls brightness at the workplace and in offices to increase comfort and save energy.

The sensor is installed in T5/T8 fluorescent lamps or ceilings and is connected directly to control gear with a 1...10 V interface.

The following application types are available, depending on how the sensor is connected (see the connection diagram in the fitting instructions):

- Alternative 1: One sensor controls and switches a load area.
- Alternative 2: Multiple sensors with a shared (coupled) motion detector individually control and switch separate load areas.
- Alternative 3: One sensor controls and switches a large load area, and additional sensors are used as pure motion sensors to enlarge the detection area.
- Alternative 4: One sensor controls and switches a load area and motion detection is deactivated.

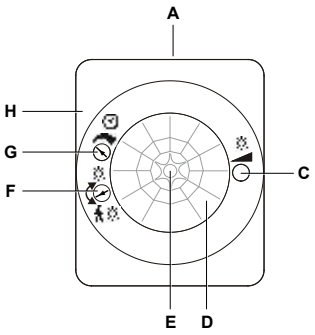
Function

The sensor measures the brightness in the area to be regulated and keeps this to an adjustable set value by introducing artificial light according to the amount of daylight available.

The sensor also detects the movements of people.

As daylight increases the artificial light is reduced. If the sensor no longer detects any motion, it switches the luminaires off after an adjustable delay period.

Design



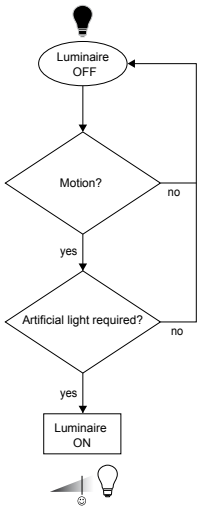
The sensor is made up of the following components:

- Connections (A, on the back of the sensor):
  - L, N: Supply lines
  - 0 V, 1-10 V: control lines
  - ↑: Load
  - B: Control button or parallel circuit for shared motion detection
  - Function selection switch
  - DIP switch
- Push button: Setpoint for brightness (C)
- Motion sensor (D)
- Light sensor (E)
- Setscrew: Activating/deactivating motion detection (F)
- Setscrew: Switch-off delay time (F)
- Housing (H)

Operation

Automatic control principle

Precondition: Motion detection is activated.



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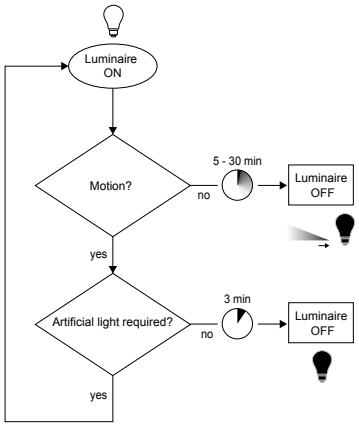
Operation (cont.)



Symbols

Control button of luminaire	Luminaire on
Short press (< 0.5 s)	Luminaire off
	Brightness with automatic regulation

Specifying the setpoint for brightness control

Press the push button on the sensor until the desired brightness is reached. Ten seconds after the push button is pushed, the brightness is measured and stored as the setpoint.

Alternative: Adjust the setpoint by double-clicking on the external control button.

Setting the operating mode for motion detection

Left stop: Automatic motion detection → The lighting is dimmed after the switch-off delay time, switched off after 10 minutes and automatically switched on again when motion is detected

Right stop: Depending on the basic function setting (see “Setting the basic functions”):

- Variant 1: operation without motion detection
- Variant 2: operation without motion detection
- Variant 3: semi-automatic motion detection → like automatic motion detection, except that lighting that was switched off automatically because of lack of motion must be switched on again manually using the external control button.

Adjusting the switch-off delay time

Switch-off delay time if no motion is detected.

Turn the setscrew on the sensor to the required setting:

- To the left: Shorter (max. 1 min.)
- To the right: Longer (max. 30 min)

Switching and dimming the luminaire

Precondition: control button is connected to connector B; see the connection diagram in the fitting instructions.

To switch: Short press.

To dim: Long press.

Note: The brightness control is deactivated until the next time the luminaire is switched on.

Each repeated long control button press causes a toggle between increased brightness and decreased brightness.

Operation (cont.)

Setting the basic functions

The function selection switch is used to select the basic functions for the setscrew for motion detection, the external control button and the reflection correction.

In each variant, the device acts as a constant light control with motion detection. Only the functions of the setscrew and the external control button differ for each variant.

Var.	Device function	Switch setting
1	Right stop = operation without motion detection Change between operation with automatic/without motion detection	0 1 2 3
2	Right stop = operation without motion detection Switching and dimming the luminaire	4 5 6 7
3	Right stop = semi-automatic motion detection Switching and dimming the luminaire	8 9 A B
4	Device is only used for detection area expansion	F

Switch settings C, D, E are currently not in use.

Adjusting the reflection correction

Depending on the room characteristics, set the reflection correction in 4 stages using the function selection switch:

- Increase the value (e.g. from 0 to 1 to 2 to 3 in function variant 1) if the artificial light is dimmed too much.
- Decrease the value (e.g. from 7 to 6 to 5 to 4 in function variant 2) if the artificial light remains too bright.

Valid for all 3 function variants.

Restricting the basic functions

The function variants (2 and 3) set via the function selection switch can be restricted as follows via the DIP switch:

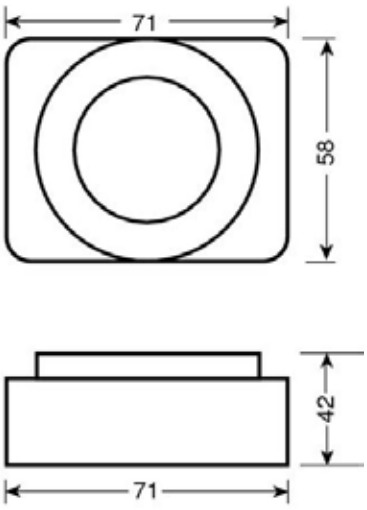
	1: OFF 2: OFF	On/off active Lighter/darker dimming active Setpoint storage activ
	1: ON 2: OFF	On/off active Lighter/darker dimming active Setpoint storage blocked
	1: ON 2: ON	On/off active Lighter/darker dimming blocked Setpoint storage blocked

Appendix

Technical data

Operating voltage	230 V / 50-60 Hz (no DC operation)
Fuse	External 6 A
Power consumption	Approx. 2 W
Maximum total line length (control line: 0.5 mm², load and supply line: 1.5 mm²)	100 m
Line connection	Screw terminals for single-wire or fine-wire conductors with 0.3 – 1.5 mm² or with 1.5 m cables
Control connection	Basic insulation as per IEC 664, no safety extra low voltage
Load capacity of control output	100 mA (approx. 100 ECG or transformers)
Load capacity of switching output	5 A resistive load. Max. number of ECG for line cross section of 1.5 mm² and line length of 15 m (distributor to device) + 20 m (to the middle of the load circuit, impedance approx. 800 mΩ): 30 x HF 1x18/230-240 DIM 20 x HF 2x18/230-240 DIM 30 x HF 1x36/230-240 DIM 20 x HF 2x36/230-240 DIM 20 x HF 1x58/230-240 DIM 10 x HF 2x58/230-240 DIM For larger line cross sections or shorter lines, the permissible load is reduced (e.g. by 20 % for an impedance of 400 mΩ).
Transient time of control output (dependent on control error)	Approx. 10 – 30 seconds
Absence delay time	1 – 30 minutes + 10 minutes switch-off delay time
Working temperature	0 °C ... +50 °C
Adjustable light value	Approx. 15 – 1500 lx measured at sensor
Detection area	Conical, opening angle approx. 110°
Pollution severity	2 (dry, not conductive as per IEC 664 10/92)
Dimensions (L x W x I)	58.8 x 70.5 x 42 mm
Weight	Approx. 150 g
Protection class	II
Protection type	IP 20

Dimensioned drawing



The CE requirements are fulfilled: EMC as per EN 61547, low voltage as per EN 60669-2-1.

Conformity with the relevant EU directives is confirmed by the CE symbol.