

2-CHANNEL DALI CONSTANT LIGHT CONTROL & MOVEMENT DETECTOR

RE DMS DA3



INSTRUCTIONS MANUAL

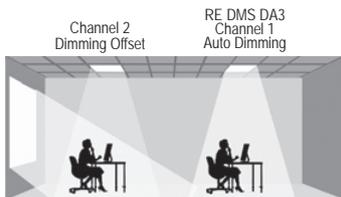
3 INSTALLATION & WIRING

A. Choosing the installation site:

Depending on the use and the operation mode, the detector is installed following some or other criteria.

- Constant light control:

Distribute the installation by zones according to the contribution of natural light. In each clearly differentiated area a sensor / control assembly should be installed.



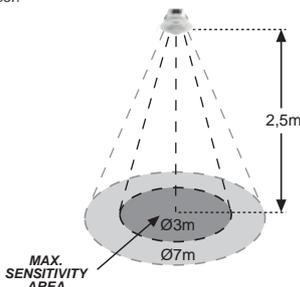
- CHANNEL 1 (DA1+): Channel farthest from the window. Reference channel. Install the sensor RE DMS DA3 close to the setpoint, e.g. over the desktop.

- CHANNEL 2 (DA2+): Channel closest to the window. This channel is Channel 1 dependent. It allows to adjust the lighting level of the lamps between 10-50% less than channel 1.

Avoid placing the sensor over dark surfaces (furniture or dark carpets) or highly reflective (tables and polished floors).

Avoid direct light on the sensor (sun rays, reflections of windows or mirrors, lamps focused on the sensor, ...).

- Installation criteria for optimum operation of motion detection:
Install the sensor taking into account the field of vision or detection area of the sensor.



Considering that motion detector responds to temperature changes, please avoid next conditions:

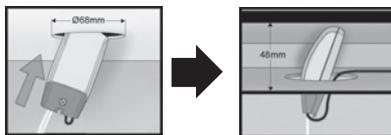
- Avoid aiming the sensor towards areas or objects whose surfaces are highly reflective or are subjected to rapid temperature changes.
- Avoid mounting the sensor close to heat sources, such as heating vents, air conditioners, dryers, vents,...
- Avoid aiming the sensor towards light sources.
- Avoid aiming the sensor towards objects in movement, such as curtains, small trees, bushes,...

If both functions are used (motion detection and automatic light regulation), the requirements mentioned in the two previous sections must be fulfilled.

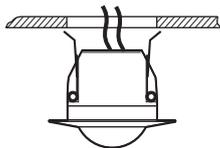
B. Installation procedure:

Disconnect the mains supply before doing the wiring.

Easy installation on false ceilings. It is only necessary 48mm height if the orifice has Ø68mm and 60mm height if the orifice is Ø55mm.

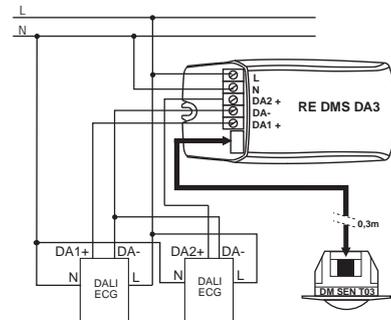


To install the sensor, drill a Ø65mm hole in the ceiling and hold the wire inside.



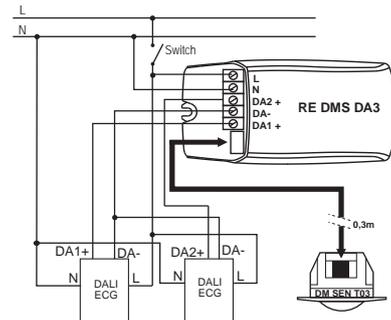
C. Wiring diagrams:

C.1. Simple installation



C.2. Installation of an external Switch for manual turn off

It is possible to install an auxiliary switch to manually turn the system off and on. In installations, for example, with the motion detection function canceled, this switch will allow switching the system on and off at any time.

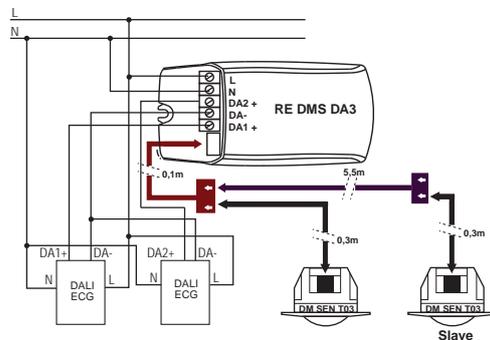


Note: after supplying the dimmer, the lamps will be turned-on at its maximum level.

The system is self-regulated to the adjusted light level with some inertia. This inertia last, approximately, 4 minutes from the maximum level (100%) to the minimum (<10%).

C.3. Installation using extra motion sensors (only AUTO mode)

It is possible to install up to 14 extra motion sensors (DM SEN T03).



1 CHARACTERISTICS

Constant light control for DALI Drivers or Ballasts. Depending on the daylight, and the movement (optional), it allows to maintain a certain level of luminosity taking into account the natural light.

2-output channels for DALI ECGs.

Flush-ceiling mounting, for indoor use.

Motion detection coverage of up to 7m at Ø2,5m high. It can be extended by using extra slave sensors (DM SEN T03).

Fully automatic operation, controlled according to daylight, or manual, by installing the accessory AC DMS 001 and the use of one pushbutton and switch.

Commissioning and control by RF remote control CO REG R05.

System frequently used in offices, schools, hotels...

It consists of 2 elements:

- Sensor:
 - Flush-ceiling mounting, just like a Ø65mm halogen lamp.
 - With built-in brightness sensor and motion detector.
 - RJ12 connector.
 - Three different settings:
 - Mode selector: Automatic (dimming + movement detection) or only Dimming (REG). See section 4A.
 - Time delay. See section 4C.
 - Programming setting. See section 4D.
- Control:
 - Can be mounted over the false ceiling, connected to the sensor.
 - 2 DALI output channels.
 - Adjustment of the minimum level of artificial light. See section 4B.
 - Offset adjustment for the second output channel.

Extra motion sensor DM SEN T03:

Extra motion sensor which can extend the coverage area.

RJ12 connector that allows a quick and easy wiring.

2 WORKING

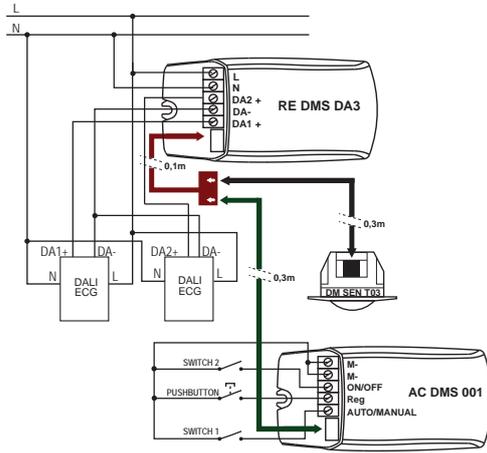
The user selects the desired brightness level and the system automatically controls the level of the reactances, depending on the natural light, in order to obtain the adjusted luminosity.

The system can operate with or without motion detection. If motion detection is applied, the system starts operating when motion is detected in the sensor's viewing area, and turns off when the selected sensor time is exceeded. If the motion detection is canceled, the automatic control system operates permanently.

Both in AUTO mode and in REG mode, the minimum level of artificial light can be set by using a control knob (4B). This allows to not completely turn the lighting off if it is not desired.

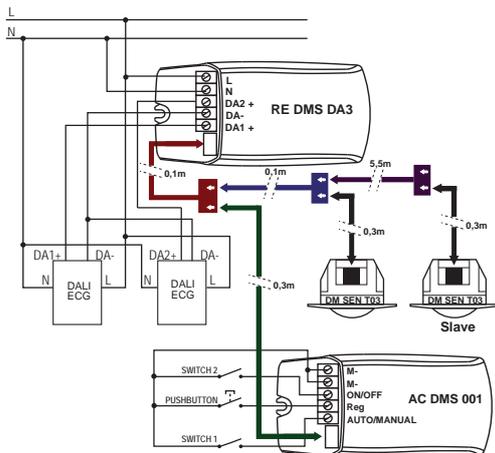
C.4. Installation with accessory AC DMS 001

It is possible to manually switch the system on and off using the accessory AC DMS 001.



- Switch 1: Manual Control (ON) or Automatic Control (OFF).
- **Manual Control:** Automatic dimming will not be functional.
 - Switch 2 (ON/OFF): no function assigned.
 - Pushbutton (Reg): a short press switches the lighting on or off and a long press dims the lamps. Each time it is released and held down again, the dimming direction is changed.
- **Automatic Control:** the brightness level to be applied will be marked by the active dimming obtained from the sensor.
 - Switch 2 (ON/OFF): has the same behavior as the motion detection of the sensors connected to the RE DMS DA3, turning the light to the active dimming level. That is, it allows to simulate a situation without motion detection and only apply the dimming.
 - In the OFF position, the light will turn on again as soon as motion is detected by a sensor.
 - Pushbutton (Reg): no function assigned.

C.5. Installation with accessory AC DMS 001 and Slaves



4 SETTINGS AND WORKING TEST

The RE DMS DA3 has 4 knobs for different settings:

A. Automatic (Dimming + Movement) or Dimming Mode (Sensor)

- **AUTO:** Standard operation, automatic dimming depending on daylight and motion detection (factory position).
- **REG:** Operation only with automatic dimming depending on natural light, without motion detection.



B. Minimum dimming level (0-50%) (Control)

In both operation modes, the minimum level of artificial light can be set by using this control knob.

This allows to not completely turn the lighting off if it is not desired.

Placing the knob at "-", the lighting will be switched off if there is enough daylight or there is not any movement during the time delay.

Placing the knob at "+" the lighting will be switched on at 50% even if there is enough daylight or there is not any movement during the time delay. In this case, the switching-off must be done by using an external switch.



C. Time delay (TIME) and TEST mode (-) (Sensor)

With this knob, the time that the constant light control will remain active after a motion detection is set. This time can be set between approximately 10 and 30 minutes.

Placing this knob at "-" the TEST mode is selected. This mode is helpful at the moment of doing the dimming and detection tests, decreasing the time delay to only 10sec.

For the dimming test, if the sensor is covered with the hand, the lighting will be increased to the maximum. Otherwise, removing the hand and aiming to the sensor with a light, the lighting will be decreased to the minimum level.

This setting is not necessary working in REG mode because the motion detection does not work.



D. OPTIONAL Programming of Day and Night lighting Setpoints

The system is calculated to achieve an adequate lighting, approximately 500-600Luxes, on the desk, in a standard installation. If the obtained results with the factory settings are not the desired ones, please adjust the "Day" and "Night" setpoints by following the steps detailed below.

D.1. At night or with the room in the dark (lighting fixtures ON):

- Install the sensor according to the wiring diagrams and mount it in the ceiling.
- Supply the device.
- Wait for 1 minute until the sensor is stabilized.
- Turn "LUX" control knob to "☾" position. The sensor's red LED starts to flicker. The lighting fixtures will be switched on at maximum level.
- Place the sensor in its position and get away around 4-5m from it.
- Wait for 1 minute. The lamps and the sensor's red LED will be switched off. At this moment, the RE DMS DA3 has memorized the maximum brightness threshold.
- Finally, set the "LUX" knob in the middle for normal operation.

D.2. During the day and under usual conditions with the desired daylight:

- Wait for 1 minute until the sensor is stabilized.
- Turn "LUX" control knob to "☀" position. The sensor's red LED starts to flicker. The lighting fixtures will be switched off.
- Place the sensor in its position and get away around 4-5m from it.
- Wait for 1 minute. The red LED will be switched off. At this moment, the device memorizes the brightness threshold for the switching-off.
- Finally, set the "LUX" knob in the middle for normal operation.



E. Motion detection TEST and LED function

The LED can be used to show whether the load is switched-on or off when doing the working test:

1. Set the "TIME" knob at "-" position. In this mode each detection means a time delay of 10sec.
2. Turn the device on.
3. Wait for more than 1 minute for becoming stabilized.
4. Walk from outside to inside of the coverage area until the detection is done.

F. Channel 2 Offset adjustment (control)

Channel 2 is Channel 1 dependent:

- **CHANNEL 1 (DA1+):** Channel farthest from the window. Reference channel. Install the sensor RE DMS DA3 close to the setpoint, e.g. over the desktop.
- **CHANNEL 2 (DA2+):** Channel closest to the window. This channel is Channel 1 dependent. It allows to adjust the lighting level of the lamps between 10-50% less than channel 1.



5 REMOTE CONTROL CO REG R05

It is possible to control remotely this device via the Infrared CO REG R05 remote control. This control allows to program the day and night light setpoints (without the need to access to the ceiling, as well as perform a manual control).

It has 3 working modes:

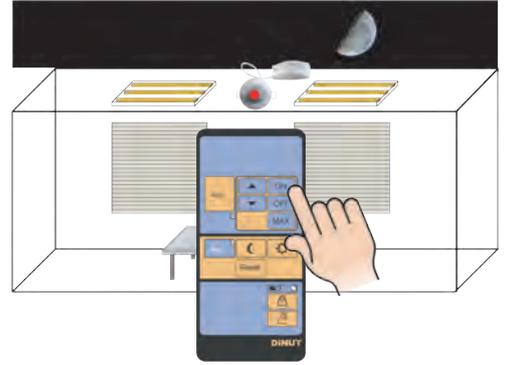
- **Programming mode "Prog":** allows to set up the brightness thresholds (day and night setpoints).
- **Automatic mode "Auto" or "REG":** constant light control depending on the daylight.
- **Manual mode:** allows switching on/off and dimming the lighting fixtures from the IR remote control.

A. Programming mode "Prog"

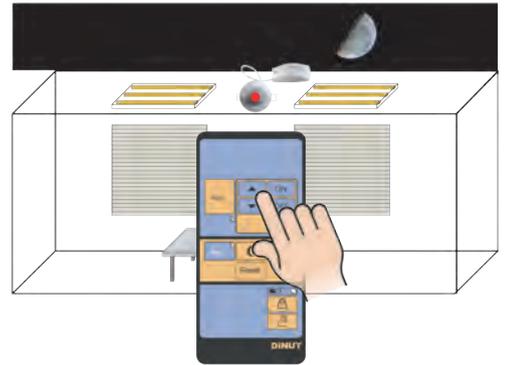
A.1. NIGHT setpoint (lighting fixtures ON):

Without daylight (at night or with the blinds lowered):

- 1° - Switch the lighting fixtures on with the remote control (ON key). The red LED of the sensor will be switched on.

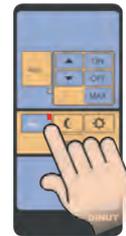


- 2° - Dim the luminaires to the necessary level to obtain the desired brightness level. This level will be the maximum at which the luminaires will be switched on.

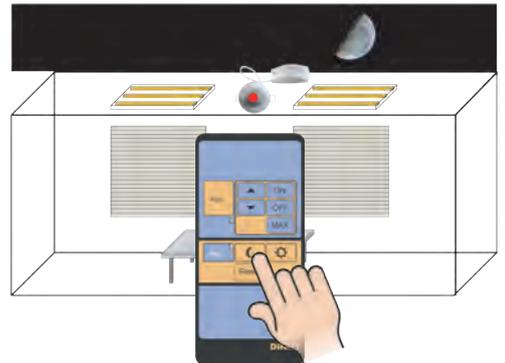


- 3° - Wait for 30 seconds without hindering the light received by the sensor.

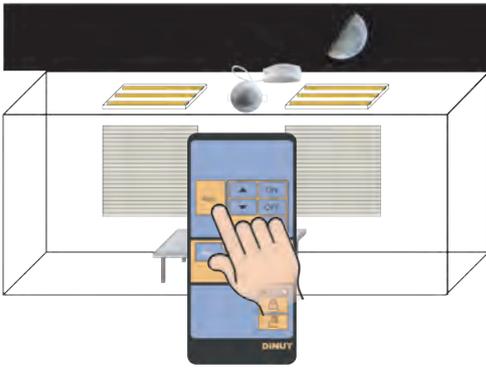
- 4° - Press the PROG key. Its LED will be switched on.



- 5° - Press the "☾" key pointing to the sensor. The luminaires will flash 3 times indicating that the Night point has been saved.



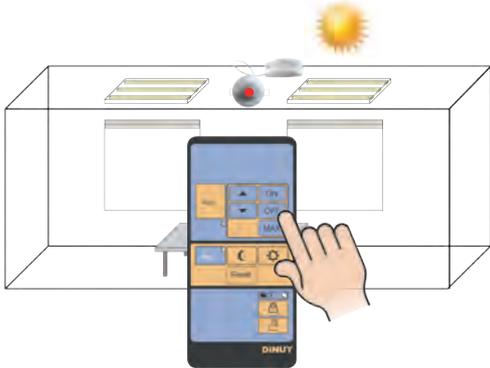
6° - Press the AUTO key pointing to the sensor.



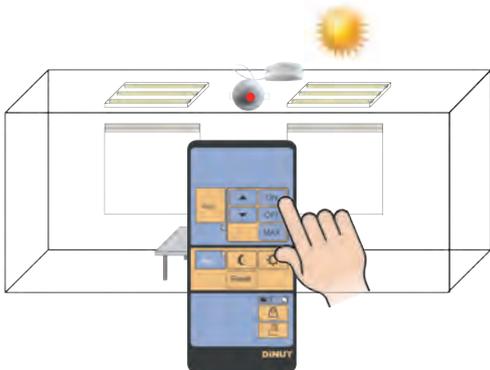
A.2. DAY setpoint:

With enough natural light to reach the desired light level in the workplace:

1° - Switch the luminaires off by pressing the OFF key. The red LED on the sensor will keep switched on.



2° - In case of insufficient natural light, turn the luminaires on with the ON button and dim them to the required level to obtain the desired brightness at the workplace.

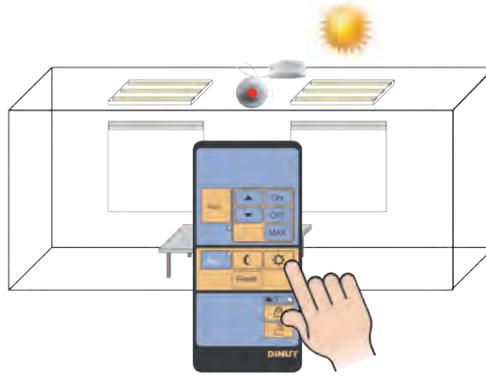


3° - Wait for 30 seconds without hindering the light received by the sensor.

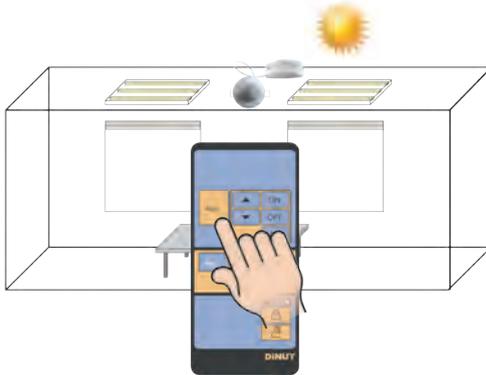
4° - Press the PROG key. Its LED will be switched on.



5° - Press the * * button pointing to the sensor. The luminaires will flash 3 times indicating that the Day point has been saved.



6° - Press the AUTO button pointing to the sensor.



NOTE:

The RE DMS DA3 indicates that the set points (day and night) have been stored by the triple flashing of the lamps after capturing the light value.

B. Automatic mode "Auto"

In this mode, the sensor's LED will only light once it detects movement. The lamps are automatically dimmed according to the brightness fixed level and the daylight.

C. Manual mode

In this mode, the sensor's LED will keep constantly on.

Several keys are available for manual control: Dim up, Dim down, Switch on, Switch off and Switch on at maximum.

When the remote control is unlocked, it does not indicate the mode in which the sensor is. It is necessary to press the key of the mode that is wanted to activate.

KEY	FUNCTION
	Lock The remote control switches to "Lock" mode, and will not respond to the next pressings. In this way, casual pulsations are avoided and also contribute to the battery saving.
	Unlock The remote control switches to "Unlock" mode, and will respond to any press. If no key is pressed for 30sec, the remote control goes into Lock mode.
	Battery LED This light stays on while the keypad is unlocked and constantly flashes to indicate that the battery is running low.
	Programming mode Enters into programming mode to set the Day and Night setpoints.
	Night setpoint It saves the light level at night or without natural light.
	Day setpoint It saves the light level with enough natural light.
	Reset Allows to reset the factory settings (day and night setpoints).
	Automatic mode Automatic mode is selected. The luminaires are automatically dimmed depending on the desired light level and the daylight.
	Manual Dimming Keeping these keys pressed, the lighting is dimmed manually.
	Manual ON / OFF The luminaires are permanently switched on or off manually.
	ON at Maximum The luminaires are switched-on at its maximum level.