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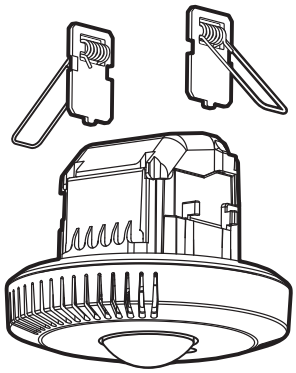
www.legrandgroup.com

LIGHT-UP 3-zone DALI multisensor advanced detector

Cat. No(s): 0 485 73



Access to the full LIGHT UP documentation

CONTENTS **PAGE**

1. USE

This product is a presence detector, which allows light sources to be controlled automatically and it is equipped with environmental sensors.

The mounting position is on the ceiling, it has a 360° detection angle.

It has:

- The option of being paired with a wireless batteryless switch and/or controlling a connected power outlet.
- **1 auxiliary input** for priority lighting using the wired push-button connected to the line.
- **1 motion sensor** (PIR technology) with lens for detecting occupancy.
- **1 daylight sensor** which allows it to regulate the light level automatically.
- **1 temperature sensor** which measures the room temperature in degrees Celsius.
- **1 relative humidity sensor** which measures the relative humidity in the room as a percentage.
- **1 sound level sensor** which measures the ambient noise in dBspl.
- **1 VOC** which estimates the room indoor air quality. It measures the total volatile compounds in ppb, provides an air quality index such as the UBA index and estimates the level of CO_2 in ppm called "eCO2".
- **1 DALI output** for supplying the bus and controlling diffuse lighting.
- **1 relay output** dedicated to providing power for DALI ECGs.

■ **1.1 Bluetooth 5.0 (compatible from 4.2):**

- For commissioning the product in a connectable system – using the **Legrand CLOSE UP** mobile app.

■ **1.2 Radio (2.4 - 2.483 GHz):**

- Creation of a standalone system, can be used to pair one power outlet and/or one wireless batteryless switch.

1. USE (continued)

■ **1.3 Management of 3 lighting zones:**

LIGHT UP 3-zone DALI sensors can control 3 lighting zones:

- "window" group dimming
- "corridor" group dimming
- "panel" group ON/OFF

A wireless batteryless switch only controls the ON/OFF output in the "Panel" section.
A wired push-button controls dimming in the two other zones.

2. TECHNICAL CHARACTERISTICS

- Voltage: 110 - 230 V~
- Frequency: 50/60 Hz
- Terminal capacity: 2 x 1.5 mm² or 1 x 2.5 mm²
- Standby consumption: OFF relay ⟶ 1.15 W
  ON relay ⟶ 1.9 W
- Connection: cord or RJ 45 cable
- Flush-mounting diameter: 68 mm
- Impact resistance: IK 04
- Weight: unpackaged 246 g
  packaged 287 g
- Penetration by solid and liquid matter: IP20
- Usage temperature: -10°C to +30°C
- Storage temperature: -20°C to +70°C

■ 2.1 Daylight sensor

Measures natural and artificial light in order to control lighting according to the desired lighting setpoint.

Range: 5 ⟶ 1275 lux

It is possible to disable daylight level measurement with this setpoint value: 1275 lux.

Has the light regulation function.

■ 2.2 Temperature sensor

- Measures the ambient temperature in ° Celsius
- Measurement range 0° to 50°C
- Resolution 0.1°C
- Drift: < 0.02°C/year
- Availability of data once commissioned: 1 hour
- Temperature offset from -20°C to +20°C (default: 0)

■ 2.3 Humidity sensor

- Measures the relative humidity in the zone as a percentage
- Measurement range: 20 to 80%
- Drift: < 0.25°C/year
- Accuracy: 5%
- Availability of data once commissioned: 1 hour
- Humidity offset from -20% to +20% (default: 0)

■ 2.4 Acoustic sensor

- Measures the ambient npise in the zone in dB SPL
- Reactivates in any direction
- Measurement range: 38 - 120 dB SPL
- Resolution: 1 dBspl
- Sound level offset from -20 to +20 dB SPL (default: 0)

■ 2.5 VOC sensor

- Measures the total organic compounds TVOC through an air quality index (AQI) similar to the UBA index and the estimated CO_2 level according to the level of TVOCs
- VOC: Measurement range: 0 to 10,000 ppb
  Resolution: 1 ppb
  Accuracy: +/- 25%

AQI level: Range: 1.0 to 5.0
Resolution: 0.1
Accuracy: +/- 10%
Availability of data once commissioned: 30 minutes

■ 2.6 Bluetooth® 5.0

Allows the product to be configured with a smartphone.

- The LED indicates: Not twinned ⟶ LED off
  Twinned ⟶ Steady blue
- Range: ⟶ 10 m
- Compatible from 4.2 upwards

3. DECLARATION OF CONFORMITY

- **f (Frequency): 2.4 to 2.483 GHz**
- **P (Power): <100 mW**

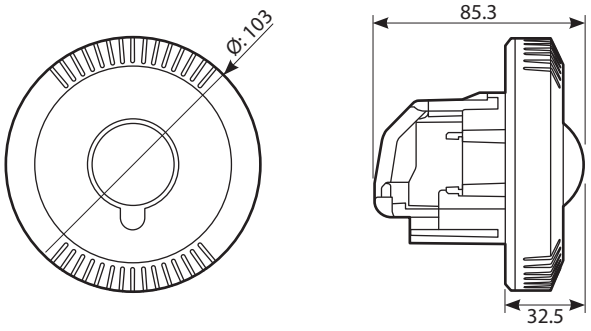
LEGRAND declares that the radio-electric equipment type Cat. No. **0 485 73** complies with directive 2014/53/EU. The full text of the EU declaration of conformity is available on the following website: www.legrand.com/ecatalogue

4. LOADS

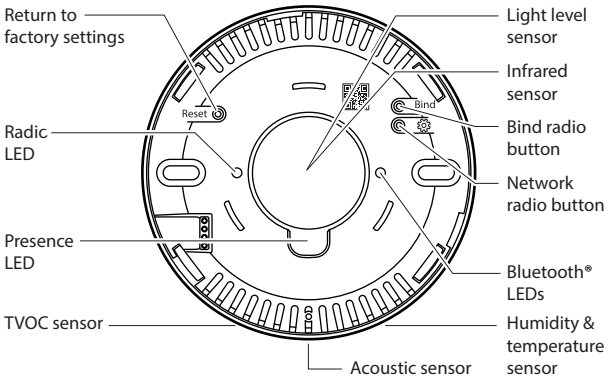
■ DALI supply

- Voltage: 15 V ⎓
- Guaranteed current: 100 mA
- Maximum current: 130 mA

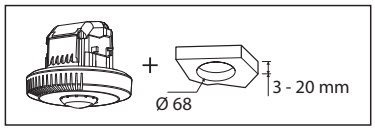
5. DIMENSIONS

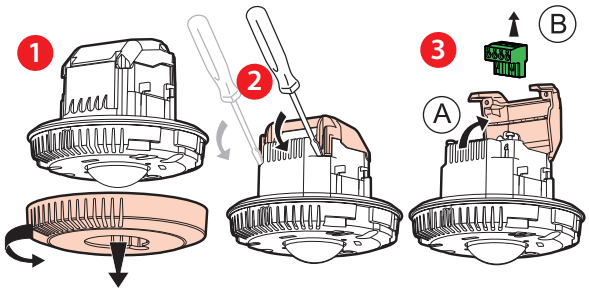


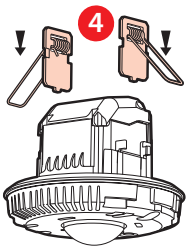
6. DESCRIPTION

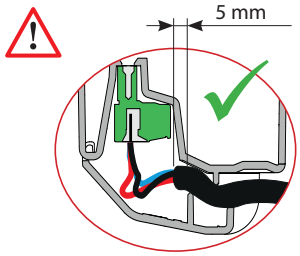


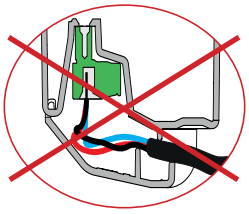
7. MOUNTING

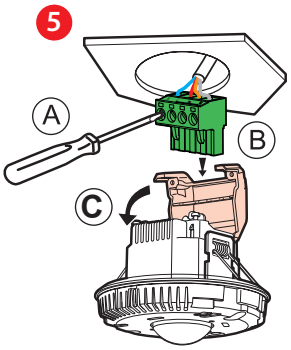


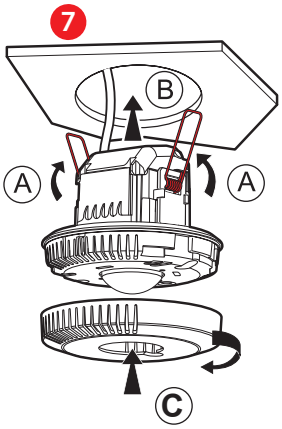


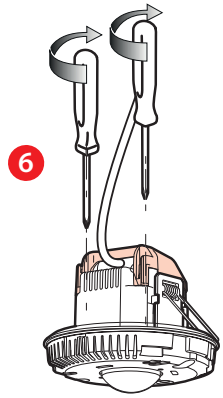


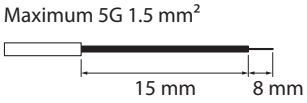








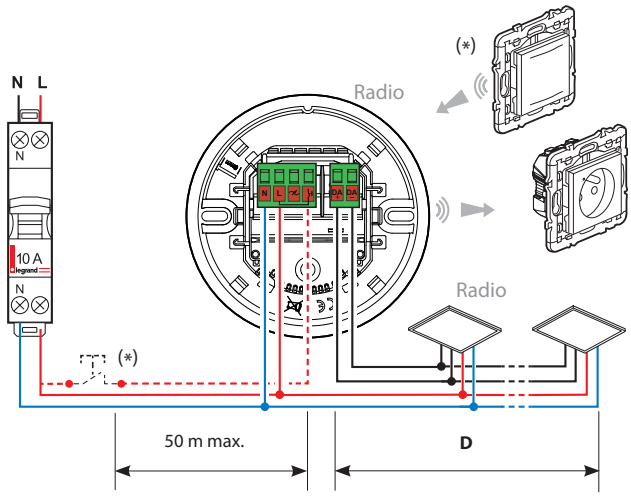




Mounting and wiring must be done with the power off. Please follow the **Safety Instructions** exactly.

8. WIRING

■ 8.1 Standalone



(*) This product can be controlled by:
- A wireless batteryless switch (ON/OFF without dimming)

Or
- A wired push-button (ON/OFF with dimming)

And it can control a connected power outlet (wirelessly)

Note:
The maximum distance between the push-button and the auxiliary input is 50 m.

Note:
To pair a control point and/or a power outlet in standalone mode, please refer to the description of procedures in the **LIGHT UP technical guide**.

CAUTION:
The detector provides the DALI BUS power supply.
Do Not connect 2 sensors to the same **DALI BUS**.

(*)

Option of combining with a wireless batteryless lighting switch (maximum 2 per detector)

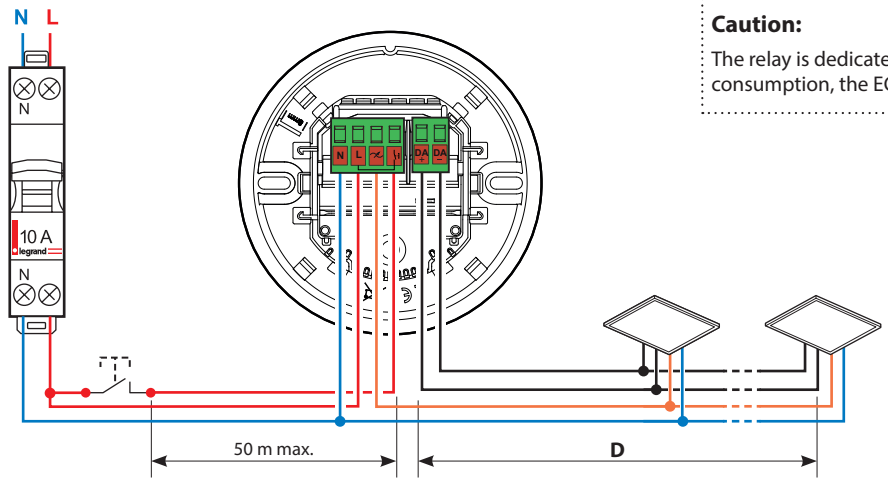
Cat. Nos. 0 677 23L/73L/79L, 0 770 53L, 6 000 83L, 5 742 10/39/55, 5 743 24, 7 418 13L/43L/73L

and a connected power outlet (maximum 5 per detector)

Cat. Nos. 0 677 25A/75A, 0 648 95A, 0 777 11LA, 6 003 91A, 5 742 56/57/58/59, 7 419 11/41/71

as described in the ***LIGHT UP Guide*** procedures

■ 8.2 "DIMMABLE" load type



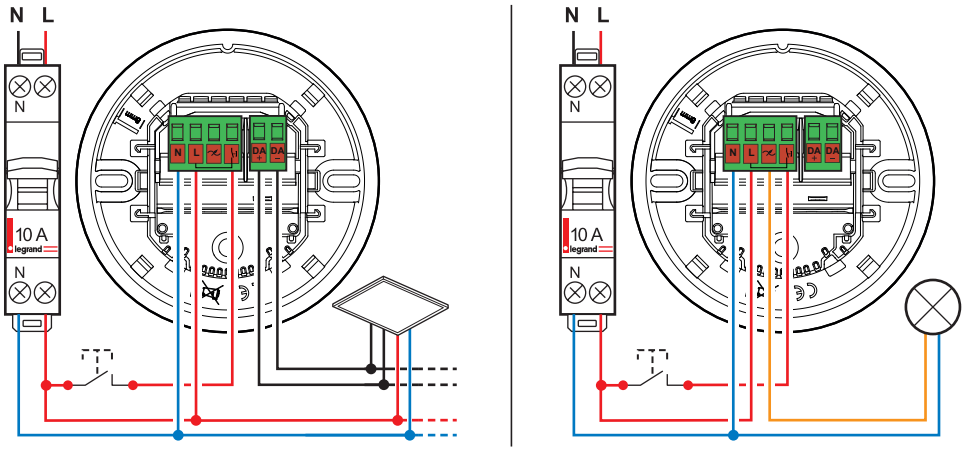
Caution:
The relay is dedicated to powering the ECG to reduce energy consumption, the ECG switch-off is delayed by 5 minutes.

DALI bus

D	
≤ 100 m	0.5 mm²
≤ 150 m	0.75 mm²
≤ 300 m	1.5 mm²

8. WIRING (continued)

8.3 "NON DIMMABLE" load type



Caution:

Detector 0 485 73 is configured to control dimmable DALI ECGs; it can be paired with DALI actuators (ON/OFF). To do this, use the **"Legrand CLOSE UP"** app on your smartphone to change the type of load used, in this case **"Non Dimmable"**.

8.4 Loads

	①		②		③		④		⑤		⑥		⑦
230 V~	1500 W	6.5 A	1000 VA	4.3 A	10x(2x36 W)	4.3 A	500 VA	2.1 A	1000 VA	4.3 A	350 VA	2.1 A	I max. ≤ 2 A
110 V~	750 W		500 VA		5x(2x36 W)		250 VA		500 VA		175 VA		

① - Incandescent and halogen lamp

② - Halogen lamp with separate electronic or ferromagnetic transformer

③ - Fluorescent tube

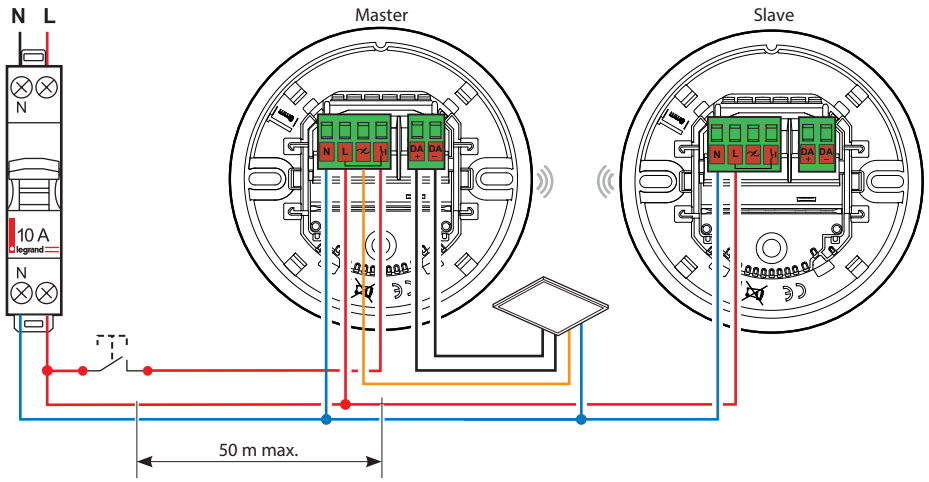
④ - Compact fluorescent lamp with built-in ECG

⑤ - Compact fluorescent lamp with separate ferromagnetic or electronic ECG

⑥ - LED lamp

⑦ - Contactor

8.5 Master/Slave



DALI bus

D	
≤ 100 m	0.5 mm²
≤ 150 m	0.75 mm²
≤ 300 m	1.5 mm²

Note:

By default the product is configured as **Master**. To switch to **Slave**, use the **Legrand CLOSE UP** app.

Note:

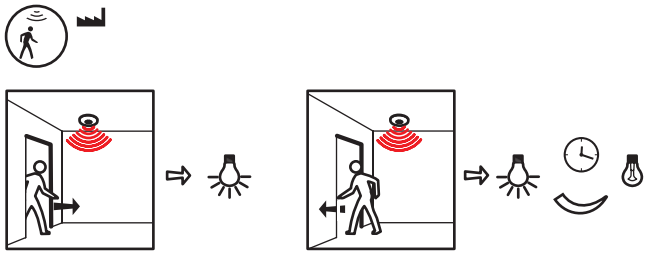
If being used in **"Master/Slave"** mode, the push-button should only be connected to the "Master" detector.

Note:

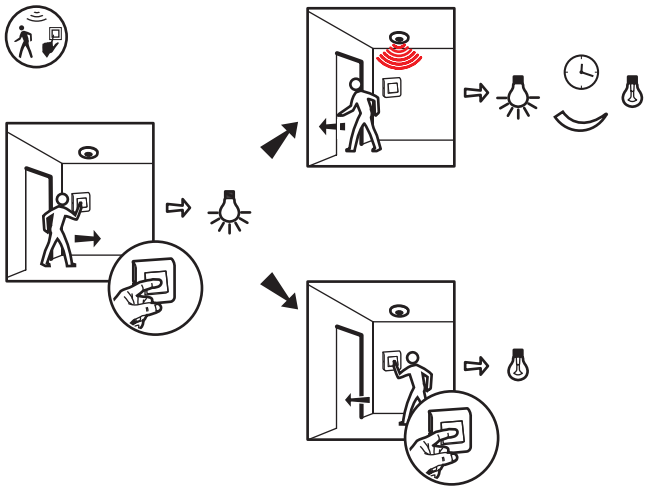
The slave can extend the detection zone. No loads should be paired with it..

9. DETECTION ZONE

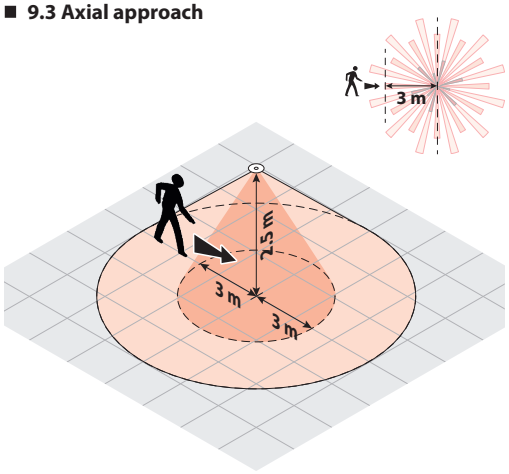
9.1 Auto ON/OFF



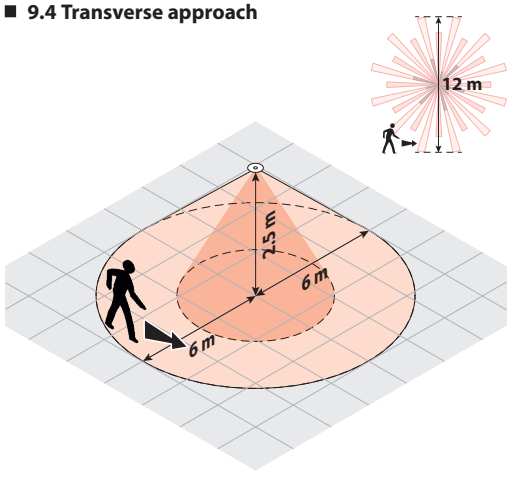
9.2 Manual ON/Auto OFF



9.3 Axial approach

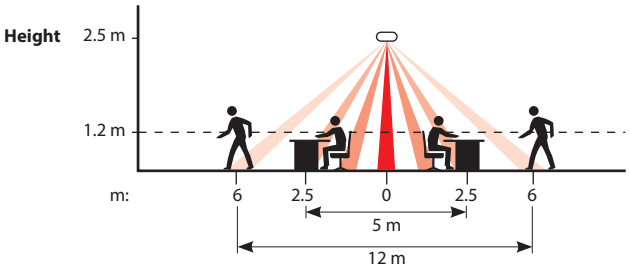


9.4 Transverse approach

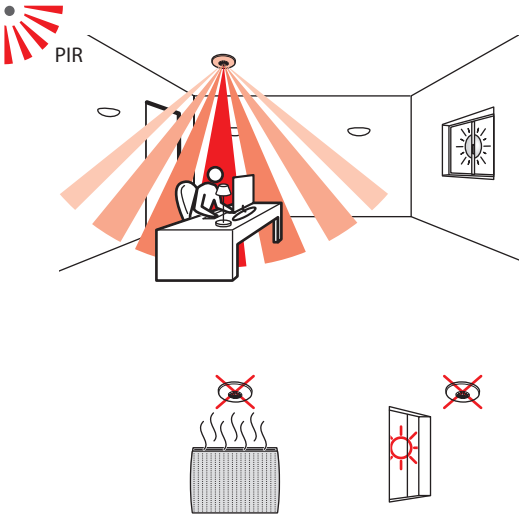


9. DETECTION ZONE (continued)

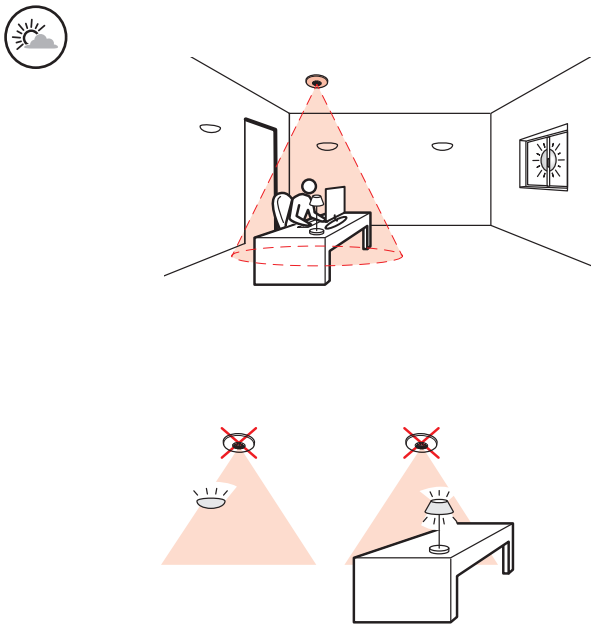
9.5 Maximum sensitivity



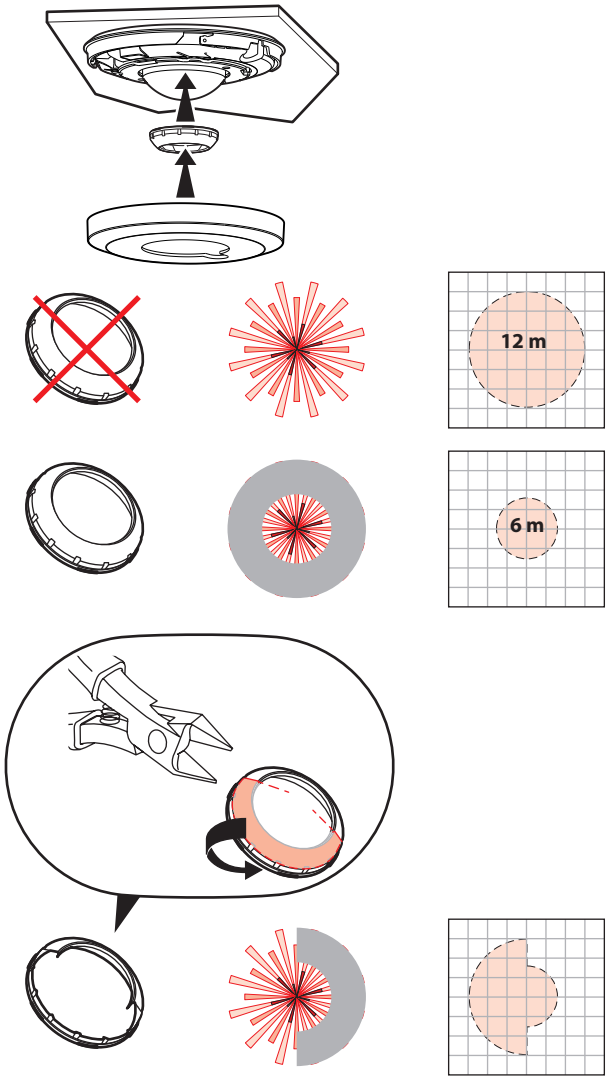
10. PIR



11. MEASURING THE LIGHT LEVEL



12. REDUCING THE DETECTION ZONE

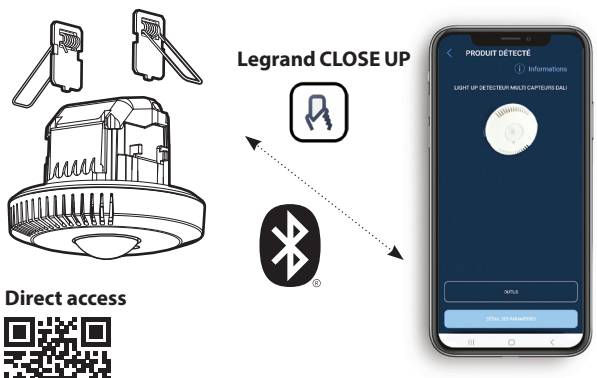


13. SETTINGS WITH CLOSE UP

The detector functions are controlled by a number of parameters which can be changed or programmed with the **Legrand CLOSE UP** app.

Legrand CLOSE UP can be used to view and change all the sensor parameters.

Exchanges between the detector and the phone are via Bluetooth®.



Direct access

13. SETTINGS WITH CLOSE UP (continued)

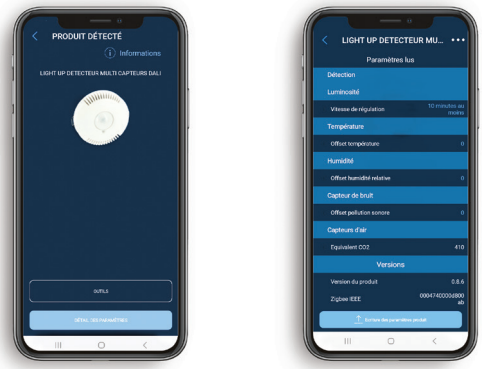
■ 13.1 Different product states

Warm-up: Initial state after switch-on, the lights are on, the presence detector is in the preheating phase for 80 seconds.
The presence LED is lit.

Initial: The product is ready to control lighting based on its parameters and its sensor measurements.

Test: Enabled by the installer or the expert, this state is used to check the presence sensor and its coverage.
The settings are overridden except for PIR sensitivity, every time presence is detected the light comes on for 5 s.
This test is available for 10 minutes if specifically requested.

■ 13.2 Detection settings



This product can be set up using the **Legrand CLOSE UP** app.

Note:

Refer to the **LIGHT UP Technical Guide** to find the description of procedures for setting up.**LIGHT UP** products.

13. SETTINGS WITH CLOSE UP (continued)

Sensor settings			Default value	Modifiable parameters
Time delay		Minutes	15'	0 to 59 min.
		Seconds	0"	15 to 59 s.
Detection	PIR sensitivity		High	Low, Medium, High, Very high
	Detection LED		Enabled	Disabled, Enabled
Light level	Daylight setpoint		300 lux	0 to 1275 lux
	Light level regulation		Enabled	Disabled, Enabled
	Fade level		10	10 to 100
	Standby time		Disabled	Disabled
				5 sec.
				10 sec.
				20 sec.
				30 sec.
				1 min.
				5 min.
				10 min.
				15 min.
				20 min.
				30 min.
				60 min.
				No limit
	Light level		Read-only parameter	
	DALI light level offset		25%	0 to 100%
	Lighting output type		Dimmable	Dimmable/Non Dimmable
Function	Mode		Walkthrough	Auto ON/OFF
				Walkthrough
				Manual ON/Auto Off

Sensor settings			Default value
Other	Temperature	Current temperature in °C	Read-only parameters
	Humidity	Current humidity as a %	
	Noise sensor	Maximum noise in dB SPL	
		Average current noise in dB SPL	
	Air sensors	TVOC in ppb	
		Air quality	

Sensor settings			Default value	Modifiable parameters
Advanced mode	Detection	Restart (*)	Enabled	Disabled, Enabled
	Light level	Regulation speed	At least 10 minutes	At least 5 minutes
				At least 10 minutes
				At least 15 minutes
				At least 20 minutes
				At least 25 minutes
	Temperature	Temperature offset	0	
	Humidity	Relative humidity offset	0	
	Noise sensor	Noise pollution offset	0	
	Air sensor	CO_2 equivalent (ppm)	400>CO_2<5000	Read-only parameters
	Versions	Product version		
		Zigbee IEEE		

(*) Parameter only accessible if → **Manual ON/Auto OFF mode is enabled**

All these parameters can be viewed and/or modified from the **CLOSE UP** app. The procedures for using the app can be viewed in the **LIGHT UP Technical Guide**.

13. SETTINGS WITH CLOSE UP (continued)

Time delay: Length of time the load remains on after detection.

Sensitivity: Detection range setting.

Detection LED:
Comes on for 80 s when the product is commissioned. Comes on for 1 s to indicate detection of a movement.

Daylight setpoint:
Value at which the load switches on if the light level is less than the setting and goes off if it is above this setpoint.

Light contribution:
Quantity of additional lux brought in by the load being switched on. When the Light contribution parameter is set to 0, the sensor automatically calculates the light contribution.

Regulation:
Automatic switch-off of the load 10 minutes after the light level threshold is exceeded. If the level of light is below the daylight setpoint, the load is activated automatically after 20 seconds.

Fade level:
Warns of switch-off by lowering the daylight setpointl before switch-off.

Standby time:
Used to adjust the switch-off warning duration.

Light level:
Light level value measured by the product.

Auto on/Auto off mode:
The lighting switches on automatically:
• On detection of presence if the natural light level is insufficient.

The lighting switches off automatically:
• When no presence is detected and at the end of the set time delay.
Or if the natural light level is sufficient (regulation enabled).

Any new detection triggers an automatic switch-on if there is insufficient light.

Walkthrough mode:
• If no presence is detected in the 3 minutes following an initial detection, the device will switch off the load after 3 minutes.
• If a new presence is detected in the 3 minutes following initial detection, the device will switch off the load at the end of the set time delay.

Manual on/Auto off mode:
The lighting is switched on via a manual control, but switches off automatically:
• When no presence is detected and at the end of the set time delay.

After switch-off, if another movement is detected within a 30-second period, the lighting switches on automatically.

Temperature:
The product measures the current temperature in the room using a dedicated sensor. The value is expressed in degrees Celsius. This value is used as an "indicator".

Humidity:
The product measures the relative humidity in the room using a dedicated sensor calibrated by the manufacturer. The value is expressed in degrees Celsius. This value is used as an "indicator".

Current relative humidity (%)
→ direct reading
+ relative humidity offset

Noise sensor:
The product measures the sound level in the room using a dedicated sensor. The value is expressed in dB SPL. This value is used as an "indicator".

Maximum sound level (dB SPL)
→ maximum direct reading between 2 requests
+ sound level offset

13. SETTINGS WITH CLOSE UP (continued)

Average sound level (dB SPL)
→ direct reading
+ sound level offset for 1 min

Air sensors:
The product measures the total volatile compounds in the room using a dedicated sensor. The value is expressed in PPB. This value is used as an "indicator".

Current VOC level (PPB) → direct reading

• AQI measurement
The product provides the AQI level according to the UBA index measured in the room based on the tVOC measurement. This value is used as an "indicator".

Current AQI index (UBA) → direct reading

• Estimated CO_2 measurement
The product estimates the CO_2 level based on the TVOC measurement.
The value is expressed in PPM. This value is used as an "indicator".

eCO_2 (ppm) → direct reading

Restart:
Function allowing automatic switch-on of the product after a period of 30 seconds following the load being switched off.
After switch-off, any new detection within a 30-second period triggers an automatic switch-on.
After more than 30 seconds the device must be switched on manually.

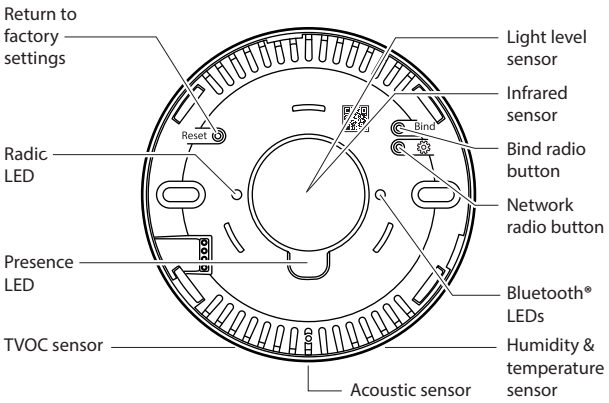
Regulation speed:
Used to extend or reduce the load reaction time based on the light level measurement and user setpoint.
Offsets are used to adjust the values measured by the product.

Temperature offset: -20°C to +20°C (default: 0).

Relative humidity offset: -20% to +20% (default: 0).

Noise pollution offset: -20 to +20 dBspl (default: 0)

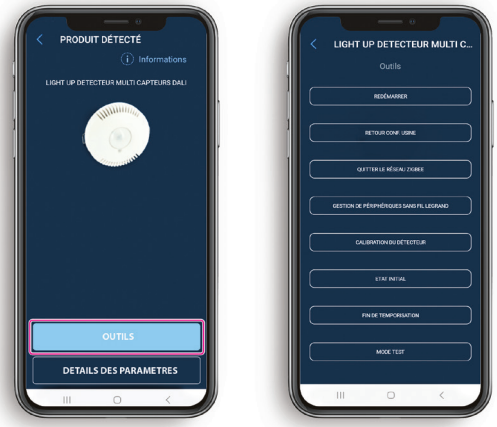
14. DESCRIPTION OF BUTTONS AND LEDS



Network radio button	< 0.5 s network/Opening and closing the network > 5 s Radio reset	
Bind button	< 0.5 s Network creation/Initiator binding > 5 s Target Binding	
Reset button	< 0.5 s Reboot > 5 s Return to factory settings	
Radio LED	Failure of network creation, joining a network or binding. Product reset *(flashing red)*	Flashing red
	The product is in a radio network, the network is open.	Steady magenta
	After the **Network** button is pressed: attempt to join a radio network. It changes to steady magenta if the operation was successful. If not, the LED flashes red 5 times.	Blinking magenta
	Binding procedure in progress	Blinking blue
	Updating	Blinking cyan
	Product anomaly, reboots 15 s after the anomaly	Steady white
	Product start-up	Steady yellow
Presence LED	In pre-heating state (commissioning) the LED stays on for 80 s. Each time movement is detected, the LED comes on for 1 s.	Steady green
Bluetooth® LED	Is on when the product is paired with a smartphone.	Steady blue

14. DESCRIPTION OF BUTTONS AND LEDS (continued)

To access the tool list, go to the product home page and select **Tools**.



Reboot: Used to reboot the product in the event of a fault.

Return to factory settings: By pressing the app button or pressing the Reset button for 5 s .
The radio LED flashes red for 5 s at 2 Hz.
Results: The parameters are set to default values. The radio part (link, network table) is cleared. The passwords are reset to their factory value.

Exit the network: Remove the product from the Radio network.

Manage wireless peripherals: Used to add or delete wireless batteryless switches and/or power outlets.

Calibrate light level detector: Used to determine 2 reference values (lux), light on/shutters closed and light off/shutters open.
After pressing this button, follow the described procedure.

Test mode: Switch dedicated to checking the product behaviour, mainly used by the installer or expert.
- **Return to initial state:** This switch is used to put the product in heating mode, which can help the installer check several key points (daylight setpoint, detection, automation device).
- **End of time delay:** Clears the current delay.
- **Walk test:** Useful for testing the motion sensor's field of vision. This mode is used to override the settings except for PIR sensitivity for 10 minutes. Each detection lights up the motion indicator (if the dedicated parameter is enabled) and switches on the lighting for 5 seconds. After these 5 seconds, if no movement is detected, the light goes out, otherwise the 5-second delay is refreshed.

Master/Slave: The Master controls the load(s). The slave is used to extend the detection zone; it does not control the load directly. By default the sensor is set to Master mode.

15. STANDARDS

Installation standards: NFC 15-100

Product standards: EN 50428

LVD "Low Voltage Directives":
- Directive → 2014/35/EU
- Standard → NF EN IEC 60669-2-1:2022

EMC "Electromagnetic compatibility":
- Directive → 2014/53/EU
- Standard → NF EN IEC 60669-2-1:2022
  ETSI EN 301489-1
  ETSI EN 301489-17

RED (radio equipment):
- Directive → 2014/53/EU
- Standard → ETSI300 328 v2.2.2:2020
  IEC62311:2020

RoHS (Restriction of Hazardous Substances):
- Directive → 2011/65/EU
  2015/863/EU

EC directives:
- European Directive 2002/96/EC:
  WEEE (Waste Electrical and Electronic Equipment).
- EC Directive 2002/95/EC:
  RoHS (Restriction of Hazardous Substances).

16. CARE

Keep the lens clean.

Clean the surface with a cloth.

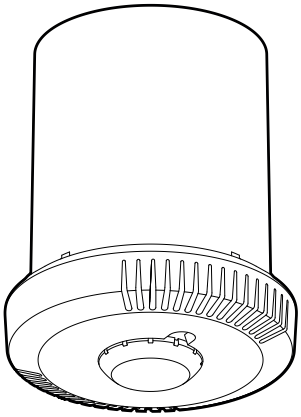
Do not use acetone, tar-removing cleaning agents or trichloroethylene.

Resistant to the following products: - Hexane (EN 60669-1)
- Methylated spirit
- Soapy water
- Diluted ammonia
- Bleach diluted to 10%
- Window cleaning products

Caution:
Always test before using other special cleaning products.

17. SURFACE MOUNTING

Surface mounting with accessory **Cat. No. 0 485 80**, follow the instructions in the manual supplied with the accessory.



18. TROUBLESHOOTING

Problem	Causes	Solutions
The lighting stays on when there is no-one present	Sources of interference such as draughts, vibration or radiators may cause nuisance tripping	1- Reduce the sensitivity level 2- If the interference still continues, move the sensor away from sources of interference
The lighting does not switch off during the day when there is an adequate natural light level	Regulation function inactive Daylight setpoint too high Too much light provided	Enable the **Regulation** function Reduce the light level threshold Check that the detector is positioned correctly in relation to the window Decrease the power of the luminaires
The lighting switches off when there are people present and the natural light level is not adequate (darkness)	Time delay too short Detection sensitivity too low Daylight setpoint too low	Increase the **Time delay** 10 to 1 minutes is recommended for work areas Increase the **Sensitivity** Move the detector closer to the work area Increase the **threshold**