

## OB-1501 iDim Orbit

The OB-1501 iDim Orbit with five movement detectors is a standalone, flush-mounted sensor that provides easy installation and configuration of lighting control applications.

This document describes how to connect the sensor and how to mount it into a ceiling. For information on how to configure it, see the *iDim Orbit App Guide*.

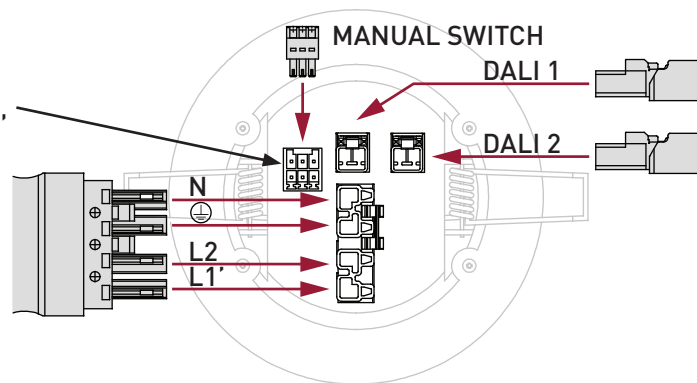
### 1. Features and Connections



#### Connections

Manual switch interface. (For details, see section 3.3 on page 5.)

N: Neutral  
⊕: Earth  
L2: Live in  
L1: Switched live



#### Default Settings

Out of the box, the sensor has the following default settings for profiles 1 and 2:

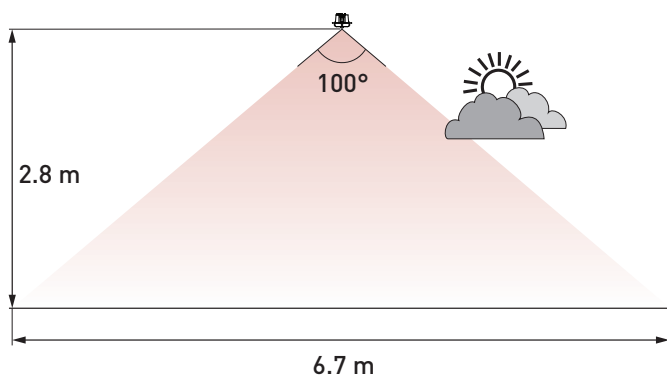
- DALI channel 1 output: DALI broadcast
- DALI channel 2 output: Mimics DALI channel 1
- Relay output: Mimics DALI channel 1
- Detection mode: Presence
- On level: 100 %
- Occupancy time-out: 20 min
- Power save light level: 30 %
- Transition time-out: 5 min
- Bright-out: Disabled
- Daylight harvesting: Disabled

- Scheduler: Disabled
- Exit delay: 2 min
- Switch input 1: Common
- Switch input 2: Channel 1 switch control
- Switch input 3: Channel 1 switch control
- Switch input 4: Relay on/off
- Switch input 5: Channel 2 switch control
- Switch input 6: Channel 2 switch control

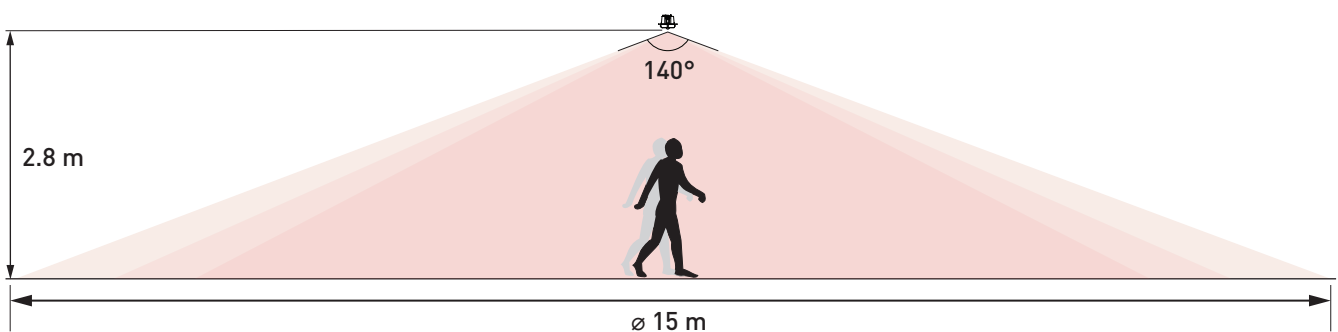
You can modify these settings with the iDim Orbit app. For information, see the *iDim Orbit App Guide*.

## 2. Coverage

### Daylight Harvesting Coverage



### Presence Detection Coverage



Due to the nature of PIR technology, when someone walks directly towards the centre of the sensor, the detection distance from the sensor is reduced. The point at which the sensor will detect movement is affected by site-specific conditions, such as speed of movement, clothing and air temperature. Hence it is not possible to guarantee the point at which the sensor will trigger the loads when someone walks directly towards the centre of the sensor.

When someone walks 'across' the detection area, the sensor range is greater than when someone walks towards the centre of the sensor. Therefore, in applications where occupants are free to move in all directions, such as classrooms and offices, the detection range shown in the preceding figure can be used when planning sensor positions.

To mount the OB-1501 iDim Orbit flush into a ceiling, complete the following steps:

1. Mount the mains connector as shown in section 3.1, 'Mounting the mains connector', below on this page.
2. Mount the required DALI connectors as shown in section 3.2, 'Mounting the DALI connectors', on page 4.
3. If required, mount the input connector for the manual switch as shown in section 3.3, 'Mounting the input connector for the manual switch', on page 5.
4. Plug the mains connector and the DALI connector(s) into the sensor.
5. If required, plug the input connector for the manual switch into the sensor.
6. Mount the sensor into the ceiling as shown in section 3.4, 'Mounting the sensor into the ceiling', on page 5.
7. Power the sensor up.
8. Download the iDim Orbit app to your iOS device (iPod Touch, iPhone or iPad).
9. Connect the iDim Orbit app to the required OB-1501 iDim Orbit via Bluetooth® Smart™.
10. Configure the sensor using the app. The default passcode is 00000. For information, see the *iDim Orbit App Guide*.

### Installation Notes

- Position the sensor so that the occupants of the room are normally inside the detection zone.
- Do not fix the sensor to an unstable or vibrating surface.
- Do not install the sensor within 1 m of any lighting, forced air heating, or ventilation equipment.
- The external supply must be protected. External protection must not exceed 16 A Type C MCB.

### 3.1. Mounting the mains connector

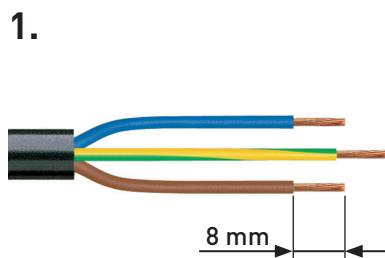


N: Neutral

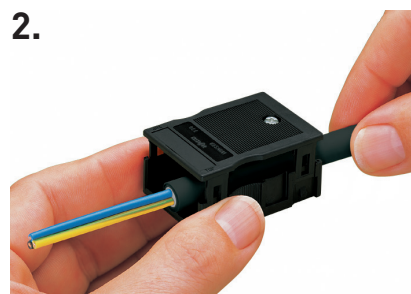
⊕: Earth

2 | L: Live in

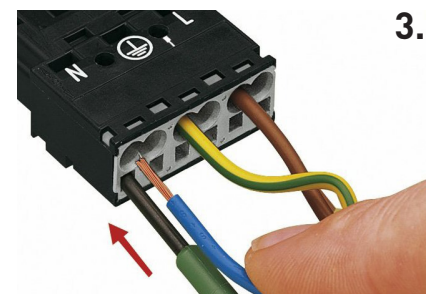
1 | L': Switched line



Strip 8 mm of the live, neutral and earth cable insulation.



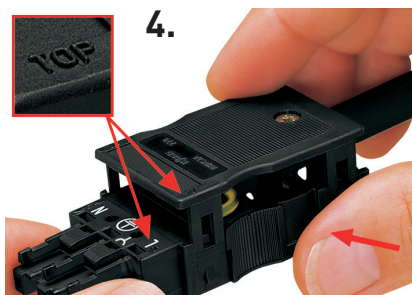
Pull the preatched strain-relief housing over the cable.



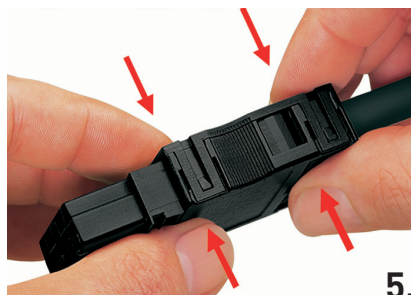
Solid cables:  
Push the stripped cable until it hits the backstop.

Stranded cables:

- a. Push down the required clamp with a 2.5 mm screwdriver.
- b. Insert the stripped cable until it hits the backstop.
- c. Remove the screwdriver to close the clamp.



4. Latch the strain-relief housing on the plug/socket. Note the 'TOP' inscription.

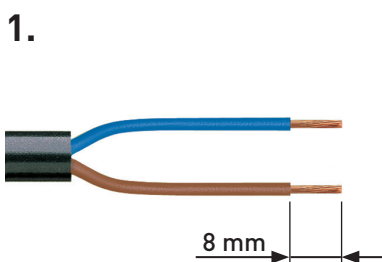


5. Snap together the upper and bottom parts of the strain-relief housing.

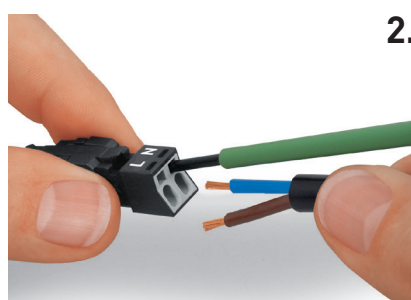


6. Tighten the strain-relief screw with a 2.5 mm screwdriver.

## 3.2. Mounting the DALI connectors



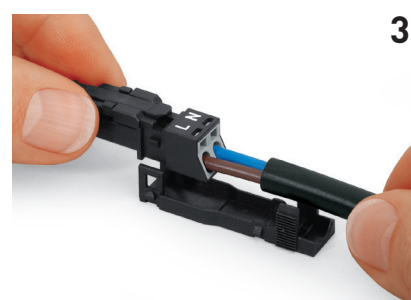
1. Strip 8 mm of each of the cable insulation.



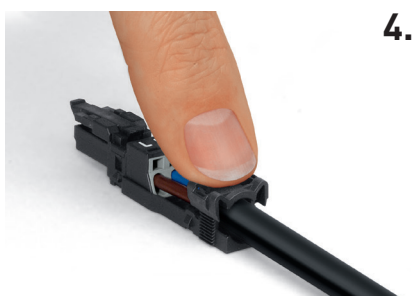
2. Solid cables:  
Push the stripped cable until it hits the backstop.

Stranded cables:

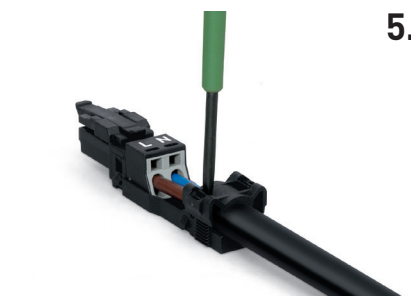
- Push down the required clamp with a 2.5 mm screwdriver.
- Insert the stripped cable until it hits the backstop.
- Remove the screwdriver to close the clamp.



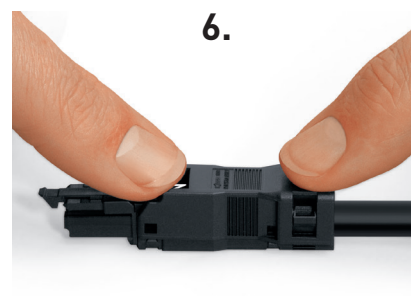
3. Latch the wired connector onto the base of the strain-relief housing.



4. Push down the strain-relief clamp with your finger.

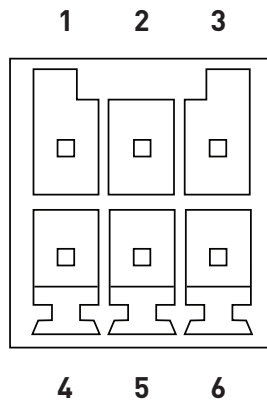


5. Push down the strain-relief clamp with a 2.5 mm screwdriver alternately on both sides.



6. Latch the top of the strain-relief housing.

### 3.3. Mounting the input connector for the manual switch



Input function (selectable in the app)

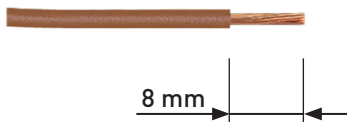
| Switch input* | Single-pole switch     | Double-pole switch†       |
|---------------|------------------------|---------------------------|
| 1             | Common                 | Common                    |
| 2             | DALI 1 switch control‡ | DALI 1 on/raise           |
| 3             | DALI 1 switch control‡ | DALI 1 off/lower          |
| 4             | Relay on/off           | (Single-pole switch only) |
| 5             | DALI 2 switch control‡ | DALI 2 on/raise           |
| 6             | DALI 2 switch control‡ | DALI 2 off/lower          |

\* Switch inputs are functional extra-low voltage (FELV).

† Two-position, centre-biased retractive switch.

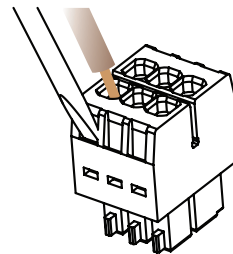
‡ Switch control enables on/off and dimming control from a single-pole retractive switch.

1.



Strip 8 mm of each of the cable insulation.

2.



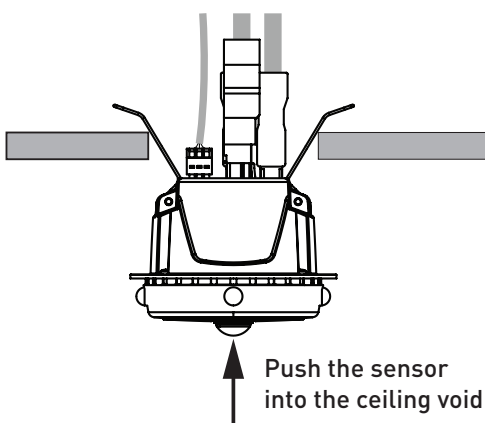
- Push down the required clamp with a 2.5 mm screwdriver.
- Insert the stripped conductor until it hits the backstop.

- Remove the screwdriver to close the clamp.

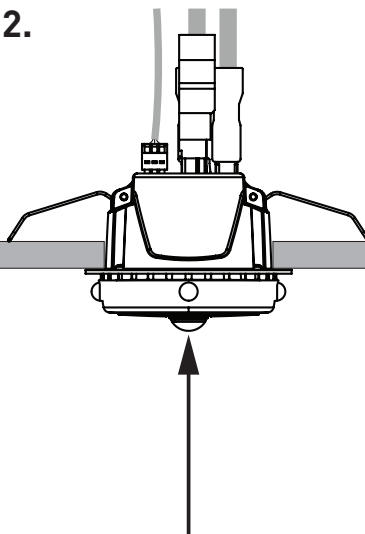
### 3.4. Mounting the sensor into the ceiling

1.

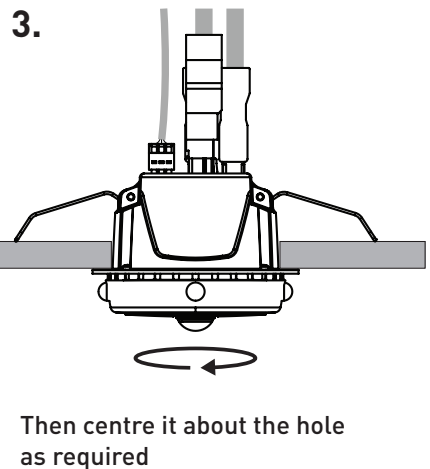
Ø 83 mm – 86 mm



2.



3.

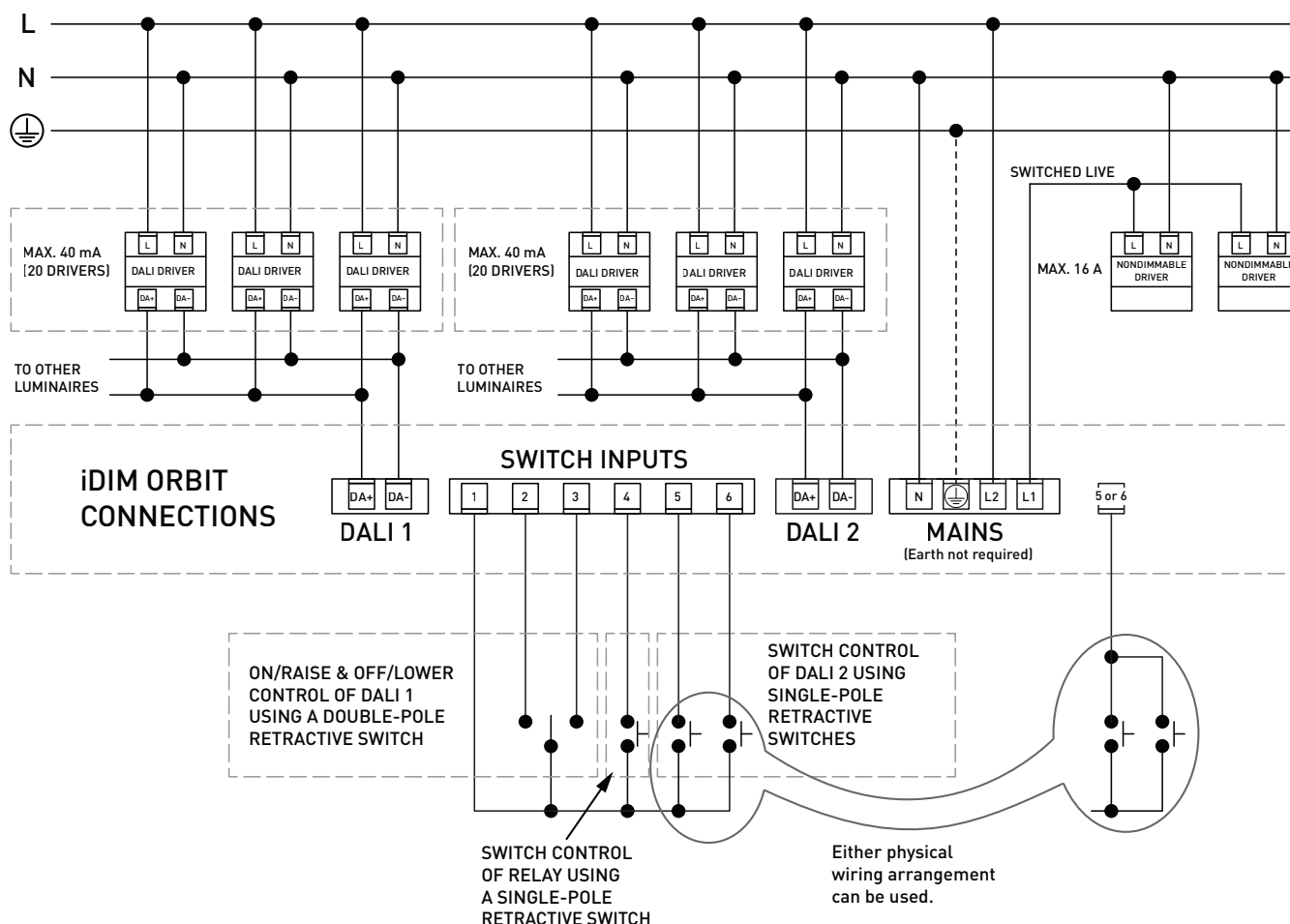


## 4. Wiring Schematic

You can use either single-pole or double-pole switches to control DALI channels. This is configured via the iDim Orbit App. The default is for 'switch control' using single-pole switches. For details, see the *iDim Orbit App Guide*.

As an example, the following diagram shows:

- A single point of control (switch inputs 2 and 3) using a double-pole switch for DALI channel 1
- Two points of control (switch inputs 5 and 6) for DALI channel 2 using single-pole retractive switches connected in parallel
- A single point of control using a single pole switch on the relay channel (switch input 4)



### Connections

**Mains:** 4-pole removable connector  
block with strain relief  
Cable diameter: 9 mm – 13 mm  
mains rated  
Cable section: 0.5 mm<sup>2</sup> – 4 mm<sup>2</sup>  
solid; 0.5 mm<sup>2</sup> – 2.5 mm<sup>2</sup>  
stranded

### Power

**Mains supply:** 100 VAC – 240 VAC (nominal)  
85 VAC – 264 VAC (absolute)  
50 Hz – 60 Hz

**Power consumption:** Nominal: 0.9 W  
Maximum: 2.5 W

**DALI power:** 2 × 40 mA DALI power supply  
2 × 2-pole removable connector  
blocks with strain relief  
Cable diameter: 3.8 mm –  
8.2 mm mains rated  
Cable section: 0.25 mm<sup>2</sup>  
– 1.5 mm<sup>2</sup> solid; 0.25 mm<sup>2</sup> –  
1.0 mm<sup>2</sup> stranded

**External protection:** Max. 16 A Type C MCB

**Relay loads:** Limited by external protective  
device.

**Switch inputs:** 5 × retractive (momentary)  
switch plus common input  
Switch inputs are functional  
extra-low voltage (FELV).  
Cable section: 0.08 mm<sup>2</sup>  
– 1.5 mm<sup>2</sup> solid; 0.08 mm<sup>2</sup> –  
1.0 mm<sup>2</sup> stranded.  
Max. length: 50 m.

**Communications:** DALI broadcast

### Mechanical data

**Mounting hole diameter:** 83 mm – 86 mm

**Recommended clearance depth:** 115 mm plus cable bending  
radius

**Material (casing)** Flame-retardant ABS

**Colour:** White RAL 9003

**Weight:** 261 g

**IP code:** IP40

### Operating conditions

**Ambient temperature:** 0 °C to +50 °C  
*Note: The temperature difference  
between the detection target and  
the background must be at least  
4 °C.*

**Relative humidity:** Max. 90 %, noncondensing

**Storage temperature:** –10 °C to + 70 °C

### Conformity and standards

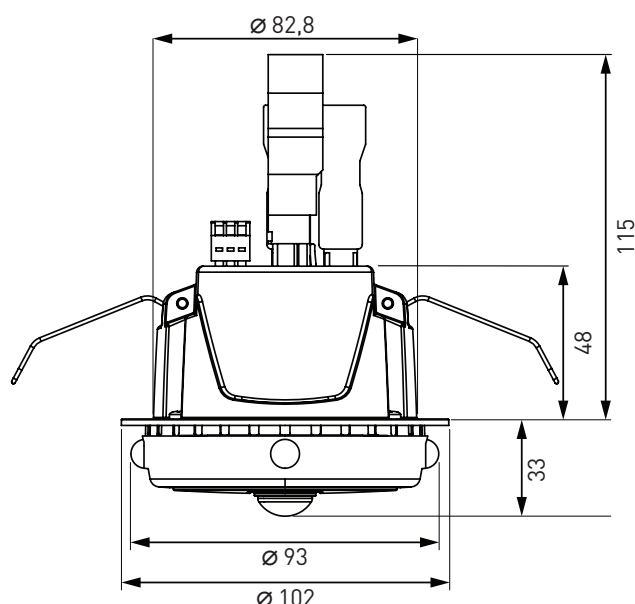
**EMC:** EN 301489-1  
EN 55015  
EN 61547

**Safety:** IEC 60669-2-5

**Environment:** Complies with WEEE and RoHS  
directives.

**FCC:** Contains FCC ID: T7VPAN17.

### Dimensions (mm)



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