# Helvar

*Freedom in lighting*

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freedom in lighting

**iDim Orbit is an application based room lighting control solution, providing energy savings and an intuitive user experience.**

**Designed for simple installation and configuration, iDim Orbit quickly connects people to the lighting in a space.**

The iDim Orbit is a complete room lighting control solution in a single sensor. Using the latest technology and unique design, it is more than just a standalone sensor. With features that are usually found only in complex systems, the sensor is application focused for simplicity.

Taking the term 'multi-sensor' to the next level with its great features, iDim Orbit includes 2x DALI broadcast outputs including DALI power supply, relay output, Bluetooth® module, time clock and light sensor. Avaliable in two forms; single or five movement detectors for occupancy detection between 7m - 15m at 2.8m height.

The solution also features mobile app connectivity for quick and easy application specific configuration. The app has a library of application files e.g classrooms and offices, a scheduler with 2 profiles per day (7 day configurable) and custom application files.



OB-1101 iDim Orbit with single movement detector

OB-1501 iDim Orbit with five movement detectors

- Cellular Offices
- Open Plan Office
- Meeting Rooms
- Classrooms

iDim
ORBIT

# PRODUCT FEATURES & BENEFITS:

iDim
ORBIT

## Energy saving

A choice of single or five individually selectable PIR movement detectors provides optimum coverage for a range of applications. Combined with constant light control for daylight harvesting, iDim Orbit ensures the right amount of light is delivered to a space, only when needed. Additional savings can be made through the DALI Power Save Mode which removes the standby power from DALI controlled lighting by switching it off at the mains.

## Easy installation

iDim Orbit features pluggable connectors with screw-free terminations, incorporating WAGO Push-in CAGE CLAMP® technology for quick, reliable connection to mains, DALI and manual switch inputs. With all control components in one device there is no need for additional products such as DALI power supplies or enclosures.

## Control flexibility

Offering two independent DALI broadcast channels and a switched live output, iDim Orbit can be easily configured to suit a number of applications. A choice of automatic control in response to movement detection, manual control from wall switches or time-clock scheduled control brings advanced system features to a stand-alone lighting control solution.

## Simple set-up

The iDim Orbit mobile app provides an easy and intuitive configuration tool, which saves time and money on the overall lighting control installation. Out-of-box operation of the sensor means that energy savings are realised from day one. The app contains a library of default settings for common applications, enabling commissioning at the touch of a button. Customised application files are easily shared between app users to provide reliable replication of project specific settings across large sites.
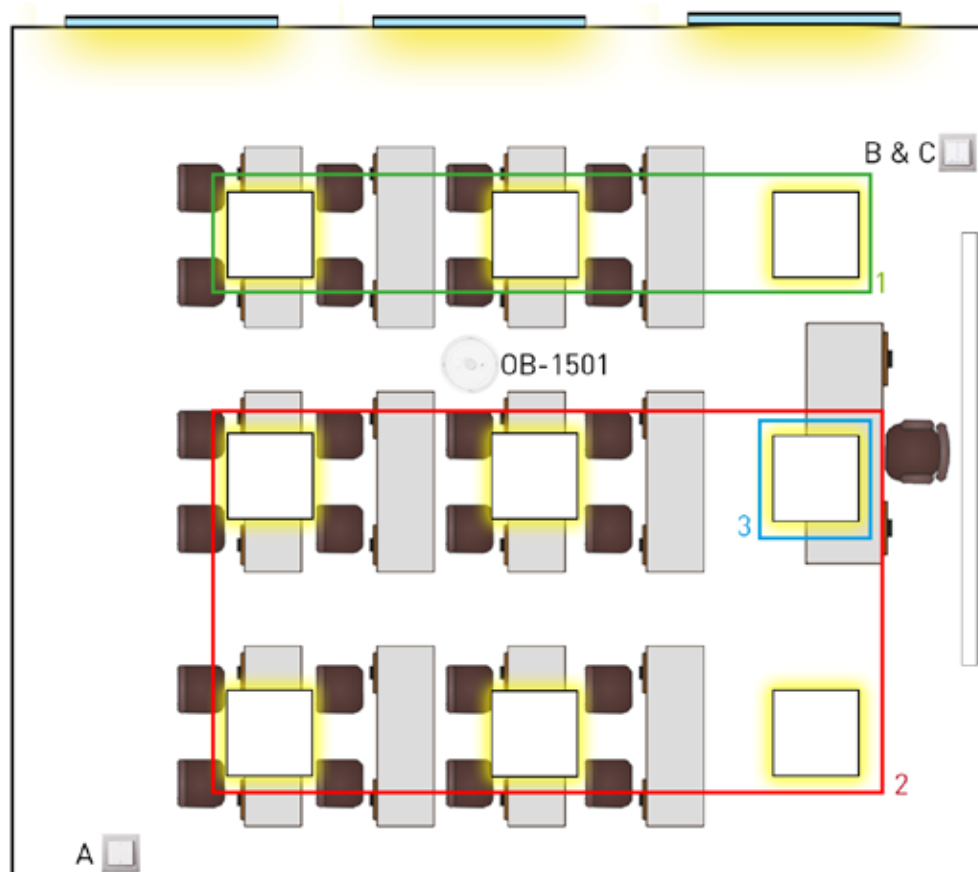
## Application Example - Classroom 1

Control of standard UK style classroom with an   OB-1501 iDim Orbit with five movement detectors.
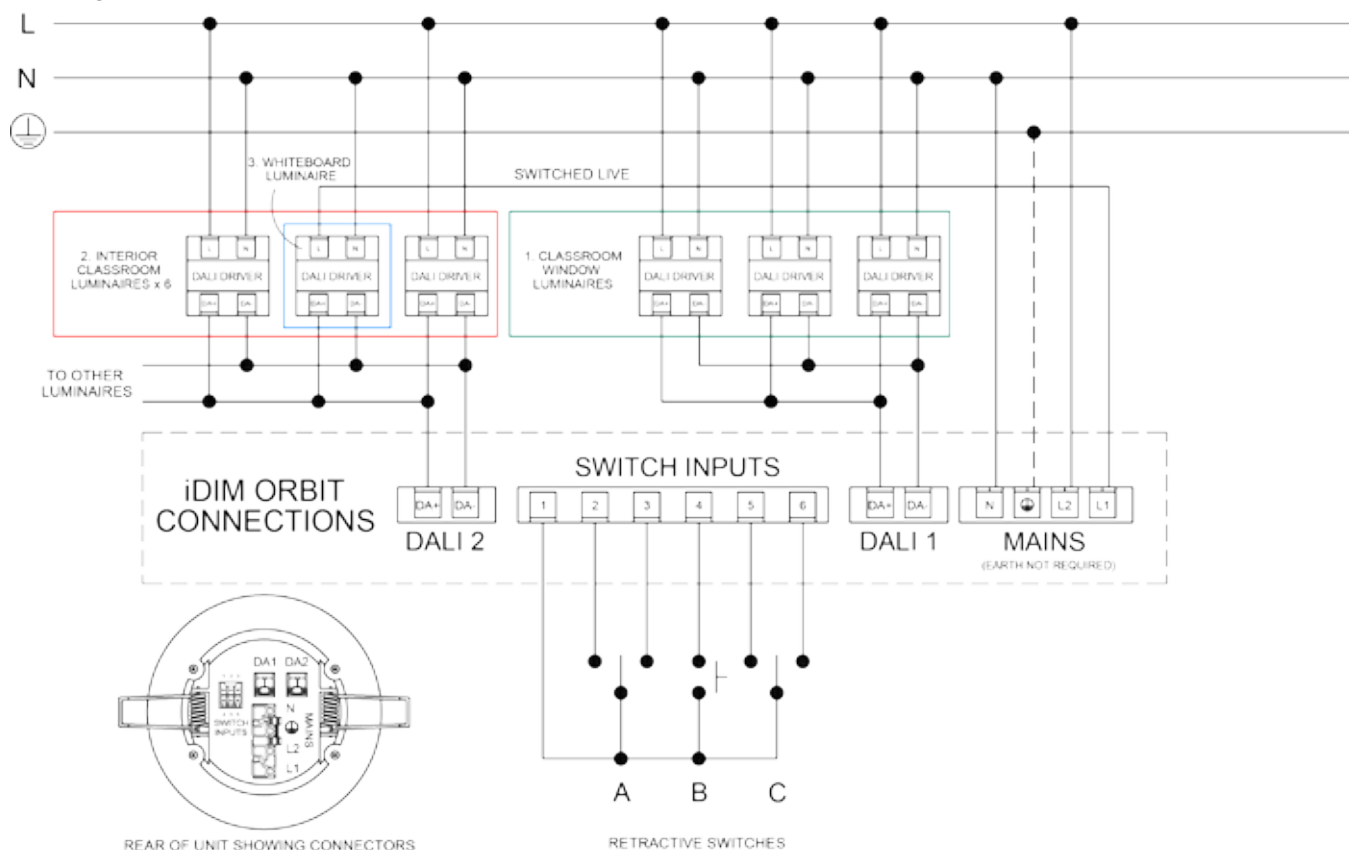
- 9 DALI luminaires for main classroom lighting (1, 2 & 3)

- Absence mode for maximum energy saving

- Constant light control of window row luminaires (1) for energy savings through daylight harvesting

- Constant light with off-set control of interior luminaires (2) for even light distribution across the classroom

- Manual dimming of main classroom lights from 2 locations (A & C) using double-pole retractive switches

- Manual switching of whiteboard luminaire (3) independent from main lighting using a single-pole retractive switch from the whiteboard (B)

- 40 minute PIR occupancy timeout of channels 1, 2 & 3 during lesson times

- 20 minute PIR occupancy timeout of channels 1, 2 & 3 outside of school hours for energy savings

# Application Layout - Classroom 1



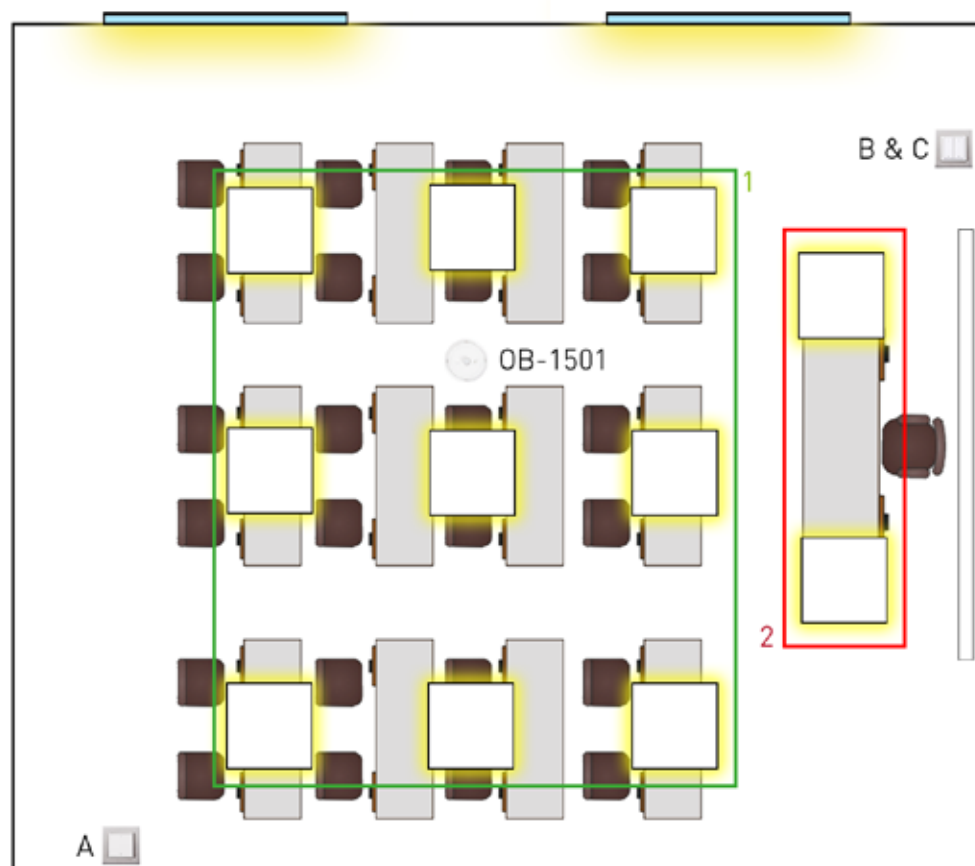# Wiring Schematic - Classroom 1

## Application Example - Classroom 2

Control of standard Swedish style classroom with an OB-1501 iDim Orbit with five movement detectors.

- 9 DALI luminaires for main classroom lighting (1)

- 2 DALI luminaires for whiteboard lighting (2)

- Absence mode for maximum energy saving

- Constant light control of main classroom luminaires for energy savings through daylight harvesting

- Manual dimming of main classroom lights from 2 locations (A & B) using single-pole retractive switches

- Manual dimming of whiteboard luminaires from one location (C) using a single-pole retractive switch

- 40 minute PIR occupancy timeout of channels 1 & 2 during lesson times

- 20 minute PIR occupancy timeout of channels 1 & 2 outside of school hours for energy savings

- Relay channel not in use but available for control of on non-dimmable loads or DALI Power Save Mode

# Application Layout – Classroom 2



# Wiring Schematic – Classroom 2
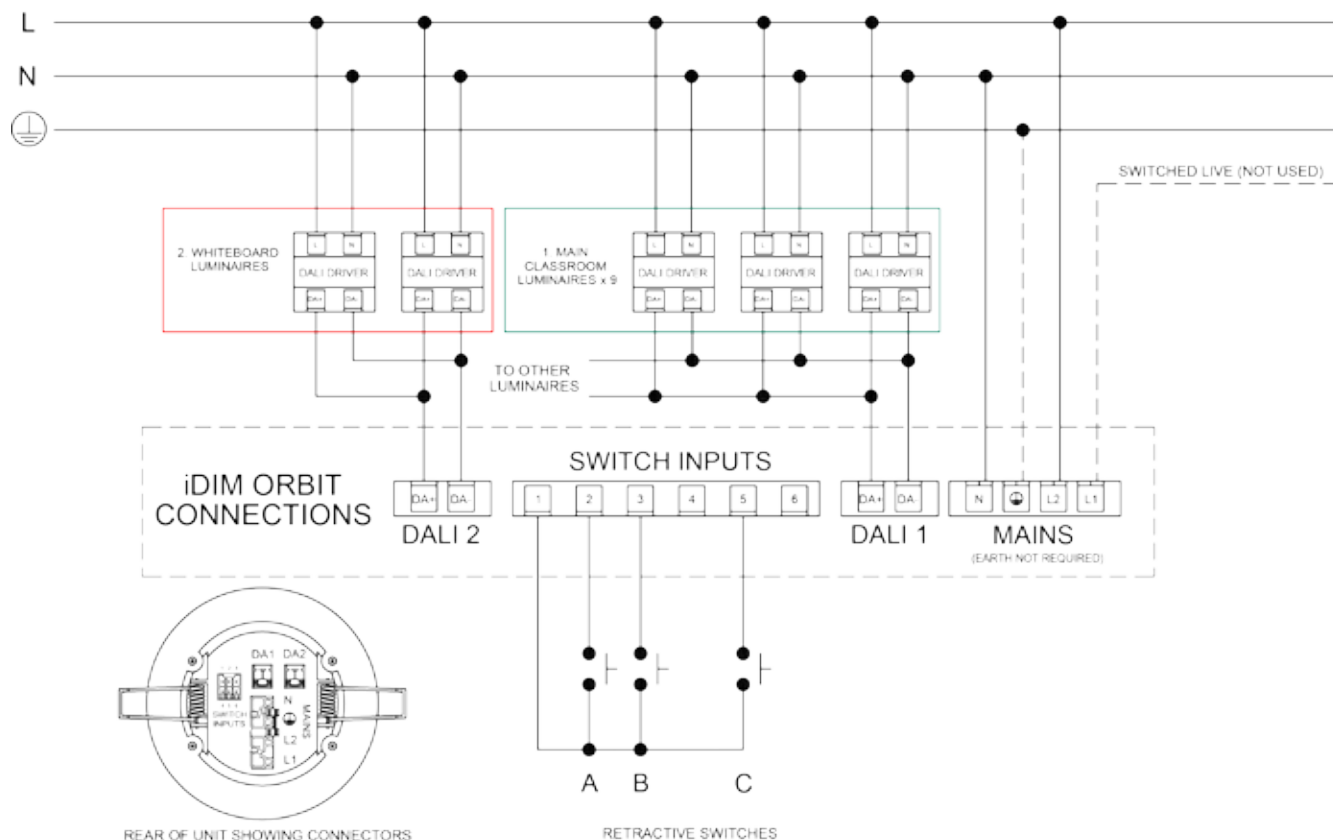
## Application Example - Cellular Office

Control of a cellular office with an OB-1101 iDim Orbit with single movement detector.

- 4 DALI luminaires for general lighting (1)

- 1 DALI luminaire for task lighting (2)

- Presence detection mode with 2 minute exit delay during office hours for user convenience

- Absence detection mode out of office hours for energy saving

- Manual control of general and task lighting for personal preferences (A & C).  Optional second control point (B & D) for maximum user convenience

- Daylight harvesting using constant light on general lighting (1) for energy saving

- Bright-out during office hours to ensure lighting isn't turned on by PIR when not needed

- 30 minute PIR occupancy timeout of channels 1 & 2 during office hours

- 10 minute PIR occupancy timeout of channels 1 & 2 outside of office hours for energy savings

- Optional removal of standby DALI power (DALI Power Save Mode) using the relay channel (3) for maximum  energy savings

# Application Layout – Cellular Office



A & C

1

OB-1101

2

3

B & D

# Wiring Schematic – Cellular Office



L

N

2. TASK LIGHTING

DALI DRIVER

1. MAIN OFFICE LUMINAIRES

DALI DRIVER

DALI DRIVER

DALI DRIVER

DALI DRIVER

3. ALTERNATIVE SWITCHED LIVE CONNECTION FOR DALI POWER SAVE (OPTIONAL)

iDIM ORBIT CONNECTIONS

DALI 2

SWITCH INPUTS

1 2 3 4 5 6

DALI 1

MAINS
(EARTH NOT REQUIRED)

DA+ DA-

N L2 L1

REAR OF UNIT SHOWING CONNECTORS

A B C D

RETRACTIVE SWITCHES

## Application Example - Open Plan Office Pod

Control of an open plan office pod with an OB-1101 iDim Orbit with single movement detector.

- 9 DALI luminaires for general lighting (1 & 2)

- 3 window row luminaires (1)

- 6 interior luminaires (2)

- Presence detection mode for user convenience

- Daylight harvesting using constant light on window row (1) for energy saving

- Constant light with off-set control of interior luminaires (2) for even light distribution across the office pod

- Bright-out to ensure lighting isn't turned on by PIR when not needed

- 40 minute PIR occupancy timeout of channels 1 & 2 during office hours

- 20 minute PIR occupancy timeout of channels 1 & 2 outside of office hours for energy savings

- Optional removal of standby DALI power (DALI Power Save Mode) using the relay channel (3) for maximum  energy savings
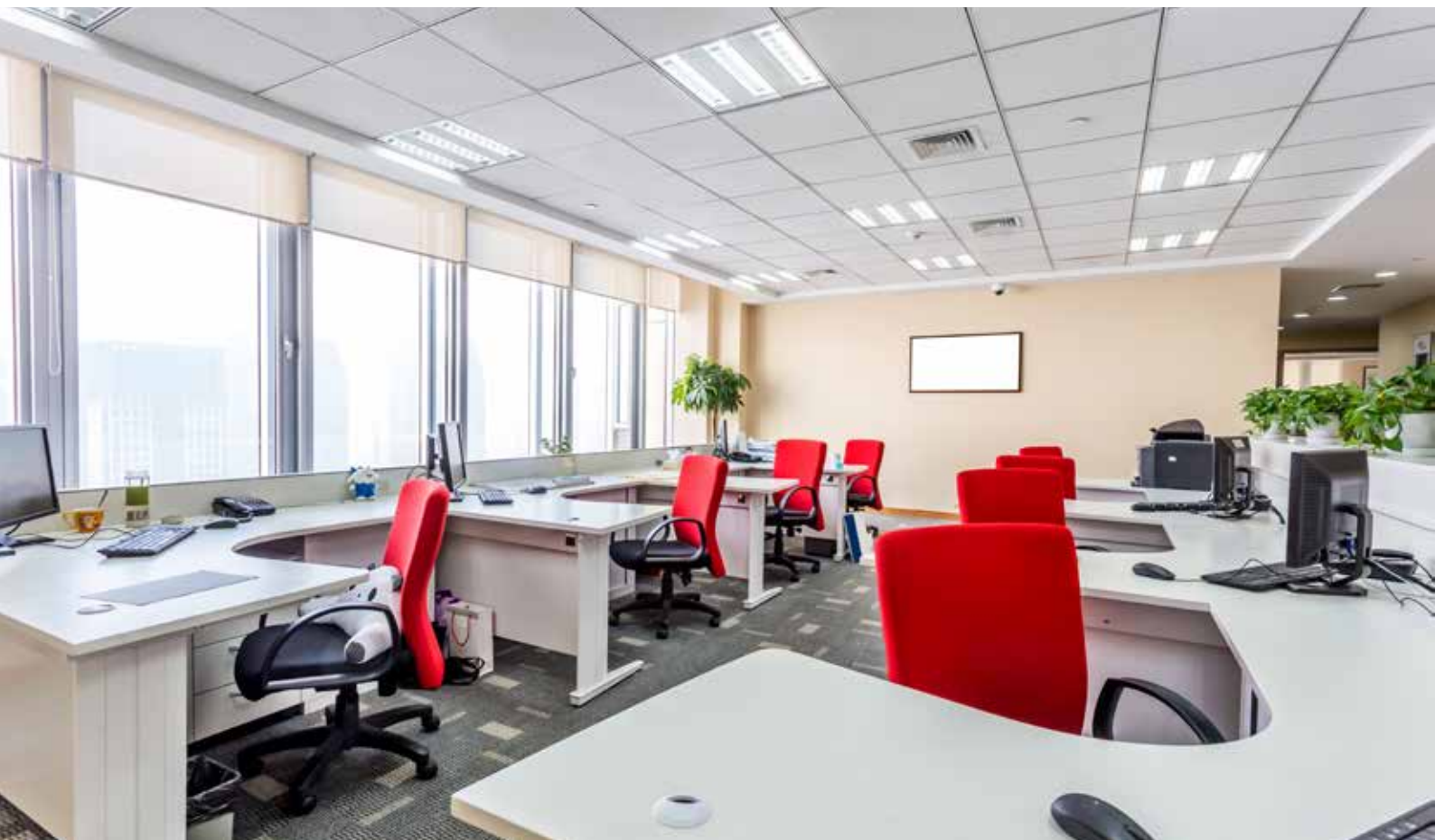
## Application Layout – Open Plan Office Pod
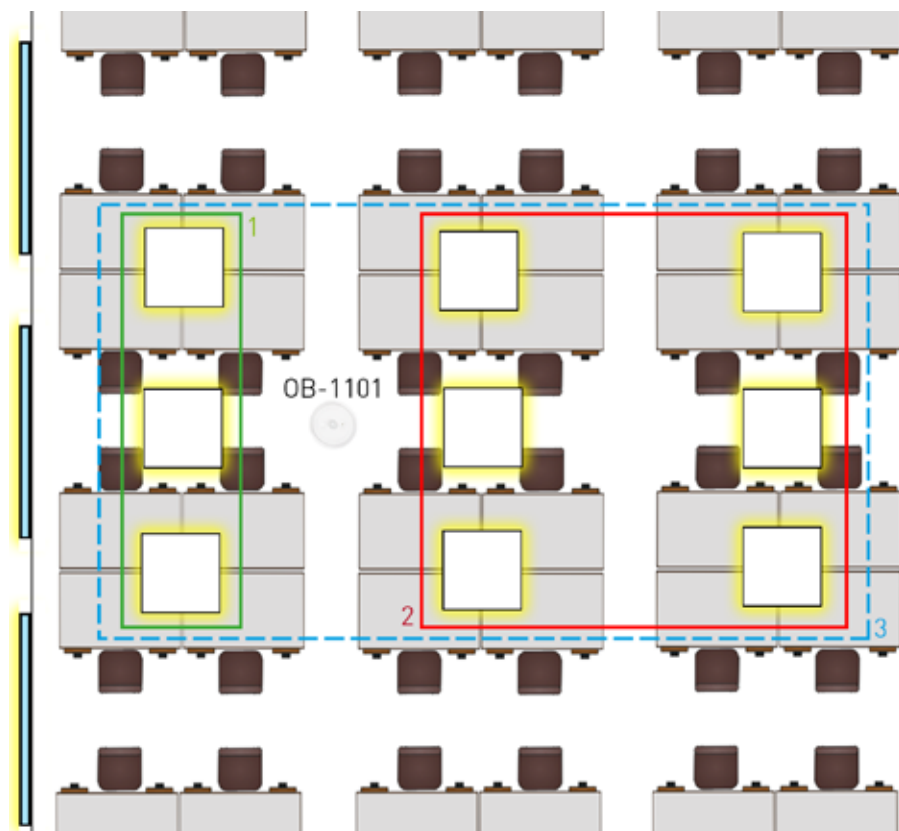


## Wiring Schematic – Open Plan Office Pod
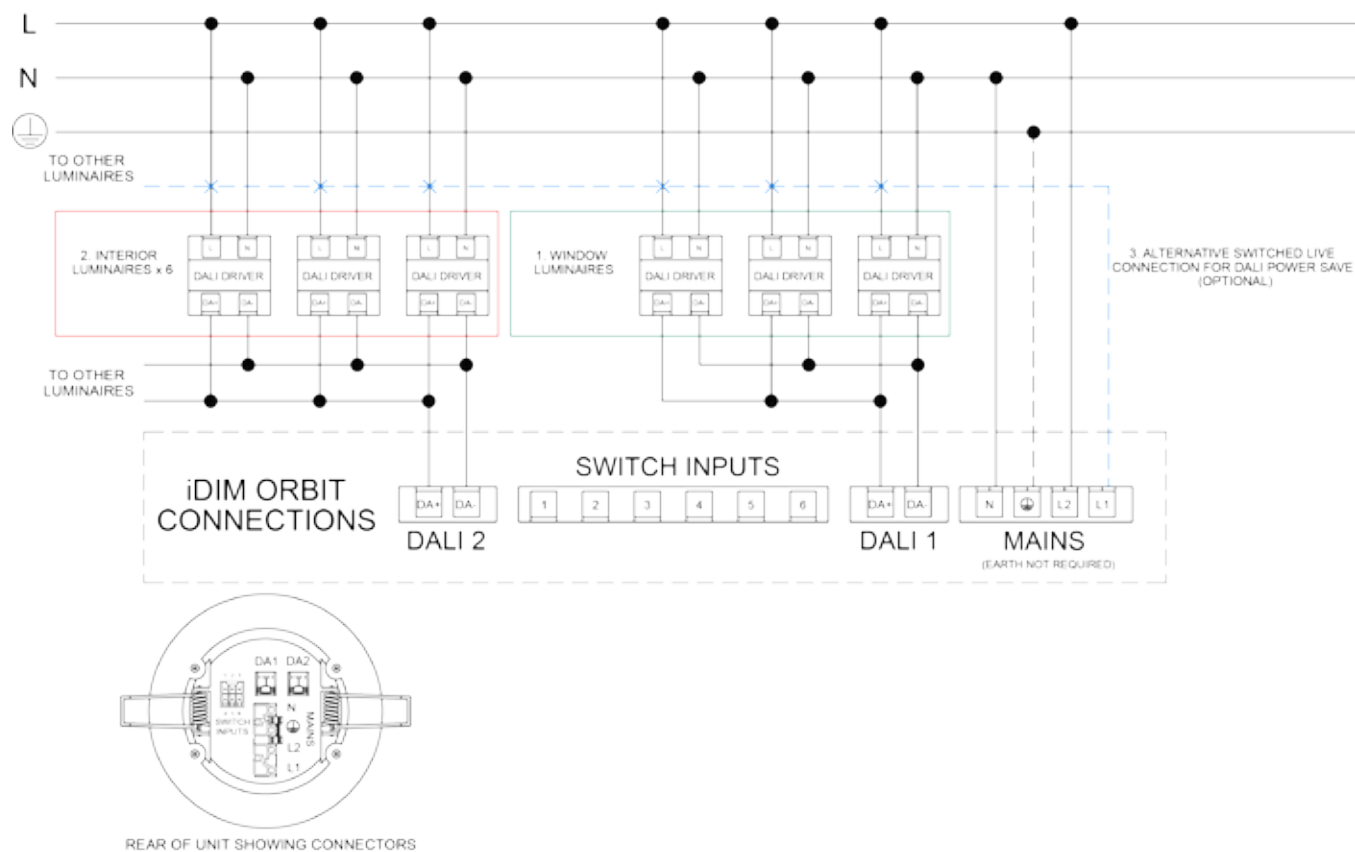
# Technical Data

## Connections

**Mains:** 4-pole removable connector block with strain relief
Cable diameter: 9 mm – 13 mm mains rated
Cable section: 0.5 mm² – 4 mm² solid; 0.5 mm² – 2.5 mm² 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 mm² – 1.5 mm² solid; 0.25 mm² – 1.0 mm² 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 mm² – 1.5 mm² solid; 0.08 mm² – 1.0 mm² 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:** 255 g (OB-1101) 261 g (OB-1501)

**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

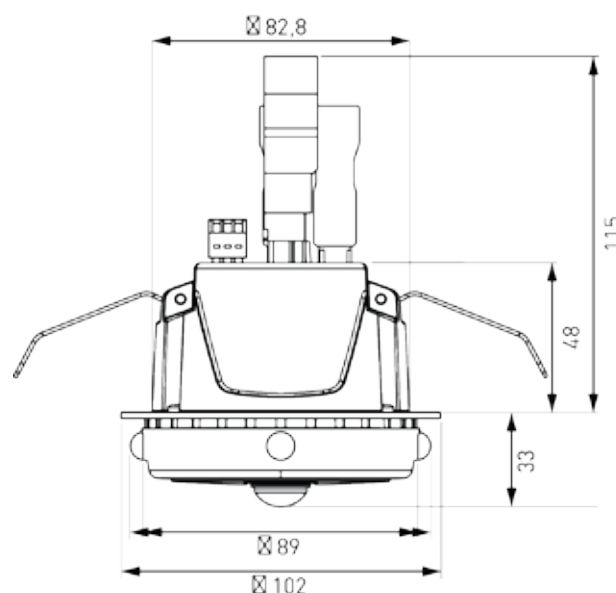**Storage temperature:** –10 °C to + 70 °C

Conformity and standards

**EMC:** EN 61000

**Safety:** IEC 60669-2-1

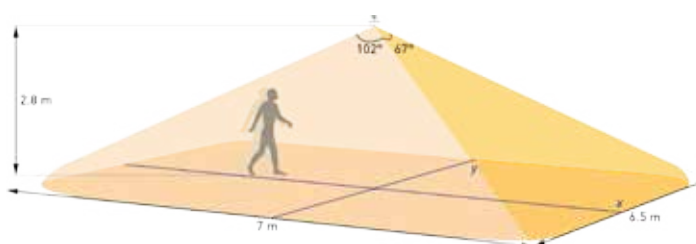**Environment:** Complies with WEEE and RoHS directives.

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

## Dimensions (mm)



## Presence Detection Coverage

### OB-1101 iDim Orbit



### OB-1501 iDim Orbit