# 5644 Node Multisensor D4i R44

The ActiveAhead Node Multisensor D4i R44 is a member of the truly intelligent wireless lighting control solution Helvar Active-Ahead®. It combines radio for connecting to the ActiveAhead mesh network, processor for running ActiveAhead lighting control logic, PIR sensor for movement detections and a light sensor for daylight harvesting. This radio sensor follows the Zhaga Book 20 mechanical dimensions for a rectangular sensor which suits to a 44x17 mm slot on a luminaire.

The Node Multisensor D4i design allows for multiple mounting options within a luminaire and excellent radio communication in all directions. Once installed the ActiveAhead Node Multisensor D4i can continuously learn from the space usage and adapt the lighting accordingly. Further configuration can be easily completed using the ActiveAhead mobile app.

The Node Multisensor D4i works with D4i LED drivers as well as other standard DALI-2 and DALI LED drivers. It offers addressed local DALI control line which allows individually set light output levels for the connected DALI LED drivers. The node is powered by the DALI bus.

The front side of the Node Multisensor D4i R44 IP variant is IP65 rated allowing it to be used in applications such as parking garages.
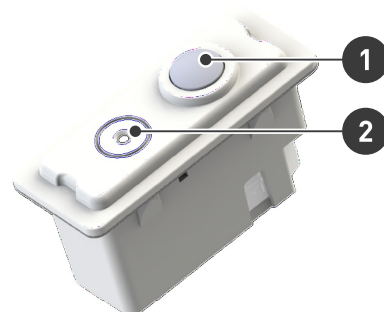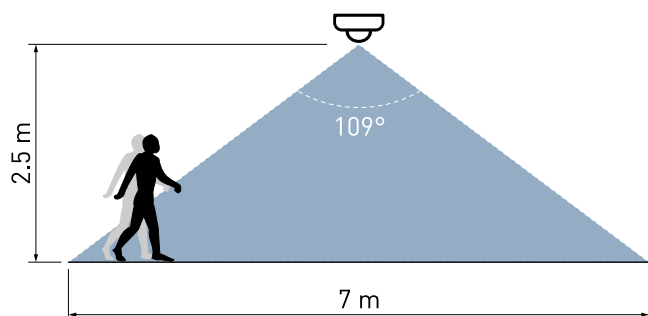
1. PIR sensor
2. Light sensor

Key Features

- Small D4i multisensor with inbuilt radio for wireless Helvar ActiveAhead luminaires
- Certified D4i control device
- Fits to a standard Zhaga Book 20 based rectangular 44 x 17 mm luminaire slot
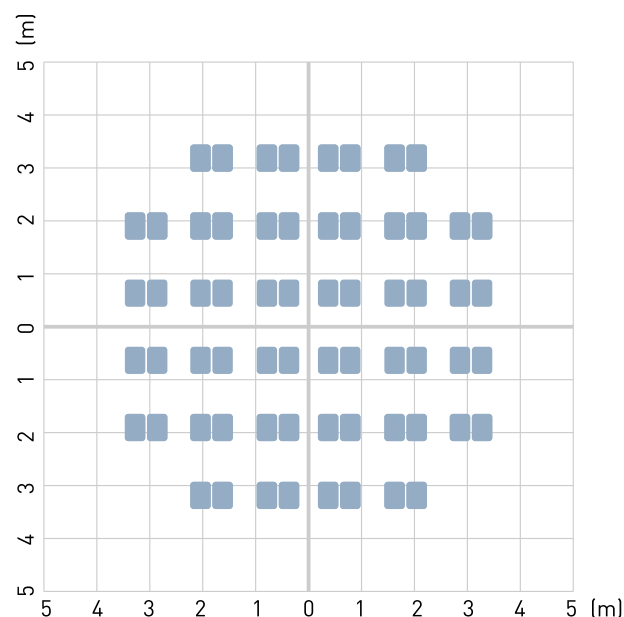- IP variant offers IP65 rated front side

Detection

Detection Coverage

Max. recommended mounting height: 4 m

Detection Pattern

Detection Pattern at floor level for 2.5 m mounting height

Detection range and sensitivity depends on the speed and size of the moving object as well as its temperature difference to the surroundings. Moving directionally towards the sensor will give worse detection than crossing the detection area on an angle.
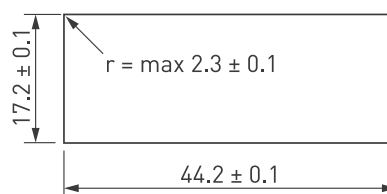
Mounting

The Node Multisensor D4i R44 can be mounted to a luminaire in three ways:

1) When mounting from outside in, carefully push the unit into the cutout until it 'clicks' into place and sits flush with the luminaire casing.
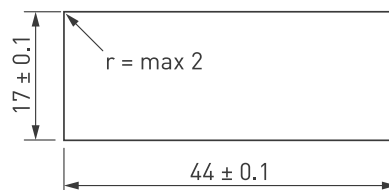

Cutout dimensions (mm)

17.2 ± 0.1

r = max 2.3 ± 0.1

44.2 ± 0.1
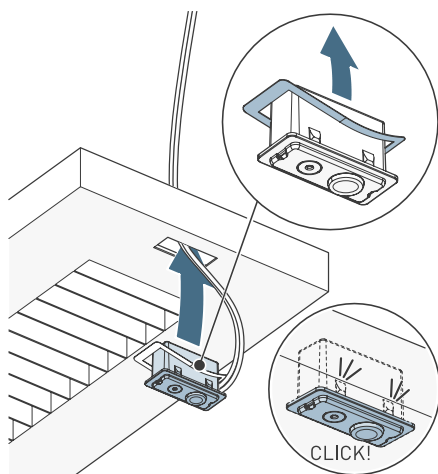
2) When mounting from inside out, ensure the face of the unit sits level with the luminaire casing and secure the unit in place. The supported luminaire frame thickness in the range 0.4 ≤ d ≤ 1.5 mm.
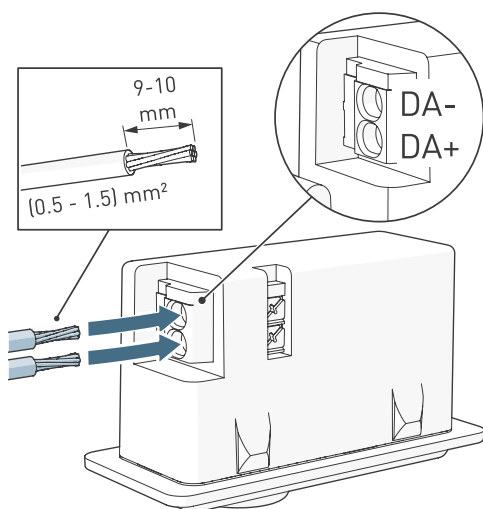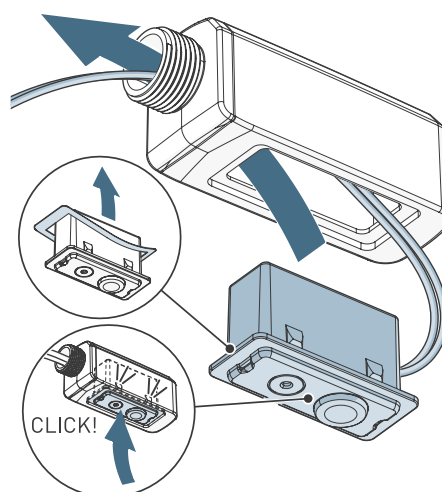

Cutout dimensions (mm)

17 ± 0.1

r = max 2

44 ± 0.1
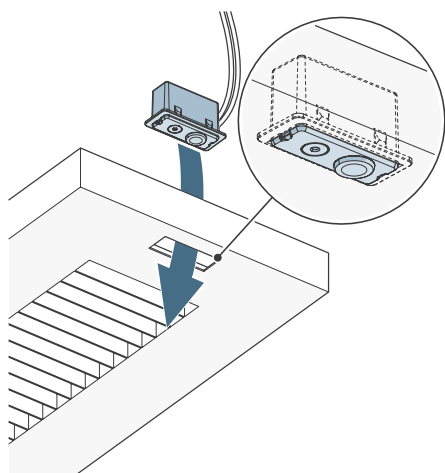
3) Using a 5695G - Holder Batten R44 accessory (sold separately).

1. Connect the DALI cables.

9–10 mm

$(0.5 - 1.5)\ mm^2$

DA–
DA+

2. Remove the tape liner and feed the cable through the holder. Push the unit into the holder.

CLICK!

3. Feed the cable through the hole in the luminaire. Connect the cable to the Node. Fasten the holder to the luminaire using the O-ring and a M20 nut.

Helvar Oy Ab - Keilaranta 5, 02150 Espoo, Finland - tel. +358 9 5654 1 | Helvar Ltd - Hawley Mill, Hawley Road, Dartford. DA2 7SY. UK - tel. +44 (0) 1322 617200 | www.helvar.com

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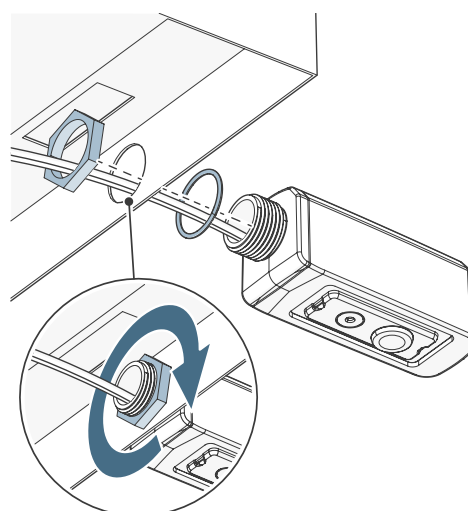
Connections
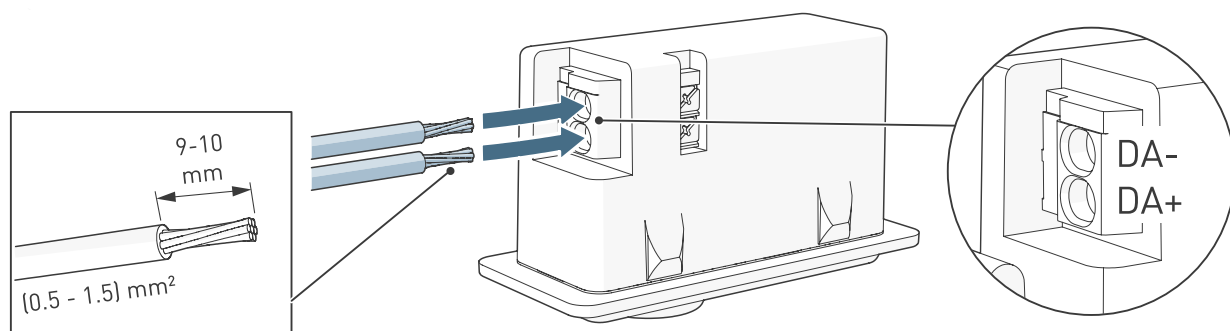
Note: To remove DALI wiring, press down the release buttons.

Dimensions (mm)

Technical Data

Supported DALI device types

DT1: Self-contained emergency control gear

DT6: LED lamp control gear

DT7: Switching (relay) control gear

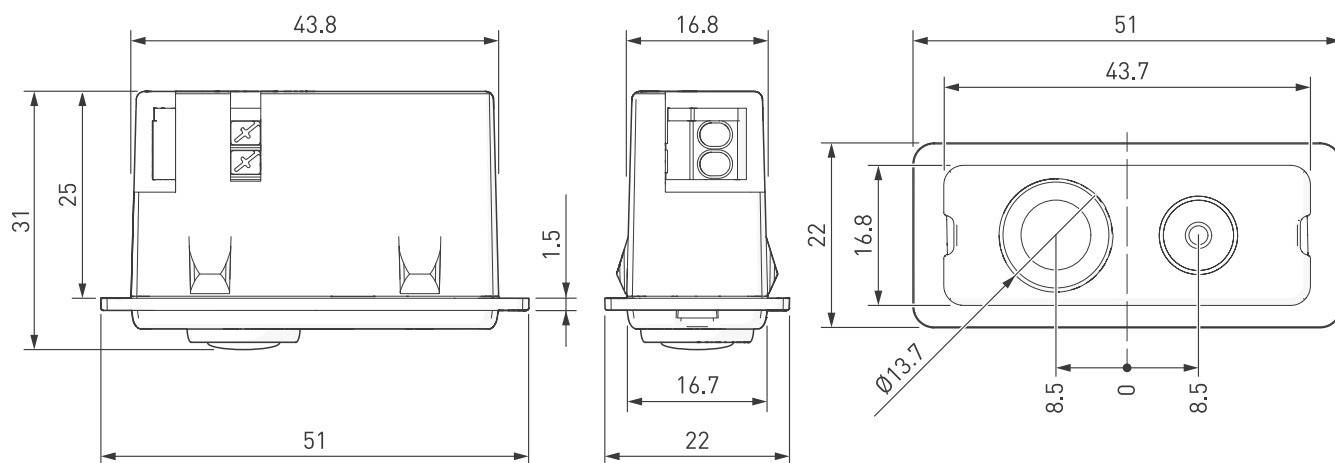DT8: Colour control gear (colour temperature Tc only)

Part 301 Push buttons

Part 303 Occupancy sensors

Part 304 Light sensors

Connections

DALI:	Push-fit terminals for the DALI wires
Wire section:	0.5–1.5 mm² solid or stranded
Cable rating:	All cables must be mains rated.

Electrical data

DALI supply input:	12.0–22.5 V
DALI consumption:	Max. 25 mA

Wireless Connectivity

Operating frequency range:	2402–2480 MHz
Transmission power:	Max. 0 dBm
Technology:	Bluetooth® Mesh
Antenna Pattern:	Omnidirectional
Max distance between Nodes:	15 m in free space

Note: To ensure proper operation the mesh network must consist of a minimum 10 ActiveAhead Nodes.

Movement detection sensor

Technology:	Passive infrared (PIR) detects moving temperature differences
Detection coverage area:	38 m² @ 2.5 m mounting height achieved with:
	- 8 C° temperature difference to target
	- 1.0 m/s movement speed
	- 700 x 250 mm object size
Max. recommended mounting height:	4 m

Light sensor

Technology:	Closed loop reflected light
Illuminance:	5 lx to 5000 lx
Max. recommended mounting height:	3 m

Operating and storage conditions

Number of connected DALI devices:	Max 8 addresses or the DALI power supply limit
	Note: There must be only one ActiveAhead Node on one DALI line.
Ambient temperature:	5644000, 5644001:
	0 °C to +50 °C
	5644013:
	-20 °C to +50 °C
	Note: The temperature difference between the detection target and the background must be at least 4 °C.
	Note: Frost on lens may block the detection.
Relative humidity:	Max. 85 %, noncondensing
Storage temperature:	-20 °C to +70 °C

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Order Codes

5644000	Node Multisensor D4i R44, White
5644001	Node Multisensor D4i R44, Black
5644013	Node Multisensor D4i R44 IP, Grey

Accessories (sold separately)

5695G	Holder Batten R44 Grey

Mechanical data

Dimensions:	51 x 22 x 31 mm
Material (casing):	Fire-retardant PC/ABS blend
Colour:	5644000: White (RAL 9003)
	5644001: Black (RAL 9005)
	5644013: Grey (RAL 7035)
Weight:	14 g
IP rating:	5644000: IP30
	5644001: IP30
	5644013: IP65 front, IP30 back

Conformity and standards

Conformity:	CE UK CA
EMC emission / immunity:	EN 55015 / EN 61547
RED:	EN 300 328, EN 301 489-1, EN 301 489-17
Safety:	EN 61347-2-11
DALI:	IEC 62386, Part 351
Environment:	Complies with WEEE, RoHS and REACH directives.