3901 ENVIRONMENTAL SENSOR

The 3901 sensor is a combined lighting control and environmental sensor. It is capable of measuring a broad range of indoor environmental conditions which are communicated via Bluetooth® Low Energy Mesh communication technology.The ceiling fitted sensor connects to the intelligent wireless lighting control solution, Helvar ActiveAhead®, and is able to perform several tasks simultaneously, specifically:

- Sensing the environmental conditions of a space (air quality, temperature, relative humidity, light and sound).
- Occupancy detection via PIR or Enhanced Occupancy with combination of PIR + Speech.
- Acting as a Bluetooth® Low Energy node.

Key features

- High PIR sensitivity and multi-directional coverage.
- Able to connect to an Extension Sensor via the ActiveAhead app.*
- Status and identi(cation LED indicators.
- Environmental Sensing of indoor spaces.
- Bluetooth® Mesh Protocol Support.
- Compatible with ActiveAhead® Solutions.

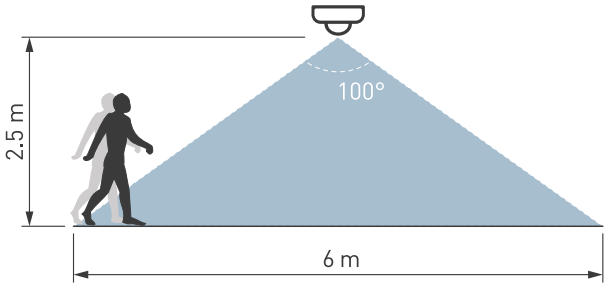
***Note:** Connection between 3901 and Extension Sensor is on a one to one basis. Android version of the ActiveAhead app is required to link the 3901 and Extension Sensors together.*

Inbuilt sensors:

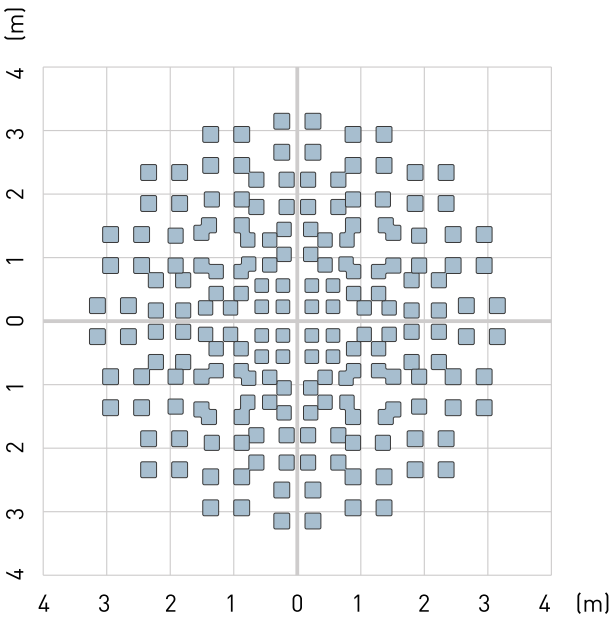
- Passive Infrared (PIR)
- Light
- Temperature
- Relative humidity
- eCO2 (estimated Carbon Dioxide)
- TVOC (total Volatile Organic Compounds)
- Sound

Detection

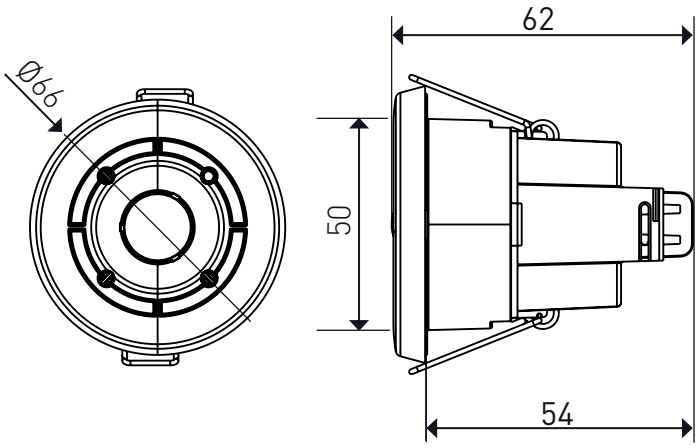
Detection coverage



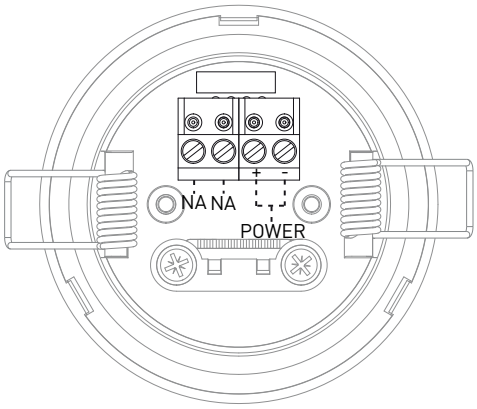
Detection pattern



Dimensions (mm)



Connections



Note: *Device power supply is through the PWR pins, NA pins currently have no function.*

Technical Data

Connections

DALI: Removable connector block, DALI communication not yet supported.

Wire section: 0.5–1.5 mm², solid or stranded.

Cable rating: All cables must be mains rated.

Note: *Power and DALI pins are not internally connected together.*

Electrical data

DC supply input: 9-22.5 V (Pins marked PWR)

Max current: 60 mA. Only use DALI power supply.

Do not connect a power supply other than a current limited max 250 mA DALI PSU

Sensors

Light: Photocell, light level measurement

Occupancy detection: Passive infrared (PIR)

Enhanced occupancy detection: This feature extends occupancy timeout to a fixed period when PIR is not detecting movement but speech is detected. PIR trigger is required to turn on lighting first.

Note: *Recommended for enclosed, quieter spaces e.g. meeting rooms, cell offices. Avoid using feature in open plan, or louder spaces as this may generate false noise occupancy triggers. Disable/enable the feature via App, if required.*

Sound level (Ambient noise): Microphone

Note: *General Data Protection Regulation (GDPR) compliant*

Climate: Ambient temperature and relative humidity

Air quality: eCO2 and TVOC

Note: *Air quality measurements typically require two days to calibrate upon each power up. Up to seven days in environments with a lack of fresh air.*

eCO2 and TVOC measurements are indicative estimations only and cannot be taken as exact values.

Wireless connectivity

Operating frequency range: 2402-2480 MHz

Transmission power: Max. 0 dBm

Technology: Bluetooth® Mesh

Antenna pattern: Omnidirectional

Operation

Start-up time: <5 seconds

Note: *>5 minutes for the TVOC / eCO2 sensor to start measurements*

Operating and storage conditions

Ambient temperature: 0 °C to +40 °C

Relative humidity: Max. 90 %, non-condensing

Storage temperature: 0 °C to +70 °C

Note: *The temperature difference between the PIR detection target and the background must be at least 4 °C.*

Compatibility

Product family: ActiveAhead

Mechanical data

Max. recommended mounting height: 4 m

Presence detection coverage area: 46 m² @ 2.5 m mounting height

Mounting hole diameter: 51 mm +/- 1 mm

Ceiling thickness: <25 mm / 25-50 mm

Bezel diameter: 66 mm

Recommended clearance depth: 10 cm (with cable cover, incl. 5 cm for cabling).

Material (casing): Flame retardant PC/ABS (UL94–V0)

Finish/Colour: Semi-matt / White RAL 9003

Weight: 60 g

IP rating: IP20

Conformity and standards

Conformity: CE UKCA

RED: EN 301 489-1, EN 301 498-17, EN 300 328

EMC emission: EN 55015

EMC immunity: EN 61547

Safety: EN 61347-2-11

Environment: Complies with WEEE, RoHS and REACH directives.