

3901 ENVIRONMENTAL SENSOR

Helvar

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 identification LED indicators.
- Environmental Sensing of indoor spaces.
- Bluetooth® Mesh Protocol Support.
- Compatible with ActiveAhead® Solutions.

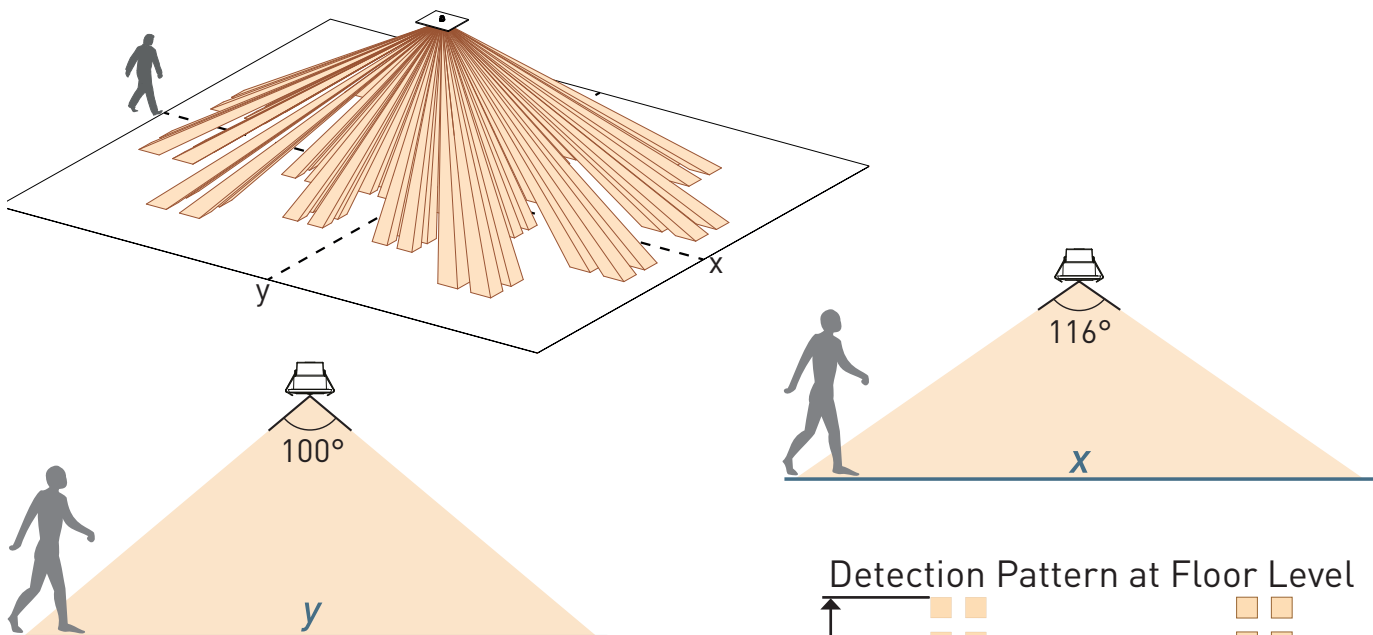
**Note: Connection between 3901 and Extension Sensor is on a one to one basis. Android version of the ActiveAhead app is required to link the 3901 and Extension Sensors together.*



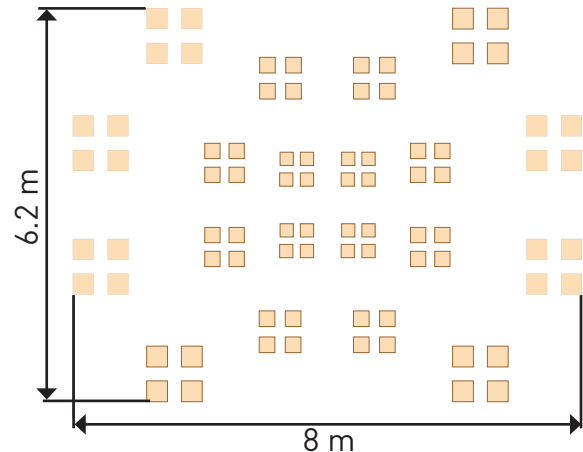
Inbuilt sensors:

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

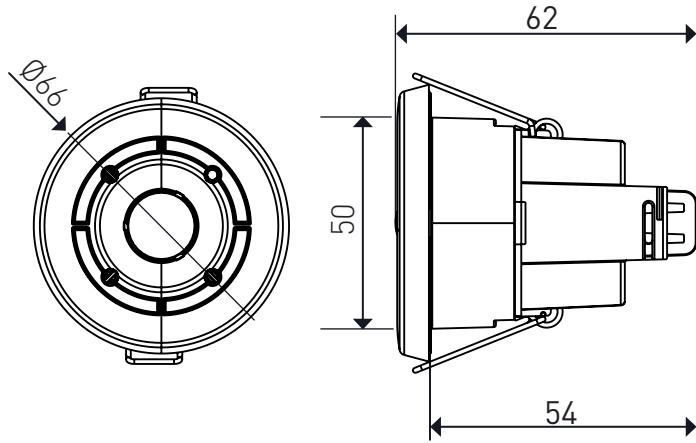
Presence Detection Coverage at 2.5 m Height



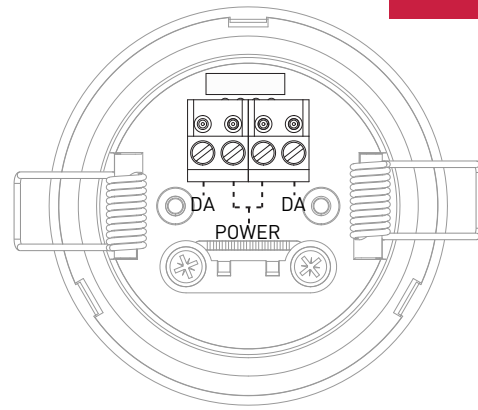
Detection Pattern at Floor Level



Dimensions (mm)



Connections



Technical Data



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

| Connections | |
|---|---|
| DALI: | Removable connector block, DALI communication not yet supported. |
| Wire section: | 0.5 mm ² – 1.5 mm ² solid or stranded. |
| Cable rating: | All cables must be mains rated. |
| <i>Note: Power and DALI pins are not internally connected together.</i> | |
| 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 any movement any more but speech is detected. PIR trigger is required to turn on lighting first. |
| <i>Note: Recommend using for enclosed, quieter spaces as meeting rooms, cell offices. Avoid using feature in open plan, or louder spaces as this may generate false noise occupancy triggers, disable/enable feature via App if required.</i> | |
| Sound level (Ambient noise): | Microphone. |
| <i>Note: General Data Protection Regulation (GDPR) compliant.</i> | |
| Climate: | Ambient temperature and Relative Humidity. |
| Air quality: | eCO ₂ and TVOC |
| <i>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.</i> | |
| eCO ₂ and TVOC measurements are indicative estimations only and cannot be taken as exact values. | |
| Wireless connectivity | |
| BLE: | 2.4 GHz |
| Max transmit power: | 0 dBm |
| Antenna pattern | Omni-directional |
| Operation | |
| Start-up time | <5 seconds |
| <i>Note: Allow up to 5 minutes for the TVOC/eCO₂ sensor to start measurements.</i> | |
| Operating and storage conditions | |
| Ambient temperature: | 0 °C to +40 °C |
| Relative humidity: | Max. 90 %, non-condensing. |
| Storage temperature: | 0 °C to +70 °C |
| <i>Note: The temperature difference between the PIR detection target and the background must be at least 4 °C.</i> | |
| Compatibility | |
| ActiveAhead | |
| Mechanical data | |
| Max. recommended mounting height: | 4 m |
| Presence detection coverage area: | 46 m ² @ 2.5 m mounting height. |
| Mounting hole diameter: | 51 mm +/- 1 mm |
| Ceiling thickness: | Maximum 25 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: | |
| 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 and RoHS directives. |