

# 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.

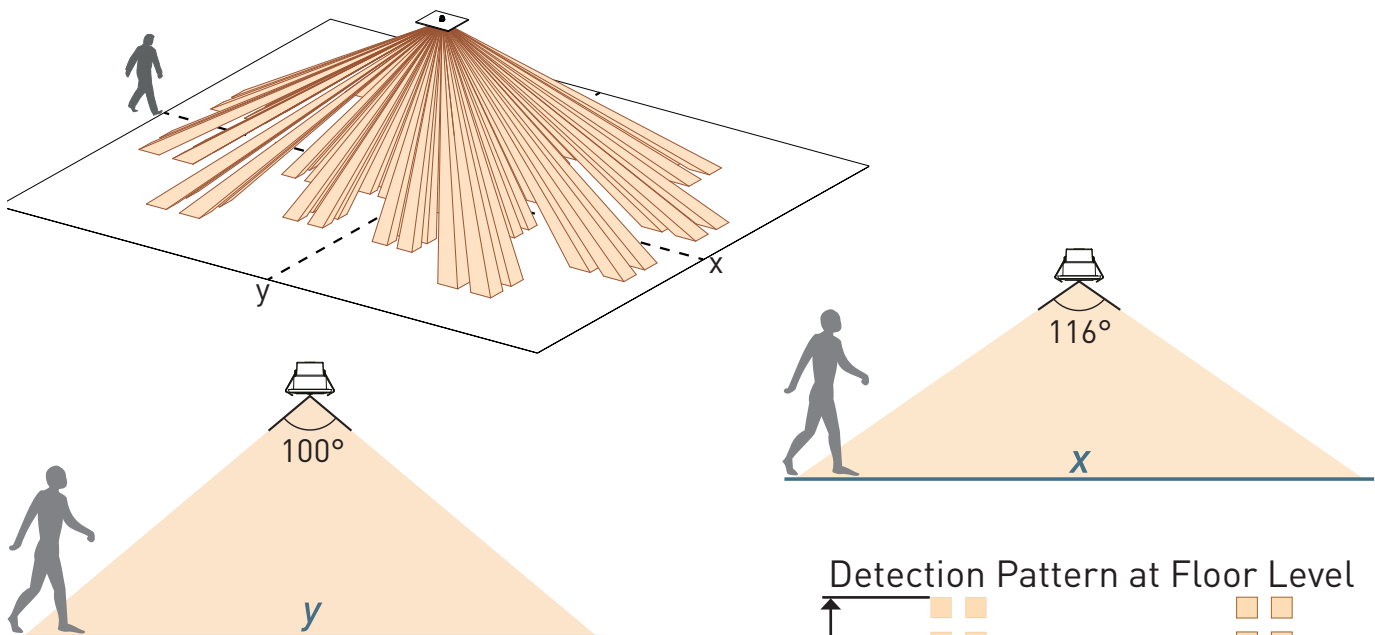
*\*Note: Connection between 3901 and Extension Sensor is on a one to one basis. Android version of the ActiveAhead app is required to link the 3901 and Extension Sensors together.*



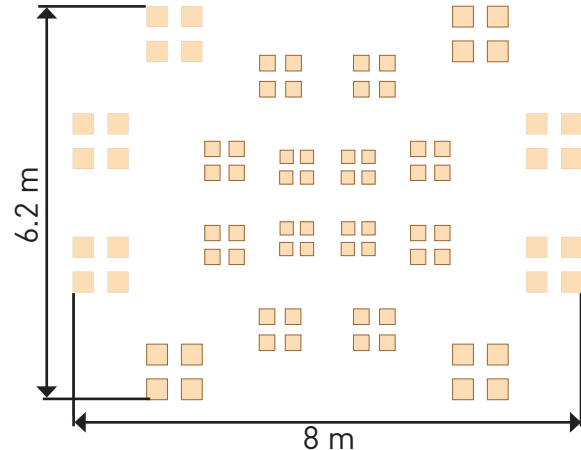
## Inbuilt sensors:

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

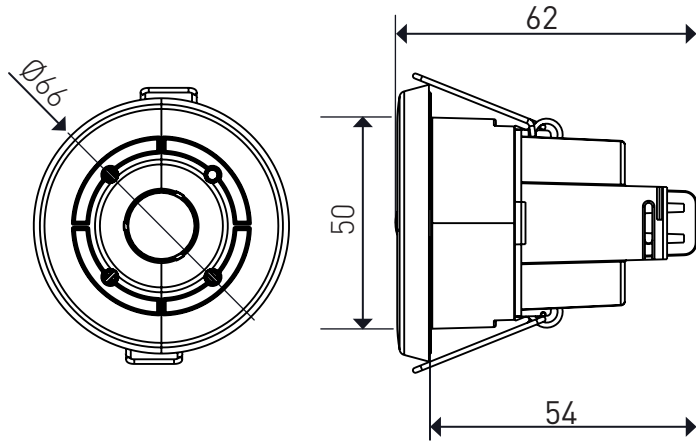
## Presence Detection Coverage at 2.5 m Height



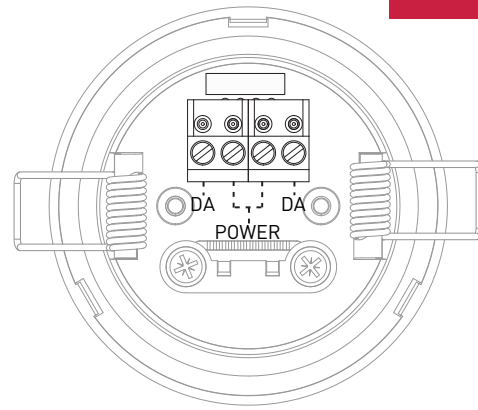
## Detection Pattern at Floor Level



## 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 <sup>2</sup> – 1.5 mm <sup>2</sup> 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 to the DA pins.	
Sensors	
Light:	Photocell, light level measurement.
Occupancy detection:	Passive infrared (PIR).
Enhanced occupancy detection:	PIR microphone: This feature extends occupancy timeout to a fixed period when PIR is not detecting any movement any more but voice 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 <sub>2</sub> 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>	
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/eCO<sub>2</sub> 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 <sup>2</sup> @ 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.