**Specification Sheet**

# SC1500 Multi Sensor Bundle

The SC1500 Multi Sensor Bundle consists of a comprehensive set of environment and people sensors to enable key office management applications.
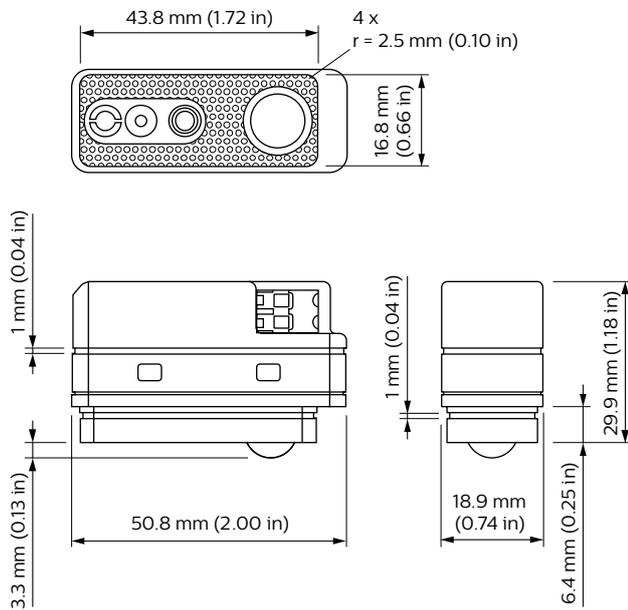
In addition, the inclusion of a Bluetooth radio enables indoor navigation use cases. By the maintained electrical and mechanical compatibility with the existing SNS400, as used in Interact Office Wireless, it is possible to integrate the device in the existing luminaire portfolio. The use of the upgradable sensor slot enables upgrade scenarios without replacing the luminaires.

# SC1500

## Sensors and functions

- Single pixel thermopile
    - People estimation
    - Radiant temperature
- Relative humidity sensor
- Daylight sensor
- Sound pressure sensor
- PIR occupancy sensor
- Bluetooth Low Energy beacon and radio
- Zigbee radio
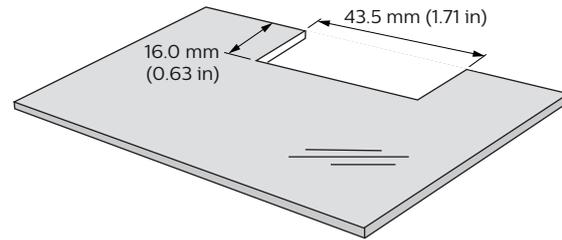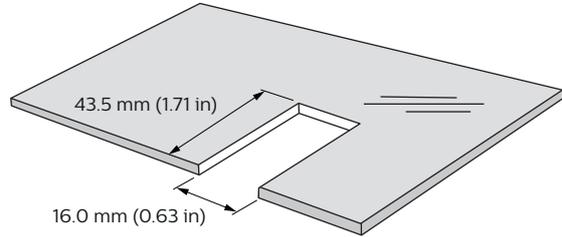- Power (yellow) and movement (red) indication
- IR receiver

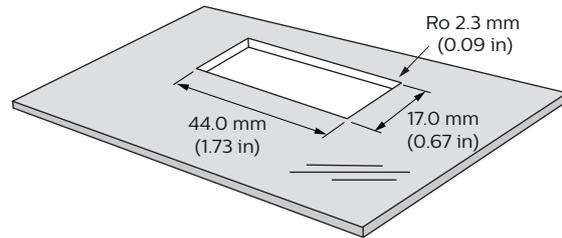## Dimensional drawing



## Mounting dimensions

### Mounting in U-shaped slot
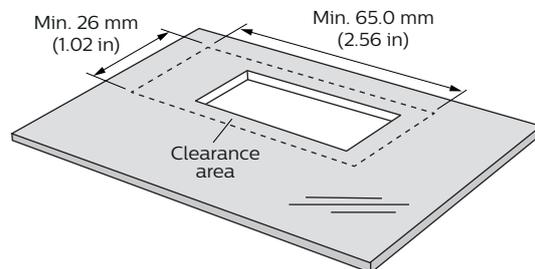In sheet metal (max. thickness 1 mm), tolerance +0.2 mm/–0.0 mm.



### Mounting in cut-out
In metal sheet (thickness 0.7 mm to 1.2 mm), tolerance ±0.2 mm



### Mounting with a clip for upgradable sensor slot
The SC2000 can be mounted in a surface mounted bracket or in an SA0200/05 mounting clip for the upgradable sensor slot. See Accessories for details.
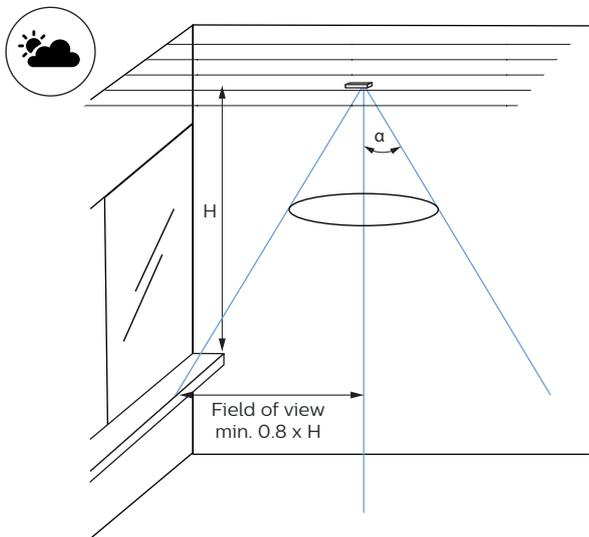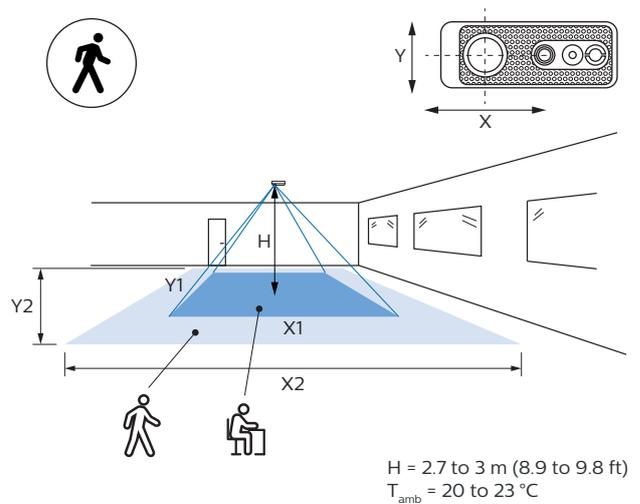
## Daylight sensing

The light sensor measures the total amount of light in a circular field of the thermopile detection area. The following aspects must be observed during installation:
- Minimum distance from the window ≥ 0.6 m.
- Prevent light reflections from outside entering the sensor (for example sunlight reflection on a car) as this leads to incorrect light regulation.

As a guideline the formula 0.8 x H can be used to calculate the minimum distance between the window and sensor whereby H is the height from the windowsill to the ceiling. Angle $\alpha$ is the radial viewing angle which is typically 37°.



## PIR occupancy sensing



H = 2.7 to 3 m (8.9 to 9.8 ft)
$T_{amb}$ = 20 to 23 °C

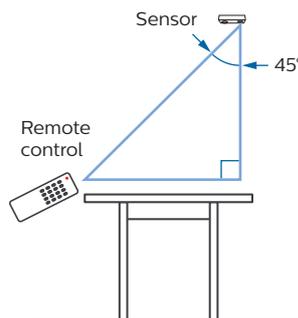The detection area is sensed by a thermopile array. By software processing the information is processed to radiant temperature at surface level and people count data.

| | Minor Movement | | Major Movement | |
|---|---|---|---|---|
| **H** | **X1** | **Y1** | **X2** | **Y2** |
| 3 m (9.8 ft) | 3.6 m (11.8 ft) | 2.7 m (8.9 ft) | 5.4 m (17.7 ft) | 3.6 m (11.8 ft) |

## IR receiver



Sensor

45°

Remote control

# Specifications

## Physical data

| Dimensions | 50.8 x 18.9 x 29.9 mm (2.0 x 0.74 x 1.18 in) |
| --- | --- |
| Dimensions of the installation hole | 44 x 17 mm (1.73 x 0.67 in) |
| Dimension of the cavity (L x W x H) | 50.8 x 18.9 x 22.0 mm (2.0 x 0.74 x 0.87 in) |
| Installation height Typical installation height | 2.5 to 4.0 m (8.2 to 13.1 ft) 2.7 to 3.0 m (8.9 to 9.8 ft) |
| Net weight | 0.018 kg |
| Color | White (RAL 9003) |
| Connector | Lite-Trap SMT Wire-to-Board connector |
| Solid wire range | 0.2 to 0.8 mm$^2$ (AWG24 to AWG18) |
| Stranded wire range | 0.45 to 0.7 mm$^2$ (AWG22 to AWG20) |
| Lifetime at $T_{amb}$ = 70 °C | 10 year |

## Environmental data

| Operating temperature | 0 to 55 °C |
| --- | --- |
| Storage temperature | –25 to 85 °C |
| Operating humidity | 10 to 90% |
| Storage humidity | 10 to 95% |

## Electrical data

| Supply voltage range | 12.0 to 22.5 V |
| --- | --- |
| Typical supply current at $U_{in}$ = 16.0 V | 11.3 mA |
| Typical power consumption at $U_{in}$ = 16.0 V | 180 mW |

## Sensing specifications

### Thermopile sensor

| Field of view | 90° |
| --- | --- |

**Temperature**

| Temperature range | 5 to 55 °C |
| --- | --- |
| Typical accuracy | ±1.0 °C, applicable within specified FoV and temperature range (infrared temperature measurement) [a] |

**Environment**

| Feature | People estimation |
| --- | --- |

### Daylight sensor

| Type | Photosensor |
| --- | --- |
| Detection range | 0 to 1500 lx |
| Accuracy | ±10%, CCT = 4000 K |
| | ±20%, CCT = 2700 to 6500 K |

### Relative humidity

| Type | Dedicated RH sensor with built in temperature compensation |
| --- | --- |
| Relative humidity range | 10 to 90% |
| Typical accuracy | ±5%, At work plane level |

### Sound pressure sensor

| Type | MEMS microphone |
| --- | --- |
| Reported metrics | LAeq, peak levels, sound activity metrics |
| Range | 35 to 50 dBA |
| Accuracy | ±3 dB |

> **Note**
> For privacy reasons, the device is not capable of streaming audio samples.

[a] The usage of a thermopile allows to maintain an accurate temperature measurement, even under environmental conditions when the sensor itself is heated or cooled.

## PIR occupancy sensor

### Rectangular detection area

| | |
|---|---|
| Major movement | 3.6 x 5.4 m (11.8 x 17.7 ft) at 3 m mounting height |
| Minor movement | 2.7 x 3.6 m (8.9 x 11.8 ft) at 3 m mounting height |

## Wireless specifications

### Bluetooth radio

| | |
|---|---|
| Type | Bluetooth 4.0 |
| Range | 10 m |

### Zigbee radio

| | |
|---|---|
| Type | Zigbee PRO |
| Maximum mesh network gap | 10 m |

## External commissioning

### IR receiver

| | |
|---|---|
| Carrier operating frequency | 36 kHz |
| Supported systems | RC5, RC6 |
| Angle of view | 45° |

## Compliance

| | |
|---|---|
| IEC pollution degree | 2 |
| IP rating | IP20 |
| Flammability rating | V-0 |
| Insulation requirements | SELV Class 2 required on input |
| Approbations | CE, ENEC, cULus, FCC, IC, RoHS and REACH compliant |

### Standards

| | |
|---|---|
| Lamp controlgear | IEC 61347-2-11 |
| Automatic electrical controls | UL 60730 |
| Fire and smoke test | UL 2043 |
| Conducted/radiated emission | EN55032: 2015 |
| RF electromagnetic field | EN 61000-4-4: 2006 + A1:2008 + A2:2010 |
| Electrostatic discharge | EN 61000-4-2: 2009 |
| Electromagnetic compatibility and radio spectrum | EN 300328 V2.1.1 (2016-11) |
| Conducted/radiated emission | FCC CFR47 Part 15B (2018) |
| Radio frequency devices | FCC CFR47 Part 15C (2018) |
| Compliance of radio apparatus | RSS-GEN Issue 5 (2019) |
| Radio standards | RSS-247 Issue 2 (2017) |

## Accessories

### Mounting bezel

| Order name | Color | Order number |
|---|---|---|
| SA0100/05 Mnt Bez SC1xxx/SC2xxx 44x17 | White (RAL9003) | 9137 136 20003 |

### Mounting clip for upgradable sensor slot

| Order name | Color | Order number |
|---|---|---|
| SA0200/05 F Mnt Clip SC1xxx/SC2xxx 60x22 | White (RAL9003) | 9137 136 20203 |
| SA0200/15 F Mnt Clip SC1xxx/SC2xxx 60x22 | Black (RAL9004) | 9137 010 47703 |

Recommended for easy field upgrades.

### Recessed mounting plate

| Order name | Color | Order number |
|---|---|---|
| SA0500/05 Ind. Rec SC1xxx/SC2xxx Mnt | White (RAL9003) | 9137 136 20603 |
| SA0500/05 Ind. Rec SC1xxx/SC2xxx Mnt | White (RAL9003) | 9137 136 20613 |

### Surface mount box

| Order name | Color | Order number |
|---|---|---|
| SA0600/05 Ind. Surf Mnt SCxxxx/SNSxxx | White (RAL9003) | 9137 136 20803 |
| SA0600/05 Ind. Surf Mnt SCxxxx/SNSxxx | White (RAL9003) | 9137 136 20813 |

## Ordering data

| Order name | Color | Order number |
|---|---|---|
| SC1500/05 | White (RAL9003) | 9137 136 19703 |
| SC1500/05 | White (RAL9003) | 9137 136 19713 |
| SC1500/15 | Black (RAL9004) | 9137 010 47403 |

www.philips.com/lighting