PHILIPS

SR Sensor WH/BL

SC200B/02

Specification Sheet

SC200B/02
SR Sensor WH/BL

The Philips SC200B/02 is a SR sensor, which is an ideal solution to control an individual luminaire. Philips SC200B/02 supports occupancy sensing, daylight harvesting, and task tuning function. It is a single and compact device for easier installation with a luminaire.

Philips SC200B/02 operates according to the established SR compatible devices standard. Philips SC200B/02 sensor creates a two wire connection between sensor, driver, and other peripheral SR devices. The use of Philips SC200B/02 eliminates the need for multiple components and auxiliary devices to control the luminaire.

A luminaire with an integrated Philips SC200B/02 works with several Interact systems.

SC200B/02

Features

The following are the key features of SC200B/02:
- Supports occupancy sensing, daylight harvesting, and task tuning function.
- Simple two wire connection.
- Compact in size.
- Operates with Philips SR devices and Interact ready switches.
- Sensor parameters can be configured by the Interact system applications.
- Supports Tunable White luminaires.
- Support to remotely test the emergency function of the luminaire, if supported by the control system.

Benefits

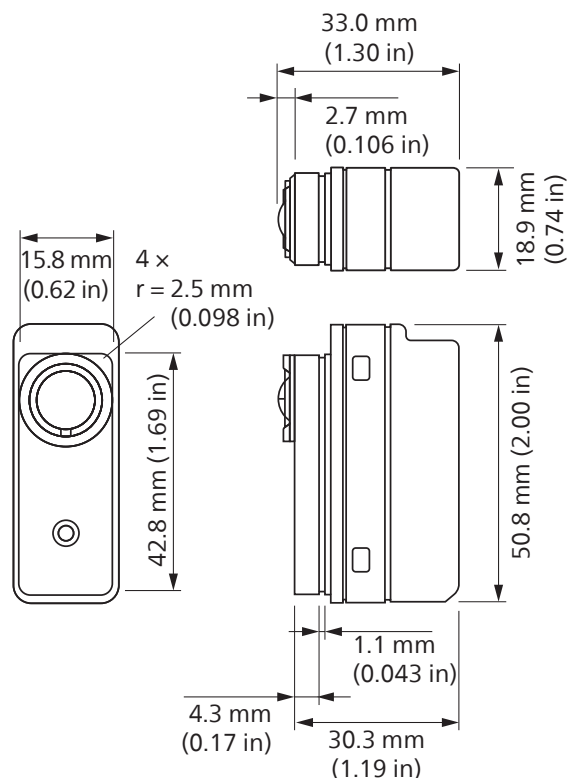The following are the benefits of SC200B/02:
- One device to support various functions which eliminates the need for multiple components and auxiliary devices. Fits into existing and new-design luminaires
- Suitable to install in existing and as well as new luminaire designs.
- Cost-effective solution for energy-savings

Applications

The following are the applications of SC200B/02:
- Individual offices, Open offices, and Conference rooms.
- Lobbies, Stairways, Restrooms, and Break rooms.
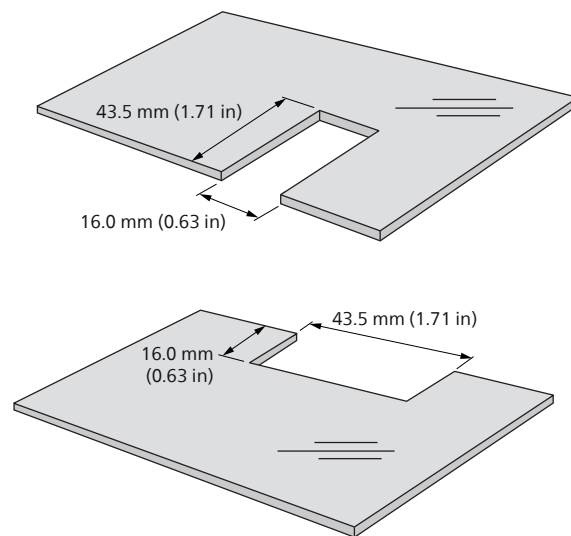- Classrooms and any other Indoor rooms.

Sensor dimensions

Device layout

SC200 WH
The IR receiver, LED indicator and RF antenna are hidden behind the plastic front cover

SC200 BL
The RF antenna is hidden behind the plastic front cover
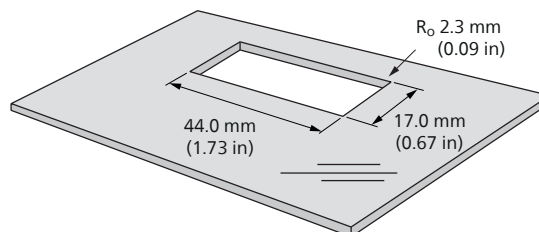
Mounting dimensions

Mounting in U-shaped slot
In sheet metal (max. thickness 1 mm).

Mounting in cut-out
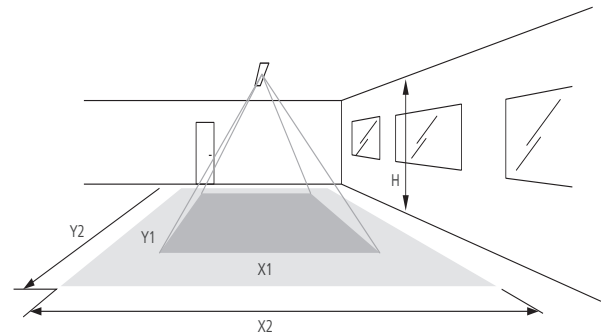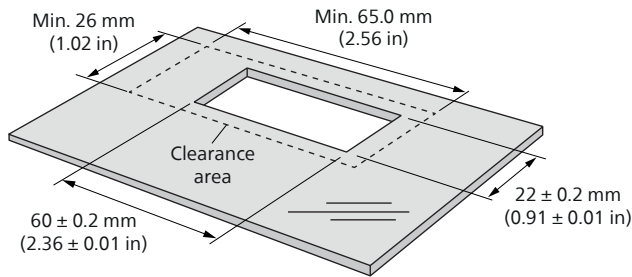In sheet metal (thickness 0.7 mm to 1.2 mm).

Mounting with a clip for upgradable sensor slot

The SC200B/02 can be mounted in a surface mounted bracket or in an SA0210/05 mounting clip for the upgradable sensor slot. See Accessories for details.
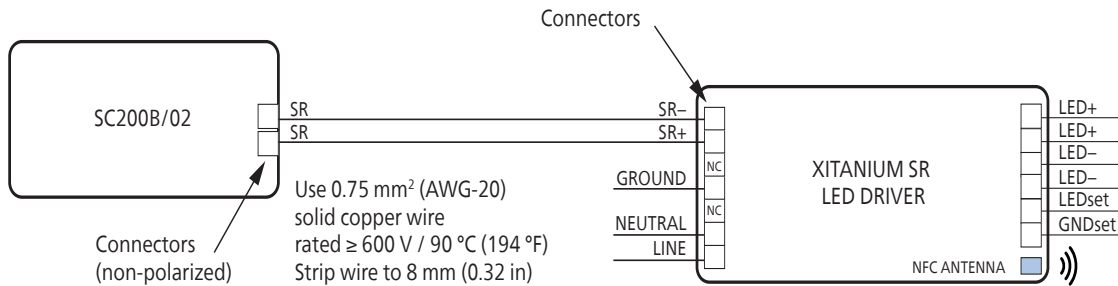
⊜ **Note**
The shielding cover of the sensor is in the housing. It can be removed and placed to partially shield the detection area.

Min. 26 mm (1.02 in)
Min. 65.0 mm (2.56 in)
Clearance area
60 ± 0.2 mm (2.36 ± 0.01 in)
22 ± 0.2 mm (0.91 ± 0.01 in)

H
Y2
Y1
X1
X2

Wiring diagram

Connectors

SC200B/02

SR
SR

Connectors (non-polarized)

Use 0.75 mm^2 (AWG-20) solid copper wire rated ≥ 600 V / 90 °C (194 °F) Strip wire to 8 mm (0.32 in)

SR–
SR+
GROUND
NEUTRAL
LINE

NC
NC

XITANIUM SR LED DRIVER

LED+
LED+
LED–
LED–
LEDset
GNDset

NFC ANTENNA))

Occupancy sensing

Tested at 21 +/- 3°C (70 +/- 5°F) according to NEMA WD 7-2011

Height	Minor movement		Major movement	
h	X1	Y1	X2	Y2
2.4 m (7.9 ft)	2.7 m (8.9 ft)	2.7 m (8.9 ft)	4.5 m (4.8 ft)	4.5 m (4.8 ft)
2.8 m (9.2 ft)	3.6 m (11.8 ft)	3.6 m (11.8 ft)	5.4 m (17.7 ft)	5.4 m (17.7 ft)
4.0 m (13.1 ft)	3.6 m (11.8 ft)	3.6 m (11.8 ft)	5.4 m (17.7 ft)	5.4 m (17.7 ft)
6.0 m (19.7 ft)	n.a.	n.a.	5.4 m (17.7 ft)	5.4 m (17.7 ft)

Ambient light sensing

The SC200B/02 features a high accuracy ambient light digital 20-bit resolution sensor with I²C bus communication as an interface.The SC200B/02 measures the light level of desk or floor in office environment and reports the lux value via Zigbee to the system for feature support, like Dynamic Daylight Regulation (DDR).

The following aspects must be considered during installation:
• Minimum distance from the window ≥ 0.6 m (2 ft).
• Prevent outside light reflections from entering the sensor (for example sunlight reflection on a car bonnet) as this will lead to incorrect light regulation.

As a guideline the formula $0.72 \times H$ can be used to calculate the minimum distance between the window and sensor whereby H is the height from the bottom of the window to the sensor.
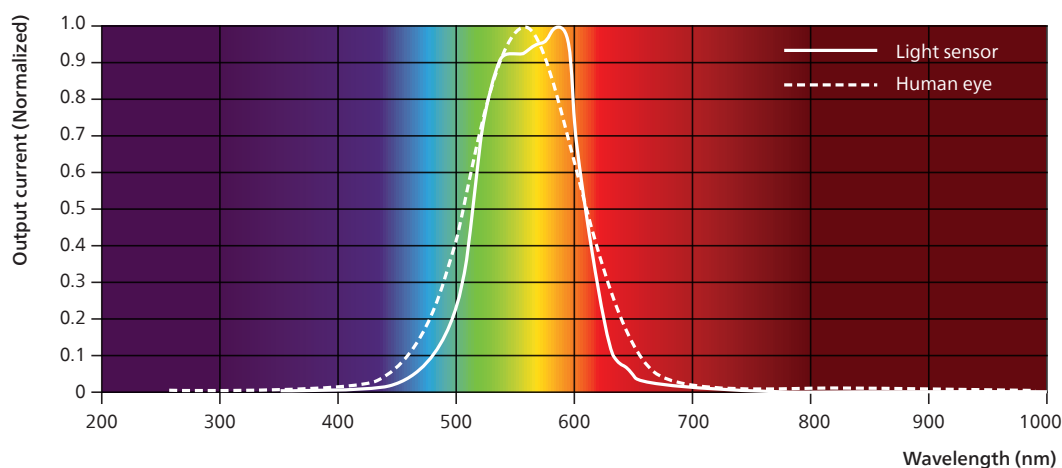
Zigbee

This device is compatible with the Zigbee standard IEEE 802.15.4. Firmware updates can be upgraded over the air.

Photosensor spatial response
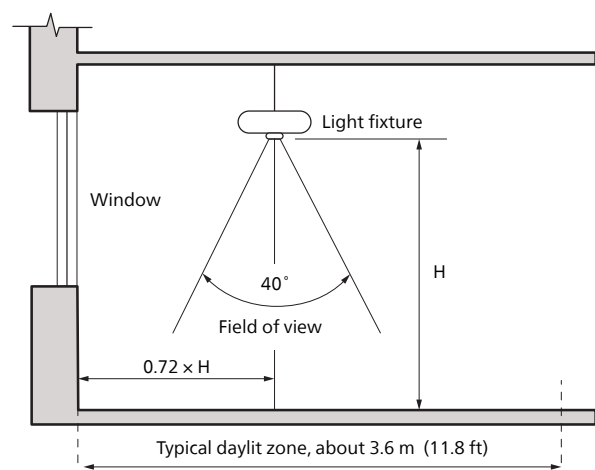
Photosensor spectral response

Specifications

All specifications are typical and at T_c = 25 °C unless otherwise specified.

Physical information

Overall dimensions	50.8 × 18.9 × 33.0 mm (2.00 × 0.74 × 1.30 in)
Housing F1 slot compatible luminaire hole (l × w)	44.0 × 17.0 mm (1.73 × 0.67 in)
Installation height	2.4 to 6.0 m (7.87 to 19.7 ft)
Net weight per piece	20.0 g (0.705 oz)
Volume required inside luminaire (l × w × h)	(50.8 × 19.0 × 24.0 mm) (2.00 × 0.75 × 0.94 in)
Color	White and black
Connectors	WAGO 2060
Input wire cross-section (solid conductor wire)	0.25 to 0.75 mm^2 24 to 18 AWG
Input wire cross-section (stranded wire)	0.25 to 0.75 mm^2 24 to 18 AWG

Electrical information

Input voltage (V_{in})	12 to 22 V
Input current (I_{in-typ})	9 mA V_{in} = 12 V, P_{ZB-tx} = 4 dBm)
Input current (I_{in-max})	20 mA (V_{in} = 12 V, P_{ZB-tx} = 4 dBm)
Maximum input current (I_{max})	48 mA (Maximum current drawn from bus)
Sink current (I_{sink})	250 mA (Capability of DALI transceiver)
Typical Input power (P_{in})	140 mW (rated input, P_{ZB-tx} = 4 dBm)
Frequency	2.4 GHz

Occupancy sensing

Type	Passive infrared (PIR)
Viewing angle	See detection pattern

Daylight sensing

Ambient light sensing	20-bit resolution I^{2}C bus communication interface
Daylight based control	Default enabled
Viewing angle	22° (at 50% cut-off point) 65° (at 2% cut-off point)
Dynamic range	0 - 1500 lux
Min. resolution	0.1 lux

IR receiver

Carrier frequency	36 kHz

Zigbee and Bluetooth Low Energy (BLE)

Communication distance	15 m (49.2 ft) (line of sight, package error rate <1%)

*The RF-distance at luminaire level is different. It depends on design-in and results of TRP-loss tests.

Environment and approbation

Operating ambient temperature range*	−40 to +65 °C (−40 to +149 °F)
Operating humidity	20 to 85% non condensing
Storage temperature	−40 to +85 °C (−40 to +185 °F)
Storage humidity	0 to 95% non condensing
Ingress protection	IP20
Maximum case temperature (T_{c-max})	70 °C (158 °F)
Approbations	CE, UKCA, CB, UL, RED, FCC, IC
Digital interface	Xitanium SR

* Product is capable to working under this condition without component damage, but performance of sensing elements are not tested.

Other

Status indicators	Red, yellow. Yellow LED ON: vacancy and sensor is functional; Red LED ON: motion is detected
Number of drivers per sensor	4 maximum.
Lifetime	10% failure at 100 000 hours, maximum T_c
Failure rate	≤300 ppm at maximum T_c per 1000 hr
Insulation	No insulation between the SR bus and internal circuits

Accessories

Mounting bezel

Order name	Color	MOQ	Order number
SA0100/05 Mnt Bez SC1xxx/SC2xxx 44x17	White	1	9137 136 20003

Mounting clip for upgradable sensor slot

Order name	Color	MOQ	Order number
SA0200/05 F Mnt Clip SC1xxx/SC2xxx 60x22	White	1	9137 136 20203

F1 slot cover

Order name	Color	MOQ	Order number
SA0300/05 Cover plate 60x22	White	1	9137 136 20403

Recessed mounting plate

Order name	Color	MOQ	Order number
SA0500/05 Ind. Rec SC1xxx/SC2xxx Mnt	White	1	9137 136 20603
SA0500/05 Ind. Rec SC1xxx/SC2xxx Mnt	White	1	9137 136 20613

Surface mount box

Order name	Color	MOQ	Order number
SA0600/05 Ind. Surf Mnt SCxxxx/SNSxxx	White	1	9137 136 20803
SA0600/05 Ind. Surf Mnt SCxxxx/SNSxxx	White	1	9137 136 20813

Mounting clip

Order name	Color	MOQ	Order number
SA0200/15 F Mnt Clip SC1xxx/SC2xxx 60x22	Black	1	9137 010 47703

Packing data

Type	Dimensions	Qty	Material	Weight	
				Net	**Gross**
Single pack	298 × 268 × 64 mm (11.7 × 10.6 × 2.5 in)	50	Cardboard	1000 g (35.3 oz)	1320 g (43.9 oz)

Ordering information

Commercial product name	Color	MOQ	Order number
SC200B/02 SR Sensor WH	White	50	9137 010 69403
SC200B/02 SR Sensor BL	Black	50	9137 010 69503

www.philips.com/lighting