Signify

interact



SC200B/02 WH



SC200B/02 BL

Specification Sheet

SC200B/02
SR Sensor WH/BL

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

Signify SC200B/02 sensor is D4i certified, and fits to a Zhaga Book 20 rectangular slot. A luminaire with an integrated Signify SC200B/02 works with Indoor Interact systems.

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

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 Signify 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:

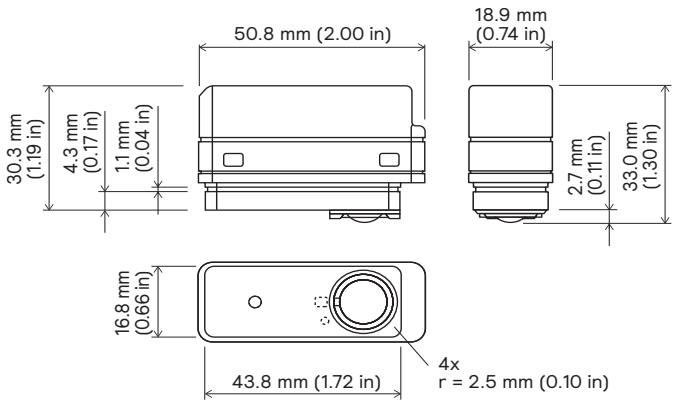
- One device to support various functions which eliminates the need for multiple components and auxiliary devices. Fits into existing and new-design luminaires
- Suitable to install in existing and as well as new luminaire designs.
- Cost-effective solution for energy-savings

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.

Dimensional drawing



Device layout



SC200 WH

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



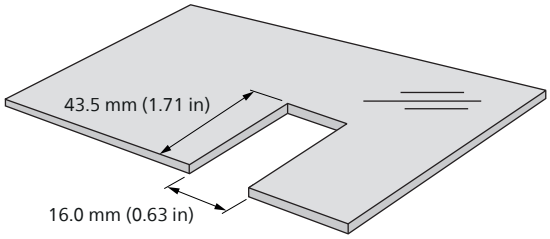
SC200 BL

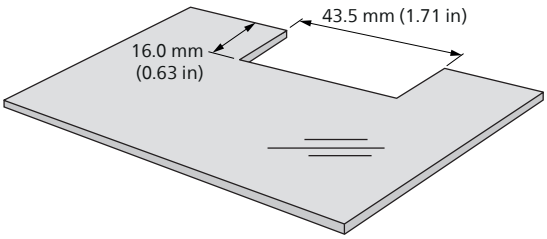
The RF antenna is hidden behind the plastic front cover

Mounting dimensions

Mounting in U-shaped slot

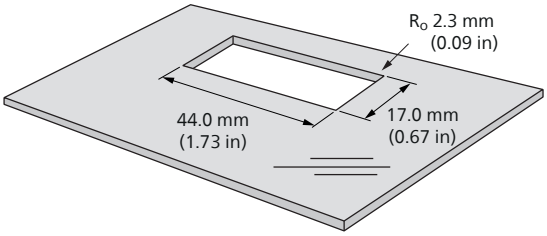
In sheet metal (max. thickness 1 mm).



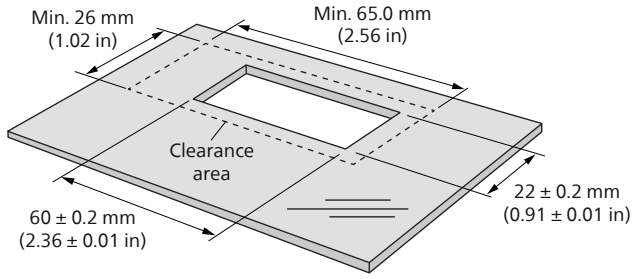


Mounting in cut-out

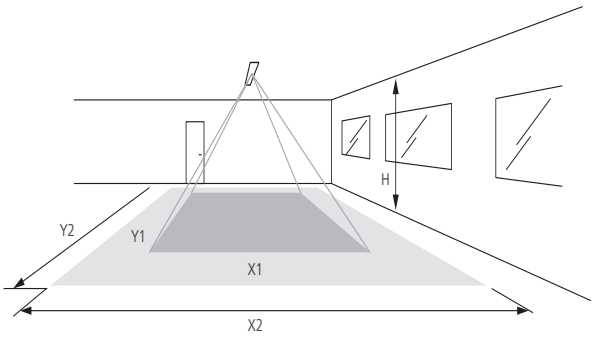
In sheet metal (thickness 0.7 mm to 1.2 mm).



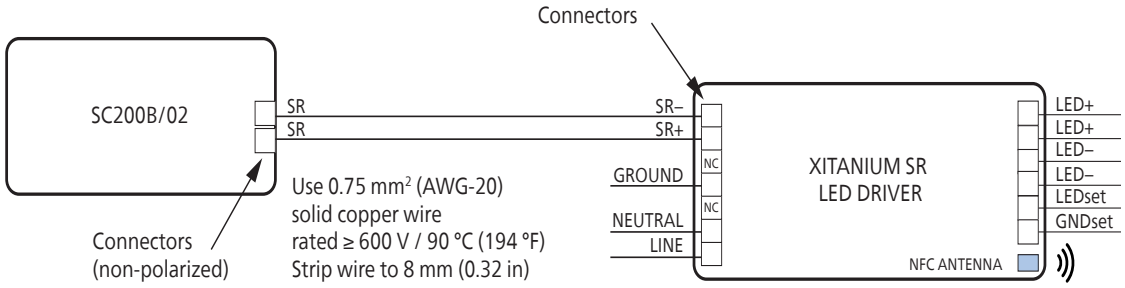
Mounting with a clip for upgradable sensor slot
The SC200B/02 can be mounted in a surface mounted bracket or in an SA0210/05 mounting clip for the upgradable sensor slot. See Accessories for details.



Note
The shielding cover of the sensor is in the housing. It can be removed and placed to partially shield the detection area.



Wiring diagram



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 (14.8 ft)	4.5 m (14.8 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)

Note
As PIR based sensing works on the difference between subject's temperature and ambient temperature, the occupancy detection could vary due to clothing and size of the subject. The sensor detection area will decrease when the difference in subject's temperature and ambient temperature is approximately 5 °C or less.

Ambient light sensing

The SC200B/02 features a high accuracy ambient light sensor. It is a 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:

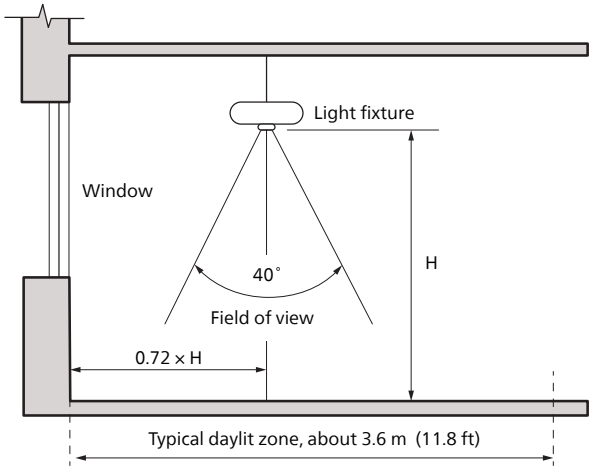
- Minimum distance from the window ≥ 0.6 m (2 ft).
- Prevent outside light reflections from entering the sensor (for example sunlight reflection on a car bonnet) as this will lead to incorrect light regulation.

As a guideline the formula 0.72 × 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.

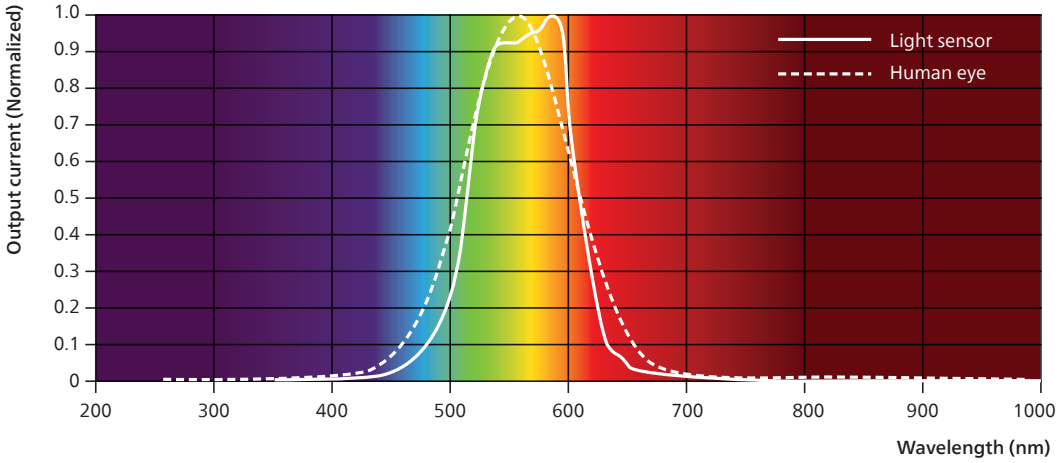
Zigbee

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 ($I_{in\text{-}typ}$)	9 mA V_{in} = 12 V, $P_{ZB\text{-}tx}$ = 4 dBm)
Input current ($I_{in\text{-}max}$)	20 mA (V_{in} = 12 V, $P_{ZB\text{-}tx}$ = 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, $P_{ZB\text{-}tx}$ = 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^2C 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 ($T_{c\text{-}max}$)	70 °C (158 °F)
Approbations	CE, UKCA, CB, UL, RED, FCC, IC, RCM, REACH, ENEC
DALI certification	D4i
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	Region of sale
SA0100/05 Mnt Bez SC1xxx/SC2xxx 44x17	White	1	9137 136 20003	Global

Mounting clip for upgradable sensor slot



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

F1 slot cover



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

Recessed mounting plate



Order name	Color	MOQ	Order number	Region of sale
LCA8008 ActiLume round mounting clip	White	1	9137 003 59003	Global

Surface mount box



Order name	Color	MOQ	Order number	Region of sale
SA0600/05 Ind. Surf Mnt SCxxxx/SNSxxx	White	1	9137 136 20803	Global (excluding North America)
SA0600/05 Ind. Surf Mnt SCxxxx/SNSxxx	White	1	9137 136 20813	North America

Mounting clip



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

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	Region of sale
SC200B/02 SR Sensor WH	White	50	9137 010 69403	Global (excluding North America)
SC200B/02 SR Sensor BL	Black	50	9137 010 69503	Global (excluding North America)

Specific Data Notice

This Specific Data Notice applies to the sensors as specified in this product specification/data sheet (the "**Sensor**") that is part of or works with a Professional System offered by Signify for use in the European Union and supplements and/or corrects the Generic Data Notice For Professional Systems and Services that can be found at: https://www.signify.com/global/legal/digital-terms/data-notices (the "**Generic Data Notice**") by providing additional and/or more specific details specific to this Sensor.

Terms starting with a capital in this Specific Data Notice, will have the meaning as attributed thereto in the Generic Data Notice, unless explicitly defined otherwise in this document.

When used in a professional lighting system of Signify in combination with an Interact Wireless Gateway with either the Interact Building Manager or Signify Interact Builder software services the Sensor is capable of generating the Data as specified below[1]:

- Operational Data: energy consumption, failures (of light points and driver), burning hours (read from the driver as per DALI-2 protocol)
- Sensor Data: occupancy state for the last minute as per Zigbee wireless communication protocol

The Product Data generated in this combination is communicated via the gateway to the Interact cloud where these are stored. Product Data is neither stored on the Sensor itself nor on the gateway. Product Data cannot be accessed directly from the Sensor[2] Product Data that is Readily Available Data can be accessed as indicated in the software specification sheet of respectively Interact Building Manager and Signify Interact Builder.

This Specific Data Notice may be changed by Signify from time to time. The current version of this notice will apply and can be obtained at request via the point of contact as indicated in paragraph 7 of the Generic Data Notice.

1. The type and volume and format of Product Data that is actually generated depends on the product and/or software configuration and subscription to the relevant software service.
2. In typical use the connected product is commissioned in which state the on-device generated data cannot be directly accessed to safeguard security.

Warning

- Avoid touching live parts.
- Do not use drivers with damaged housing and/or connectors.
- Do not use drivers with damaged wiring.
- Class 1 luminaires must be connected to protective earth.
- Switchable function to make the open load on the driver output is an abnormal condition, and it is not an intended application that will be allowed.

Safety warnings and installation instructions to be taken into account during design-in and manufacturing:

- Do not use damaged or defective contacts or housings.
- Do not use damaged products.
- Do not service the driver when the mains voltage is connected and this includes connecting or disconnecting the LED load.

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R07 09 September 2026