EcoStruxure™
Innovation At Every Level

SpaceLogic RP-C-EXT-MS-BLE

RP Controller Expansion Modules

EcoStruxure™ Building

Multi-sensor

Introduction

SpaceLogic™ RP-C-EXT-MS-BLE multi-sensor connects to the SpaceLogic RP room controllers and is used for infrared motion detection and luminosity measurements. The multi-sensor supports Bluetooth Low Energy based applications such as beaconing and remote control communication.

The multi-sensor is connected to the RP room controller using an RJ45 type quick connector.

The multi-sensor's three flexible mounting brackets (springs) enable quick and easy installation on a suspended ceiling tile. The multi-sensor also comes with a mounting ring, which allows the sensor to be installed on a ceiling with drywall anchors and a 76 mm (3 in.) clearance hole or to a 102 mm (4 in.) junction/gang box.

The multi-sensor is a Bluetooth Low Energy (BLE) device. The multi-sensor support for Bluetooth beacon enables nearby mobile devices with a specific app installed to interact when in close proximity to the broadcasting multi-sensor. The Bluetooth beacon can be used for services such as indoor positioning of the mobile device. The service and mobile app need to be provided by a third party. The Bluetooth connection can also be used for communication with the RP-C-RC-BLE remote control, which makes it possible to control the lighting, blinds, and air conditioning in a zone of an office building.

SpaceLogic RP-C-EXT-MS-BLE

The multi-sensor is part of the RP controller expansion modules product range. The multi-sensor can be combined with the RP controller expansion modules for lighting and blind control to provide a connected room solution.

Features

The multi-sensor has the following features:

- Power and communications through the room bus
- Motion detection through passive infrared sensor
- Luminosity measurement through ambient light sensor
- Bluetooth Low Energy for beaconing applications such as indoor positioning - a service to be provided by third party Beaconing follows standard iBeacon profile - compatible with multiple indoor positioning providers
- Bluetooth Low Energy for wireless connection to RP-C-RC-BLE remote control
- Status LED for the device
- Rotary switch for address configuration

Room bus

The RP controller room bus allows RP controller expansion modules to be connected to the controller for people counting, motion detection, luminosity and sound pressure level measurements, Bluetooth Low Energy based applications, and control of electric lights and window blinds.

The RP-C Pro and RP-C Pro Plus controller room bus supports up to nine connected RP controller expansion modules with the following restrictions:

- Maximum of two DALI light modules
- Maximum of two SMI blind modules
- Maximum of seven Multi-sensor or Insight-Sensor devices

The RP-C Advanced controller room bus supports up to six connected RP controller expansion modules with the following restrictions:

- Maximum of two DALI light modules
- Maximum of two SMI blind modules
- Maximum of four Multi-sensor or Insight-Sensor devices

The RP-V Advanced controller room bus supports up to four connected RP controller expansion modules with the following restrictions:

- Maximum of one DALI light module
- Maximum of one SMI blind module
- Maximum of two Multi-sensor or Insight-Sensor devices

Maximum total length of the room bus is 72 m (236 ft).

Part Numbers

Product	Part number
RP-C-EXT-MS-BLE	SXWREMSBLE10001
RP-C-EXT-MR-K5 SpaceLogic Sensor Mounting Ring Kit 5 pcs	SXWREMR5XX10001

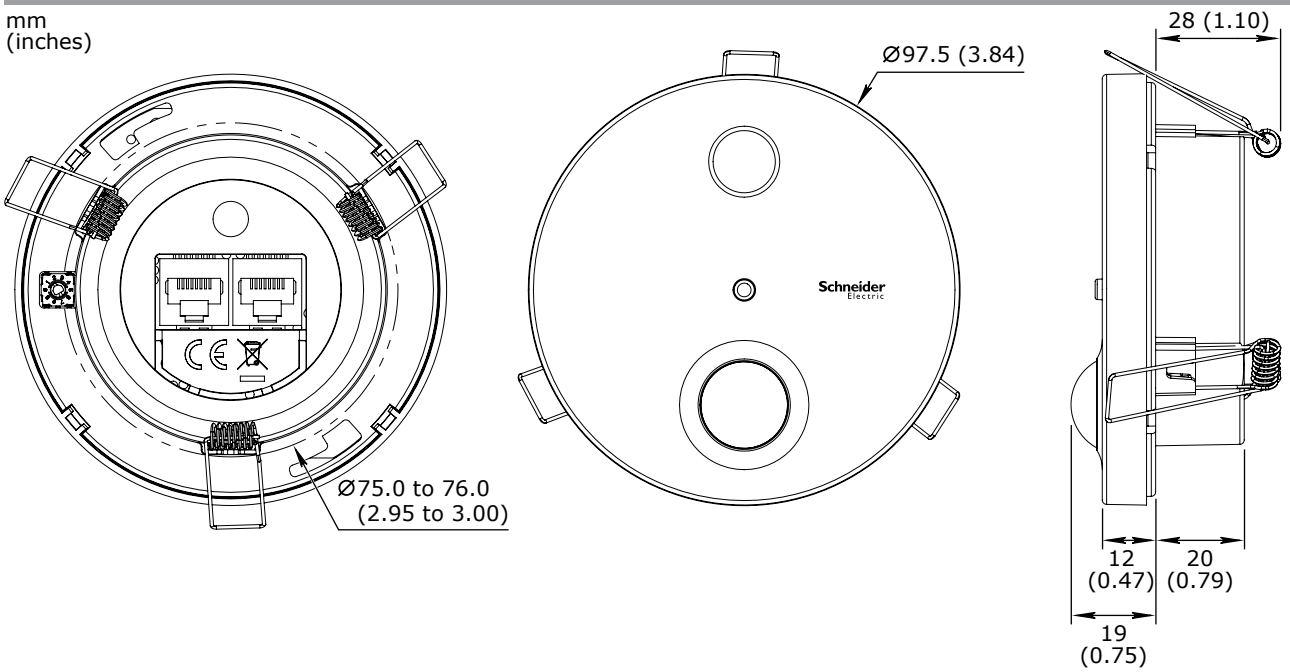
Specifications

SpaceLogic RP-C-EXT-MS-BLE	
Electrical	
DC input supply voltage	24 VDC Powered by the RP controller through the room bus (RJ45)
Maximum power consumption	0.3 W
Environment	
Ambient temperature, operating	0 to 50 °C (32 to 122 °F)
Ambient temperature, storage	-20 to +70 °C (-4 to +158 °F)
Humidity	20 to 90 % RH non-condensing

SpaceLogic RP-C-EXT-MS-BLE

Material	
Plastic flame rating	UL94 V-0
Ingress protection rating	IP 20
Cover color	Signal white (RAL9003)

Mechanical



Overall external diameter	97.5 mm (3.84 in.)
Diameter of mounting clearance hole	75.0 to 76.0 mm (2.95 to 3.00 in.)
External washer thickness	12 mm (0.47 in.)
Overall external thickness	19 mm (0.75 in.)
Internal thickness	20 mm (0.79 in.)
Overall internal depth	28 mm (1.10 in.)
Weight, multi-sensor with mounting springs (3x)	0.083 kg (0.183 lb)
Weight, multi-sensor with mounting ring	0.094 kg (0.207 lb)
Installation	Plastic unit to be fitted flush in a suspended ceiling tile with a thickness of up to 45 mm (1.77 in.)

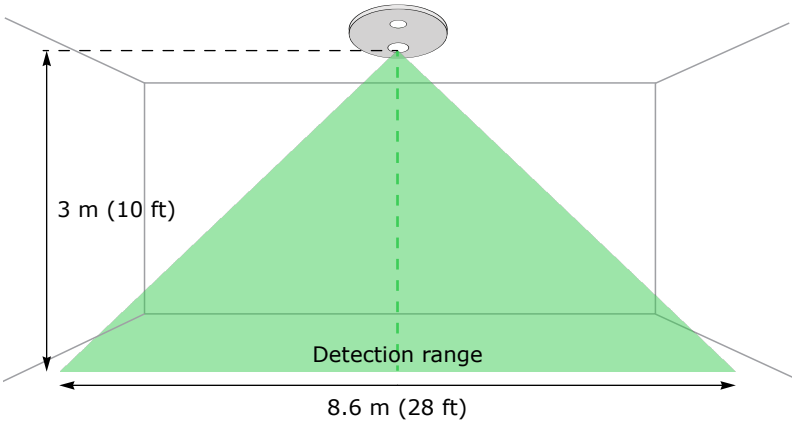
Compatibility

EcoStruxure BMS server communication EcoStruxure Building Operation	version 3.1.1 and later
Bluetooth Low Energy support EcoStruxure Building Operation	version 3.2.1 and later
Bluetooth beacon (iBeacon) support EcoStruxure Building Operation	version 3.3.1 and later

SpaceLogic RP-C-EXT-MS-BLE

Agency compliances	
Emission	RCM; BS/EN 61000-6-3; BS/EN IEC 63044-5-2; FCC Part 15, Subparts B and C, Class B
Immunity	BS/EN 61000-6-2; BS/EN IEC 63044-5-3
Radio	EN 300 328 V2.1.1
Safety standards	BS/EN 60730-1; BS/EN 60730-2-11; BS/EN IEC 63044-3; UL 916 C-UL US Listed
FCC ID	DVE-MS1
ISED certification number	IC: 24775-MS1
Fire performance in air-handling spaces[a] a) The multi-sensor is approved for plenum applications.	UL 2043
Communication ports	
Room bus	RS-485 Dual RJ45 ports for daisy-chain configurations Use a Cat 5 (or higher) cable Maximum total length of the room bus: 72 m (236 ft)
Room bus protection	Transient voltage suppressors on communication and power signals
Wireless connectivity	
Bluetooth Low Energy	
Communication protocol	Bluetooth® 5.1 Low Energy compliant
Frequency	2.402 to 2.480 GHz
Maximum communication distance	Line-of-sight: 50 m (164 ft)
Maximum output power	3 dBm
Antenna	Integrated antenna
Beacon protocol	iBeacon
Hardware	
CPU type	ARM Cortex-M4 single-core
Frequency	38.4 MHz
SRAM (embedded)	256 KB
Flash memory (embedded)	1024 KB
Flash memory (serial)	2 MB
Status indicator	LED (green and red) that shows the status of the device
Address switch	Rotary switch 0 to 9
Set button	Push-button switch
Motion detection	
Sensor	Quad-type passive infrared (PIR) sensor with Fresnel lens
Detection range	See image and table below.

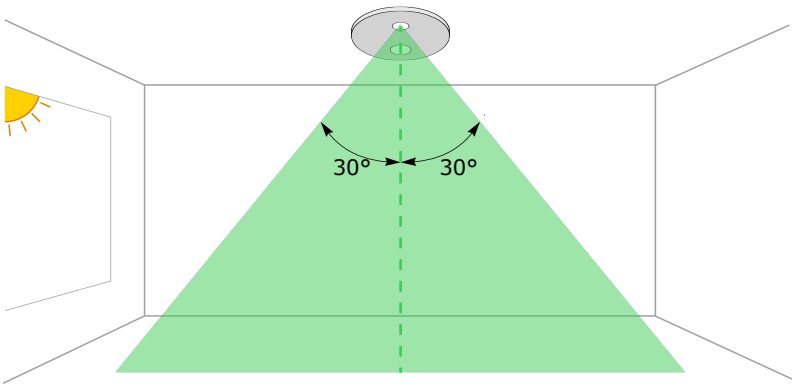
SpaceLogic RP-C-EXT-MS-BLE



Sensor mounting height	Sensor detection range (diameter)
3.0 m (10 ft)	8.6 m (28 ft)
2.7 m (9 ft)	8.0 m (26 ft)
2.5 m (8 ft)	7.4 m (24 ft)

Luminosity measurements

Sensor	Ambient Light Sensor (ALS)



Spectral response	Human eye
Luminosity range	0 to 10,000 lux
Field of view	30 degrees from vertical

SpaceLogic RP-C-EXT-MS-BLE

Regulatory Notices

Federal Communications Commission
FCC Rules and Regulations CFR 47, Part 15, Class B
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This device must accept any interference received, including interference that may cause undesired operation.
FCC ID: DVE-MS1
Industry Canada
This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.
IC: 24775-MS1

Regulatory Compliance Mark (RCM) - Australian Communications and Media Authority (ACMA)
This equipment complies with the requirements of the relevant ACMA standards made under the Radiocommunications Act 1992 and the Telecommunications Act 1997. These standards are referenced in notices made under section 182 of the Radiocommunications Act and 407 of the Telecommunications Act.

UL 916 Listed products for the United States and Canada, Enclosed Energy Management Equipment. UL file E80146.

CE - Compliance to European Union (EU)
2014/53/EU Radio Equipment Directive (RED)
2011/65/EU Restriction of Hazardous Substances (RoHS) Directive
2015/863/EU amending Annex II to Directive 2011/65/EU
This equipment complies with the rules, of the Official Journal of the European Union, for governing the Self Declaration of the CE Marking for the European Union as specified in the above directive(s).

WEEE - Directive of the European Union (EU)
This equipment and its packaging carry the waste of electrical and electronic equipment (WEEE) label, in compliance with European Union (EU) Directive 2012/19/EU, governing the disposal and recycling of electrical and electronic equipment in the European community.

UK Conformity Assessed
S.I. 2017/1206 - Radio Equipment Regulations 2017
S.I. 2012/3032 - Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
S.I. 2013/3113 - Waste Electrical and Electronic Equipment Regulations 2013
This equipment complies with the rules, of the UK regulations, for governing the UKCA Marking for the United Kingdom specified in the above directive(s).

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