

RP-C-EXT-MS-BLE

RP Series Expansion Multi-sensor

Multi-sensor

Introduction

The RP-C-EXT-MS-BLE multi-sensor connects to the RP-C room controllers and is used for infrared motion detection and luminosity measurements.

The multi-sensor is connected to the RP-C 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) enabled device. The wireless connection can 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.

The multi-sensor is part of the RP Series expansion multi-sensors product range. The multi-sensor can be combined with the RP Series 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 wireless connection to RP-C-RC-BLE remote control
- Status LED for the device
- Rotary switch for address configuration

Room bus

The RP-C room bus allows RP Series expansion modules and multi-sensors to be connected to the controller for motion detection, luminosity measurements, communication with remote control (RP-C-RC-BLE), and control of electric lights and window blinds.

The RP-C room bus supports up to six connected RP Series expansion modules and multi-sensors with the following restrictions:

- Maximum of two DALI light modules
- Maximum of two SMI blind modules
- Maximum of four multi-sensors

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

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Part Numbers

Product	Part number
RP-C-EXT-MS-BLE	SXWREMSBLE10001

Specifications

Electrical

DC input supply voltage24 VDC
Powered by the RP-C through the room bus (RJ45)

Maximum power consumption0.3 W

Environment

Ambient temperature, operating0 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

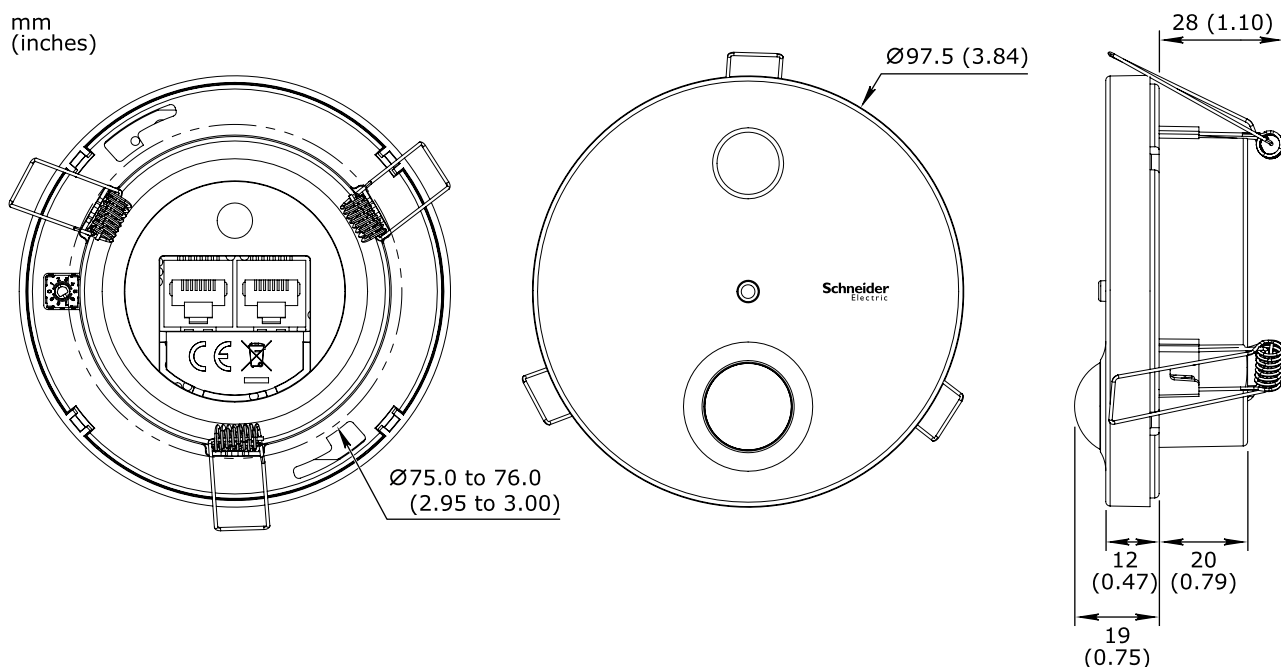
Material

Plastic flame ratingUL94 V-0

Ingress protection ratingIP 20

Mechanical

mm
(inches)



Overall external diameter97.5 mm (3.84 in.)

Diameter of mounting clearance hole75.0 to 76.0 mm (2.95 to 3.00 in.)

External washer thickness12 mm (0.47 in.)

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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.)

Software compatibility

EcoStruxure Building Operation software	version 3.1 and later
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Agency compliances

Emission.....	RCM; EN 61000-6-3; EN 50491-5-2; FCC Part 15, Sub-part B, Class B
Immunity	EN 61000-6-2; EN 50491-5-3
Radio.....	EN 300 328 V2.1.1
Safety standards	EN 60730-1; EN 60730-2-11; EN 50491-3; UL 916 C-UL US Listed
FCC ID.....	DVE-MS1
ISED certification number	IC: 24775-MS1
Fire performance in air-handling spaces ^a	UL 2043
a) The multi-sensor is approved for plenum applications.	

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® 5.0 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

Hardware

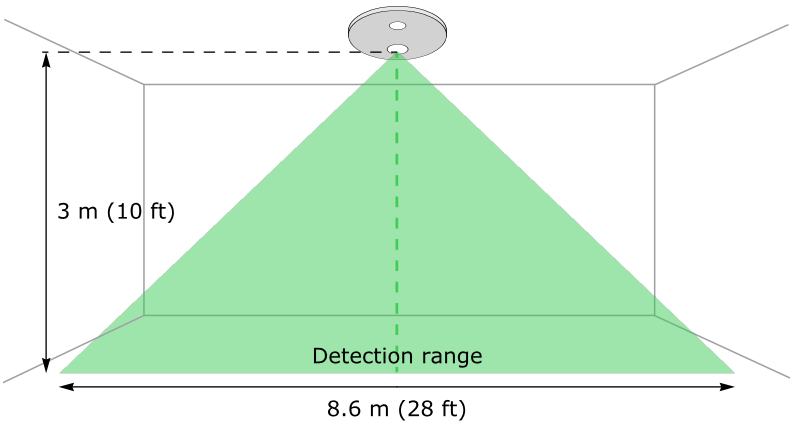
CPU type	ARM Cortex-M4 single-core
Frequency	38.4 MHz
SRAM (embedded)	256 KB
Flash memory (embedded)	1024 KB
Flash memory (serial)	2 MB
Status indicator	LED (green and red) that shows the status of the device
Address switch.....	Rotary switch 0 to 9
Set button	Push-button switch

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Motion detection

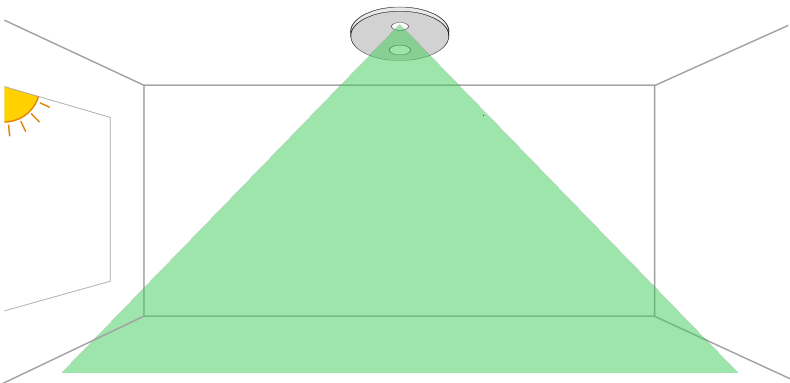
SensorQuad-type passive infrared (PIR) sensor with Fresnel lens
Detection rangeSee image and table below.



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

SensorAmbient Light Sensor (ALS)



Spectral responseHuman eye
Luminosity range0 to 10,000 lux

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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.

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) per the provisions of the following standards: EN 60730-1, EN 60730-2-11, and EN 50491-3 Safety Standards.



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.



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