



EasyLogic RP-C Room Controllers

EcoStruxure™ Building



Introduction

EasyLogic™ RP-C is a room-purpose, fully programmable, BACnet MS/TP based field controller that suits a wide range of HVAC applications. The RP-C can either be used as a standalone field controller or as part of an EcoStruxure BMS with a SpaceLogic AS-P or AS-B server or an Enterprise Server as the parent server.

The RP-C has the following features:

- Native BACnet MS/TP support
- Full range of controller models
- Versatile onboard I/O point mix
- Built-in isolated power supply

- Optional covers
- Advanced monitoring
- · Configurable RS-485 port
- Sensor bus for SpaceLogic living space sensors
- · EasyLogic living space sensors
- Modbus RTU subnetwork
- Commission mobile application for commissioning of the controller before the BMS is in place
- Full EcoStruxure Building Operation software support, providing efficient engineering tools



Native BACnet MS/TP support

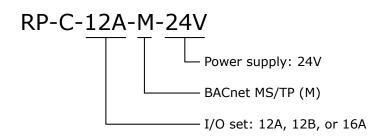
The EasyLogic range of RP and MP controllers and RP-IO I/O modules natively communicate with automation servers and field devices using the BACnet MS/TP protocol.

The RS-485 port with 3-pole screw terminal block is used for connection to the BACnet MS/TP network.

The other RS-485 port (Com A), with RJ45 interface, can be configured to support either sensor bus or Modbus network. For more information, see section "Configurable RS-485 port".

Full range of controller models

The EasyLogic RP-C range of BACnet MS/TP based controllers includes three different models, which offer three different sets of I/O point types, named 12A, 12B, and 16A. The three models support 24 VAC/DC power supply.



Models with a versatile mix of I/O points

The RP-C-12A, -12B, and -16A models provide 12 or 16 I/O points, consisting of three different sets of I/O point types. The versatile mix of I/O point types match a wide variety of applications. The universal inputs/outputs are highly flexible and can be configured as either inputs or outputs.

I/O Point Types by RP-C Models

I/O Point Types	RP-C-12A model	RP-C-12B model	RP-C-16A model
Universal I/O Type Ub	8	8	8
Solid-state relay outputs (MOSFET)	4	-	4
Relay outputs Form A	-	3	3
High power relay outputs Form C	-	1	1

Configurations by I/O Point Types

Configurations	Universal I/O Type Ub	Solid-state Relay Outputs (MOSFET)	Relay Outputs Form A	High Power Relay Outputs Form C
Digital inputs	yes	-	-	-
Counter inputs	yes	-	-	-
Supervised inputs	yes	-	-	-
Voltage inputs (0 to 10 VDC)	yes	-	-	-
Current inputs (0 to 20 mA)	yes	-	-	-
Temperature inputs	yes	-	-	-
Resistive inputs	yes	-	-	-
Voltage outputs (0 to 10 VDC)	yes	-	-	-
Digital outputs	-	yes	yes	yes
Digital pulsed outputs	-	yes	yes	yes
PWM outputs	-	yes	yes	yes

Continued

Configurations	Universal I/O Type Ub	Solid-state Relay Outputs (MOSFET)	Relay Outputs Form A	High Power Relay Outputs Form C
Tristate outputs	-	yes	yes	-
Tristate pulsed outputs	-	yes	yes	-

Universal inputs/outputs

The universal inputs/outputs are ideal for any mix of temperature, pressure, flow, status points, and similar point types in a building control system.

As counter inputs, the universal inputs/outputs are commonly used in energy metering applications. As supervised inputs, they are used for security applications where it is critical to know whether or not a wire has been cut or shorted. These events provide a separate indication of alarms and events in the system.

For all analog inputs, maximum and minimum levels can be defined to automatically detect over-range and under-range values.

The universal inputs/outputs are capable of supporting analog outputs of type voltage outputs. Therefore, the universal inputs/outputs support a wide range of devices, such as actuators.

Only devices with safe extra low voltage equipment (SELV/PELV) inputs/outputs should be connected to the universal inputs/outputs.

Solid-state relay outputs

The solid-state relay (SSR) outputs can be used in many applications to switch 24 VAC or 24 VDC on or off for external loads such as actuators, relays, or indicators. SSRs are silent and are not adversely affected by relay contact wear.

Relay outputs

The relay outputs support digital Form A point types. The Form A relays are designed for direct load applications.

High power relay output

The high power relay output is of type Form C. The normally-open (NO) contact is ideal for switching resistive loads of up to 12 A, such as electrical heating elements. The normally-closed (NC) contact can be used to switch inductive loads of up to 3 A.

I/O expansion

For applications that require more I/O resources, the EasyLogic RP-IO modules provide a versatile mix of I/O points for any application. For more information, see the EasyLogic RP-IO Specification Sheet.

Built-in isolated power supply

The device has a built-in power supply designed to accommodate 24 VAC or 24 VDC input power. The AC/DC power input is galvanically isolated from the electronics. This minimizes the risk of damage due to earth currents and permits the input power to be wired without concern for AC polarity matching. With the isolated AC/DC power input, you can use a central transformer for many devices, instead of one transformer for each device, to reduce installation costs.

Optional covers

All RP-C models can be equipped with optional covers to reduce access to the screw terminals and wires.

Advanced monitoring

The RP and MP controllers support local trends, schedules, and alarms, enabling local operation when the controller is offline or used in standalone applications.

The battery-free power backup of the memory and real-time clock (only available on RP-C-16A-M-24V) helps prevent data loss and allows seamless and quick recovery after a power disruption.

In WorkStation, you update the firmware of multiple RP and MP controllers at the same time and with minimum down time. The EcoStruxure BMS server keeps track of the installed firmware to support backup, restore, and replacement of the controllers and sensors. The server can host controllers of different firmware versions.

Configurable RS-485 port

The RP-C controller has one configurable RS-485 port (Com A), which can be configured to support two different types of networks:

- Sensor bus
- Modbus network

The controller can host one of the network types.

Sensor bus for SpaceLogic living space sensors

The RP and MP controllers provide an interface designed for the SpaceLogic Sensor family of living space sensors. The SpaceLogic Sensor devices offer an efficient way to sense the temperature, humidity, CO₂, and occupancy in a room. The SpaceLogic Sensor devices are available with different combinations of sensor types and various covers and user interface options, such as touchscreen, setpoint and override buttons, and blank covers.













SpaceLogic Sensor devices

The RP controller sensor bus provides both power and communications for up to four sensors that are daisy-chained using standard Cat 5 (or higher) cables. This maximum number of sensors that can be connected to a controller is regardless of the sensor model and the combination of cover and sensor base type:

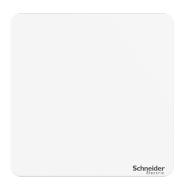
- Blank covers: Up to four sensors of any combination of sensor base types
- 3-button and touchscreen covers: Up to four sensors of any combination of sensor base types
- SpaceLogic LCD temperature sensors: Up to four sensors are supported

The maximum total length of the sensor bus is 61 m (200 ft). For more information, see the SpaceLogic Sensors - SXWS Sensors for MP and RP IP Controllers - Specification Sheet.

EasyLogic living space sensors

The EasyLogic Sensor provides a cost-effective solution to measure, control, and communicate the temperature. The sensors are connected to analog inputs of the RP or MP controller. The EasyLogic Sensor is available in two models with different user interfaces, a blank cover or an LCD display with buttons for setpoint control. For more information, see the EasyLogic Sensors - Temperature Sensors - Analog - Specification Sheet.





EasyLogic Sensor devices

Modbus RTU subnetwork

The RP controller Modbus network allows standard Modbus devices to be connected to the controller.

The Modbus RTU protocol is used for the communication. The RP controller acts the Modbus client and the connected devices act as servers.

For connection to Modbus devices, it is recommended to use the non-isolated RS-485 adapter to provide screw termination. The adapter converts an RS-485 RJ45 interface to screw terminals. The adapter can be ordered from Schneider Electric. For more information, see the "Part Numbers" and "Specifications" sections.

To connect the adapter, it is recommended that you use a Cat 5 (or higher) UTP cable with eight conductors and RJ45 connectors. The cable should be rated for the target environment and have a maximum length of 0.3 m (12 in.). The cable is not included and needs to be purchased separately.

The maximum number of Modbus devices that can be connected to an RP controller depends on the type of Modbus device and the number of Modbus registers.

The EasyLogic RP controller Modbus network supports up to 10 connected Modbus devices with the following restrictions:

Maximum of 250 Modbus registers per network

64-bit Modbus registers are supported, which can be used in energy metering.

Commission mobile application

The Commission mobile application is designed for local configuration, field deployment, and commissioning of RP and MP controllers. The mobile application reduces the commissioning time, allows flexibility in project execution, and minimizes dependencies on network infrastructure.

The mobile application is designed for use with Android, Apple (iOS), and Microsoft Windows 10 and Windows 11 devices. For more information, see the EcoStruxure Building Commission Specification Sheet.



Commission mobile application

Using the Commission mobile application, you can connect to an RP controller. To connect to the RP controller, you use the SpaceLogic Bluetooth Adapter connected to a SpaceLogic Sensor.

Device configuration

With the Commission mobile application, you can easily discover RP controllers on the BACnet network. You can change the configuration of each controller, including the BACnet network settings, location, and parent server. To save engineering time, you can save common device settings and then reuse them for controllers of the same model.

Field deployment and I/O checkout

The Commission mobile application does not require an EcoStruxure BMS server or a network infrastructure to be in place. You can use the mobile application to load the controller application directly into the local controller and deploy the controller. The controller application can be created offline using Project Configuration Tool or WorkStation. You can also perform an I/O checkout to verify that the controller's I/O points are configured, wired, and operating correctly.

Full EcoStruxure Building Operation software support

The power of the RP and MP controllers is fully realized when it is part of an EcoStruxure BMS, which provides the following benefits:

- WorkStation/WebStation interface
- Script and Function Block programming options
- Device discovery
- · Engineering efficiency

WorkStation/WebStation interface

WorkStation and WebStation provide a consistent user experience regardless of which EcoStruxure BMS server the user is logged on to. The user can log on to the parent EcoStruxure BMS server to engineer, commission, supervise, and monitor the RP or MP controller and its I/O as well as its attached SpaceLogic Sensor devices. For more information, see the WorkStation and WebStation specification sheets.

Script and Function Block programming options

The fully programmable RP and MP controller models have both Script and Function Block programming options. Existing programs can easily be reused between the EcoStruxure BMS server and the controller.

Device discovery

The enhanced Device Discovery in WorkStation enables you to easily identify RP and MP controllers on a BACnet network and to associate the controllers with their parent server.

Engineering efficiency

The engineering and maintenance of RP and MP controllers can be done very efficiently using the EcoStruxure Building Operation reusability features. With these features, you can create library items (Custom Types) for a complete controller application that contains programs and all necessary objects such as trends, alarms, and schedules. The controller application in the Custom Types library is reusable across all controllers of the same model. You can use the controller application as a base for creating new controllers intended for similar applications. You can then edit the controller application, and the changes are automatically replicated to all controllers, while each controller keeps its local values.

WorkStation supports both online and offline engineering of RP and MP controllers. You can make the configuration changes online or use database mode to make the changes offline. In database mode, the changes are saved to the EcoStruxure Building Operation database so that you can apply the changes to the controllers later.

Project Configuration Tool enables you to perform all the engineering off site, without the need for physical hardware, which minimizes the time you need to spend on site. You can run the EcoStruxure BMS servers virtually and engineer the RP and MP controllers before you deploy your server and controller

applications to the servers and controllers on site. For more information, see the Project Configuration Tool specification sheet.

Part Numbers for EasyLogic RP-C

Product	Part number
RP-C-12A-M-24V	SXWRCF12AM10001
RP-C-12B-M-24V	SXWRCF12BM10001
RP-C-16A-M-24V	SXWRCF16AM10001

Part Numbers for RP-C Accessories

Product	Part number
Optional covers	SXWRPCCOV10001
DIN-RAIL-CLIP, DIN-rail end clip package of 25 pieces	SXWDINEND10001
Non-isolated RS-485 adapter	SXWNISORS48510001
SpaceLogic Bluetooth Adapter	SXWBTAECXX10001

For more information on part numbers for Network Connectivity Accessories, see the Product Selection Guide - EcoStruxure Building.

Specifications

opodifications		
EasyLogic RP-C		
AC input		
Nominal voltage		24 VAC
Operating voltage range		+/-15 %
Frequency		50/60 Hz
Maximum power consumption		14 VA
Base Load Including All I/O 9.4 VA a) The example of 4.6 VA for the Sensor Bus (Corbe applied to the Com A load, which should not example of 4.6 VA for the Sensor Bus (Corbe applied to the Com A load, which should not ex	SpaceLogic Sensors on Sensor Bus 4.6 VA ^a m A) is based on a 2.8 W load on Com A. This gives an appeaced 3 W.	Total 14 VA proximate conversion factor of 1.644 VA per Watt, which can
Power input protection		MOV suppression and internal fuse
DC input		
Nominal voltage		24 to 30 VDC
Operating voltage range		21 to 33 VDC
Maximum power consumption		8 W
Power input protection		MOV suppression and internal fuse

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Environment Ambient temperature, operating O to 50 °C (32 to 122 °F) Ambient temperature, storage -40 to +70 °C (-40 to +158 °F) Maximum humidity 95 % RH non-condensing

Material

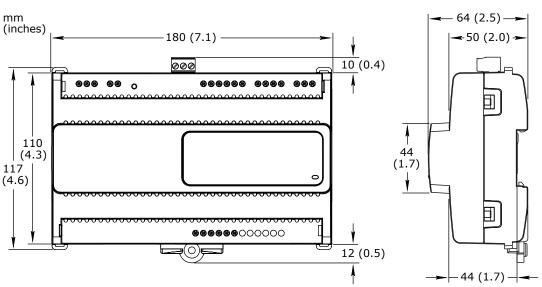
Plastic flame rating UL94 V-0

Ingress protection rating IP 20

Mechanical

Dimensions

180 W x 110 H x 64 D mm (7.1 W x 4.3 H x 2.5 D in.)



Weight, RP-C-12A-M-24V 0.336 kg (0.741 lb)

Weight, RP-C-12B-M-24V 0.358 kg (0.789 lb)

Weight, RP-C-16A-M-24V 0.360 kg (0.794 lb)

Installation DIN rail or flat surface in a cabinet^a

a) The device must be installed within an enclosure such as a control cabinet for isolation to exposed live parts.

BACnet MS/TP communications: Removable

Power and I/O: Fixed

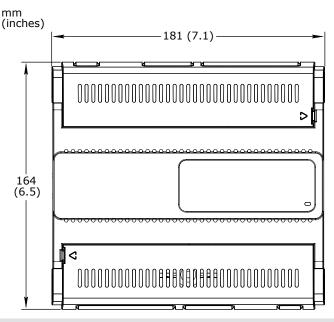
Ontional covers

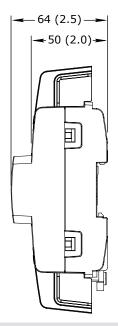
Terminal blocks

Dimensions

181 W x 164 H x 64 D mm (7.1 W x 6.5 H x 2.5 D in.)

Continued





Weight, optional covers 0.070 kg (0.154 lb)

Non-isolated RS-485 adapter (for Modbus RTU network connection)

DC input nominal voltage 0 V

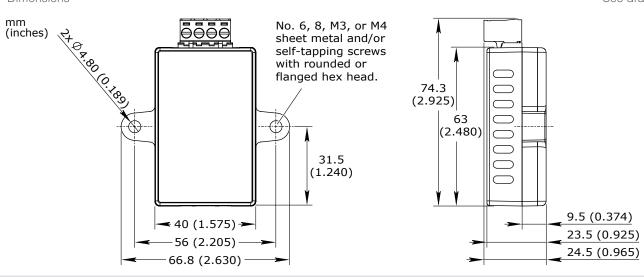
Maximum power consumption

See drawing below

0 W

8

Dimensions



Weight 40 g (1.41 oz)

Installation

Connection to RS-485 Com A via Cat 5 UTP cable (not included)

Installation options

The adapter can be fast a) For more information, see the SpaceLogic RS-485 Adapter Installation Sheet.

The adapter can be fastened using screws or cable ties or mounted in line with a cable run.^a
Approved for plenum installation (UL 2043)

Regulatory compliance and approvals

CE, UKCA, FCC, ISED (IC), UL 916, RCM, EU RoHS, WEEE, China RoHS

Continued

Compatibility

EcoStruxure BMS server communication EcoStruxure Building Operation

version 5.0.1 and later

Agency compliances

Emission RCM; BS/EN 61000-6-3; BS/EN IEC 63044-5-2; FCC Part 15, Sub-part B, Class B

Immunity BS/EN 61000-6-2; BS/EN IEC 63044-5-3

Safety standards BS/EN 60730-1; BS/EN 60730-2-11; BS/EN IEC 63044-3; UL 916 C-UL US Listed^a a) The RP-C-12A, -12B, and -16A models are marked "Open Energy Management Equipment".

Fire performance in air-handling spaces^a

a) The RP-C-12A, -12B, and -16A models are approved for plenum applications.

UL 2043

Real-time clock

RP-C-16A-M-24V Only

Accuracy, at 25 °C (77 °F) +/-1 minute per month

Backup time, at 25 °C (77 °F) 7 days minimum

Communication ports

RS-485 port Com A 24 VDC, 3 W, RS-485 (RJ45)

Transient voltage suppressors on communication and power signals

RS-485 port

RS-485 (3-pole screw terminal block)

Transient voltage suppressors on communication signals

RS-485 transceiver characteristics

Transceiver type Failsafe
Non-isolated

9

External biasing None required

Total Unit Load (UL) per device Maximum 0.5 UL

Communications

BACnet MS/TP, maximum bus length: 1200 m (4000 ft), maximum baud rate: 76800

BTL B-AAC (BACnet Advanced Application Controller)^a

a) See the BTL Product Catalog for up-to-date details on BTL listed firmware revisions on BACnet International's home page.

CPU

Frequency 500 MHz

Type ARM Cortex-A7 single-core

Internal SRAM 6 MB

NOR flash memory 32 MB

Memory backup 8 kB, FRAM, non-volatile

Universal inputs/outputs

Channels, RP-C-12A-M-24V 8 Ub, Ub1 to Ub8

Continued

Channels, RP-C-12B-M-24V	8 Ub, Ub1 to Ub8
Channels, RP-C-16A-M-24V	8 Ub, Ub1 to Ub8
Absolute maximum ratings	-0.5 to +24 VDC
A/D converter resolution	16 bits
Universal input/output protection	Transient voltage suppressor on each universal input/output
Digital inputs	
Range	Dry contact switch closure or open collector/open drain, 24 VDC, typical wetting current 2.4 mA
Minimum pulse width	150 ms
Counter inputs	
Range	Dry contact switch closure or open collector/open drain, 24 VDC, typical wetting current 2.4 mA
Minimum pulse width	20 ms
Maximum frequency	25 Hz
Supervised inputs	
5 V circuit, 1 or 2 resistors Monitored switch combinations	Series only, parallel only, and series and parallel
Resistor range For a 2-resistor configuration, eac	1 to 10 kohm h resistor must have the same value +/- 5 %
Voltage inputs	
Range	0 to 10 VDC
Accuracy	+/-(7 mV + 0.2 % of reading)
Resolution	1.0 mV
Impedance	1 Mohm
Current inputs	
Range	0 to 20 mA
Accuracy	+/-(0.01 mA + 0.4 % of reading)
Resolution	1 μΑ
Impedance	47 ohm
Resistive inputs	
10 ohm to 10 kohm accuracy R = Resistance in ohm	$+/-(7 + 4 \times 10^{-3} \times R)$ ohm
10 kohm to 60 kohm accuracy R = Resistance in ohm	$+/-(4 \times 10^{-3} \times R + 7 \times 10^{-8} \times R^2)$ ohm
Temperature inputs (thermistors)	
Range	-50 to +150 °C (-58 to +302 °F)

Continued

Supported thermistors		
Honeywell	20 kohm	
Type I (Continuum)	10 kohm	
Type II (I/NET)	10 kohm	
Type III (Satchwell)	10 kohm	
Type IV (FD)	10 kohm	
Type V (FD w/ 11k shunt)	Linearized 10 kohm	
Satchwell D?T	Linearized 10 kohm	
Johnson Controls	2.2 kohm	
Xenta	1.8 kohm	
Balco	1 kohm	
Measurement accuracy		
20 kohm	-50 to -30 °C: +/-1.5 °C (-58 to -22 °F: +/-2.7 °F) -30 to 0 °C: +/-0.5 °C (-22 to +32 °F: +/-0.9 °F) 0 to 100 °C: +/-0.2 °C (32 to 212 °F: +/-0.4 °F) 100 to 150 °C: +/-0.5 °C (212 to 302 °F: +/-0.9 °F)	
10 kohm, 2.2 kohm, and 1.8 kohm	-50 to -30 °C: +/-0.75 °C (-58 to -22 °F: +/-1.35 °F) -30 to +100 °C: +/-0.2 °C (-22 to +212 °F: +/-0.4 °F) 100 to 150 °C: +/-0.5 °C (212 to 302 °F: +/-0.9 °F)	
Linearized 10 kohm	-50 to -30 °C: +/-2.0 °C (-58 to -22 °F: +/-3.6 °F) -30 to 0 °C: +/-0.75 °C (-22 to +32 °F: +/-1.35 °F) 0 to 100 °C: +/-0.2 °C (32 to 212 °F: +/-0.4 °F) 100 to 150 °C: +/-0.5 °C (212 to 302 °F: +/-0.9 °F)	
1 kohm	-50 to +150 °C: +/-1.0 °C (-58 to +302° F: +/-1.8 °F)	
Voltage outputs		
Range	0 to 10 VDC	
Accuracy	+/-60 mV	
Resolution	10 mV	
Minimum load resistance	2.4 kohm	
Source current	+4.2 mA	
Sink current	-1 mA (0 to 0.4 VDC) -4.2 mA (0.4 to 10 VDC)	
Relay outputs, DO		
Channels, RP-C-12A-M-24V	0	
Channels, RP-C-12B-M-24V	s, RP-C-12B-M-24V 3, DO1 to D	
Channels, RP-C-16A-M-24V	3, DO5 to DO7	

Co.	111.	HL	ıcu

Contact rating Resistive load: 250 VAC/30 VDC, 4 N (cos phi = 1) inductive load: 250 VAC/30 VDC, 4 N (cos phi = 1) inductive load: 250 VAC/30 VDC, 4 N (cos phi = 1) inductive load: 250 VAC/30 VDC, 4 N (cos phi = 1) inductive load: 250 VAC/30 VDC, 4 N (cos phi = 1) inductive load: 250 VAC/30 VDC, 4 N (cos phi = 1) inductive load: 250 VAC/30 VDC, 4 N (cos phi = 1) inductive load: 250 VAC/30 VDC, 4 N (cos phi = 1) inductive load: 250 VAC/30 VDC, 4 N (cos phi = 1) inductive load: 250 VAC/30 VDC, 4 N (cos phi = 1) inductive load: 250 VAC/30 VDC, 4 N (cos phi = 1) inductive load: 250 VAC/34 VDC, 1 N (cos		
Commons Common	Contact rating	Resistive load: 250 VAC/30 VDC, 4 A (cos phi = 1)
Isolation contact to system ground 3,000 VAC Cycle life At least 100,000 cycles Minimum pulse width 100 ms High power relay outputs, DO Channels, RP-C-12A-M-24V 0,00 Channels, RP-C-16A-M-24V 1,DO4 Contact rating Pilot Duty, (B300) Normally Open contact, resistive load: 250 VAC/24 VDC, 12 A (cos pili = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 12 A (cos pili = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 3 A (cos pili = 1) Normally Closed contact to system ground 5,000 VAC Cycle life At least 100,000 vAC Channels, RP-C-12A-M-24V 4,DO1 to DO4 Common (S COMI for DO1 and DO2 (on RP-C-12A and -16A models) When the SSR outbuts are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outbuts are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outbuts are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outbuts are used to switch DC, the common terminals can be connected to -30 VDC. Common voltage range (C)	Switch type	Single Pole Single Throw
Minimum pulse width 100 ms High power relay outputs, DO Channels, RP-C-12A-M-24V 0 Channels, RP-C-12B-M-24V 1, DO4 Channels, RP-C-16A-M-24V 1, DO5 Contact rating Minimum current: 100 ms (5 VCC) Normally Open contact, resistive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed Contact, i	Commons	COM1 for DO1, DO2, and DO3 (on RP-C-12B model) COM3 for DO5, DO6, and DO7 (on RP-C-16A models)
Minimum pulse width High power relay outputs, DO Channels, RP-C-12A-M-24V Channels, RP-C-12B-M-24V Channels, RP-C-16A-M-24V Contact rating Pilot Duty, B3000 Normally Open contact, resistive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 0.4) Switch type Switch type Single Pole Double Throw Normally Open and Normally Closed contact, inductive load: 250 VAC/24 VDC, 23 A (cos phi = 0.4) Switch type At least 100,000 cycles Usolation contact to system ground Solid-state relay outputs, DO Cycle life At least 100,000 cycles Minimum pulse width 100 ms Solid-state relay outputs, DO Channels, RP-C-12A-M-24V A, DO1 to D04 Channels, RP-C-12B-M-24V A, D01 to D04 Channels, RP-C-16A-M-24V A, D01 to D04 Channels, RP-C-16A-M-24V AC voltage range Ac voltage range Maximum 30 VDC Commons COMM for D01 and D02 (on RP-C-12A and -16A models) COMZ for D03 and D04 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to -30 VDC. Common voltage range (AC)	Isolation contact to system ground	3,000 VAC
Channels, RP-C-12A-M-24V Channels, RP-C-16A-M-24V Channels, RP-C-16A-M-24V Contact rating Contac	Cycle life	At least 100,000 cycles
Channels, RP-C-12A-M-24V Channels, RP-C-16A-M-24V Channels, RP-C-16A-M-24V Contact rating Contact rating Normally Open contact, resistive load: 250 VAC/24 VDC, 12 A (cos phi = 0.4) Normally Closed contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 0.4) Switch type Single Pole Double Throw Normally Open and Normally Closed Isolation contact to system ground Cycle life At least 100,000 cycles Minimum pulse width 100 ms Solid-state relay outputs, DO Channels, RP-C-12A-M-24V A, DO1 to DO4 Channels, RP-C-12B-M-24V Channels, RP-C-16A-M-24V A, DO1 to DO4 Channels, RP-C-16A-M-24V Cycle grange Aximum 2A load per output Maximum 4A total load for the 4 outputs AC voltage range Maximum 30 VAC Commons COM1 for DO1 and DO2 (on RP-C-12A and -16A models) COM2 for DO3 and DO4 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC,	Minimum pulse width	100 ms
Channels, RP-C-12B-M-24V Channels, RP-C-16A-M-24V Contact rating Contact rating Normally Open contact, resistive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 3 A (cos phi = 1) Normally Open and Normally Open	High power relay outputs, DO	
Contact rating Contact rating Normally Open contact, resistive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Open and Normally Closed contact, inductive load: 250 VAC/24 VDC, 3 A (cos phi = 1) Normally Open and Normally Closed Single Pole Double Throw Normally Open and Normally Closed Isolation contact to system ground Solid-state relay outputs, DO Channels, RP-C-12A-M-24V A, D01 to D04 Channels, RP-C-12B-M-24V Channels, RP-C-12B-M-24V Channels, RP-C-16A-M-24V A, D01 to D04 Channels, RP-C-16A-M-24V AC voltage range AC voltage range Maximum 2 A load per output Maximum 4 A total load for the 4 outputs AC voltage range Commons COM1 for D01 and D02 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 1 or 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 1 or 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 1 or 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 1 or 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 1 or 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 1 or 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 1 or 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 1 or 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 1 or 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to -30 VDC to +30 VDC. Common voltage range (AC) Other DC and	Channels, RP-C-12A-M-24V	0
Contact rating Normally Open contact, resistive load: 250 VAC/24 VDC, 12 A (cos phi = 10.4) Switch type Single Pole Double Throw Normally Open and Normally Obesed Isolation contact to system ground Solid-state relay outputs, DO Channels, RP-C-12A-M-24V Channels, RP-C-12B-M-24V Channels, RP-C-12B-M-24V Channels, RP-C-16A-M-24V Chann	Channels, RP-C-12B-M-24V	1, DO4
Normally Open contact, resistive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 12 A (cos phi = 1) Normally Closed contact, inductive load: 250 VAC/24 VDC, 3 A (cos phi = 0.4) Switch type Single Pole Double Throw Normally Open and Normally Closed Isolation contact to system ground 5,000 VAC Cycle life At least 100,000 cycles Minimum pulse width 100 ms Solid-state relay outputs, DO Channels, RP-C-12A-M-24V 4, DO1 to DO4 Channels, RP-C-12B-M-24V 0 Channels, RP-C-12B-M-24V 4, DO1 to DO4 Output rating Maximum 2 A load per output AC voltage range Maximum 30 VAC Commons COM1 for DO1 and DO2 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 30 VDC.	Channels, RP-C-16A-M-24V	1, DO8
Isolation contact to system ground 5,000 VAC Cycle life At least 100,000 cycles Minimum pulse width 100 ms Solid-state relay outputs, DO Channels, RP-C-12A-M-24V 4, DO1 to DO4 Channels, RP-C-12B-M-24V 5,000 Channels, RP-C-16A-M-24V 5,000 Channels, RP-C-16A-M-24V 6,000 Channels, RP-C-16A-M-24V 7,000 Channels,	Contact rating	Minimum current: 100 mA (5 VDC) Normally Open contact, resistive load: 250 VAC/24 VDC, 12 A (cos phi = 1)
Cycle life At least 100,000 cycles Minimum pulse width 100 ms Solici-state relay outputs, DO Channels, RP-C-12A-M-24V 4, DO1 to DO4 Channels, RP-C-12B-M-24V 0 Channels, RP-C-16A-M-24V 4, DO1 to DO4 Channels, RP-C-16A-M-24V 4, DO1 to DO4 Output rating Maximum 2 A load per output Maximum 4 A total load for the 4 outputs AC voltage range Maximum 30 VAC DC voltage range Maximum 30 VAC Commons COM1 for DO1 and DO2 (on RP-C-12A and -16A models) COM2 for DO3 and DO4 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to -30 VDC to +30 VDC. Common voltage range (AC) 0 to 30 VAC Common voltage range (DC) -30 to +30 VDC	Switch type	Single Pole Double Throw
Minimum pulse width 100 ms Solid-state relay outputs, DO Channels, RP-C-12A-M-24V 4, DO1 to DO4 Channels, RP-C-12B-M-24V 0 Channels, RP-C-16A-M-24V 4, DO1 to DO4 Output rating Maximum 2 A load per output Maximum 4 A total load for the 4 outputs AC voltage range Maximum 30 VAC DC voltage range Maximum 30 VAC Commons COM1 for DO1 and DO2 (on RP-C-12A and -16A models) COM2 for DO3 and DO4 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to -30 VDC to +30 VDC. Common voltage range (AC) 0 to 30 VAC Common voltage range (DC) -30 to +30 VDC	Isolation contact to system ground	5,000 VAC
Channels, RP-C-12A-M-24V Channels, RP-C-12B-M-24V Channels, RP-C-16A-M-24V Channels, RP-C-16A-M-24V Other trating Maximum 2 A load per output Maximum 4 A total load for the 4 outputs AC voltage range Maximum 30 VAC DC voltage range Maximum 30 VDC Commons COM1 for DO1 and DO2 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to -30 VDC to +30 VDC. Common voltage range (AC) O to 30 VAC Common voltage range (DC)	Cycle life	At least 100,000 cycles
Channels, RP-C-12A-M-24V Channels, RP-C-12B-M-24V Channels, RP-C-16A-M-24V Other rating Maximum 2 A load per output Maximum 4 A total load for the 4 outputs AC voltage range Maximum 30 VAC DC voltage range Maximum 30 VDC Commons COM1 for DO1 and DO2 (on RP-C-12A and -16A models) COM2 for DO3 and DO4 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to -30 VDC to +30 VDC. Common voltage range (AC) O to 30 VAC Common voltage range (DC)	Minimum pulse width	100 ms
Channels, RP-C-12B-M-24V Channels, RP-C-16A-M-24V Output rating Maximum 2 A load per output Maximum 4 A total load for the 4 outputs AC voltage range Maximum 30 VAC DC voltage range Maximum 30 VDC Commons COM1 for DO1 and DO2 (on RP-C-12A and -16A models) COM2 for DO3 and DO4 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to -30 VDC to +30 VDC. Common voltage range (AC) O to 30 VAC Common voltage range (DC) -30 to +30 VDC	Solid-state relay outputs, DO	
Channels, RP-C-16A-M-24V Output rating Maximum 2 A load per output Maximum 4 A total load for the 4 outputs AC voltage range Maximum 30 VAC DC voltage range Maximum 30 VDC Commons COM1 for DO1 and DO2 (on RP-C-12A and -16A models) COM2 for DO3 and DO4 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to -30 VDC to +30 VDC. Common voltage range (AC) O to 30 VAC Common voltage range (DC)	Channels, RP-C-12A-M-24V	4, DO1 to DO4
Output rating Maximum 2 A load per output Maximum 4 A total load for the 4 outputs AC voltage range Maximum 30 VAC DC voltage range COM1 for DO1 and DO2 (on RP-C-12A and -16A models) COM2 for DO3 and DO4 (on RP-C-12A and -16A models) COM2 for DO3 and DO4 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to -30 VDC to +30 VDC. Common voltage range (AC) O to 30 VAC Common voltage range (DC) -30 to +30 VDC	Channels, RP-C-12B-M-24V	0
AC voltage range Maximum 4 A total load for the 4 outputs AC voltage range Maximum 30 VAC DC voltage range Commons COM1 for DO1 and DO2 (on RP-C-12A and -16A models) COM2 for DO3 and DO4 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to -30 VDC to +30 VDC. Common voltage range (AC) Common voltage range (DC) -30 to +30 VDC	Channels, RP-C-16A-M-24V	4, DO1 to DO4
DC voltage range Commons COM1 for DO1 and DO2 (on RP-C-12A and -16A models) COM2 for DO3 and DO4 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to -30 VDC to +30 VDC. Common voltage range (AC) Common voltage range (DC) -30 to +30 VDC	Output rating	
Commons COM1 for DO1 and DO2 (on RP-C-12A and -16A models) COM2 for DO3 and DO4 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to -30 VDC to +30 VDC. Common voltage range (AC) Common voltage range (DC) -30 to +30 VDC	AC voltage range	Maximum 30 VAC
COM2 for DO3 and DO4 (on RP-C-12A and -16A models) When the SSR outputs are used to switch AC, the common terminals can be connected to 0 to 30 VAC. When the SSR outputs are used to switch DC, the common terminals can be connected to -30 VDC to +30 VDC. Common voltage range (AC) Common voltage range (DC) -30 to +30 VDC	DC voltage range	Maximum 30 VDC
Common voltage range (DC) -30 to +30 VDC	When the SSR outputs are used to switch AC, the	COM2 for DO3 and DO4 (on RP-C-12A and -16A models) common terminals can be connected to 0 to 30 VAC. When the SSR outputs are
	Common voltage range (AC)	0 to 30 VAC
Minimum pulse width 100 ms	Common voltage range (DC)	-30 to +30 VDC
	Minimum pulse width	100 ms

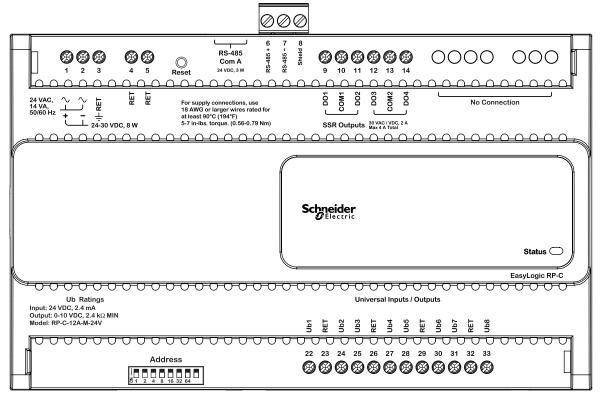
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Solid-state relay output protection

Transient voltage suppressor across each solid-state relay (SSR) output

Terminals

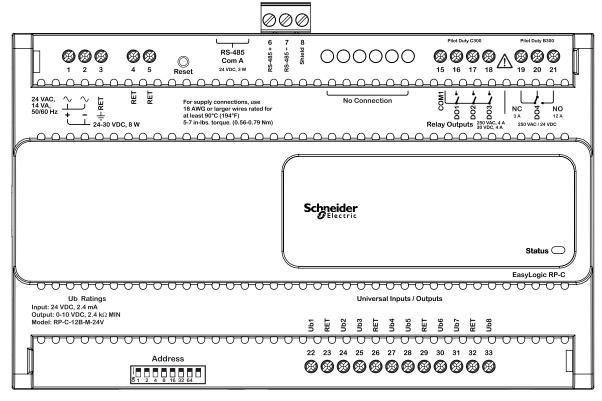
For more information on wiring, see Hardware Reference Guide.



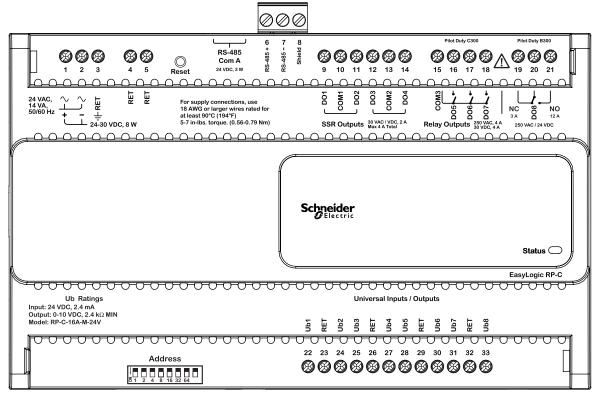
RP-C-12A-M-24V model

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RP-C-12B-M-24V model



RP-C-16A-M-24V model

Part Numbers for EasyLogic Sensor Devices, Combination Models

Product	Housing	Part number
Complete EasyLogic Sensor ^a model with temperature sensor, buttons for setpoint control, and LCD display cover	Medium matte white	SLEASLXXB
Complete EasyLogic Sensor ^a model with resistive temperature sensor (10 kohm type 3 thermistor) and blank cover	Medium matte white	SLEASXXXB

a) The EasyLogic Sensor is designed to be connected to I/O points/terminals on RP or MP controllers, or I/O modules. The model with buttons for setpoint control and LCD display (SLEASLXXB) requires two analog inputs (voltage inputs). The model with blank cover (SLEASXXXB) requires one analog input (temperature input).

Part Numbers for SpaceLogic Sensor Devices, Sensor Bases

Product	Part number
Sensor base with temperature sensor	SXWSBTXXXSXX
Sensor base with temperature and humidity sensors	SXWSBTHXXSXX
Sensor base with temperature and CO ₂ sensors	SXWSBTXCXSXX
Sensor base with temperature, humidity, and CO ₂ sensors	SXWSBTHCXSXX

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Part Numbers for SpaceLogic Sensor Devices, Covers

Product	Housing	Part number
Blank cover	Medium matte white	SXWSCBXSELXX
Blank cover	Optimum glass white	SXWSCBXSELXW
Blank cover	Optimum glass black	SXWSCBXSELXB
Blank cover with occupancy sensor	Medium matte white	SXWSCBPSELXX
Blank cover with occupancy sensor	Optimum glass white	SXWSCBPSELXW
Blank cover with occupancy sensor	Optimum glass black	SXWSCBPSELXB
3-button cover	Medium matte white	SXWSC3XSELXX
3-button cover	Optimum glass white	SXWSC3XSELXW
3-button cover	Optimum glass black	SXWSC3XSELXB
3-button cover with occupancy sensor	Medium matte white	SXWSC3PSELXX
3-button cover with occupancy sensor	Optimum glass white	SXWSC3PSELXW
3-button cover with occupancy sensor	Optimum glass black	SXWSC3PSELXB
Touchscreen display cover	Medium matte white	SXWSCDXSELXX
Touchscreen display cover	Optimum glass white	SXWSCDXSELXW
Touchscreen display cover	Optimum glass black	SXWSCDXSELXB
Touchscreen display cover with occupancy sensor	Medium matte white	SXWSCDPSELXX
Touchscreen display cover with occupancy sensor	Optimum glass white	SXWSCDPSELXW
Touchscreen display cover with occupancy sensor	Optimum glass black	SXWSCDPSELXB

Part Numbers for SpaceLogic Sensor Devices, Combination Models

Product	Housing	Part number
Complete SpaceLogic Sensor model with temperature sensor, buttons for override and setpoint control, and LCD display cover	Medium matte white	SXWSATXXXSLX
Complete SpaceLogic Sensor model with temperature sensor, buttons for override and setpoint control, and LCD display cover	Optimum glass white	SXWSATXXXSLW
Complete SpaceLogic Sensor model with temperature sensor, buttons for override and setpoint control, and LCD display cover	Optimum glass black	SXWSATXXXSLB
Complete non-communicating ^a SpaceLogic Sensor model with resistive temperature sensor (10 kohm type 3 thermistor) and blank cover	Medium matte white	SLASXXX
Complete non-communicating ^a SpaceLogic Sensor model with resistive temperature sensor (10 kohm type 3 thermistor) and blank cover	Optimum glass white	SLAWXXX

Continued

Product	Housing	Part number
Complete non-communicating ^a SpaceLogic Sensor model with resistive temperature sensor (10 kohm type 3 thermistor) and blank cover	Optimum glass black	SLABXXX

a) The SpaceLogic resistive temperature sensor (SLA...) is designed to be connected to I/O points/terminals on RP or MP controllers, or I/O modules. The sensor requires an analog input (temperature input).

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.

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.



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)
2014/30/EU Electromagnetic Compatibility Directive
2014/35/EU Low Voltage Directive
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)

WEEE - Directive of the European Unit (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. 2016/1091 - Electromagnetic Compatibility Regulations 2016
S.I. 2016/1101 - Electrical Equipment (Safety) Regulations 2016
S.I. 2013/3032 - 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).



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

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