

SpaceLogic RP-C Pro Plus Room Controllers

EcoStruxure™ Building

Introduction

SpaceLogic™ RP-C Pro Plus is a high-power, fully programmable, IP based field controller that offers a multi-room connectivity hub for Connected Room Solutions.

The controller comes with pluggable connectors, with ability to distribute 24 VAC/DC power, as well as greater memory space for large room and luxury suite applications.

RP-C Pro Plus is a 230 VAC controller with 16 I/O points and can be mounted directly on ceilings without the need for an enclosure.

The controller is integrated into Connected Room Solutions and EcoStruxure Building Operation and is positioned for room



control as well as well-being, comfort of occupants in an energy-efficient way.

The controller can either be used as a standalone BACnet/IP field controller, BACnet/SC node, 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 controller features a wireless chip, which enables commissioning of the controller with the Commission mobile application and allows tenants to change the room comfort settings using their smartphones with the Engage mobile application.

Web services enable web access directly to the controller, making the controller an open IoT hub in the room or space area.

SpaceLogic RP-C Pro Plus

RP-C Pro Plus has the following features:

- IP enabled with dual-port Ethernet switch
- BACnet/SC node
- Controller model for 230 VAC with 16 I/O points
- Versatile onboard I/O point mix
- Option to use external or internal power supply for power distribution
- Pluggable connectors for quick and easy installation in suspended ceilings
- Wireless connectivity
- Advanced monitoring
- Three configurable RS-485 ports
- Sensor bus for living space sensors
- Room bus for Connected Room Solutions
- Modbus RTU subnetwork
- KNX support (KNX Modbus gateway required)
- Engage mobile application for room comfort settings
- Commission mobile application for commissioning of the controller before the BMS is in place
- Full EcoStruxure Building Operation software support, providing efficient engineering tools
- Web services through RESTful API

IP connectivity, flexible network topologies, and support for BACnet/SC applications

The BACnet/IP controllers are based on open protocols that simplify interoperability, IP configuration, and device management, and can be enabled as BACnet/SC nodes for increased cybersecurity:

- IP addressing
- BACnet/IP or BACnet/SC communications
- DHCP for easy network configuration

The BACnet/IP controllers have a dual-port Ethernet switch, which enables flexible network topologies:

- Star
- Daisy chain
- Rapid Spanning Tree Protocol (RSTP) ring

In a star topology, the controller and the parent EcoStruxure BMS server are individually connected to an Ethernet switch. Daisy-

chain multiple controllers together to reduce installation time and cost. When using a ring network topology, in the event of a broken IP network or a non-operational controller, RSTP will enable rapid identification of the location of the detected error while maintaining communication with the controllers on either side of the break.

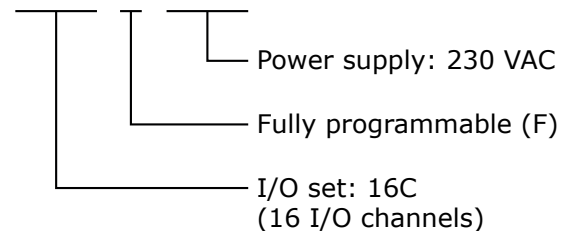
BACnet/SC (Secure Connect) support

The BACnet/IP controllers support BACnet/SC applications as a BACnet/SC node. This allows the controllers to be used in a BACnet/SC network, which allows secure transport of BACnet traffic and information between BACnet/SC devices over private and public networks without the need for BBMDs, VLANs, and VPNs, because the BACnet/SC protocol uses WebSocket technology and TLS 1.3 encryption. In addition, BACnet/SC uses certificate management to help ensure only those devices authorized to be on a BACnet/SC network can operate on that network.

Controller model for 230 VAC with 16 I/O points

The RP-C Pro Plus range includes one RP controller model, RP-C-16C-F-230V, which offers a set of I/O point types named 16C, and supports 230 VAC power supply.

RP-C-16C-F-230V



Fully programmable

The fully programmable RP controller provides flexibility through support of both Script and Function Block programming options. The controller promotes efficiency and standardization through the use of standard controller applications.

Versatile mix of I/O points

RP-C-16C-F-230V provides 16 I/O points, consisting of four 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.

SpaceLogic RP-C Pro Plus

I/O Point Types

I/O Point Types	RP-C-16C-F-230V
Universal I/O (Type Ub)	4
Solid-state relay (SSR) outputs (MOSFET)	4 ^a
Universal I/O (Type Ub) or SSR outputs (MOSFET) ^b	8 ^b

a) With 24 VAC/DC power distribution

b) Configurable I/O point type that can be configured either as Universal I/O (Type Ub) or SSR output. When a configurable I/O point is configured as an Universal I/O (Type Ub), the SSR output is enabled and feeds 24 VAC/VDC power, but the SSR output can not be configured or used according to table "Configurations by I/O Point Types".

Configurations by I/O Point Types

Configurations	Universal I/O Type Ub	Solid-state Relay Outputs (MOSFET)
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	-
2-wire RTD temperature inputs	yes	-
Voltage outputs (0 to 10 VDC)	yes	-
Digital outputs	-	yes
Digital pulsed outputs	-	yes
PWM outputs	-	yes
Tristate outputs	-	yes
Tristate pulsed outputs	-	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 RTD inputs, they are ideal for temperature points in a building control system. 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.

SpaceLogic RP-C Pro Plus

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.

Option to use external or internal power supply for power distribution

The controller offers the ability to choose between an external power supply (24 VAC/DC, 8 A) or the internal transformer (24 VAC, 19 VA) for power distribution to the solid-state relay outputs. The choice is easily made by placing a jumper on a pin header.

Pluggable connectors

The controller is equipped with PCB mounted connectors for the 230 VAC power input, the I/Os, and the power input for an external power supply. The PCB mounted connectors mate with pluggable connectors. This means time savings and cost reductions for the installation, compared to wiring terminal blocks on site. The connectors can quickly and easily be plugged together on site. The pluggable connectors can be installed without strain relief and touch protection. As there is no need for an enclosure, the controller is suitable for retrofit applications and installation in suspended ceilings or underfloor spaces.

Wireless connectivity

The RP controller is a Bluetooth Low Energy (BLE) enabled product. You can use this wireless connectivity option to connect the controller with a smartphone or tablet running the Commission mobile application or the Engage mobile application for room comfort settings.

Through Wireless Adapter - Advanced connected to the host USB port, Zigbee™ wireless connectivity can be enabled for the RP controller. The controller can extend its point count through the Zigbee wireless network and bring flexibility in your applications. The RP controller equipped with the adapter is a Zigbee Certified Product that is compliant with Zigbee 3.0. For more information on the adapter and supported wireless devices, see the Wireless Adapter - Advanced Specification Sheet.

Advanced monitoring

The BACnet/IP 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 helps prevent data loss and allows seamless and quick recovery after a power disruption.

In WorkStation, you update the firmware of multiple BACnet/IP 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.

Three configurable RS-485 ports

The controller has three configurable RS-485 ports, which can be configured to support three different types of networks:

- Sensor bus
- Room bus
- Modbus network

The controller can host three networks, but only one of each network type.

Sensor bus for living space sensors

The BACnet/IP 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 RP-C Pro Plus

- 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.

The RS-485 Power Adapter can be used for injecting 24 VDC from an external 24 VDC power supply to the bus. For more information, see the RS-485 Adapters Specification Sheet.

Room bus for Connected Room Solutions

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

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

The RS-485 Power Adapter can be used for injecting 24 VDC from an external 24 VDC power supply to the bus. For more information, see the RS-485 Adapters Specification Sheet.

For more information, see the Specification Sheets for the RP controller expansion modules.

Modbus RTU subnetwork

The RP controller Modbus network allows standard Modbus devices and the KNX Modbus gateway (RP-C-EXT-KNX) to be connected to the controller.

The Modbus RTU protocol is used for the communication. The RP controller acts as 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 RS-485 Adapters Specification Sheet.

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 RP-C Pro Plus controller Modbus network supports up to 20 connected Modbus devices with the following restrictions:

- Maximum of one KNX Modbus gateway (RP-C-EXT-KNX)
- Maximum of 1,000 Modbus registers per network

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

Modbus device types

Modbus device types are pre-configured Modbus applications for quick and easy Modbus device integration in EcoStruxure Building Operation solutions. For information on the Modbus devices supported using Modbus device types, see the document EcoStruxure Building - Modbus Device Integration - Supported Device Brochure.

KNX support

Through the KNX Modbus gateway (RP-C-EXT-KNX), the RP controller can communicate with KNX devices such as push-buttons and sensors.

The KNX Modbus gateway provides a KNX to Modbus interface that connects to one of the RP controller's configurable RS-485 ports.

For more information, see the RP-C-EXT-KNX Specification Sheet.

Engage mobile application

The Engage mobile application enables control of room temperature, fan speed, lights, and blinds/shades directly from a smartphone. A user can manage these settings when the application is connected to the RP controller.

The Engage mobile application is free and available for download from Google Play and Apple App Store.

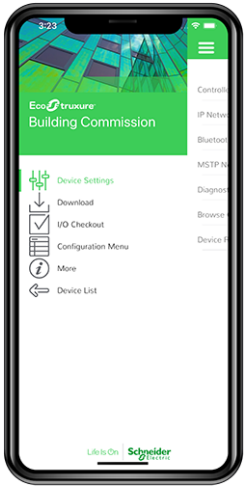
For more information, see the Engage Specification Sheet.

Commission mobile application

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

SpaceLogic RP-C Pro Plus

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 one or many RP controllers. You can connect to a single RP controller using the controller's built-in Bluetooth connectivity or using the SpaceLogic Bluetooth Adapter connected to a SpaceLogic Sensor. Using a wireless access point or a network switch, you can connect to a network of RP controllers on the local IP network.

Device configuration

With the Commission mobile application, you can easily discover BACnet/IP controllers on the IP network. You can change the configuration of each controller, including the BACnet and IP 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 BACnet/IP controller and deploy the controller. The controller application can be created offline using Project Configuration Tool or WorkStation. You can use the mobile application to change the behavior of an installed standard controller application, such as configuring temperature setpoints. You can also perform an I/O checkout to verify that the controller's I/O points are configured, wired, and operating correctly.

You can perform I/O checkout on the RP controller room bus to verify proper communication over the room bus between the RP controller and the associated RP controller expansion modules. Module type mismatches or address mismatches can then be

resolved. After wiring the physical inputs and outputs of the RP controller expansion modules, you can perform the following tasks on the different modules:

- DALI light modules: discover, wink, and associate DALI lights with the logical software points, and test individual lights
- 0-10V light modules: test individual lights
- Blind modules: calibrate and test blinds
- Relay module: test outputs

Full EcoStruxure Building Operation software support

The power of the RP controller 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
- Preconfigured BMS applications for HVAC and Connected Room Solutions
- Zoning option

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 BACnet/IP 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 BACnet/IP controllers on a BACnet network and to associate the controllers with their parent server.

Engineering efficiency

The engineering and maintenance of BACnet/IP 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

SpaceLogic RP-C Pro Plus

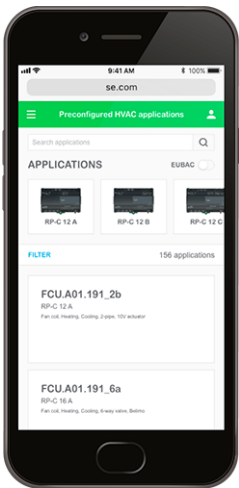
model. You can use the controller application as a base for creating new controllers intended for similar applications. You can then edit the controller application, and the changes are automatically replicated to all controllers, while each controller keeps its local values.

WorkStation supports both online and offline engineering of BACnet/IP 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 BACnet/IP 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.

Preconfigured BMS applications for HVAC and Connected Room Solutions

To improve engineering efficiency and standardize engineering practices, fully designed and tested controller applications are available at bms-applications.schneider-electric.com for use with the RP controllers. This library contains applications for different RP controller models and application types, such as fan coil units, ceiling solutions, lights and blinds. These preconfigured controller applications are packages that include all software programs, and for example graphics, alarms, and documentation such as functional specifications and I/O wiring schedules, that are needed for your projects. The online repository can be accessed using common web browsers on Windows PCs as well as mobile devices running Apple iOS 11.3 (or later) and Android 6.0 Marshmallow (or later).



Download page for preconfigured BMS applications

Zoning option

The Zoning option for WorkStation and WebStation provides access to an interactive zoning tool that enables easy reconfiguration of Connected Room Solutions and flexibility when switching between zones. The WebStation zoning tool provides a graphical interface that enables quick editing of zones from any web browser device.

The RP-C-16C-F-230V model supports up to eight segments, which can be used to support rezoning in a building.

Web services

The RP controller uses the RESTful API, which allows IT web services to easily interact with software applications. The flexibility of the RESTful API allows the RP controller to handle multiple types of input and return different data formats. With Web services, clients can read/write data (BACnet values) directly from/to the controller. Web services use resource methods GET, PUT, POST, and DELETE to access and use the data. HTTPS is used for communication between the client and the controller.

The Web services function is disabled by default. When enabled, it requires approximately 200 kB of RP controller memory.

Part Number for RP-C Pro Plus

Product	Part number
RP-C-16C-F-230V	SXWRCF16C10001

SpaceLogic RP-C Pro Plus

Part Numbers for RP-C Accessories

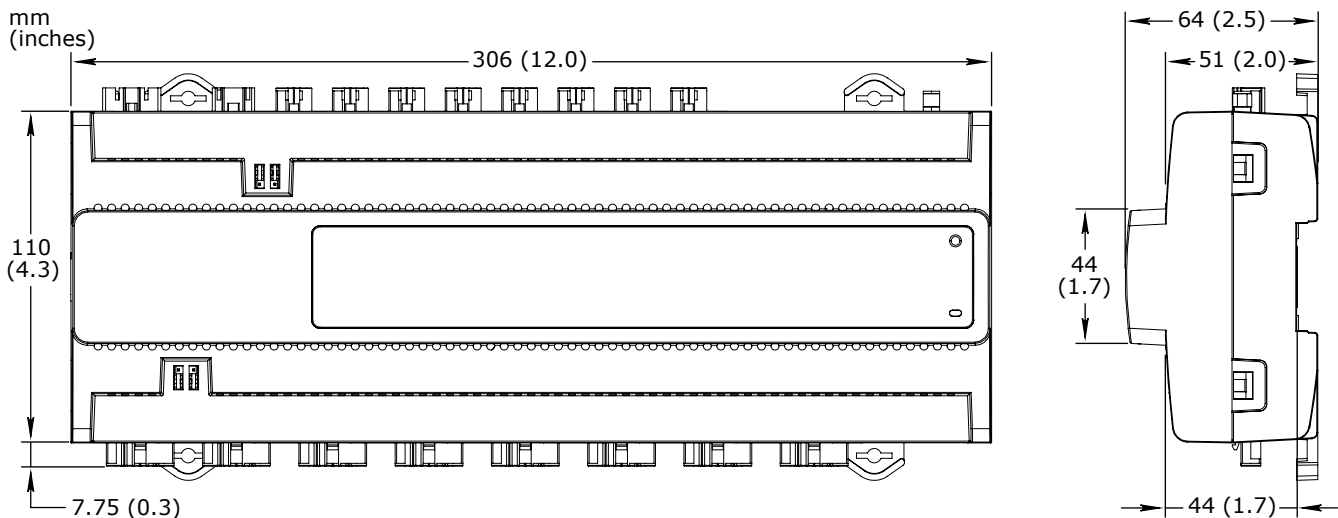
Product	Part number
DIN-RAIL-CLIP, DIN-rail end clip package of 25 pieces	SXWDINEND10001
Non-isolated RS-485 adapter	SXWNISORS48510001
RS-485 power adapter	SXWNISORS485P10001
SpaceLogic Wireless Adapter - Advanced	SXWZBAUSB10001
SpaceLogic Bluetooth Adapter	SXWBTAECXX10001
Spare jumper	Samtec SNT-100-BK-G-H

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

Specifications

SpaceLogic RP-C Pro Plus	
AC input	
Nominal voltage	230 VAC
Operating voltage range	+/-10 %
Frequency	50/60 Hz
Maximum power consumption	65 VA
Power consumption without load	5 W
Power input protection	MOV suppression and internal fuse Separate PTC thermistor used as a resettable fuse for the SSR outputs (DO1 to DO12) only
Overvoltage category	III
Pollution degree	2
24 VAC/VDC input (EXT Input) for external power supply to SSR outputs	
AC voltage range	Maximum 30 VAC
DC voltage range	Maximum 30 VDC
EXT Input negative terminal (–), AC voltage range	0 to 30 VAC
EXT Input negative terminal (–), DC voltage range	-30 to +30 VDC
Maximum current consumption	8 A
Internal transformer for power supply to SSR outputs	
Type	Isolated Class 2 output
Nominal voltage	24 VAC
Frequency	Same frequency as the power supply (50/60 Hz)

SpaceLogic RP-C Pro Plus

Output power rating	19 VA
Environment	
Ambient temperature, operating	0 to 50 °C (32 to 122 °F) at normal operation
Ambient temperature, storage	-20 to +70 °C (-4 to +158 °F)
Maximum humidity	95 % RH non-condensing
Material	
Plastic flame rating	UL94-5VB
Ingress protection rating	IP 20
Mechanical	
Dimensions	306 W x 110 H x 64 D mm (12.0 W x 4.3 H x 2.5 D in.)
 <p>Technical drawing of the SpaceLogic RP-C Pro Plus device. The front view shows a width of 306 mm (12.0 inches) and a height of 110 mm (4.3 inches). The side view shows a depth of 64 mm (2.5 inches) and a mounting flange height of 44 mm (1.7 inches). The bottom view shows a width of 306 mm (12.0 inches) and a depth of 64 mm (2.5 inches). The top view shows a width of 306 mm (12.0 inches) and a depth of 64 mm (2.5 inches). The drawing also shows the location of the power input, external input, and SSR outputs.</p>	
Weight	0.968 kg (2.134 lb)
Recommended installation	DIN rail or flat surface
Connectors	Power input: 1 x 3-pin Wieland GST15i3 connector External input, 24 VAC/VDC: 1 x 2-pin Wieland GST15i2 connector SSR outputs: 4 x 2-pin Wieland GST15i2 connector Universal I/Os: 4 x 2-pin Wieland GST15i2 connector SSR outputs or Universal IOs: 8 x 4-pin Wieland GST15i4 connector
Compatibility	
EcoStruxure BMS server communication EcoStruxure Building Operation	version 5.0.1 and later
BACnet/SC network support EcoStruxure Building Operation	version 6.0.1 and later
Agency compliances	
Emission	RCM; BS/EN 61000-6-3; BS/EN IEC 63044-5-2
Immunity	BS/EN 61000-6-2; BS/EN IEC 63044-5-3

SpaceLogic RP-C Pro Plus

Radio	ETSI EN 300 328 V2.2.2			
Safety standards	BS/EN 60730-1; BS/EN 60730-2-11; BS/EN IEC 63044-3			
Real-time clock				
Accuracy, at 25 °C (77 °F)	+/-1 minute per month			
Backup time, at 25 °C (77 °F)	7 days minimum			
Communication ports				
Ethernet	Dual 10/100BASE-TX (RJ45)			
USB	1 USB 2.0 host port (type-A), 5 VDC, 2.5 W			
RS-485 port Com A	24 VDC, 3 W, RS-485 (RJ45) Transient voltage suppressors on communication and power signals			
RS-485 port Com B	24 VDC, 3 W, RS-485 (RJ45) Transient voltage suppressors on communication and power signals			
RS-485 port Com C	24 VDC, 3 W, RS-485 (RJ45) Transient voltage suppressors on communication and power signals			
RS-485 transceiver characteristics				
Transceiver type	Failsafe Non-isolated			
External biasing	None required			
Total Unit Load (UL) per device	Maximum 0.5 UL			
Communications				
BACnet	BACnet/IP, port configurable, default 47808 BACnet/SC, port configurable, no default port 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.				
Wireless connectivity				
Bluetooth Low Energy				
Communication protocol	Bluetooth® 5.1 Low Energy compliant			
Frequency	2.402 to 2.480 GHz			
Maximum output power	10 dBm			
Maximum communication distance	Line-of-sight: 100 m (328 ft)			
Antenna	Integrated antenna			
RF connector for optional external antenna	SMA connector			
External antenna (optional)	Restricted to the approved antenna type listed below (used in certification)			
Manufacturer	Model (Part number)	Gain	Type	Impedance
Linx Technologies	ANT-2.4-WRT-MON-SMA	0.8 dBi	Monopole	50 ohm
CPU				
Frequency	500 MHz			

SpaceLogic RP-C Pro Plus

Continued

Type	ARM Cortex-A7 dual-core
DDR3 SDRAM	128 MB
NOR flash memory	64 MB
Memory backup	128 kB, FRAM, non-volatile
Universal inputs/outputs	
Channels	4, Ub9 to Ub12
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, each resistor must have the same value +/- 5 %	1 to 10 kohm
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 µA
Impedance	47 ohm
Resistive inputs	
10 ohm to 10 kohm accuracy R = Resistance in ohm	+/- (7 + 4 x 10 ⁻³ x R) ohm

SpaceLogic RP-C Pro Plus

Continued

10 kohm to 60 kohm accuracy R = Resistance in ohm		+/- (4 x 10 ⁻³ x R + 7 x 10 ⁻⁸ x R ²) ohm
Temperature inputs (thermistors)		
Range		-50 to +150 °C (-58 to +302 °F)
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)
RTD temperature inputs		
Supported RTDs		Pt1000, Ni1000, and LG-Ni1000
Pt1000		
Sensor range		-50 to +150 °C (-58 to +302 °F)
BACnet/IP device environment	Sensor range	Measurement accuracy
0 to 50 °C (32 to 122 °F)	-50 to +70 °C (-58 to +158 °F)	+/-0.5 °C (+/-0.9 °F)
0 to 50 °C (32 to 122 °F)	70 to 150 °C (158 to 302 °F)	+/-0.7 °C (+/-1.3 °F)
-40 to +60 °C (-40 to +140 °F)	-50 to +150 °C (-58 to +302 °F)	+/-1.0 °C (+/-1.8 °F)

SpaceLogic RP-C Pro Plus

Continued

Ni1000

Sensor range	-50 to +150 °C (-58 to +302 °F)	
BACnet/IP device environment	Sensor range	Measurement accuracy
0 to 50 °C (32 to 122 °F)	-50 to +150 °C (-58 to +302 °F)	+/-0.5 °C (+/-0.9 °F)
-40 to +60 °C (-40 to +140 °F)	-50 to +150 °C (-58 to +302 °F)	+/-0.5 °C (+/-0.9 °F)

LG-Ni1000

Sensor range	-50 to +150 °C (-58 to +302 °F)	
BACnet/IP device environment	Sensor range	Measurement accuracy
0 to 50 °C (32 to 122 °F)	-50 to +150 °C (-58 to +302 °F)	+/-0.5 °C (+/-0.9 °F)
-40 to +60 °C (-40 to +140 °F)	-50 to +150 °C (-58 to +302 °F)	+/-0.5 °C (+/-0.9 °F)

RTD temperature wiring

Maximum wire resistance	20 ohm/wire (40 ohm total)
Maximum wire capacitance	60 nF
The wire resistance and capacitance typically corresponds to a 200 m wire.	

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)

Solid-state relay outputs, DO

Channels	4, DO9 to DO12
Output rating	Maximum 2 A load for the "C" group of 2 outputs Maximum 2 A load for the "D" group of 2 outputs
Minimum pulse width	100 ms

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

Configurable solid-state relay outputs or universal inputs/outputs

Channels	8 configurable SSR outputs (DO) or universal inputs/outputs (Ub)
----------	--

Universal inputs/outputs

The specifications for the configurable universal inputs/outputs Ub1 to Ub8 are the same as for Ub9 to Ub12, with the exception for the number of channels. For information on the common specifications, see section "Universal inputs/outputs" above.

Channels	8, Ub1 to Ub8
----------	---------------

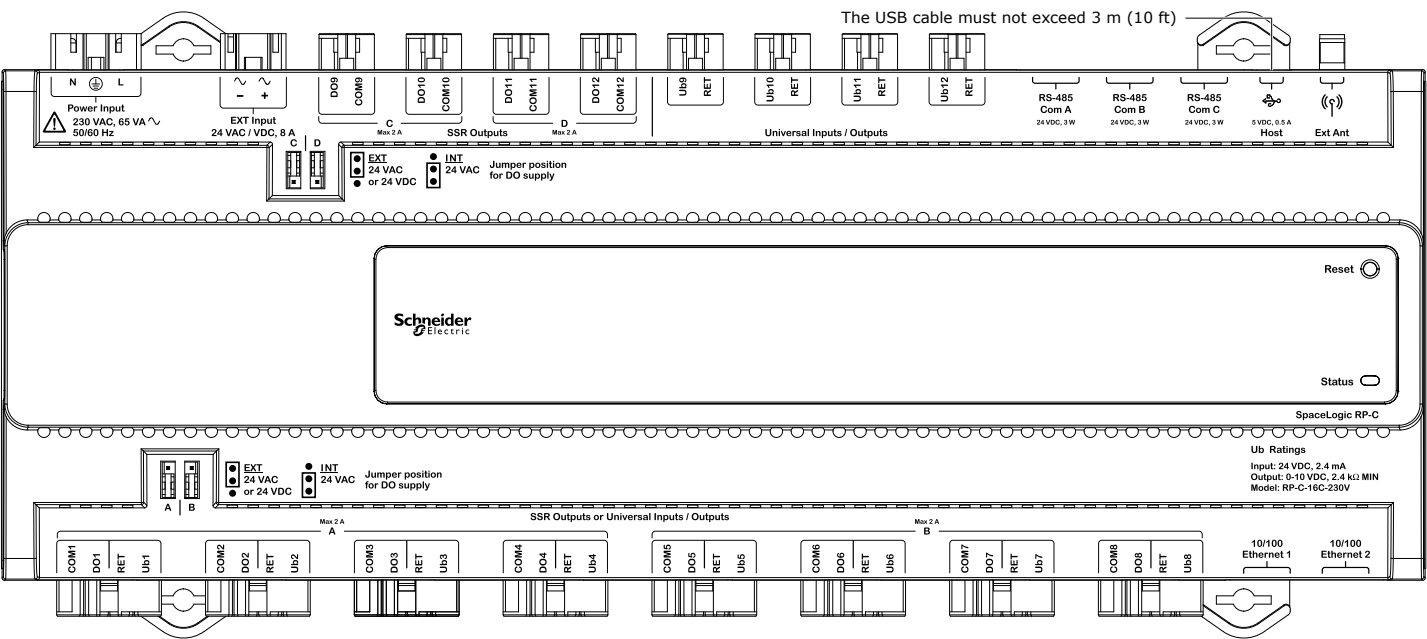
SpaceLogic RP-C Pro Plus

Continued

Solid-state relay outputs	
The specifications for the configurable solid-state relay outputs DO1 to DO8 are the same as for DO9 to DO12, with the exception for the number of channels and the output rating. For information on the common specifications, see section “Solid-state relay outputs, DO” above.	
Channels	8, DO1 to DO8
Output rating	Maximum 2 A load for the “A” group of 4 outputs Maximum 2 A load for the “B” group of 4 outputs

Connections

For more information on wiring, see the SpaceLogic Hardware Reference Guide.



RP-C-16C-F-230V

Required External Connectors

Use	Part number	Reference	Connector type	Suitable for cable diameters mm (inches)	Marking	Color of coding /housing	Minimum order quantity
Power supply input	SXWRPCCON WWPOW	91.931.4053.1	Female, 3-pole	5.6–11 (0.22–0.43)	L, PE, N	Black /Black	100
External input, 24 VAC / VDC	SXWRPCCONP OWIP	91.921.3053.0	Female, 2-pole	6–7.7 (0.24–0.30)	L, N	White /White	100
SSR outputs (DO), 24 VAC / VDC	SXWRPCCOND COP	91.922.3053.0	Male, 2-pole	6–7.7 (0.24–0.30)	L, N	White /White	100

SpaceLogic RP-C Pro Plus

Continued

Use	Part number	Reference	Connector type	Suitable for cable diameters mm (inches)	Marking	Color of coding /housing	Minimum order quantity
Universal I/O (Ub)	SXWRPCCON WWLIGHT2	91.922.3353.0	Male, 2-pole	6–7.7 (0.24–0.30)	2, 1	Light blue /White	100
Configurable SSR outputs (DO) or Universal I/O (Ub)	SXWRPCCONU IO	91.942.4650.0	Male, 4-pole	6.5–12 (0.26–0.47)	1, 2, 3, 4/N	Turquoise blue /White	100

The external connectors need to be ordered separately. The connectors can be ordered in quantities of 100 from Schneider Electric using the above part numbers. The connectors can also be ordered directly from Wieland using the above reference

numbers. For more information, see the Wieland Electric web site.

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

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

SpaceLogic RP-C Pro Plus

Continued

Product	Housing	Part number
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
Touchscreen display cover with light control buttons	Optimum glass white	SXWSC2XSELXW
Touchscreen display cover with light control buttons	Optimum glass black	SXWSC2XSELXB
Touchscreen display cover with light control buttons and occupancy sensor	Optimum glass white	SXWSC2PSELXW
Touchscreen display cover with light control buttons and occupancy sensor	Optimum glass black	SXWSC2PSELXB
Touchscreen display cover with light and blind control buttons	Optimum glass white	SXWSC4XSELXW
Touchscreen display cover with light and blind control buttons	Optimum glass black	SXWSC4XSELXB
Touchscreen display cover with light and blind control buttons and occupancy sensor	Optimum glass white	SXWSC4PSELXW
Touchscreen display cover with light and blind control buttons and occupancy sensor	Optimum glass black	SXWSC4PSELXB

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
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).

SpaceLogic RP-C Pro Plus

Regulatory Notices



CE - Compliance to European Union (EU)

2014/53/EU Radio Equipment Directive (RED)

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)

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. 2016/1101 - Electrical Equipment (Safety) Regulations 2016

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).



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.

www.se.com/buildings

Life Is On

Schneider
Electric