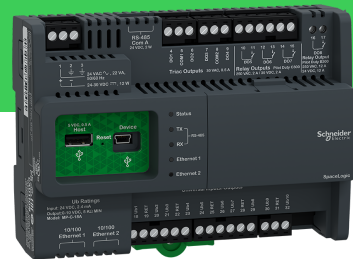


SpaceLogic MP-C Pro for Niagara Framework® Plant Room Controllers

I/A Series



Introduction

SpaceLogic™ MP-C Pro for Niagara Framework® is a multi-purpose, fully programmable, IP based controller. The MP-C models offer a flexible mix of I/O point types that suit a wide range of HVAC applications. MP-C can either be used as a standalone BACnet/IP field controller or as part of an I/A Series Niagara BMS with a JACE or Niagara Supervisor as the parent server. The MP-C models support an optional display that provides insight and control of the inputs and outputs.

The MP-C has the following features:

- IP enabled with dual-port Ethernet switch
- Versatile onboard I/O point mix
- Advanced monitoring
- Sensor bus for living space sensors
- Commission mobile application for commissioning of the controller before the BMS is in place
- Seamless integration with I/A Series Niagara software
- Upgrade with signed firmware

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IP connectivity and flexible network topologies

The BACnet/IP controllers are based on open protocols that simplify interoperability, IP configuration, and device management:

- IP addressing
- BACnet/IP 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 Niagara or I/A Series Niagara 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.

Models with a versatile mix of I/O points

MP-C comes in five models with different I/O point count and a versatile mix of I/O point types that 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 MP-C Models

I/O Point Types	MP-C-15A	MP-C-18A	MP-C-18B	MP-C-24A	MP-C-36A
Universal I/O Type Ub	8	10	10	16	20
Universal I/O Type Uc	-	-	-	4	8
Triac outputs	6	4	8	-	-
Relay outputs Form A	-	3	-	4	8
High power relay outputs Form A	1	1	-	-	-

Configurations by I/O Point Types

Configurations	Universal I/O Type Ub	Universal I/O Type Uc	Triac Outputs	Relay Outputs Form A	High Power Relay Outputs Form A
Digital inputs	yes	yes	-	-	-
Counter inputs	yes	yes	-	-	-
Supervised inputs	yes	yes	-	-	-
Voltage inputs (0 to 10 VDC)	yes	yes	-	-	-
Current inputs (0 to 20 mA)	yes	yes	-	-	-
Temperature inputs	yes	yes	-	-	-
Resistive inputs	yes	yes	-	-	-
2-wire RTD temperature inputs	yes	yes	-	-	-

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Continued

Configurations	Universal I/O Type Ub	Universal I/O Type Uc	Triac Outputs	Relay Outputs Form A	High Power Relay Outputs Form A
Voltage outputs (0 to 10 VDC)	yes	yes	-	-	-
Current outputs (0 to 20 mA)	-	yes	-	-	-
Digital outputs	-	-	yes	yes	yes
Digital pulsed outputs	-	-	yes	yes	yes
PWM outputs	-	-	yes	yes	yes
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 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 can also be used as voltage outputs or current outputs (Uc only), without the need for external bias resistors. Therefore, the universal inputs/outputs support a wide range of devices, such as actuators.

Triac outputs

The triac outputs can be used in many applications to switch 24 VAC on or off for external loads such as actuators, relays, or indicators. The triac outputs are isolated from the controller. Triacs 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

MP-C-15A and MP-C-18A have a high power relay output, which is ideal for switching loads of up to 12 A, such as electrical heating elements.

I/O expansion

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

All MP-C models can be equipped with the MP-C Display add-on module, which features an LCD display and five keys. With this module, you can manually override analog and digital outputs for testing, commissioning, and maintenance of equipment connected to the outputs. The module's dedicated processing power helps to ensure reliable override for maintenance applications. The override status can be viewed in Niagara Workbench and on the web in your Niagara graphics, enabling more precise monitoring and control.

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MP-C Display

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. For more information, see the SpaceLogic Sensors - SXWS Sensors for MP and RP IP Controllers - Specification Sheet.



SpaceLogic Sensor devices

The sensor bus provides both power and communications for up to four sensors that are daisy-chained using standard Cat 5 (or higher) cables. The maximum number of sensors that can be connected to a controller varies depending on 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 two sensor bases with CO₂ option
 - Up to four sensor bases without CO₂ option
- SpaceLogic LCD temperature sensors: Up to four sensors are supported

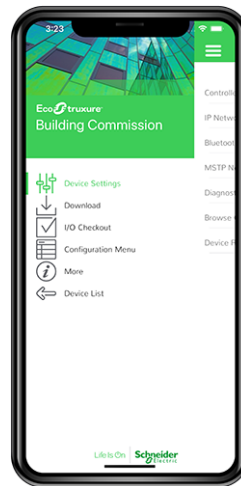
The maximum total length of the sensor bus is 61 m (200 ft). For more information, see the SpaceLogic Sensors - SXWS Sensors for MP and RP IP Controllers - Specification Sheet.

The RS-485 Power Adapter can be used to supply 24 VDC power to the MP controller sensor bus so that the maximum number of sensor bases with CO₂ option can be increased from two to four sensor bases. The adapter can be ordered from Schneider Electric. For more information, see section the RS-485 Adapters 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.

The mobile application is designed for use with Android, Apple (iOS), and Microsoft Windows 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 BACnet/IP controllers. You can connect to a single BACnet/IP controller 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 BACnet/IP controllers on the local IP network.

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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.

Firmware management

The Commission mobile application enables you to update the firmware of BACnet/IP controllers. Using a wired or wireless connection, you can audit and update the firmware for each controller.

Field I/O checkout

The Commission mobile application does not require an I/A Series Niagara server or a network infrastructure to be in place. You can use the mobile application to browse objects and view device status information. You can also perform an I/O checkout to verify that the controller's I/O points are configured, wired, and operating correctly.

Seamless integration with I/A Series Niagara software

The power of the BACnet/IP controller is fully realized when it is part of an I/A Series Niagara BMS, which provides the following benefits:

- Device discovery
- Full engineering capability from Workbench
- Graphical programming from a Wiresheet
- Support for custom Script programs
- Engineering efficiency

Device discovery

The enhanced Device Discovery in Workbench enables you to easily identify BACnet/IP controllers on a BACnet network and to associate the controllers with their parent server.

Full engineering capability from Workbench

Workbench provides a consistent user experience regardless of which I/A Series Niagara BMS server the user is logged on to. The user can log on to the parent Niagara BMS server to engineer, commission, supervise, and monitor the BACnet/IP

Part Numbers for MP-C

Product	Part number
MP-C-15A	SXWMPC15A10001
MP-C-18A	SXWMPC18A10001
MP-C-18B	SXWMPC18B10001

controller and its I/O as well as its attached SpaceLogic Sensor devices.

Graphical programming from a Wiresheet

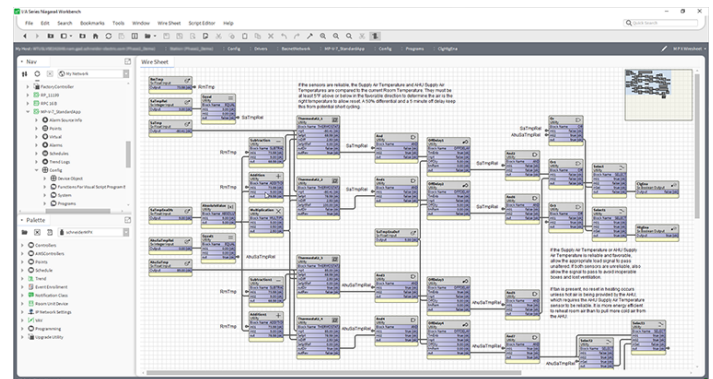
The BACnet/IP controllers can be programmed directly using the familiar Wiresheet interface and an extensive palette of graphical program objects. Users can quickly drag, drop, and configure program objects to create full applications and download to the controllers.

Support for custom Script programs

The BACnet/IP controllers also support custom Script programs. Users can write their own custom Script programs, compile, and download them to the controller. These custom Script programs will appear graphically on a Wiresheet where they can be bound with other objects.

Engineering efficiency

Workbench supports both online and offline engineering of BACnet/IP controllers. You can create and engineer controllers offline and then associate with an online controller when complete.



Workbench

Upgrade with signed firmware

Using digitally signed firmware provides more secure upgrading of the device. During an upgrade, the device verifies that the firmware is authentic and uncompromised. If the device detects discrepancies in the authenticity or integrity of the firmware, it will reject the upgrade. Once the device is upgraded with signed firmware, all upgrades thereafter must be with a signed firmware version.

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Continued

Product	Part number
MP-C-24A	SXWMPC24A10001
MP-C-36A	SXWMPC36A10001

Part Numbers for MP-C Accessories

Product	Part number
MP-C DISPLAY (MP-C override display module)	SXWMPCDSP10001
Spare terminal blocks for all MP-C models (4 x 3-pin, 1 x 4-pin, 7 x 6-pin, 2 x 8-pin terminal blocks)	SXWMPCCON10001
DIN-RAIL-CLIP, DIN-rail end clip package of 25 pieces	SXWDINEND10001
RS-485 power adapter	SXWNISORS485P10001
SpaceLogic Bluetooth Adapter	SXWBTAECXX10001

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

Specifications

SpaceLogic MP-C Pro for Niagara Framework®	
AC input	
Nominal voltage	24 VAC
Operating voltage range	+/- 20 %
Frequency	50/60 Hz
Maximum power consumption (MP-C-15A, -18A, -18B)	22 VA
Maximum power consumption (MP-C-24A)	28 VA
Maximum power consumption (MP-C-36A)	33 VA
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 (MP-C-15A, -18A, -18B)	12 W
Maximum power consumption (MP-C-24A)	15 W
Maximum power consumption (MP-C-36A)	18 W
Power input protection	MOV suppression and internal fuse

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Environment

Ambient temperature, operating 0 to 50 °C (32 to 122 °F) at normal operation^a
-40 to +60 °C (-40 to +140 °F) for rooftop applications, horizontal installation only^a

a) MP-C Display has an operating temperature range of -30 to +60 °C (-22 to +140 °F).

Ambient temperature, storage -40 to +70 °C (-40 to +158 °F)

Maximum humidity 95 % RH non-condensing

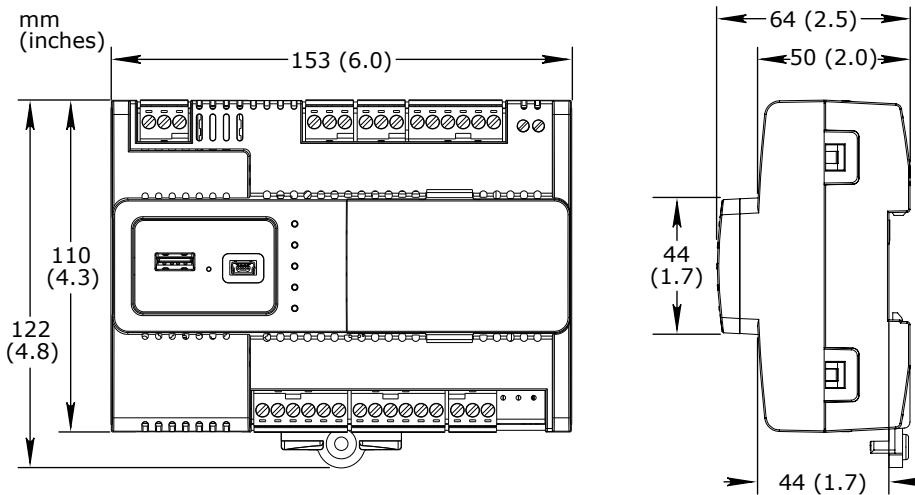
Material

Plastic flame rating UL94 V-0

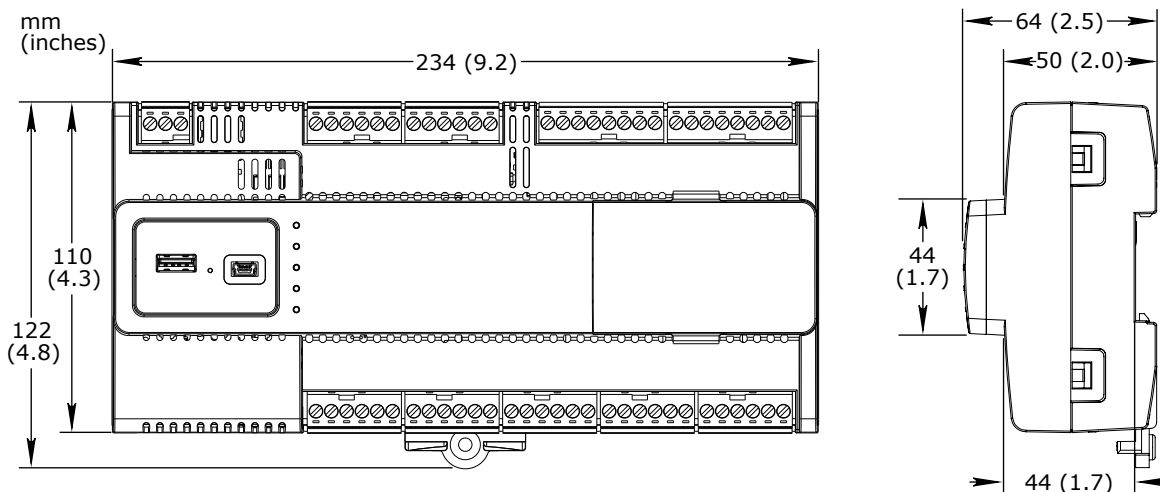
Ingress protection rating IP 20

Mechanical

Dimensions (MP-C-15A, -18A, -18B) 153 W x 110 H x 64 D mm (6.0 W x 4.3 H x 2.5 D in.)



Dimensions (MP-C-24A, -36A) 234 W x 110 H x 64 D mm (9.2 W x 4.3 H x 2.5 D in.)



Weight, MP-C-15A
Including terminal blocks

0.358 kg (0.789 lb)

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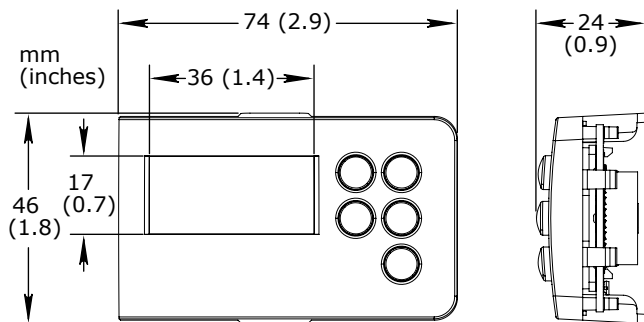
Weight, MP-C-18A Including terminal blocks	0.371 kg (0.818 lb)
Weight, MP-C-18B Including terminal blocks	0.361 kg (0.796 lb)
Weight, MP-C-24A Including terminal blocks	0.495 kg (1.091 lb)
Weight, MP-C-36A Including terminal blocks	0.547 kg (1.206 lb)
Recommended installation	DIN rail or flat surface in a cabinet ^a
a) It is recommended to install the device in an enclosure (cabinet), unless local regulations allow an exception.	
Terminal blocks	Removable
Software compatibility	
I/A Series Niagara software	version 4.10 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
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), IEEE 802.3 compliant
USB	1 USB 2.0 device port (mini-B) 1 USB 2.0 host port (type-A), 5 VDC, 2.5 W
RS-485 port Com A	24 VDC, 2 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 BTL B-AAC (BACnet Advanced Application Controller), B-GW (BACnet Gateway) ^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 dual-core

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DDR3 SDRAM	128 MB
NOR flash memory	32 MB
Memory backup	128 kB, FRAM, non-volatile

MP-C Display (Optional)

Removable	No
Dimensions	74 W x 46 H x 24 D mm (2.9 W x 1.8 H x 0.9 D in.)



Display size	36 W x 17 H mm (1.4 W x 0.7 H in.)
Display resolution	128 x 64 pixels
Display type	FSTN monochrome LCD, white color transfective backlight
Power consumption	max. 0.15 W (45 mA at 3.3 V)
Ambient temperature, operating	-30 to +60 °C (-22 to +140 °F)
Ambient temperature, storage	-40 to +70 °C (-40 to +158 °F)
Maximum humidity	95 % RH non-condensing
Weight	0.035 kg (0.077 lb)
Compliance with standards	EN ISO 16484-2

Universal inputs/outputs, Ub and Uc

Channels, MP-C-15A	8 Ub, Ub1 to Ub8
Channels, MP-C-18A	10 Ub, Ub1 to Ub10
Channels, MP-C-18B	10 Ub, Ub1 to Ub10
Channels, MP-C-24A	16 Ub, Ub1 to Ub16 4 Uc, Uc1 to Uc4
Channels, MP-C-36A	20 Ub, Ub1 to Ub20 8 Uc, Uc1 to Uc8
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

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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	100 kohm
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
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

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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)
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)

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Continued

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	5 kohm
Load range	-1 to +2 mA
Current outputs (Uc only)	
Range	0 to 20 mA
Accuracy	+/-0.2 mA
Resolution	21 µA
Load range	0 to 650 ohm
Relay outputs, DO	
Channels, MP-C-15A	0
Channels, MP-C-18A	3, DO5 to DO7
Channels, MP-C-18B	0
Channels, MP-C-24A	4, DO1 to DO4
Channels, MP-C-36A	8, DO1 to DO8
Contact rating	250 VAC/30 VDC, 2 A, Pilot Duty (C300)
Switch type	Form A Relay Single Pole Single Throw Normally Open
Isolation contact to system ground	3000 VAC
Cycle life (Resistive load)	At least 100,000 cycles
Minimum pulse width	100 ms
High power relay outputs, DO	
Channels, MP-C-15A	1, DO7
Channels, MP-C-18A	1, DO8
Channels, MP-C-18B	0
Channels, MP-C-24A	0
Channels, MP-C-36A	0
Contact rating	250 VAC/24 VDC, 12 A, Pilot Duty (B300)

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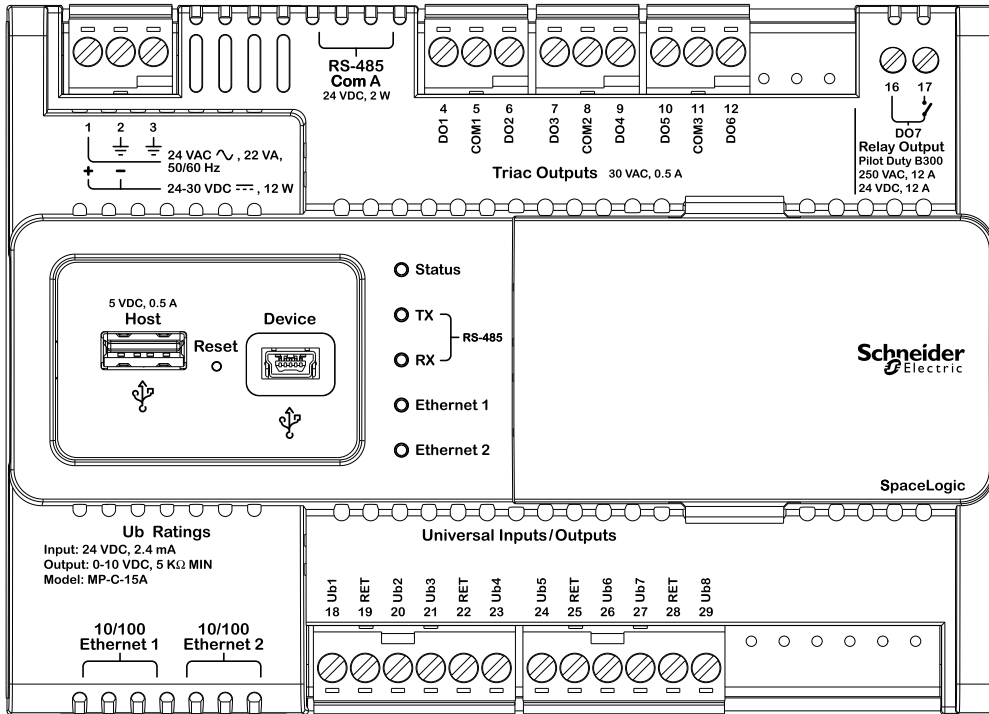
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Switch type	Form A Relay Single Pole Single Throw Normally Open
Isolation contact to system ground	5000 VAC
Cycle life (Resistive load)	At least 100,000 cycles
Minimum pulse width	100 ms
Triac outputs, DO	
Channels, MP-C-15A	6, DO1 to DO6
Channels, MP-C-18A	4, DO1 to DO4
Channels, MP-C-18B	8, DO1 to DO8
Channels, MP-C-24A	0
Channels, MP-C-36A	0
Output rating (for each triac output)	Max. 0.5 A
Voltage	24 VAC +/-20 %
Commons	COM1 for DO1 and DO2 (on MP-C-15A, -18A, -18B) COM2 for DO3 and DO4 (on MP-C-15A, -18A, -18B) COM3 for DO5 and DO6 (on MP-C-15A, -18B) COM4 for DO7 and DO8 (on MP-C-18B only)
The common terminals can be connected to 24 VAC or to ground.	
Common voltage, high side output	24 VAC
Common voltage, low side output	0 VAC (ground)
Minimum pulse width	100 ms
Triac output protection	MOV and snubber across each triac output MOV from triac COM to ground

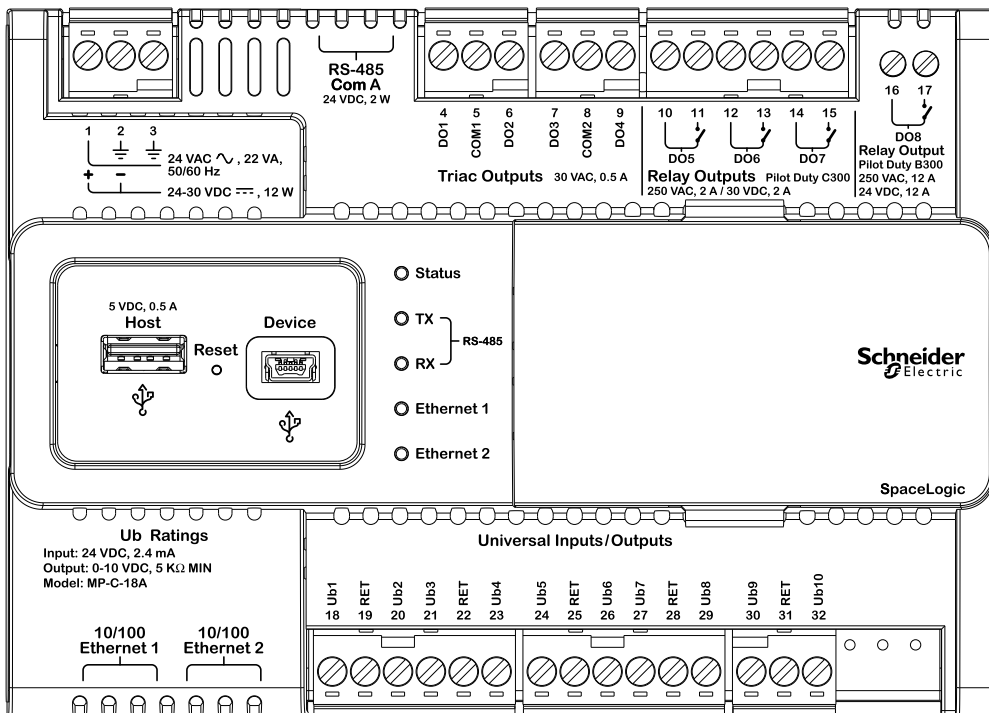
Terminals

For more information on wiring, see the SpaceLogic and EasyLogic - Hardware Installation System Guide.

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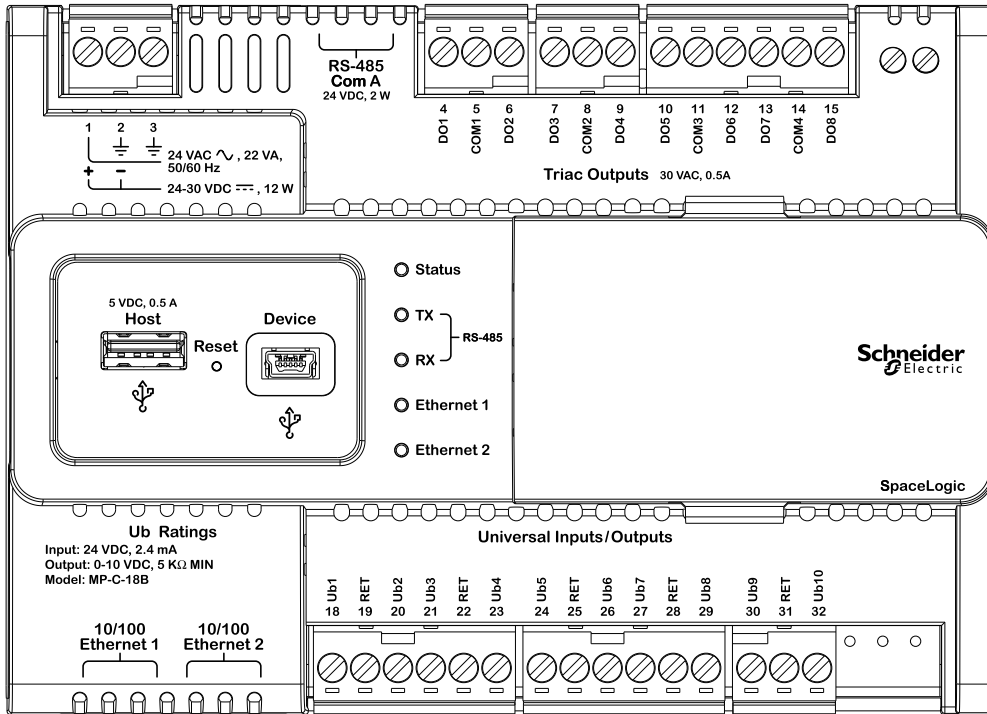


MP-C-15A

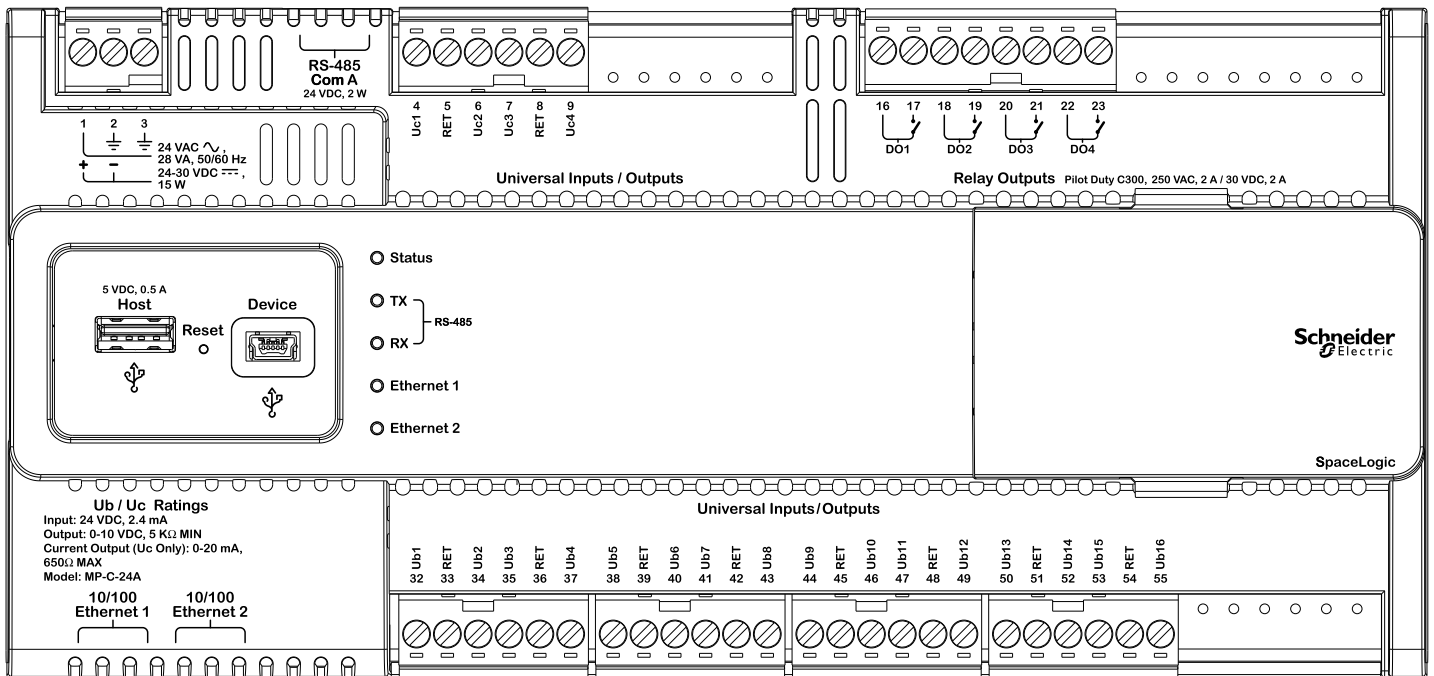


MP-C-18A

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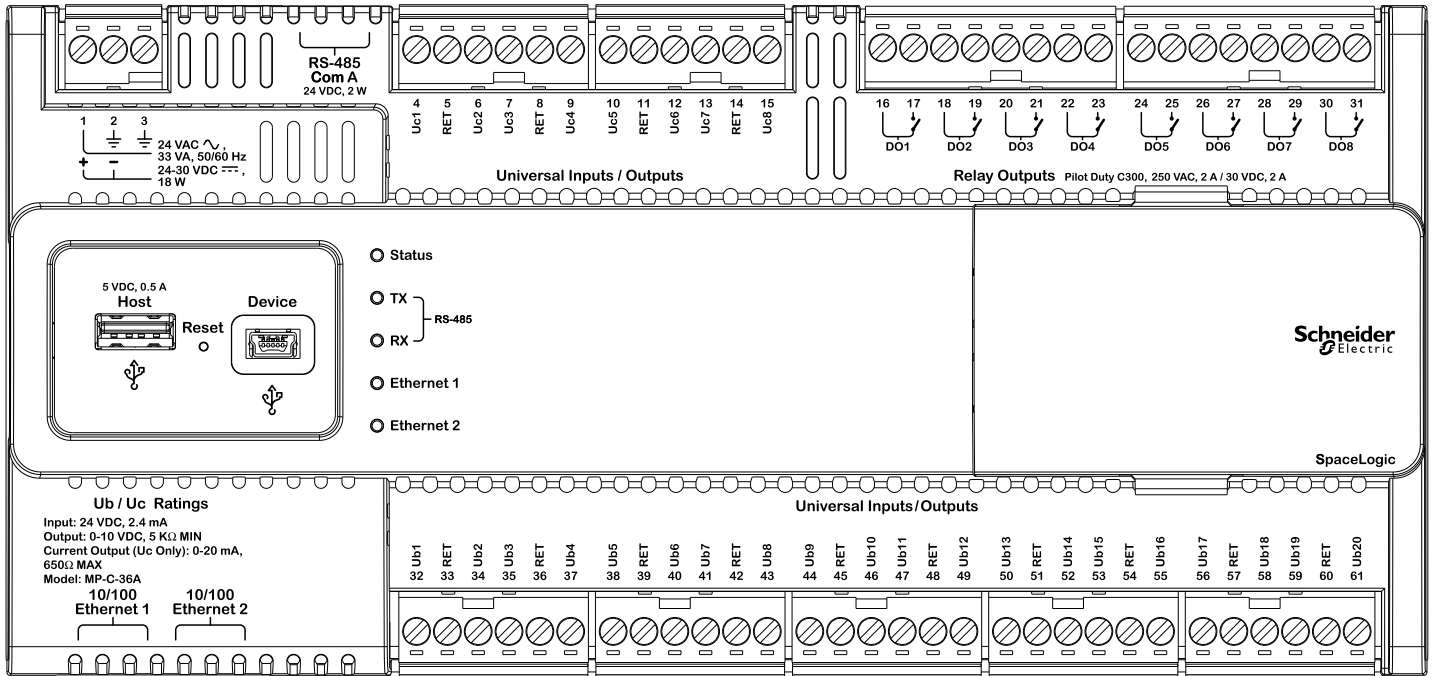


MP-C-18B



MP-C-24A

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MP-C-36A

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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.

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.



UK Conformity Assessed

S.I. 2016/1091 - Electromagnetic Compatibility Regulations 2016

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).



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)

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, Open Class Energy Management Equipment. UL file E80146.

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