SmartStruxure™ Lite Solution
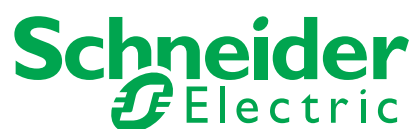
MPM Series Multi-purpose Manager

Smart**Struxure** Compatible

Site and zone managers providing wired and wireless integrated control solutions for HVAC, lighting, and metering, as well as remote management via StruxureWare™ Building Expert.

Get Control. Get Efficient. Get Value.

Schneider Electric

SmartStruxure Lite solution Multi-Purpose Manager Features

Multi-Purpose Management devices (MPM-UN) enable the control, monitoring, and management of entire sites via StruxureWare Building Expert. They can also be used for wired and wireless zone control in larger buildings.

Control features
- Control of wired end-devices (6 inputs, 6 outputs)
- Wireless control of EnOcean end-devices (optional, 49 points per MPM)
- Wireless control of ZigBee Pro end-devices (optional, 30 peripherals per MPM)
- Modbus RTU
- Programmable via StruxureWare Building Expert
- Points visible through BACnet®, EcoStruxure® Web Services (EWS), and oBIX®
- Real-time response to scripting/graphical programming

Applications
Supports HVAC, lighting, and metering application including:
- HVAC and lighting room and zone control
- Unitary equipment such as rooftop HVAC units, air handling units, heat pumps, and dehumidification units
- Mechanical rooms and equipment cabinets
- Metering: Modbus option enables management of a wide variety of power meters and other metering devices. Can also manage wireless meters and sub-meters

Networking Between Units
- Wireless: ZigBeePro wireless mesh network (self-forming/healing, 25 nodes per network)
- Wired: Daisy chain
- IP/Ethernet: Ethernet port

Embedded Gateway
- EnOcean (wireless) to BACnet IP/oBIX/EWS
- ZigBee Pro (wireless) to BACnet IP/oBIX/EWS
- Modbus to BACnet IP/oBIX/EWS

StruxureWare Building Expert
All MPM models have an embedded web server hosting Building Expert, a web-based intelligent building management system that allows complete configuration and management of small sites. Building Expert offers dashboards, maps, graphical programming, scripting, scheduling, trend logging and more. It is the perfect mini-iBMS for small and medium buildings. It can also be integrated with other SmartStruxure™ solutions.

Accessories
- Replacement ZigBee Pro antenna
- Replacement EnOcean antenna for 868MHz and 902 MHz (315 MHz not available)
- Antenna cable extension

AT A GLANCE

Networking
- Ethernet connector for BACnet Ethernet/IP
- 802.15.4 wireless mesh (25 nodes/network)
- Wired serial bus for daisy chain (CANbus)

Third-party interoperability
- BACnet, EWS, oBIX, FTP
- EnOcean (wireless)
- ZigBee Pro (wireless)
- Modbus
- CANbus

Inputs/Outputs
- Inputs: 6 universal (analog: 4-20mA, 0-10V, digital: dry contact, thermistor: 1-100K)
- Outputs: 2 relay, 4 analog
- EnOcean (wireless): 49 devices
- ZigBee Pro (wireless): 30 peripherals

Other
- Real-time clock
- 400MHz processor
- 64MB of RAM
- 4GB of Flash for local storage
- StruxureWare™ Building Expert

Accessories
- ZigBee and EnOcean antenna
- Antenna cable extension

SmartStruxure Lite solution Multi-Purpose Manager Specifications

Power

Voltage
24VAC; ± 15%; 50/60HZ
24VDC ± 10%

Typical consumption
5 VA + Output (VAC), 1.6 W + Output (VDC)

General

Processor
ARM9 32-bit, 400MHz

Memory
64MB flash

Storage
4GB flash for local storage

Manufacturing Date Code (DC) 1216 and before:

Battery
CR1220 3v Lithium Coin Cell Battery

Real-time clock
Battery backed (10,000 hours)

Manufacturing Date Code (DC) 1316 and after:

Real-time clock
Maintained by 3.3V super-capacitor (48 hours), and charge time of 5 minutes

Communication
ZigBee Pro, EnOcean, BACnet
CANbus (125-500 Kbps)
Ethernet (10/100 Mbps)

Enclosure

Material
Rigid ABS

Dimensions
132mm (5.20in) x 126mm (4.96in)

Rating
UL94V0-5VB

Mounting
Din-rail, wall or ceiling mount

Environmental

OperatingTemperature
0°C (32°F) to 60°C (140°F)

Storage Temperature
-20°C (-4°F) to 60°C (140°F)

Relative Humidity
0 to 90% non-condensing

Inputs

Quantity
6 universal inputs (configurable)

Analog inputs
Current: 4-20mA with 249 external resistor
Voltage: 0-10V

Digital inputs
Dry contacts

Thermistor
1 k - 100 k

Resolution
14-bit

Outputs

Analog (x4)
0-12V,nominal 50mAmax each, 12-bit resolution

Relay (x2)
24V, 1.1 Amp per relay

RS485 (optional)

Supported protocols
Modbus

EnOcean (optional)

Frequency
868MHz, 902MHz

Receiver Sensitivity
–95dBm

Conducted Output Power
5dBm

Range
Recommended: 45ft/15m
Line of sight: 100ft/30m

Antenna
External whip, RP SMA 0dBi

ZigBee Pro (optional)

Frequency
2400 – 2483.5MHz, 16RF channels

Data rate / Mod.type
250Kbps

Receiver Sensitivity
-101dBm/-105dBm (amplified)

Nominal Output Power
8dBm/18dBm (amplified)

Range
Recommended to MPM: 150ft/50m
Line of sight to MPM: 300ft/100m
Recommended to peripherals: 50ft/17m
Line of sight to peripherals: 100ft/30m

Antenna
External whip, RP SMA 2.5dbi

StruxureWare™ Building Expert

Software type
Embedded web interface

Local installation
None necessary

Browser compatibility
Firefox ESR
Internet Explorer 10 (only)
Google Chrome
Safari (Mac only)

Agency approvals

Energy Management Equipment, UL 916, Fourth Edition, December 23, 1998, rev. December 17, 2007

CSA Standard for Signal Equipment C22.2 No. 205-M1983 (R2004)

CFR47 FCC Part15, Subpart B:2009

ICES-003: Issue 4 (2004)

CE:

Japanese Radio Law

RoHS

Disclaimer

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

THIS PRODUCT FOR COMMERCIAL USE ONLY

Disclaimer

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- this device may not cause harmful interference
- this device must accept any interference received, including interference that may cause undesired operation.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- this device may not cause interference

- this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
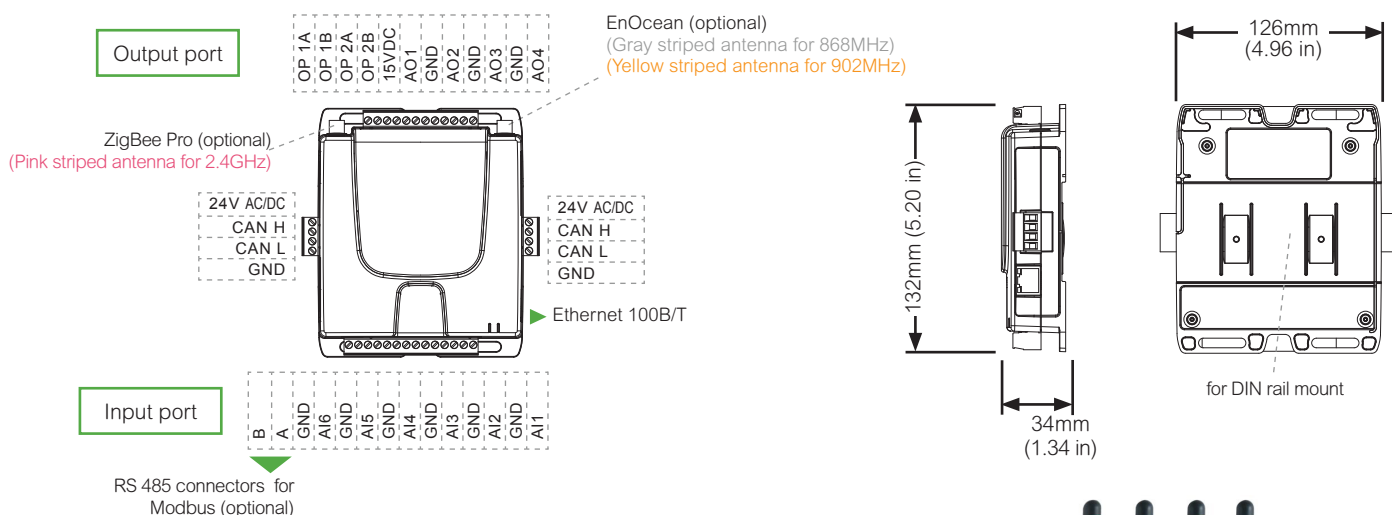
- l'appareil ne doit pas produire de brouillage

- l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Changes or modifications not approved by the manufacturer could void the user's authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm during normal operation.
This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

SmartStruxure Lite solution Multi-Purpose Manager Specifications (continued)

Output port

OP 1A OP 1B OP 2A OP 2B 15VDC AO1 GND AO2 GND AO3 GND AO4

EnOcean (optional)
(Gray striped antenna for 868MHz)
(Yellow striped antenna for 902MHz)

ZigBee Pro (optional)
(Pink striped antenna for 2.4GHz)

24V AC/DC / CAN H / CAN L / GND

24V AC/DC / CAN H / CAN L / GND

▶ Ethernet 100B/T

Input port

B A GND AI6 GND AI5 GND AI4 GND AI3 GND AI2 GND AI1

RS 485 connectors for Modbus (optional)

126mm (4.96 in)

132mm (5.20 in)

34mm (1.34 in)

for DIN rail mount

Replacement Antenna

Cable Extension

Ordering information

Part numbers	Manager		EnOcean*		ZigBee Pro	I/O			VAV	
	Building Expert	StruxureWare integration	868 MHz	902 MHz	High power	6 inputs	6 outputs	Modbus	Flow sensor	Actuator
MPM-UN-004-5045	X	X				X	X	X		
MPM-UN-0I4-5045	X	X			X	X	X	X		
MPM-UN-D04-5045	X	X	X			X	X	X		
MPM-UN-DI4-5045	X	X	X		X	X	X	X		
MPM-UN-E00-5045	X	X		X		X	X	X		
MPM-UN-E04-5045	X	X		X		X	X	X		
MPM-UN-EI4-5045	X	X		X	X	X	X	X		

Accessories	EnOcean Antenna		ZigBee Antenna	Cable
	868 MHz	902 MHz	Antenna	Extension
MPM-ACC-ANT-0I0			X	
MPM-ACC-ANT-D00	X			
MPM-ACC-ANT-E00		X		
MPM-RAEC-5045				X

*EnOcean: Contact EnOcean for the latest information about the frequency in your country.
902MHz: Americas, Hong Kong, India, Japan, Thailand, Taiwan
868MHz: Europe, China, Malaysia, Singapore, Vietnam, New Zealand
*USA has transitioned to 902 MHz in 2013. Other countries may do so as well.