IntesisBox®

IBOX-BAC-MBM

Modbus to BACnet Server gateway

Order Codes:

IBBACMBM100xxxx (100 points)
IBBACMBM250xxxx (250 points)
IBBACMBM600xxxx (600 points)
IBBACMBM1K2xxxx (1200 points)
IBBACMBM3K0xxxx (3000 points)

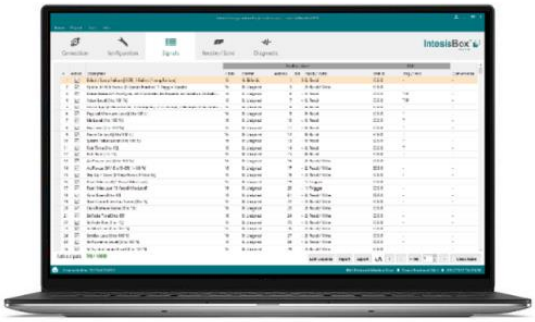
HOW IT WORKS

The IntesisBox ***IBOX-BAC-MBM*** Gateway has been specially designed to work as a translator between Modbus Slave devices and BACnet IP or BACnet MSTP based control and monitoring systems.

IntesisBox acts as a master in the Modbus side, allowing both BACnet IP and BACnet MSTP client/master devices to read and write on all configured Modbus signals.

BACnet MSTP devices are connected to the serial port of the gateway, while BACnet IP devices are connected to the Ethernet port. On the Modbus side, Modbus TCP devices are connected through the Ethernet port, while Modbus RTU devices are connected to the serial port of the gateway.

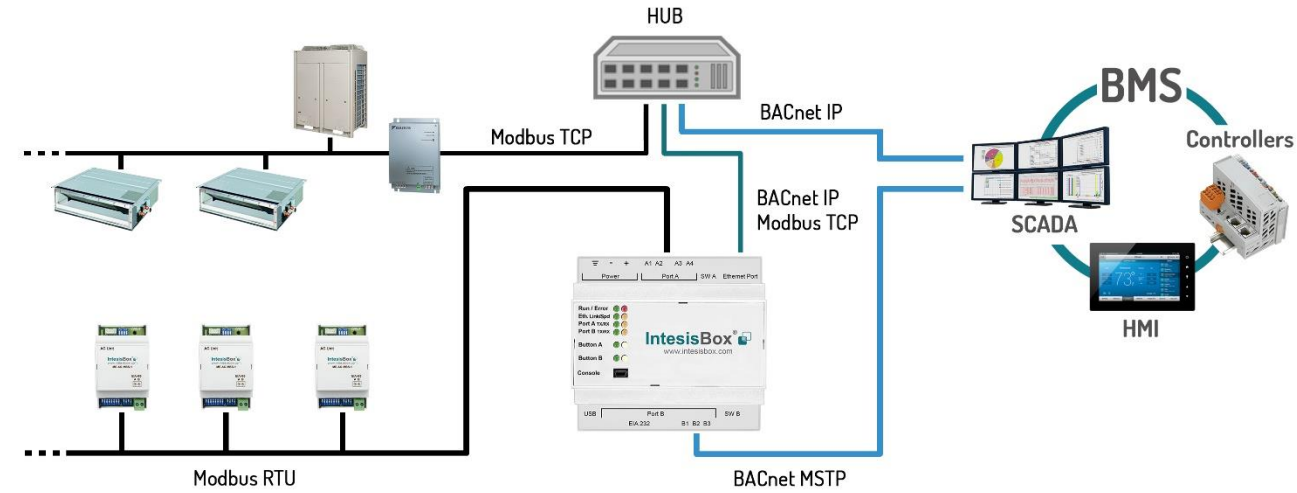
Configuration project is done through IntesisBox MAPS.



FEATURES

- Manages Modbus TCP and Modbus RTU simultaneously
- Modbus device templates available for easier integration
- BACnet BTL and UL certification
- BACnet advanced features available:
  - *Calendars*
  - *Schedules*
  - *Trend Logs*
- Configuration through IP or USB (Console) port
- Datalogging through external USB port
- Front cover LED indicators to provide easy to check communication status on both the Ethernet and serial ports
- Includes IntesisBox MAPS with automatic updates for both IntesisBox MAPS and Gateway's firmware

INTEGRATION EXAMPLE



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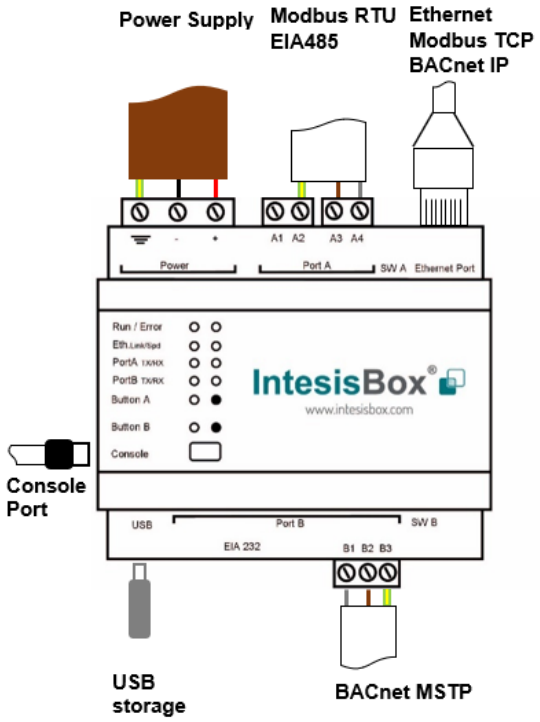
CONNECTIONS



PROTOCOLS

Modbus Protocol is a de facto standard, truly open and the most widely used network protocol in the industrial manufacturing environment. Modbus is used in multiple applications to monitor and program devices; to communicate between intelligent devices and sensors and instruments; to monitor field devices using PCs and HMIs.

But Modbus is not only an industrial protocol. Building, infrastructure, transportation and energy applications also make use of its benefits.

For further information visit www.modbus.org

BACnet is the Data Communication Protocol for Building Automation and Control Networks. Developed under the auspices of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

BACnet is an American national standard, a European standard, a national standard in more than 30 countries and an ISO global standard. The protocol is supported and maintained by ASHRAE Standing Standard Project committee 135.

For further information, please visit www.bacnet.org

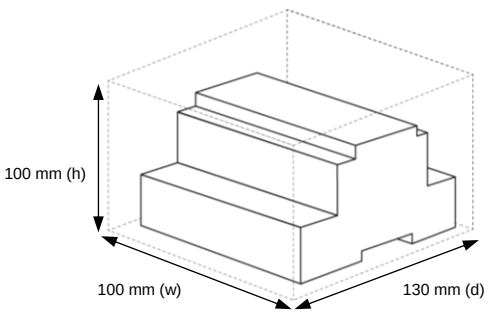
COMMUNICATION

	BACnet		Modbus	
	MSTP	IP	RTU	TCP
Connection	EIA485 (3 wire isolated)	10BASE-T 100BASE-TX	EIA485 (3 wire isolated) EIA232 (DB9 connector)	10BASE-T 100BASE-TX
Date rate	9.6, 19.2, 38.4, 57.6, 76.8, 115.2kbps	10 Mbps 100 Mbps	2.4, 4.8, 9.6, 19.2, 38.4, 57.6, 115.2kbps	10 Mbps 100 Mbps
Data Types & Functions supported	**Object types** 0-AO (Analog Output) 1-AI (Analog Input) 2-AV (Analog Value) 3-BO (Binary Output) 4-BI (Binary Input) 5-BV (Binary Value) 13-MI (Multistate Input) 14-MO (Multistate Output) 15-MV (Multistate Value)	**Functions** Trend Logs Calendars Schedules	1-Read Digital Outputs 2-Read Digital Inputs 3-Read Holding Registers 4-Read Analog Registers 5-Write Single Digital Output 6-Write Single Analog Register 15-Write Multiple Digital Output 16-Write Multiple Holding Registers	

ELECTRICAL & MECHANICAL FEATURES

Enclosure	Plastic, type PC (UL 94 V-0) Net dimensions (dxwxh): 90x88x56 mm Recommended space for installation (dxwxh): 130x100x100mm Color: Light Grey. RAL 7035
Mounting	Wall. DIN rail EN60715 TH35.
Terminal Wiring (for power supply and low-voltage signals)	Per terminal: solid wires or stranded wires (twisted or with ferrule) 1 core: 0.5mm^2… 2.5mm^2 2 cores: 0.5mm^2… 1.5mm^2 3 cores: not permitted If cables are more than 3.05 meters long, Class 2 cable is required.
Power	1 x Plug-in screw terminal block (3 poles) 9 to 36VDC +/-10%, Max.: 140mA. 24VAC +/-10% 50-60Hz, Max.: 127mA Recommended: 24VDC
Ethernet	1 x Ethernet 10/100 Mbps RJ45 2 x Ethernet LED: port link and activity
Port A	1 x Serial EIA485 Plug-in screw terminal block (2 poles) A, B 1 x Plug-in screw terminal block green (2 poles) SGND (Reference ground or shield) 1500VDC isolation from other ports
Switch A (SWA)	1 x DIP-Switch for serial EIA485 configuration: Position 1: **ON:** 120 Ω termination active **Off:** 120 Ω termination inactive Position 2-3: **ON:** Polarization active **Off:** Polarization inactive
PORT B	1 x Serial EIA232 (SUB-D9 male connector) Reserved for future use 1 x Serial EIA485 Plug-in screw terminal block (3 poles) A, B, SGND (Reference ground or shield) 1500VDC isolation from other ports *(except PORT B: EIA232)* : 240mA Voltage rating: 16VDC
Switch B (SWB)	1 x DIP-Switch for serial EIA485 configuration: Position 1: **ON:** 120 Ω termination active **Off:** 120 Ω termination inactive Position 2-3: **ON:** Polarization active **Off:** Polarization inactive

Battery	Size: Coin 20mm x 3.2mm Capacity: 3V / 225mAh Type: Manganese Dioxide Lithium
Console Port	Mini Type-B USB 2.0 compliant 1500VDC isolation
USB port	Type-A USB 2.0 compliant Only for USB flash storage device *(USB pen drive)* Power consumption limited to 150mA *(HDD connection not allowed)*
Push Button	Button A: Check the user manual Button B: Check the user manual
Operation Temperature	0°C to +60°C
Operational Humidity	5 to 95%, no condensation
Protection	IP20 (IEC60529)
LED Indicators	10 x Onboard LED indicators 2 x Run (Power)/Error 2 x Ethernet Link/Speed 2 x Port A TX/RX 2 x Port B TX/RX 1 x Button A indicator 1 x Button B indicator



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