

SM-ACN-BAC-4/8/16/64

Samsung NASA to Bacnet Server gateway

Order Codes:

IBBACSAM004O000 (4 indoor units)
 IBBACSAM008O000 (8 indoor units)
 IBBACSAM016O000 (16 indoor units)
 IBBACSAM064O000 (64 indoor units)

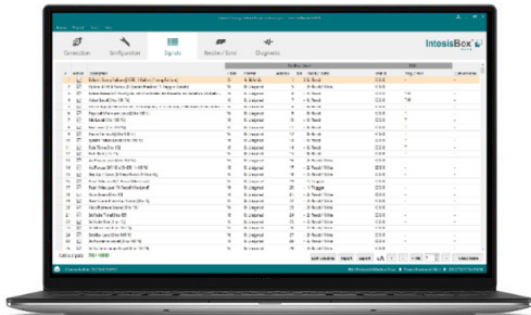
HOW IT WORKS

The IntesisBox **SM-ACN-BAC** Gateway has been specially designed to work as a BACnet Interface for Samsung NASA Air conditioning systems.

IntesisBox acts as a BACnet server, BACnet/IP or MSTP, allowing BACnet client devices to both read and write the datapoints of the Samsung installation.

Up to 64 indoor units in the Samsung installation are supported. Their status will be continuously monitored and commands will be sent to them when received from BACnet side.

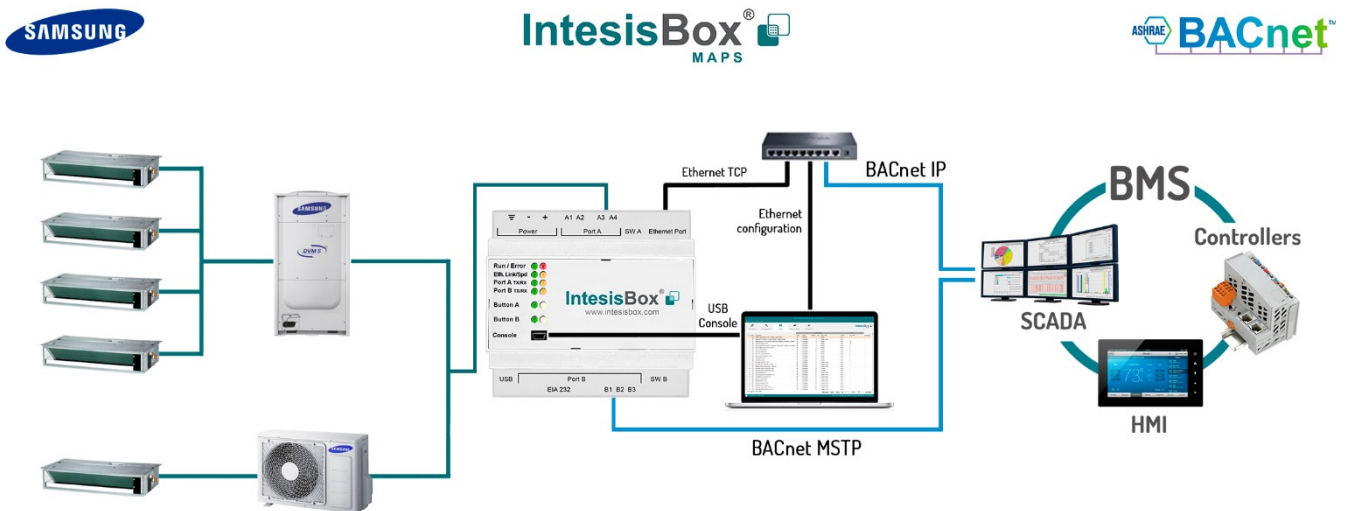
Configuration of the interface is needed using IntesisBox MAPS software, which also allows diagnostics.



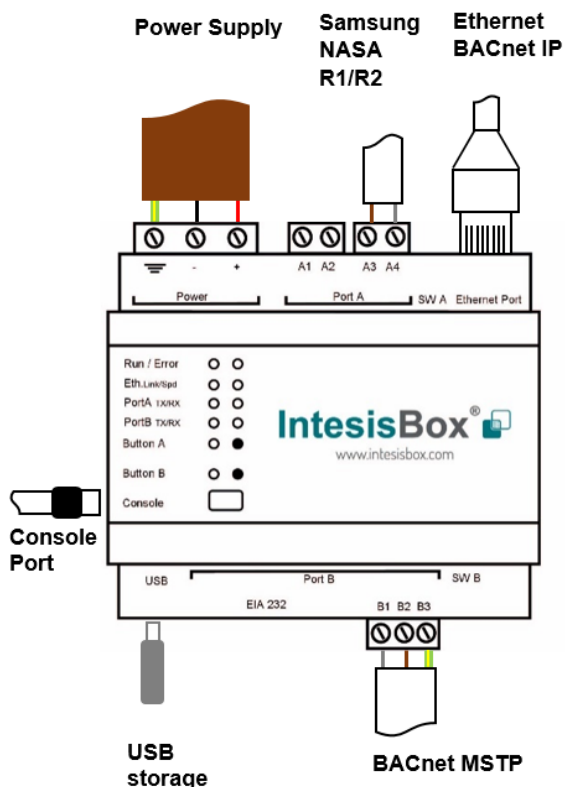
FEATURES

- Supports both BACnet/IP and BACnet MSTP physical layers
- BACnet BTL certified
- Complete range of Samsung indoor unit types supported (AC Indoor unit, HE, HT, EHS, AHU, ERV, ERV+, Chillers).
- Wide range of monitoring & control datapoints available, according to unit type
- Compatible with Samsung's centralized controller systems connected to NASA's R1/R2 bus (e.g. MCM300N)
- Datalogging through external USB port
- Configuration through IP or USB (Console) 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



CONNECTIONS



PROTOCOLS



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



Samsung NASA (Network Architecture for System Air conditioner) is Samsung's standard bus for interconnection of its air conditioning systems of arbitrary size, since 2013.

Access to NASA is based upon a two-wire connection, R1/R2, usually accessible at each outdoor unit of Samsung.

Bus is used not only for communication of AC Indoor Units, but also all other Samsung's cooling/heating products (EHS, AHU, ...).

Compatibility with Samsung's previous generation products is possible, using Samsung's MIM-N01 interface.

COMMUNICATION

	Modbus		Samsung NASA
	RTU	TCP	
Connection	EIA485 (3 wire isolated)	10BASE-T 100BASE-TX	R1/R2 (2-wire, isolated)
Data rate	9.6, 19.2, 38.4, 57.6, 76.8, 115.2kbps	10 Mbps 100 Mbps	non-standard
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	Supported unit types: <ul style="list-style-type: none"> Indoor Unit HE HT EHS AHU ERV ERV+ CHILLER

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	Battery	Size: Coin 20mm x 3.2mm Capacity: 3V / 225mAh Type: Manganese Dioxide Lithium
Mounting	Wall. DIN rail EN60715 TH35.	Console Port	Mini Type-B USB 2.0 compliant 1500VDC isolation
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.	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)
Power	1 x Plug-in screw terminal block (3 poles) 9 to 36VDC +/-10%, Max.: 140mA. 24VAC +/-10% 50-60Hz, Max.: 127mA Recommended: 24VDC	Push Button	Button A: Not used Button B: Will broadcast I-Am message in the BACnet network
Ethernet	1 x Ethernet 10/100 Mbps RJ45 2 x Ethernet LED: port link and activity	Operation Temperature	0°C to +60°C
Port A	1 x Samsung Nasa port Plug-in screw terminal block orange (2 poles) R1 R2 (Samsung Nasa) 1500VDC isolation from other ports 1 x Plug-in screw terminal block green (2 poles) Reserved for future use	Operational Humidity	5 to 95%, no condensation
Switch A (SWA)	1 x DIP-Switch for serial EIA485 configuration: Reserved for future use, leave defaults (all OFF)	Protection	IP20 (IEC60529)
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)	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
Switch B (SWB)	1 x DIP-Switch for serial EIA485 configuration: Position 1: ON: 120 Ω termination active OFF: 120 Ω termination inactive (default) Position 2-3: ON: Polarization active OFF: Polarization inactive (default)		

