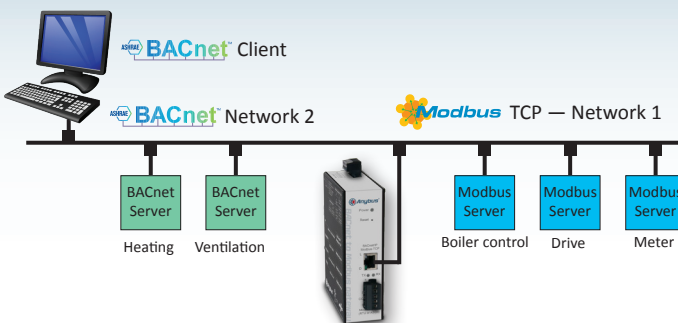


# BACnet to Modbus gateway

The Anybus BACnet to Modbus gateway allows Modbus devices to communicate on a BACnet network. The gateway works as a translator between the two networks allowing Modbus RTU, ASCII or TCP-devices to show up as individual BACnet-compliant devices on a BACnet/IP network. This enables central control and supervision of Modbus devices in a building for example.

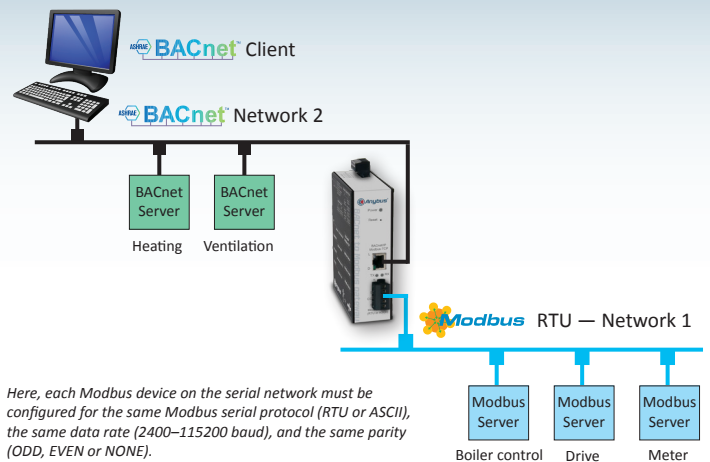


Example 1: Connecting Modbus-TCP to BACnet/IP



In this application, the Modbus TCP connection is called a "one-armed gateway" because both Modbus TCP and BACnet/IP messages transfer through the same Ethernet port.

Example 2: Connecting Modbus RTU to BACnet/IP



## Typical industries



### Master functionality:

Modbus-RTU  
Modbus ASCII  
Modbus-TCP

### Slave functionality:

BACnet/IP

### Routing functionality:

Modbus-RTU to  
Modbus-TCP

### Order number:

024090-B

## How it works

Modbus RTU and Modbus ASCII networks are connected to the serial port of the gateway, while Modbus TCP and BACnet/IP networks are connected to the Ethernet port. You will need to create a device profile for each Modbus device and upload this to the gateway. HMS offers a library of common device profiles. If one is not available for your device, HMS provides a tool and instructions on how to create a device profile for your Modbus device. You can then do commissioning and troubleshooting in the included web interface.

## Features and Benefits

- Handles conversion between Modbus (RTU, ASCII, TCP) and BACnet/IP.
- Manages Modbus TCP and Modbus serial simultaneously.
- Connects up to 30 Modbus serial devices to BACnet (processing up to 1000 Modbus registers).
- Each connected Modbus device appears as an individual BACnet-compliant device.
- Excel tool and instructions for creating Modbus Device Profiles are available on Anybus.com.
- A resident web server allows for commissioning, and troubleshooting via a standard web browser.
- Comes in a rugged IP30 metal housing that mounts on 35-mm DIN-rail.
- A reset switch is provided for returning to the factory default IP address.
- LED indicators provide communication status on both the Ethernet and serial ports.
- External terminating resistors are included in the package. (No termination by default in the product.)

## What is BACnet?

BACnet is a data communication protocol mainly used in the building automation and HVAC industry (Heating Ventilation and Air-Conditioning).

The most common serial version is called BACnet MS/TP while the dominant Ethernet version is BACnet/IP.



HMS provides a full 3 year product guarantee

## TECHNICAL SPECIFICATIONS

Technical Details		
Dimensions (L•W•H)	100•41•131	
Protection class	IP30	
Enclosure material	Metal housing	
Mounting	DIN rail (35 mm)	
Serial port (for Modbus RTU and ASCII)	Optically-isolated allowing for connection to either 2-wire or 3-wire EIA-485 networks using a removable 5-pin terminal block.	
Ethernet port (for Modbus TCP and BACnet/IP)	Shielded RJ-45 connector. Through auto-negotiation and Auto-MDIX, it automatically matches connections to the attached equipment. Therefore, either CAT5 straight-through or crossover cable can be used to attach to the BACnet/IP or Modbus TCP network at either 10 or 100 Mbps speed.	
Certifications		
CE	CFR 47, Part 15 Class A; RoHS	
UL	UL 508; C22.2 No. 142-M1987	
Electrical Characteristics		
Power	24 VAC ± 10% 10 VA 47-63 Hz 24 VDC ± 10% 6 W Internal jumpers allow flexible bias and termination options. They can be removed for mid-span installations.	
Environmental Characteristics		
Operating temp	0 to 60 °C, 32 to 140 °F	
Storage temp	-40 to 85 °C, -40 to 185 °F	
Relative Humidity	10-95 % non condensing	
Communication	Ethernet	EIA-485
Compliance	IEEE 802.3	Modbus V1.02
Protocols supported	Modbus TCP BACnet/IP	Modbus RTU Modbus ASCII
Data rate	10 Mbps, 100 Mbps	2.4, 4.8, 9.6, 19.2, 38.4, 57.6, 115.2 kbps
Physical layer	10BASE-T, 100BASE-TX	EIA-485, 3-wire isolated
Cable length (max)	100 m	1200 m (or 1000 m if using 115.2 kbps)
Port connector	Shielded RJ-45	5-pin removable terminal
LEDs	L(Link) Green = 100 Mbps Yellow = 10 Mbps Flash = Activity D(Duplex) Green = Full-duplex Off = Half-duplex Flash = Collision	Tx Green = Activity Rx Green = Activity



In the resident web server, you can do commissioning and troubleshooting via a standard web browser.

REDUNDANT POWER INPUT  
24 VAC/VDC 10 VA half-wave regulated design allows power sharing with other half-wave devices

POWER LED  
Power OK indicator

RESET IP  
Switch returns gateway to default IP address

MODBUS LEDS  
Monitor Modbus transmit and receive activity

ETHERNET  
10/100 Mbps Ethernet with auto-negotiation and Auto-MDIX. Protocols supported include HTTP, IP, UDP, TCP, Modbus TCP and BACnet/IP

MODBUS PORT  
Removable 3-wire isolated EIA-485 connection with support for 2-wire non-isolated devices supporting Modbus RTU or Modbus ASCII

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