BACnet Master

Quick Start Guide

A-BNM-B A-BNM-P A-BNM-M

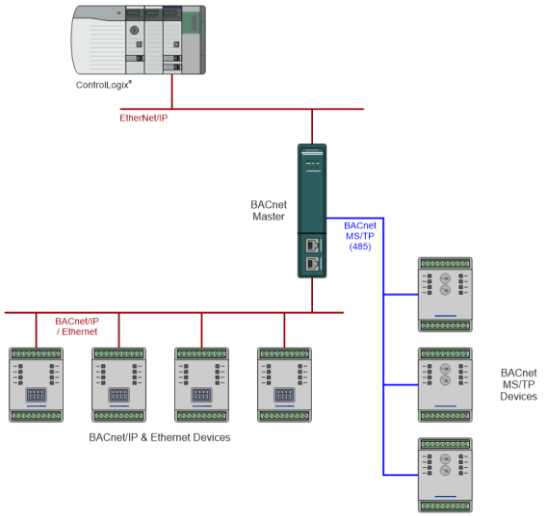
NOTE: Before installing, configuring, operating, or maintaining Aparian products, please review this information and the information located on www.aparian.com for the latest software, documentation, and installation files specific to your Aparian product.

INTRODUCTION

This quick start describes the installation, operation, and diagnostics of the Aparian BACnet Master module. The BACnet Master provides flexible integration between BACnet devices and EtherNet/IP and Modbus (Modbus-RTU485, Modbus-RTU232, and Ethernet Modbus-TCP) devices.

Three variants exist for the BACnet Master:

- Base: 200 BACnet data points and 50 BACnet devices (A-BNM-B)
- Pro: 1000 BACnet data points and 250 BACnet devices (A-BNM-P)
- Max: 2500 BACnet data points and 250 BACnet devices (A-BNM-M)



REQUIRED SOFTWARE

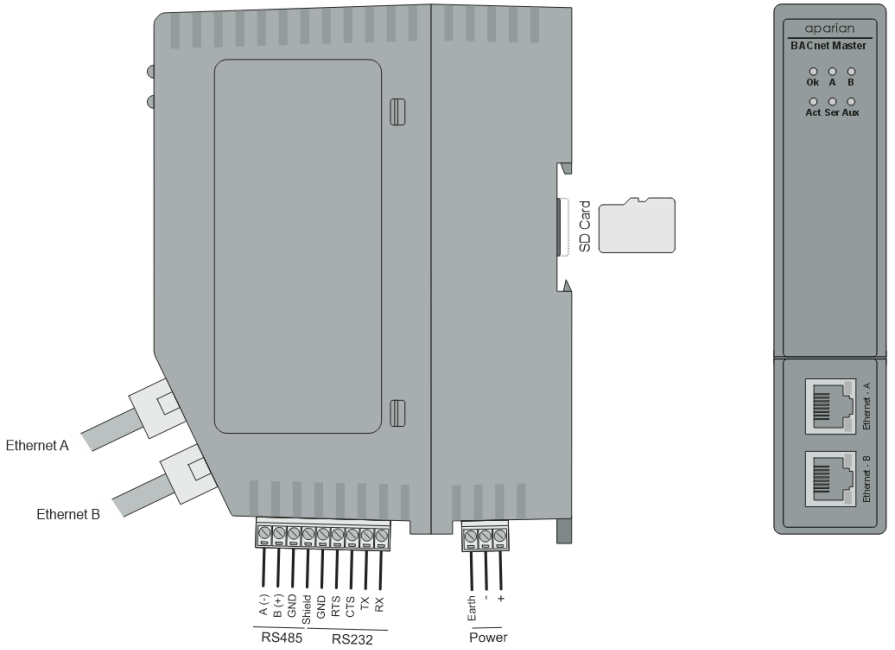
The BACnet Master requires Aparian Slate software to setup and configure. The software installation can be found at www.aparian.com/software/slate.

MODULE INSTALLATION

The module has two ports at the bottom of the enclosure as shown in the figure below. The ports are used for RS232 and RS485 serial, and power.

The power port uses a three-way connector which is used for the DC power supply positive and negative (or ground) voltage as well as the earth connection.

The Ethernet cable used for the Ethernet ports must be wired according to industry standards which can be found in the additional information section of this document.



LED	Description
Ok	The module LED will provide information regarding the system-level operation of the module. If the LED is **red**, then the module is not operating correctly. For example, if the module application firmware has been corrupted or there is a hardware fault the module will have a red Module LED. If the LED is briefly **flashing red**, and then returning to either flashing green or solid green, then there is a duplicate IP address on the Ethernet network similar to that of the local module. If the LED is **green (flashing)**, then the module has booted and is running correctly **without** any application configuration loaded.

	If the LED is **green (solid)**, then the module has booted and is running correctly **with** application configuration loaded.
A / B	The Ethernet LED will light up when an Ethernet link has been detected (by plugging in a connected Ethernet cable). The LED will flash every time traffic is detected. This module has two Ethernet ports A and B. Each LEDs represents each specific port.
Act	The Activity LED will flash each time there is activity with any BACnet device on any interface (BACnet/IP, BACnet Ethernet, or MSTP). Flashing Red – A failed transaction has occurred on one of the BACnet devices (e.g., corrupted packet, unknown packet, no response, etc.). Flashing Green – A successful transaction has occurred on one of the BACnet devices. Off – No activity.
Ser	The Serial Port LED indicates the activity on the MSTP RS485 Port. Flashing Red – A corrupted or incorrect BACnet packet was received. Flashing Green – A valid BACnet packet was received. Off – No BACnet packets are being received or sent.
Aux	The Aux LED will flash each time there is activity on any of the primary interfaces (e.g., EtherNet/IP Target Class 1 communication). Flashing Red – A corrupted or incorrect packet was received on one of the Primary Interfaces (EtherNet/IP, Modbus TCP). Flashing Green – A valid packet was received on one of the Primary Interfaces (EtherNet/IP, Modbus TCP). Off – No activity.

ELECTRICAL AND ENVIRONMENTAL

Specification	Rating
Power requirements	Input: 10 – 32V DC, (121 mA @ 24 VDC) Class 2
Power consumption	3.1 W 300 mA max.
Temperature	-20 – 70 °C

STUDIO 5000 CONFIGURATION

The module must be added to the Logix IO tree using an EDS AOP (Logix v21+).

NORTH AMERICAN HAZARDOUS LOCATION APPROVAL

The following information applies when operating the product in hazardous locations:

SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C AND D HAZARDOUS LOCATIONS, OR NONHAZARDOUS LOCATIONS ONLY.

-20°C to +70°C, T5
Class 1, Div 2 Gps A, B, C, D

THIS EQUIPMENT IS OPEN-TYPE DEVICE AND IS MEANT TO BE INSTALLED IN AN ENCLOSURE SUITABLE FOR THE ENVIRONMENT SUCH THAT THE EQUIPMENT IS ONLY ACCESSIBLE WITH THE USE OF A TOOL.

WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT WHILE THE CIRCUIT IS LIVE OR UNLESS THE AREA IS KNOW TO BE FREE OF IGNITABLE CONCENTRATIONS.

WARNING - EXPLOSION HAZARD - SUBSTITUTION OF ANY COMPONENT MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.

For professional users in the European Union

If you wish to discard electrical and electronic equipment (EEE), please contact your dealer or supplier for further information.

WARNING – Cancer and reproductive harm – www.p65warnings.ca.gov

ADDITIONAL INFORMATION

The following resources contain additional information that can assist the user with the module installation and operation.

Resource	Link
Slate Installation	www.aparian.com/software/slate
BACnet Master User Manual BACnet Master Datasheet Example Code & UDTs	https://www.aparian.com/products/BACnetMaster
Ethernet wiring standard	www.cisco.com/c/en/us/td/docs/video/cds/cde/cde205_220_420/installation/guide/cde205_220_420_hig/Connectors.html

SUPPORT

Technical support will be provided via the Web (in the form of user manuals, FAQ, datasheets etc.) to assist with installation, operation, and diagnostics.

For additional support the user can use either of the following:

Contact Us web link	https://aparian.com/aparian-tech-support-request
Support email	support@aparian.com