2080sc-BAC General Notes (v2)

Access Level: Everyone

Question

What is the 2080sc-BAC Communication Module?

Which controller can the 2080sc-BAC module be used with?

Is there any sample code available for use with the 2080sc-BAC module?

Answer

The 2080sc-BAC plugin module is a single slave node on a BACNet network offered by Spectrum Controls. It allows a Building Automation System (BAS) master to transfer data to and from a Micro800 PLC (2080-LC20, 2080-LC30, 2080-LC50) thru an available plugin slot. The master can write to analog and digital output objects that the Micro800 PLC reads from the network, and the master can read analog and digital input objects that the Micro800 PLC writes to the network. The module stores the tag map and data internally, and communicates to both the PLC and to messages on the BACNet network. The 2080sc-BAC module only supports objects of type AI, AO, BI and BO.

Spectrum Controls provides a manual and sample code for the module as well as BACNet utilities on their [download page](#).

The 2080sc-BAC module has one 10/100Mbps Ethernet full duplex port. The module user interface can be accessed thru the Ethernet port using an ordinary web browser and allows access to the system configuration and tag setup. The system configuration allows modifications to the password, date and time, device instance and name, the LAN communications channel type and address. There are buttons to show the version info and log file, and to allow firmware upgrade. The tag setup allows access to editing the PLC tag names and configuration. This screen also generates structured text from the tag configuration.

The BACNet protocol is configured to run on the Ethernet port by default (BACNet/IP), but can be reconfigured to run on the MS/TP (Master-Slave/Token Ring Passing) system.
The 2080sc-BAC has one RS-485, half duplex serial port for MS/TP. If the user selects the physical interface to the module to be MS/TP, the user can set the MAC address, Max Master number and Max Number of Frames. The Baud rate can be set to 9600, 19200, 38400 and 76800.
The user interface of the 2080sc-BAC assists the programmer in mapping PLC tags to BACNet tags and generates structured text based on the mapping that the programmer can then insert into the CCW software for the PLC as the Main function. Spectrum Controls provides the function block BACNET_Convert in the sample code.

The use of an Ethernet-to-BACnet router is recommended for testing the MS/TP networks. This would be useful with the BACNet utilities also found on the Spectrum Controls download page.

Spectrum Controls or Rockwell Automation does not provide any support for BACNet networks or Building Automation System design or troubleshooting.