

2080sc-BAC Communication Module Network Notes (v1)

Access Level: Everyone

Question

How does the 2080sc-BAC Communication Module read and write data with the Micro800 PLC?

Answer

See also: 1029563 - 2080sc-BAC Communication Module

The 2080sc-BAC plugin module allows a Building Automation System (BAS) master to transfer data to and from a Micro800 PLC that has a plugin slot. The BAS master can write to analog and digital output objects that the Micro800 PLC reads from the network, and the BAS 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 will only support objects of type AI, AO, BI and BO.

The 2080sc-BAC plugin module gets configured by mapping tags between the BAS and the Micro800. The PLC tag name and data type get mapped to an associated BACnet object name and object type. The mapping is limited to 64 objects of each of the 4 type, for a total of 256 objects.

It is vital to the PLC programmer to understand how data flows in this network.

- The data flow for the AI & BI BACnet object types is FROM the Micro800 PLC (PLUGIN_WRITE) TO the BAS master (a BACnet READ). These are inputs to the BAS master.
- The data flow for the AO & BO BACnet object types is FROM the BAS master (a BACnet WRITE) TO the Micro800 PLC (PLUGIN_READ). These are outputs from the BAS master.
- If the tag map is configured such that the BAS master directly controls one or more physical outputs of the PLC, any PLC code attempting to control those same physical outputs will be ineffective, since the 2080sc-BAC module overwrites that data every scan.

The best practice is to have the tag map data to and from the BAS into memory locations, not physical IO. The data written into memory by the BAS master can then be used as remote commands. Local commands from the PLC and remote commands from the BAS can then be selected to control the physical outputs similar to the way a Hand-Off-Auto selector functions.

We recommend using an Ethernet-to-BACnet router for testing the MS/TP network. This would be useful with the BACNet utilities on the Spectrum Controls downloads page.

Spectrum Controls does not provide support for BACNet network or Building Automation System design or troubleshooting.