

**APPLICATION NOTE****No. 0112-1****N3 Variable Speed Drives have BACnet Protocol as standard**

The N3 Variable Speed product family now has BACnet Communications included as a standard feature. BACnet can be selected via parameter configuration. Then, with the optional SIF-485 connector module, the N3 Drive will communicate on a BACnet network.

This will be a significant cost improvement compared to other methods of communication such as Gateway modules or 3<sup>rd</sup> party communication cards. Gateways have typically been separate cards or mounted devices that are “translators” from another protocol (Modbus for example) to BACnet. The N3 model can eliminate this added step.

BACnet is a communications protocol that has experienced significant growth in the past few years. BACnet is designed for Building Management Systems which include HVAC, but encompasses other applications such as overall energy management, lighting, security access, and fire prevention and alert control. It is also being promoted and maintained by ASHRAE, ANSI and others as their standard protocol. TECO Westinghouse Controls Group has seen a notable increase in demand for BACnet capability in the HVAC and Energy Management industries. OEMs and Engineering firms that issue specifications have also specifically called for this protocol.

**Identifying N3 Units that have BACnet**

BACnet became resident in all N3 units manufactured starting on September 1, 2011. Therefore, any N3 units that have a serial number that starts with “(10)**1135**XXXXX” will have BACnet included. Please note that the underlined numbers in boldface represent the year and week, so for example, **1135** is the 35<sup>th</sup> week in 2011.

To further identify BACnet-resident units already on site, the firmware version as shown in parameter A176 will show version 1.4 or higher.

N3 units with BACnet consist of 83% of our current stock in Round Rock. This covers all HP ranges (with the one exception of the N3-201-CS models). In order to ensure that those customers specifically needing BACnet receive the proper N3 units, please work with the Controls Group to identify these customers.

**Selecting BACnet protocol on the N3**

In earlier firmware versions, the RS485 communications protocol was Modbus, and the N3 could be controlled or monitored via configuration of the Run and Reference signals, and any host computer software commands.

This also holds true for the BACnet compatible units, but there are two additional parameters. A173, which selects between BACnet or Modbus. (Yes, we have retained the existing Modbus protocol in all N3 units).



A second NEW parameter, A174, will select the BACnet address point for the N3 on the network.

Documentation on the formatting and messaging of data for the N3 BACnet units is available as a supplemental manual, similar to what is offered for the N3 Modbus protocol. This document will soon be on line as well.

### **Compatibility between BACNet protocol N3s and earlier firmware versions.**

The new version 1.4 firmware requires a control board different from all previous versions. Therefore, there are no provisions to flash earlier version control boards with the new BACnet firmware. If your customer has existing N3 units and desires to operate on a BACnet control system, they would have to check the serial numbers. Any non-BACnet units would have to be replaced with the version 1.4 firmware units.

TECO-Westinghouse Motor Company Controls Group believes that these upgraded product features will allow for better penetration in existing and new markets. As always, we are ready to provide application assistance to help you expand your opportunities.

Good Selling to all in 2012,

TECO-Westinghouse Motor Company Controls Group