Schneider Electric

Network Management Card 2 and 3 Modbus Documentation Addendum

Overview

This document details the wiring and configuration options for the Modbus RTU serial connection between a Modbus Controller and the AP9635/AP9641/AP9643 Network Management Cards (NMC). For details on Modbus register settings and configuration, see the Modbus register map document and NMC User Guide for your specific Modbus-enabled device, available on the APC website (**www.apc.com/upsnmc**). Details of the Modbus standard can be found at **www.modbus.org**.
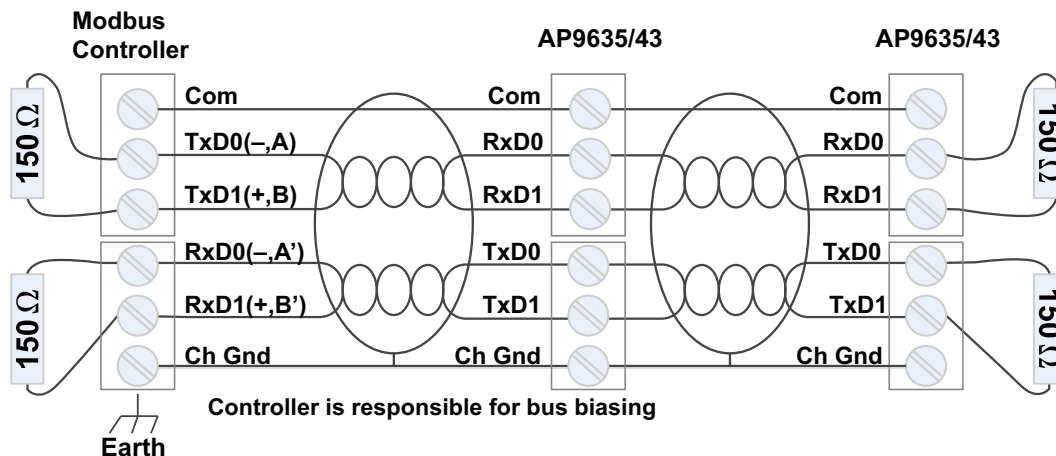
NOTE: AP9635 is a Network Management Card 2, and AP9641/43 are Network Management Card 3s. The AP9641 card supports Modbus RTS 2-wire RS-485 via its Universal I/O port 2, and the AP9643 card supports Modbus RTU via the 4-wire opto-isolated serial RS-485 port in addition to Modbus RTS 2-wire RS-485.

Modbus Wiring Diagrams

2-Wire Connection (AP9635/41/43)
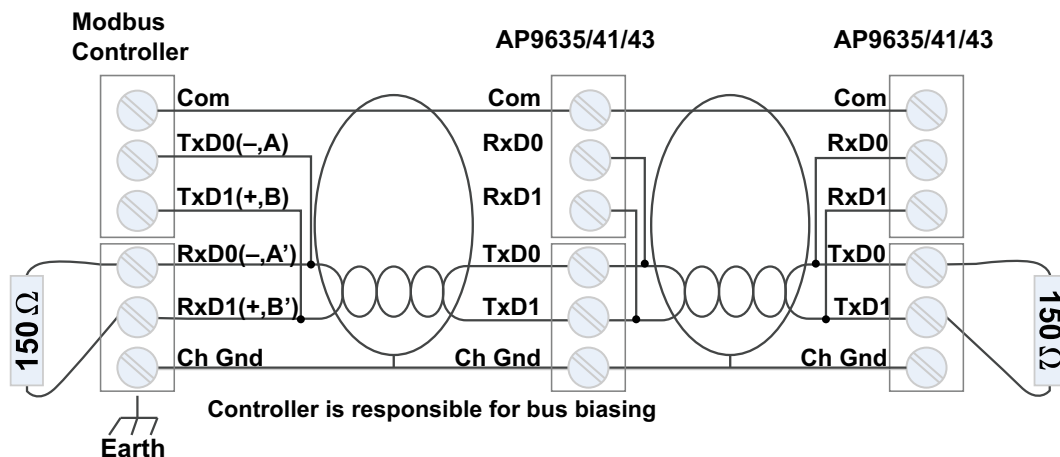

4-Wire Connection (AP9635/43)

For more information on the Wiring Guidelines for AP9635/41/43, see Application Note #168 "*Modbus Installation and Troubleshooting for* AP9635/41/43 *Network Management Card*", available on **www.apc.com**.

Modbus Configuration

The AP9635/41/43 Modbus RTU serial configuration options can be found through the Web user interface, at the following path:

Configuration > Network > Modbus > Serial
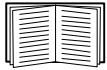
For more information on how to log on to the AP9635/41/43 Web user interface, see the Network Management Card **User Guides** on the APC website (**www.apc.com/upsnmc**).

To configure the serial Modbus settings:

1. Use **Access** to enable Modbus serial as a method of communication with the NMC.
2. Set the connection parameters for the Modbus serial connection:
    a. **Baud Rate** is the data rate in bits per second. It can be set to 9600 (default),19200, 2400, or 38400.
    b. **Parity Bit** is the check bit and can be set to Even, Odd or None.
    c. **Target Unique ID** is the unique ID of the target device. It can be set to a value between 1 and 247.
3. Click Apply to save your changes.

NOTE:

- The configuration of the Modbus polling software used to poll the registers should match the Modbus settings configured in the NMC Web user interface.

- It is recommended that you set the polling software to poll one register at a time, and to use a scan rate of 3000ms.

- The recommended timeout for each register is 1000ms.
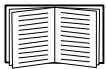
See the **Modbus Register Maps** available on the APC website (**www.apc.com/upsnmc**) for more information on specific registers, bit descriptions and the Modbus implementation for your device.
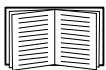
For more information on the Modbus protocol, Modbus data format, and Modbus troubleshooting, see Application Note #168 "*Modbus Installation and Troubleshooting for AP9635/41/43 Network Management Cards*", available in Knowledge Base article FA242934 (**www.apc.com/us/en/faqs/FA242934**).