Schneider Electric

Operation Addendum - Modbus Configuration for Modular Power Distribution Units

This document contains information needed to set up communications between the products listed below and the building management system.

PDPM288G6H   Modular PDU, 266kVA, 400A, 480:415V Auto-transformer, 72 Pole, 300 mm
PDPM144F   Modular Remote Power Panel, 144kVA, 400A, 208V, 72 Pole, 300 mm
PDPM72F-5U   Modular Rack Distribution Panel, 72kVA, 200A, 208V, 18 Pole, 5U
PDPM277H   Modular Remote Power Panel, 277kVA, 400A, 400V, 72 Pole, 300 mm
PDPM138H-R   Modular Rack-mounted Distribution Panel, 138kVA,200A, 400V, 18 Pole, 5U
PDPM138H-5U   Modular Rack Distribution Panel, 138kVA, 200A, 400V, 18 Pole, 5U

Modbus Configuration

Modbus is configured through the Display Interface of the PDU.

>   **Path: Main > Admin > Configure Modbus**

Use the **Configure Modbus** menu to set up communications between the equipment and the building management system.

>   **Modbus.** Enable or disable Modbus

>   **Target ID.** Each Modbus device must have a unique target identification number. Enter a unique number for this unit.

>   **Baud Rate.** Choose either 9600 bps or 19200 bps.

Modbus communication is available at the console port (RS232 DB-9 connector). (Non-configurable settings for the serial port: no parity, 8 data bits, 1 stop bit.)

NOTE: An RS232 to RS485 converter (not provided) must be used to connect to a building management system.

To communicate RS-232 to the PDU through the console port, the RS232 to RS485 converter must be configured as a DTE device with Send Data Control rather than RTS control (most converters are DCE - some can be ordered as DTE). Some devices like the Omega Model 285 Superverter support DCE/DTE selection with a switch. Other devices such as those produced by B&B Electronics require a zero ohm resistor re-position to configure as a DCE device - see the device datasheet for details. RTS or SD selection is generally accomplished with a jumper.
An appropriate RS-232 cable like the APC 940-0024D is also required.

The PDU console port can be configured to run at either 9600 or 19200 baud. This must match the Building Management System or Modbus network transfer rate.

Most serial converters are capable of either 4-wire or 2-wire Modbus connections. The PDU is designed to handle 2-wire, half-duplex communication. For a 2-wire, half-duplex connection, jumper connectors should be placed between R+ & T+, and R- & T-. Then the Modbus + wire is connected to R+/T+ and the - wire is connected to R-/T-. Some converters like the B&B Electronics 4850T9L offer DIP switches to accomplish the jumper connections.

NOTE: 1. All RS232 to RS485 converters tested relied on a power supply that plugs into 110V AC wall receptacle.

>   **2.** There is a known Modbus polarity labeling ambiguity between converters, so if the Modbus communication isn't successful, try reversing the 2-wire connection.