WattNode Meter Module WND-M1-MB Opt HW

Overview

The WattNode® Meter Module (WND-M1-MB and RWND-M1-MB) models have terminals for power (6-24 Vdc or 12-24 Vac) and for RS-485 communication. There is no electrical isolation between the power and communication connections. In most cases, this functions correctly, but there is one situation where this causes a problem. When the power source is AC, the standard Meter Module uses full-wave rectification internally. If another device sharing the same power and RS-485 bus uses half-wave rectification, this causes a conflict on the power and RS-485 common lines that will prevent correct operation and may damage the Meter Module.

An upcoming revision of the Meter Module will include electrical isolation between the power and communication signals to solve this problem. In the meantime, CCS has added a product option (**Opt HW**) that changes the Meter Module to use half-wave rectification, making it compatible with systems where other devices use half-wave rectification.

Details

Models with Opt HW can be identified by the addition of “HW” to the option string appearing near the model number on the label.

The half-wave rectification is applied to the **Pwr+** input. **To ensure compatibility with other connected devices**, all devices must share the same common line (connected to **Pwr-**) and must apply the half-wave rectification to the positive (**Pwr+**) input.

The accuracy and overall behavior are unchanged. The Meter Module will behave identically when powered from DC power, so long as the positive power is applied to the **Pwr+** terminal. When powered from AC power, there are the following updated specifications:

- **Nominal Power Supply Voltage:** 6 to 24 Vdc or 18 to 24 Vac
- **Power Supply Minimum Operating Voltage:** 6 Vdc or 14 Vac
- **Power Supply Current:** when powered from 24 Vac
  - **RMS:** 80 mA
  - **Peak current:** 420 mA

Additional Information

See the regular WattNode Meter Module installation and reference manuals for information not in this supplement:

- **WND-M1-MB Installation Manual:** https://ctlsys.com/wp-content/uploads/2017/12/WND-Meter-Module-Modbus-Install-Manual.pdf
- **WND-M1-MB Reference Manual:** https://ctlsys.com/wp-content/uploads/2017/10/WND-Module-Modbus-Ref-Manual.pdf

Contact CCS engineering for other questions.

https://ctlsys.com
Phone: +1 (303) 444-7422
FAX: +1 (303) 444-2903