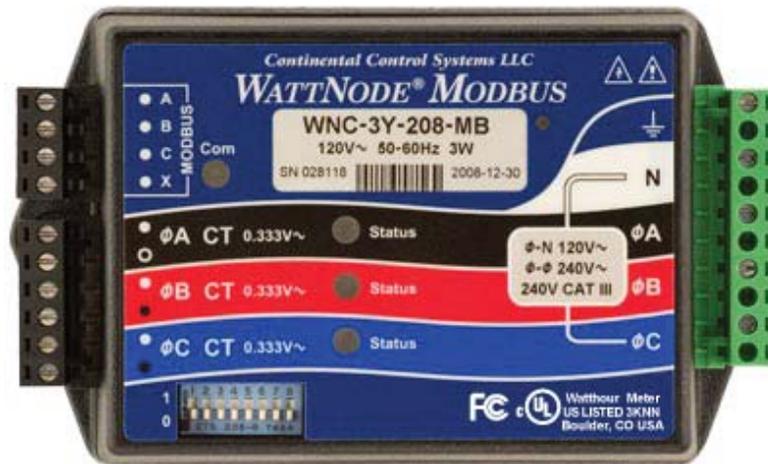


News:WattNode Modbus Update - November 2010

Continental Control Systems LLC is pleased to announce an update to our WattNode[®] Modbus meter. This update includes switching to 100% RoHS (lead-free) production for all WattNode Modbus models. We have also added new feature options and firmware enhancements.

For a detailed list of firmware changes, see [WattNode Modbus Firmware Version 16](#)

Release date: 11/16/2010



New Options

We have added three options utilizing the **X** (auxiliary) terminal on the "MODBUS" connector:

- **Option X5** - Provides 5 VDC at up to 60 milliamps between the **C** (common) and **X** (5V) terminals for powering external devices, such as low-power data loggers or wireless transceivers.
- **Option IO** - Provides a digital input (level sensing and pulse counting) or output (for load shedding and other applications) on the **X** terminal.
- **Option SSR** - Provides a solid-state relay (contact closure) output between the **X** and **C** terminals for load shedding and other applications.
- See [WattNode Modbus - Options](#) for a list of all available options.

Firmware Enhancements

- **Digital Input/Output Options** - Adds support for the new **Option IO** and **Option SSR** that configure the WattNode meter **X** terminal for counting pulses from an external meter, monitoring a digital status signal, or for controlling loads for shedding applications. This support includes the new **PulseCount**, **IoPinData**, and **IoPinMode** registers.
- **Energy Presets** - Adds the ability to reset or preset the resettable energy registers on a per-register basis. The preset feature is particularly useful if you are replacing an existing meter and want the reported energy to pick up where the old meter left off. The **ConfigPasscode** can be configured to ensure this feature isn't used for tampering.
- **Improved Modbus Response Time** - Improves the Modbus message response time. Before the V16 firmware, the worst-case response time was 300 milliseconds. This has improved to less than 25 ms.
- **Configurable Reply Delay** - Implements a new communications configuration register **ReplyDelay** (1656) to configure a user-defined minimum reply delay between 5 and 180 milliseconds (the default is 5 milliseconds). This is useful with some devices or software that can lose data if a slave device responds to a request too quickly.

- **Extended Phase Adjustment Limits** - Changes the minimum and maximum limits for the *PhaseAdjustA*, *PhaseAdjustB*, and *PhaseAdjustC* registers from ± 5000 millidegrees to ± 8000 millidegrees (8 degrees).
- **Per-Phase Demand Registers** - Adds *DemandA*, *DemandB*, and *DemandC* registers that report the real power demand for each individual phase.
- **Configurable Integer Current Scaling** - Adds *CurrentIntScale* register for scaling the integer current registers. There was previously a virtual (could not be read or written) *CurrentIntScale* register; now it is a real register that can be changed.
- **Improved Line-to-Line Voltage Estimation** - Adds [line-to-line voltage estimation](#) for four-wire delta (wild phase) and grounded delta electrical service types.
- **Simplified CtAmps Logic** - Updates the functionality of the registers *CtAmps*, *CtAmpsA*, *CtAmpsB*, and *CtAmpsC* to prevent confusion.
 1. The global *CtAmps* register changes into a command register that assigns the specified value (amps) to all three phase registers (*CtAmpsA*, *CtAmpsB*, or *CtAmpsC*) whenever it is written.
 2. The global *CtAmps* register reads back zero unless all three per-phase CtAmps registers are the same, in which case it read backs the common value. This behaves much like it did on previous firmware versions, except that it reads back zero if the per-phase *CtAmpsA*, *CtAmpsB*, or *CtAmpsC* are different, which alerts the user to the fact that the per-phase registers must be read to ascertain the CT rating for each phase.
- **Custom Register Map** - Adds a configurable register mapping feature for the following two situations:
 1. You want to read a specific group of registers efficiently, but not all the registers are in the same block, so you would need two or more Modbus frames to read all the data. With a custom mapping, you can combine all the registers you need into a single block.
 2. The custom register map allows you to emulate another device by reorganizing the WattNode Modbus meter registers.
- **Improved Modbus Error Detection** - Improves framing error detection and incorrect baud rate detection for communications trouble-shooting indication on the Modbus **Com** LED. Older firmware versions would sometimes flash the **Com** LED yellow when the baud rate was incorrect; the new firmware will flash the LED red.

Background

Continental Control Systems specializes in designing and manufacturing the WattNode[®] AC power and energy meters. Available products include Modbus, standard pulse-output, and LonWorks[®] watt-hour transducers that offer interoperable power, energy, and demand meters. Applications include utility sub-metering, load shedding for demand response, end-use metering, equipment performance monitoring, verification, evaluation, and diagnostics.

Category: [News](#)

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View count: 23

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