EG4® HYBRID INVERTER RGM PROTOCOL SUPPORT

SETUP BASICS

This document provides basic setup information for integrating EG4® hybrid inverters with the WattNode Modbus Revenue Grade Metering (RGM) protocol. Using WattNode hardware and architecture provides more precise current and voltage measurements to EG4 hybrid inverters than standard current transformers (CTs).

- **Supported Inverters:** 12kPV, 18kPV, FlexBOSS18, FlexBOSS21
- **Minimum Inverter Firmware:** 2021
- **Supported Voltage:** 240V split-phase
- **Supported WattNode Modbus model:** WND-WR-MB

IMPORTANT:

- *RGM protocol integration is not supported if the EG4 hybrid inverter is connected to a GridBOSS.*
- *3-phase configurations are not supported at this time.*

Setup Overview:

1. Connect the WattNode Modbus voltage sense cables to the main panel box. Connect lines L1 and L2 to a 240V breaker. This ensures L1 connects to the L1 bus and L2 connects to the L2 bus. Then connect the N wire to the neutral busbar and connect the G wire to the ground busbar. See images on pages 3 and 4 for examples.
2. Verify the Modbus DIP switches are in the correct position as described in WattNode Modbus manual.
3. Connect the WattNode CTs to the inverter L1 and L2 grid input cables. Make sure the arrow on the CT is pointed in the correct direction as shown in the WattNode installation guide.
4. Connect the RS-485 positive, negative, and ground wires from the WattNode module to the RS485 ports on the inverter communication board as shown in the table below. Also see the cabling images on pages 2 and 3 of this guide. Do not follow the Modbus documentation for making the RS485 connections.

INVERTER COM BOARD CONNECTION	WATTNODE MODBUS CONNECTION
485A (A2)	B+
485B (B2)	A-
GND	C

5. Configure the inverter to use the WattNode CT clamps once all the connections are made.
   a. Open the EG4 Monitor Center and select "Maintenance" in the horizontal navigation bar.
   b. Select "Working Modes" and then select "Read" at the top of the page to display the current settings.
   c. Locate the "Application Setting" area and select "Advanced settings".
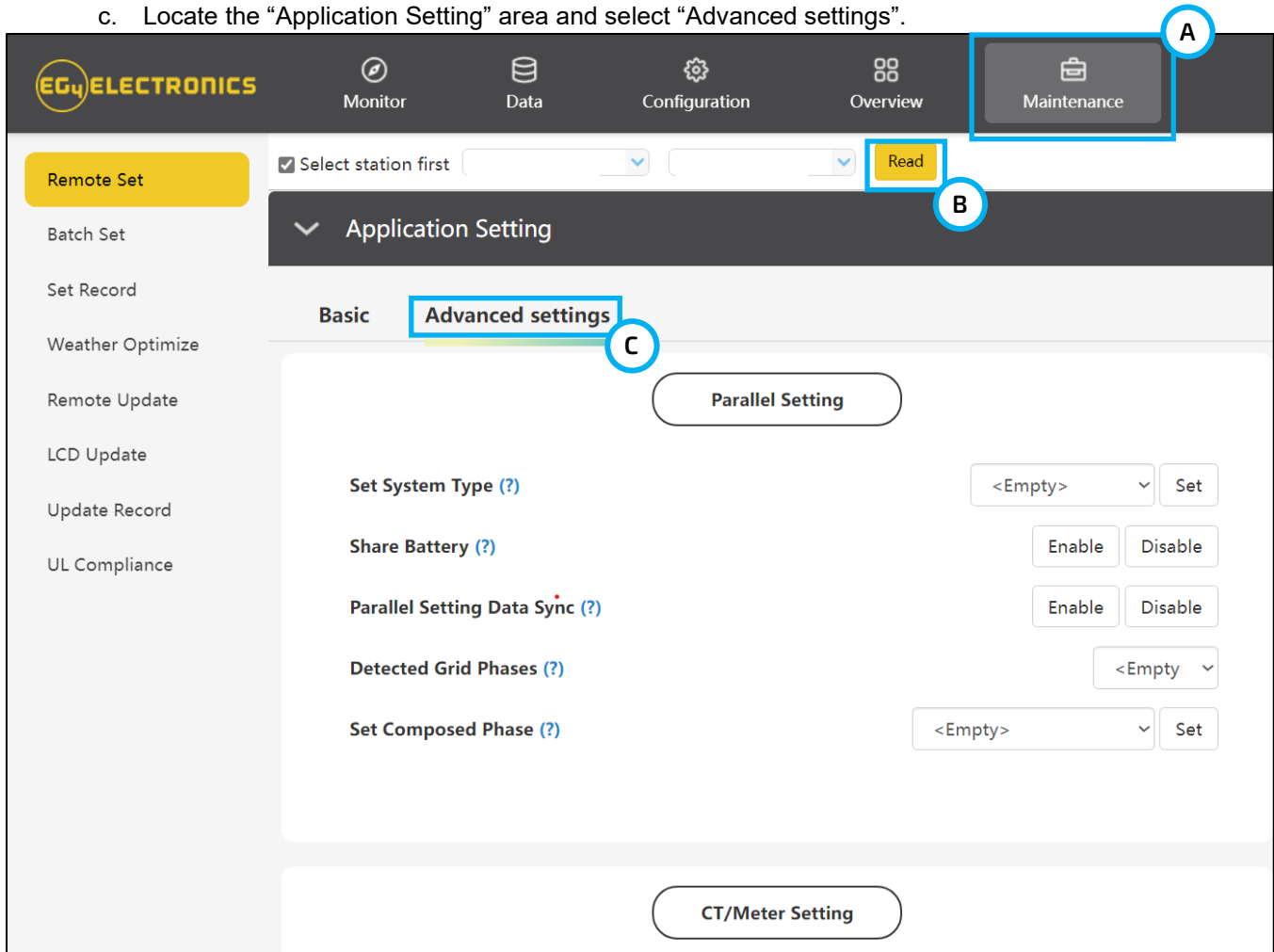
   d. Configure the Measurement type to "0: Meter".
   e. Configure the Meter Brand to "1: WattNode" and select the "Setting" button.
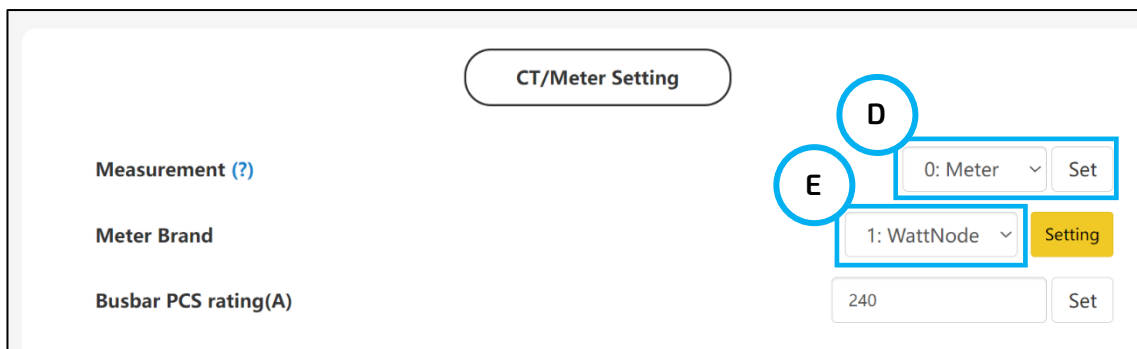
6. Configure the following settings and then select "Set". Once configured, the WattNode Modbus meter will collect current and voltage data and send it to the inverter.
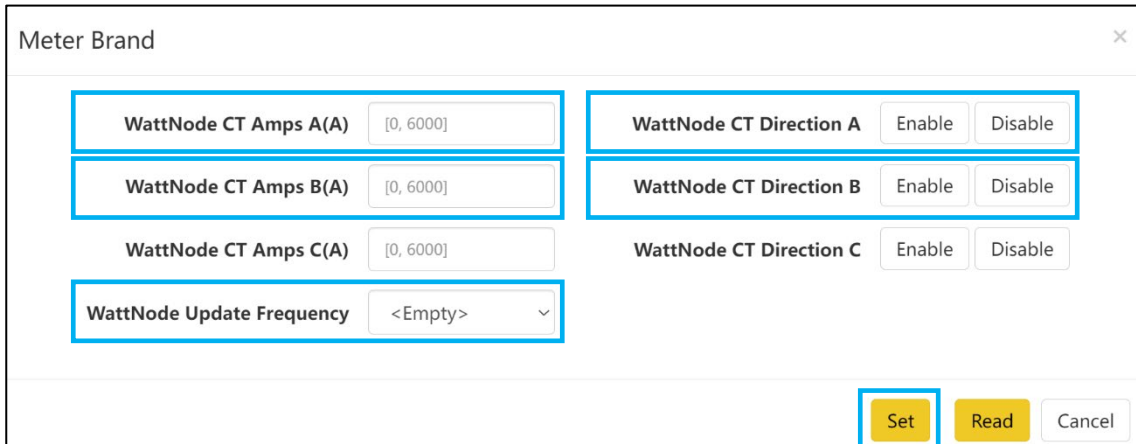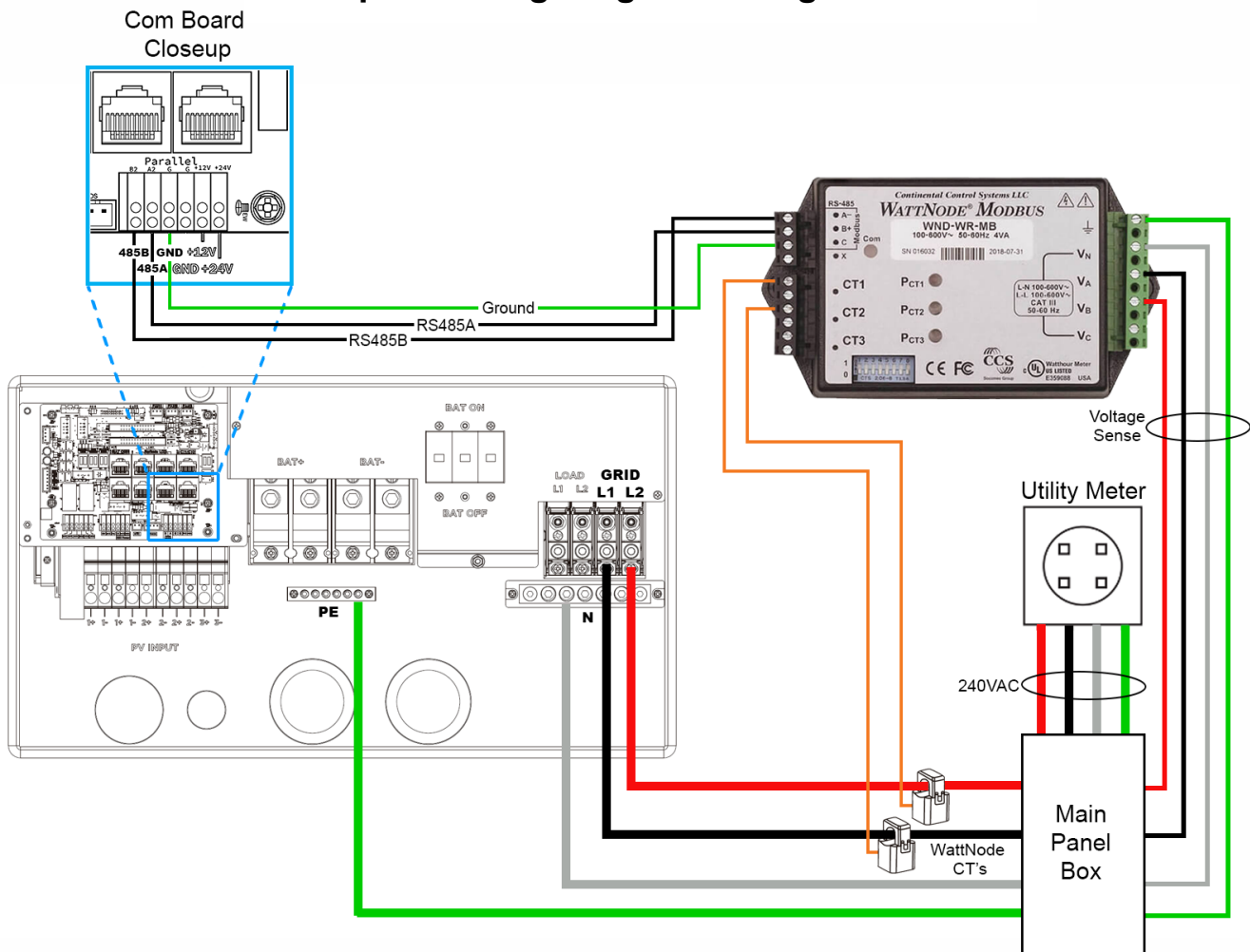
WattNode CT Amps A (A): 200

WattNode CT Amps B (A): 200

WattNode Update Frequency: 100ms

WattNode CT Direction A: Disable

WattNode CT Direction B: Disable

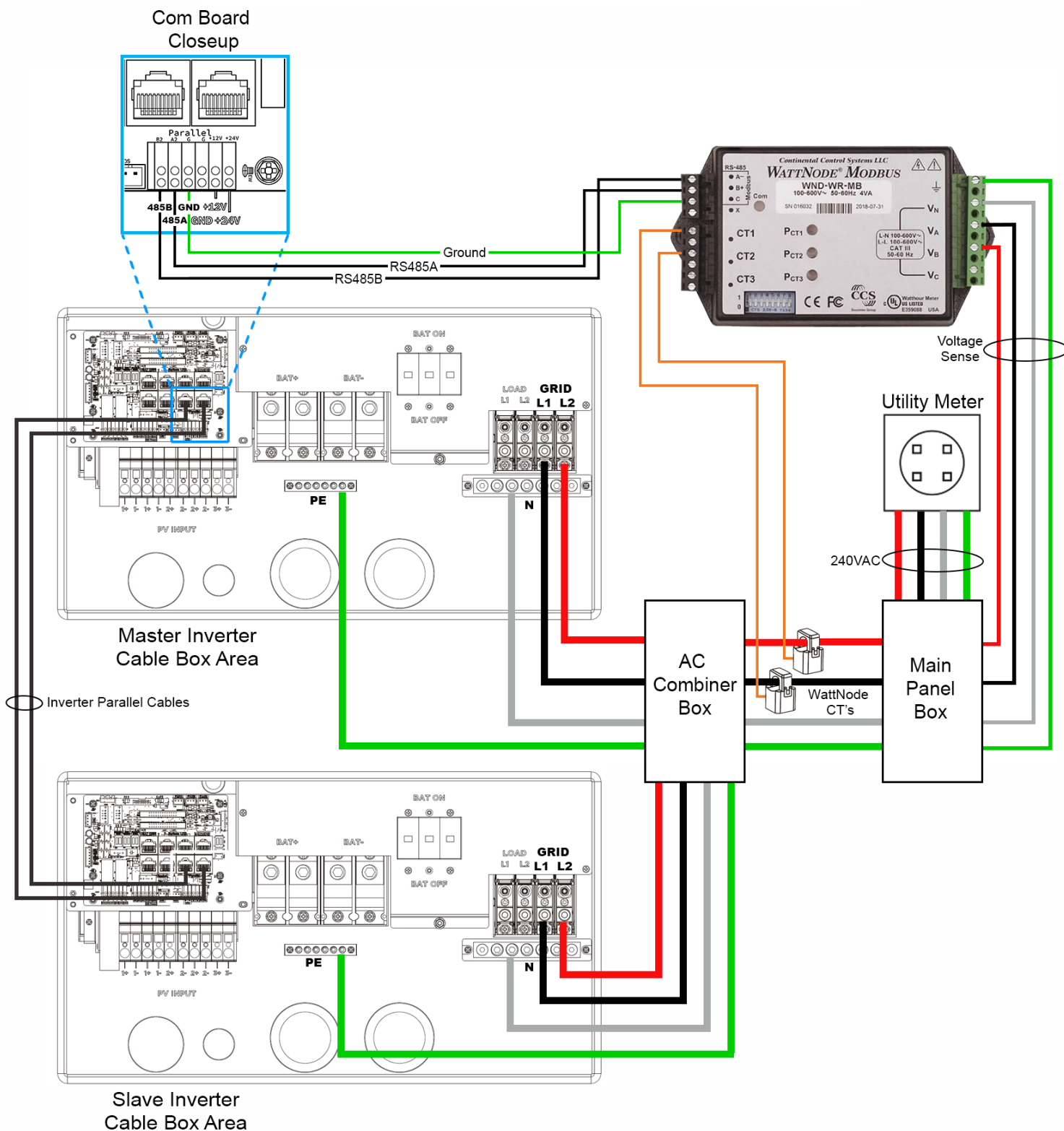
Example Cabling Diagram – Single Inverter*

* The image shown is for illustration purposes only and may not be an exact representation for all configurations.

Example Cabling Diagram – Multiple Inverters*

NOTE:

Current and voltage data is provided to the master inverter and then shared with each slave inverter using the inverter's paralleling cables.

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