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Caterpillar EMCP4/4.2

1. **Unpack Components**
   - Unpack the monitor, antenna, and data and power cable.
   - Inspect all components to ensure there is no shipping damage.
2. **Installing Antenna**
   - Place the antenna vertically at the center of the roof of the generator.
   - Route the antenna cable into the area of the generator control.
   - Ensure a drip loop lower than the monitor to prevent water from running down the antenna cable into the monitor connection.
3. **Attach the Antenna Cable:**
   - Attach the antenna cable to the front of the monitor and tighten thumb tight.
4. **Attaching the Monitor.**
   - Attach the monitor via its magnetic feet, on top of the engine controller or another appropriate location.
   - Horizontal surfaces are best, but the unit may be mounted vertically or even upside down if necessary.

*Note: If mounted vertically, install the monitor with the cables down to prevent water from entering the enclosure.

5. **Connect the Monitor:**
   - The monitor can connect to the EMCP 4 controller via a 2-wire (RS485) Modbus connection.
6. **Utilize Modbus Capabilities:**
   - Connect the OMN white (Data+) and green (Data-) wires to Modbus + and Modbus –*
   - Set up controller communications port to Baud Rate 9600, parity none, Slave ID 1.
7. **Power On and Check LEDs:**
   - confirm that the LEDs light up and blink.
   - If not, check for power wires at the battery. (Scan QR code for light sequence)
8. **Confirm Installation:**
   - Allow 15 minutes for the monitor to log into the network. Call OmniMetrix at 770-209-0012 to confirm installation.

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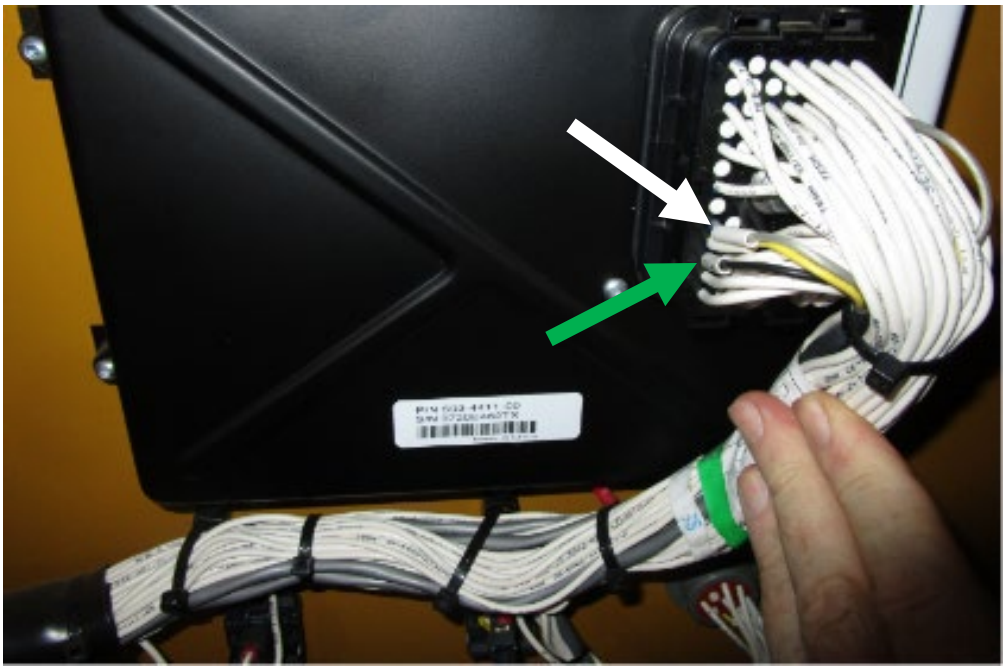
CAT EMCP 4 / 4.x Wiring Diagram			
SLEEVE COLOR	**OMNI WIRE**	**FUNCTION**	**TERMINATION**
Red	Red	Power In (9-30Vdc)	Battery +
	Black	Ground	Battery -
Blue	White	Modbus Data +	Modbus +
	Green	Modbus Data -	Modbus -

If you are unable to locate Modbus + and Modbus - you will need to find Pin 3 and 5 on the 72-Pin connector box. Trace the Pins to the terminal board and connect according to wiring diagram.

Pin #	Name	Description
3	MB-	RS-485 differential inverting line (Rx/Tx-) (A)
4	MB-REF	RS-485 reference signal
5	MB+	RS-485 differential non-inverting line (Rx/Tx+) (B)



If you have any questions, please call OmniMetrix Tech Support at

770-209-0012 or email at techsupport@omnimetrix.net

Enabling Modbus Communication (Step 7 continued)

Definitions:

Front Panel Escape Key

Front Panel Enter Key

Steps:

1. Escape to MAIN MENU.
2. Down Arrow to CONFIGURE, then ENTER key.
3. Down Arrow to SETPOINTS, then ENTER key.
4. Down Arrow to NETWORK, then ENTER key.
5. At Data Link = SCADA, ENTER key.
6. Down Arrow to BAUD RATE, then ENTER key.
7. Up/Down Arrow to set Baud Rate to 9600, the ENTER key.
8. Down Arrow to PARITY, the ENTER key.
9. Up/Down Arrow to set Parity to NONE, then ENTER key.
10. Down Arrow to SLAVE ADDRESS, then ENTER key.
11. Up/Down Arrow to set Slave Address to 1, then ENTER key. (Note: if multiple engines are involved, then each must have a different slave address.) 12. Down Arrow to ENABLE STATUS, then ENTER key.
13. Up/Down Arrow to set ENABLED, then ENTER key.
14. ESCAPE key multiple times to return to main menu.

The EMCP 3 has a timeout option in which it can go into low power mode. In this case, Modbus support ceases. Be sure the EMCP is set up with the low power setting (sleep mode) OFF. This is done under CONFIGURE/SETPOINTS/OTHER…Reduced Power mode DISABLE.

Note: The EMCP 4 controller defaults to NOT allowing Remote Generator set Control via SCADA communications. This setting can be changed from the display under MAIN MENU/CONFIGURE/ALL SETPOINTS/ CONTROL/"AUTO START/STOP"/REMOTE GENSET CONTROL ENABLE STATUS.