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Reg Bus Interface Quick Guide

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The Reg Bus Interface was designed to communicate information between Manzanita Micro battery management system components and Manzanita Micro chargers. The primary functions of the Reg Bus are:

1. Supply power to the charger side of regs.
2. Support analog data exchange from regs to charger and analog control of charger by the regulators (or other BMS).
3. Support digital data transfer and control of regs via the Rudman Bus (modified EVILbus).

The BMS uses the Reg Bus to signal when there are over voltage or under voltage conditions in the battery pack that is being monitored.

The interface contains six wires connected with their respective pins as follows:

1. WHITE : Power supply (+5 volt DC)
2. BLACK : Reg over voltage condition (reg ON or reg hot) +5V will activate this line and tell the charger to stop charging
3. RED : Under voltage condition – 0V on this line means under voltage active
4. GREEN : Power supply return (GND) – Refers to charger's Batt Neg line
CAUTION: The ground (GND) return is NOT isolated on older charger models!
5. YELLOW : Rudman bus negative
6. BLUE : Rudman bus positive

Note: On the Manzanita Micro PFC Chargers the RJ receptacle is upside down so the pin count reads from right to left as if backwards (refer to *figure 01*). On Manzanita Micro BMS units and most other devices the RJ receptacles are right side up and so the pin count reads from left to right. Many of the printed circuit boards when viewed from the bottom will have one square shaped pad which indicates pin #1.

NOTICE! On older PFC Charger models the Ground (GND) on the reg bus is connected to main battery negative on a PFC charger! Never touch any of the RJ pin wires or connections while the Reg Bus is connected back to the charger. The Manzanita Micro RROB unit can be added in between the charger and the BMS unit(s) in order to keep them isolated from battery negative.

Reg Bus Cable Construction:

The 6-wire RJ cable which is used to connect the regulators is a common data transfer cable and is available at most any electronics store. The 6-pin connector plugs are usually clear and it is easy to crimp them using an appropriate crimping tool with a 6-pin die. These are also readily available.

NOTICE! RJ cable is quite rugged but take care not to cut or sharply bend (and/or fatigue) the cable in order to avoid errors from broken internal wires. Additionally, follow the proper cable construction techniques listed in your respective charger or BMS component owner's manual. Make sure that all the wires are installed in the correct orientation. (See figure 09.)



figure 09. Correct RJ Cable Orientation