Serial commands for the 1000amp DC controller

config: Shows the current settings on the controller. Usage:

config

save: Saves whatever settings are. Usage:

save

t-min-rc & t-max-rc: Sets the minimum/maximum throttle positions, on a scale of 0 to 1023 (0 means 0v and 1023 means 5v). Let’s say you have a 0-5v throttle signal. In reality, it is usually more like 1v at zero throttle up to 4v at max throttle. So, if you found that at zero throttle, the throttle value is 150, and at max throttle, the throttle value is 850, then you could do the following (make sure there is a little dead zone):

t-min-rc 200

t-max-rc 850

That way, you will have to press the throttle down a little bit before the throttle command starts. You will have to get all the way from 150 up to 200 before any throttle command starts.

t-fault-rc: It can be anything from 0 to 1023. It sets the point at which the throttle throws a fault if it reads below this value. A good value for this is 5. If the throttle comes unplugged, the controller will pull the throttle signal to zero, and the fault will be flagged, and everything will shut down safely.

bat-amps-lim: It can be anything from 0 up to 1500. This sets the maximum current that can come out of the batteries. Usage:

bat-amps-lim 350

That would set the maximum current that can come from the batteries to 350 amps.

pc-time: Precharge time, in tenths of a second. It can be anything from 0 to 999. This is the time delay between when the precharge relay is closed by the controller to when the main contactor is closed by the controller. Usage:

pc-time 47

That would set the precharge time to 4.7 seconds. The length of time required for precharge is related to the resistance of the precharge resistor. It is computed as:

Precharge time = 5 \* PrechargeResistorValue \* 0.001

So, if you use a 1000 Ohm resistor, the precharge time would be 5 seconds.

mot-amps-lim: This sets the motor amps limit. In other words it sets the maximum TORQUE. The battery amps limit sets the maximum POWER. Usage:

mot-amps-lim 645

That would set the maximum current allowed in the motor (at 100% throttle) to 645 amps.

rtd-period: This sets the rate of streaming of the data in real time (real time data period). Usage:

rtd-period 345

That would stream the data every 0.345 seconds.

rtd: This just streams a single line of data, and then stops.