GRIN *TECHNOLOGIES*
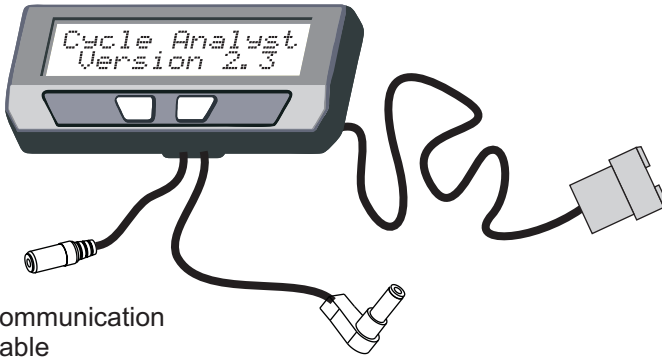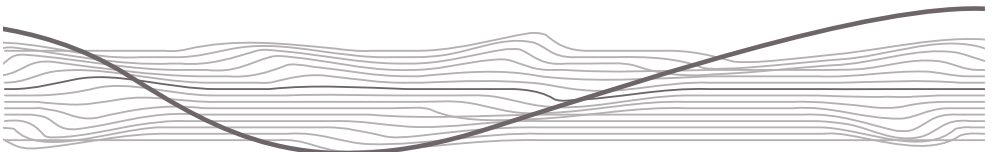
The Cycle Analyst
Version 2.3 Update List
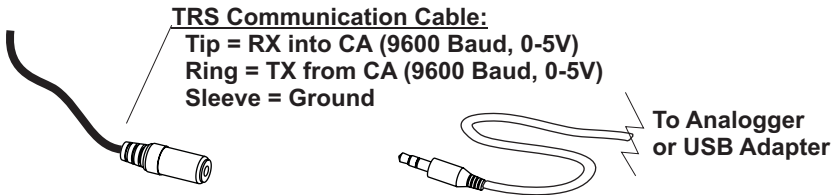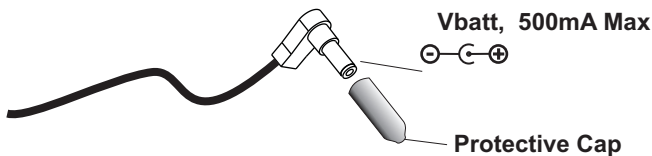

Communication
Cable

DC Power Plug

This is a recently released Version 2.3 Cycle Analyst. The operation is almost identical to the V2.25 devices described in the included user manual, with the following changes:

1) Power Consumption: The V2.3 CA draws 10mA of current rather than 7mA listed in section 12 of the manual.

2) Communication Cable: There is now a short cable present on all the V2.3 CA's for communication. This can be used both for logging data from the serial data stream using an Analogger or similar device, or for reprogramming the CA with new firmware using a USB-TTL adapter cable.
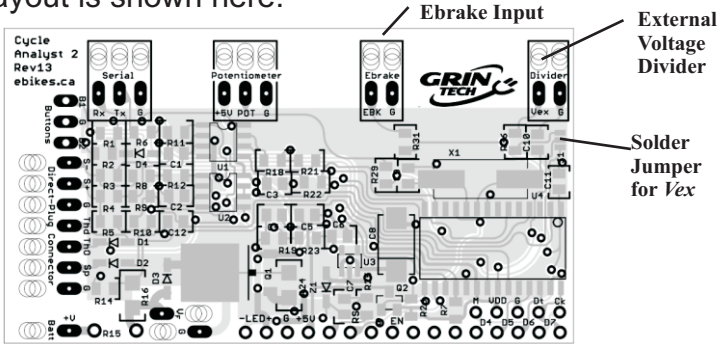
TRS Communication Cable:
Tip = RX into CA (9600 Baud, 0-5V)
Ring = TX from CA (9600 Baud, 0-5V)
Sleeve = Ground

To Analogger or USB Adapter

3) DC Power Cable: The second extra cable is a 5.5x2.1mm power plug. This is connected to your battery voltage and is protected by a 500mA polyfuse. It can be used for powering the Lumenator headlights or other devices (such as DC-DC converters) that run off your battery supply voltage and draw less than 0.5 amps. It can not be configured for 12V output.

Vbatt, 500mA Max

Protective Cap

Please leave the rubber cap over the power plug when not in use, to protect against corrosion or short circuits.

4) New Board Layout: The board layout shown in sections 10 and 11 of the user manual is no longer correct. The current layout is shown here.

Ebrake Input

External Voltage Divider

Solder Jumper for *Vex*

The previous **ThO** pad is now **ThD**, and it includes a diode in the circuitry. There is also a new connection for an optional ebrake cutoff input, and an input and solder jumper for an external pack voltage divider.

5) Slight Change to Gain Settings: The values for IntSGain, IntAGain, and IntVGain are now about 35% higher than the previous V2.2X CA's. So for instance, a gain of 200 in an older device would be equivalent to a gain of 145 in the new V2.3 CA.

6) Line Power Aliasing: In the past, if the CA was used to measure current that had a line frequency ripple, as was the case with many models of battery charger, then the displayed current would slowly beat up and then down due to aliasing of the 120Hz ripple with the 40Hz CA sample rate. The Version 2.3 CA samples at 55Hz, eliminating this issue.

7) High Voltage Mod: There is no longer a separate high voltage option for the CA. Instead, usage above 150V will require powering the CA from a lower voltage source (like 12V), and wiring an externally divided pack voltage to the new **Vex** pad. Up to 650V can be supported this way.