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200A

High-precision watt meter and power analyzer

www.sidewinder.com.au

Operates from 4.8-60V  
0V with optional auxiliary battery.  
Measures 0-200A, resolution 0.01A  
0-60V, resolution 0.01V  
0-6554W, resolution 0.1W  
0-6554Wh, resolution 0.1Wh  
16x2, backlit LCD display



## Instruction Manual

High-precision 200A  
watt meter and power analyzer



### SAFETY PRECAUTIONS

CAUTION: Shorting a rechargeable battery or Watt Meter connected to a rechargeable battery can supply huge currents, causing fireExplosions. personal injury. And damage to equipment.Ensure that all wiring and connections are rated to handle the input or output Current. and are properly assembled for each application

#### 1.1 input voltage & Current Handling Limitations

The Watt Meter is designed to be safe in systems using less than 60V and carrying currents up to 130A,Caution: Exceeding these Limits will damage the Watt Meter and may cause personal injury

### WIRING, CONNECTIONS & APPLYING POWER

Warning: Loose connections can cause components damaged only which power between meter &LOAD.The Red SOURCE wire goes to positive(+) battery or other device terminals and black to Negatives(-).User is responsible for attaching connectors rated to handle the voltage and current expected in user's application. Qualified individuals should make sure any high current connections verify there are no exposed wires or connectors that may short circuit before connecting a battery or power source to the Watt Meter only use female connectors on batteries, By connecting an auxiliary battery(e.g.a receiver battery) of 4.8-60V to the SOURCE 3-pin connector, the Watt Meter can measure down to 0V

### DISPLAY SCREEN

#### 3.1 Startup Screen

Each time power is applied across the Watt Meter

Leads(or auxiliary power connector) a startup screen with logo is briefly displayed the peaks.miniums, Ah&Wh are reset to 0

Then the display changes to the measurement screen

#### 3.2 Measurement Screen

The measurement screen continuously display Amps, Volts and watts, All other measured values are presented sequentially, every Two seconds. In the Data-Queue position of the display. Date values are identified by their units(Ah,Wh,Ap,Vm,Wp).All measurement Screen values re updated every 0.4 seconds

The Measurement Screen layout: Amps,Volts,watts& "Data-Queue"

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The "Date Queue" shows:

Ah,Wh,Ap,Vm,Wp in sequence



#### 3.2.1 (Current) Amps & Amps A, Ap

Only current from SOURCE to LOAD is measured .Amps value displayed is the average current over the last screen update interval Peak Amps value (AP) display is the maximum current drawn from the LOAD side, since the meter's startup. Peaks lasting only a Fraction of a second. Can be captured, Supplying the auxiliary power with a voltage greater than the meter is measuring removes the Meter's operation current from measurements, To reduce meter heating, measure currents over 65 Amps from reduced time and consider Using connector which can handle large current

#### 3.2.2 (Voltage) Voltage & Minimum Volts., V, Vm

The display Volts value is the average voltage over the last screen update interval, The displayed Minimum Volts value(vm) is the Minimum voltage ( or "sag") measured on the SOURCE side, since th e startup screen ended .The Volts value is measured on the SOURCE side

#### 3.2.3 (Energy) Watt-hours Wh

The displayed value is the total energy delivered in Watt-hours since the startup screen ended. It is measured on the LOAD side, For accurate results Be careful not to interrupt the SOURCE connection to the Watt Meter during an energy measurement

#### 3.2.4 (Charge) Amp-hours Ah

The displayed value is the total charge in Amp-hours(x1000=mAh) delivered since the startup screen ended, It is measured on the LOAD side, For accurate results, Be careful not to interrupt the SOURCE connection to the Watt Meter during an charge measurement

#### 3.2.5 (Power) Watts& Peak Watts, W, Wp

The displayed value is the average power delivered in watts(=Volts X Amps) over the last screen update interval, The displayed Peak watts value(Wp) Is the maximum power drawn on the LOAD side, since the startup screen ended. Watt value are measured on the LOAD side.

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You can think of the Watt Meter as a set of jumper wires, Gonnect it in the same way and you can assure what jumper wires are Connected to, Like jumper wires, the Watt Meter is essentially a direct connection between same colored SOURCE and LOAD wires,i.e Both the SOURCE and LOAD leads are electrically "hot" when a battery is connected to either side, current flows from SOURCE to LOAD Make sure connections are secure to prevent component damage! Example use #1: Battery on SOURCE side, Motor Speed Controller (ESC) and motor on LOAD side, With the ESC on, the Watt Meter Shows the current into the motor,voltage sand power at the battery and accumulates the Ah and Wh while the motor is running.Example Use#2: with a battery charger on the SOURCE side and battery pack on the LOAD side. the Watt Meter shows the charging current into The battery. The voltage and charging power at the battery and accumulates the charge(Ah) and energy(Wh) into the battery

### Functions Watt Meter and Power Analyzer

Measures EIGHT parameters key to electric power safety& performance. Use it to: Prevent peak currents damaging battery,Motor Control motors, wiring and connectors, Verify sufficient operation voltage under load, Set cutoff voltage, check battery capacity& health, Balance battery cells, Confirm proper battery charger operation. Detect receivers and actual operating current so as to make sure whether an UBEC is needed.

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