

Watt Meter

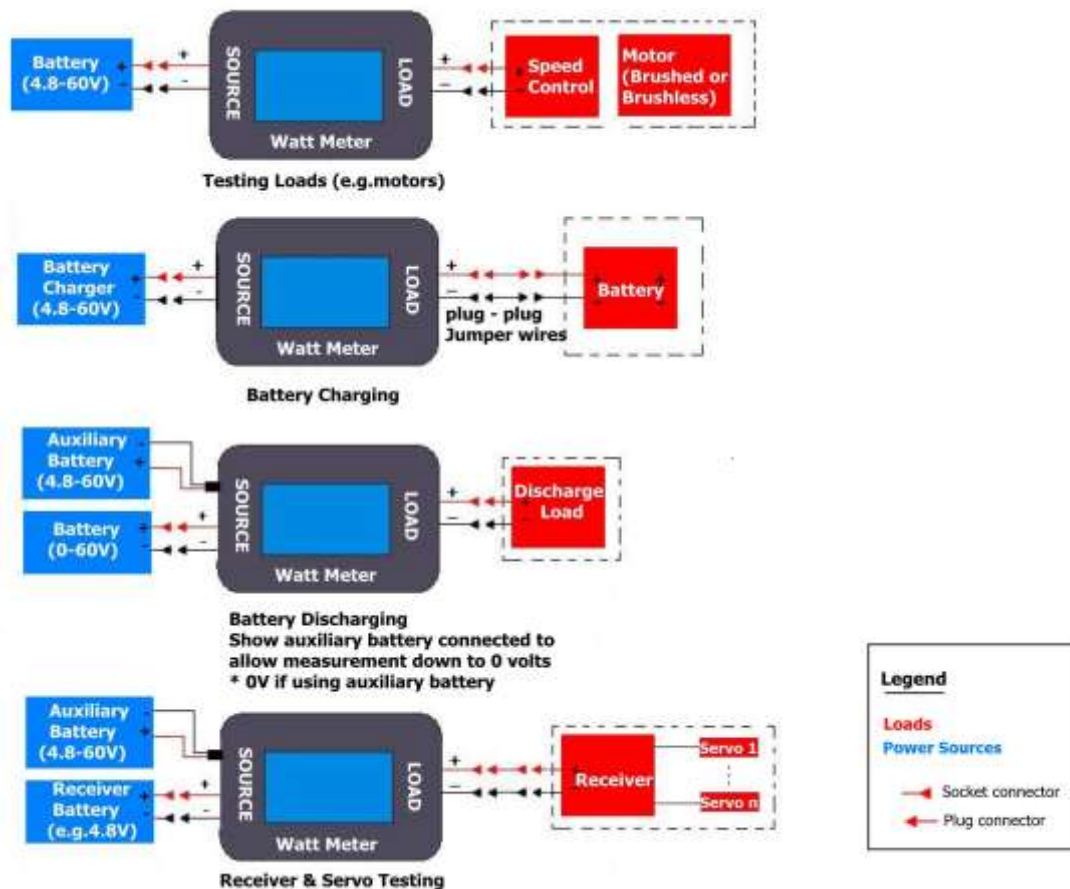
You can regard the Watt Meter as a set of jumper wires. Connect it in the same way and you can measure what the jumper wires are connected to. Like jumper wires, the Watt Meter is essentially a direct connection between same colored SOURCE and LOAD wires, i.e. both the SOURCE and LOAD leads are electrically "hot" when a battery is connected to either side. Current flows from SOURCE to LOAD. Make sure connections are secure to prevent component damaging!

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 and 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

Measure EIGHT parameter, protecting electric power safety & performance. Use it to: prevent peak currents damaging batter, Motor control, motors, wiring and connectors; verify sufficient operating voltage under load; set cutoff voltages; check battery capacity & health; balance battery cell; confirm proper battery charger operation; detect receivers and actual operating current so as to make sure whether an UBEC is needed.



Specifications

Model No.	60130
Operate Voltage	4.8-60V
	0V with optional auxiliary battery
Measures Resolution	0-130A, resolution 0.01A
	0-60V, resolution 0.01V
	0-6554W, resolution 0.1W
	0-65AH, resolution 0.001Ah
	0-6554Wh, resolution 0.1Wh
Size	85 x 42 x 25mm
Weight	90g

Display Screen

Startup Screen

Each time power is applied across the Watt Meter. Leads (or auxiliary power connector) a startup screen with Logo are briefly displayed and peaks, minimums, Ah & Wh are reset to 0. Then the display changes to the measurement screen.

R-Founder

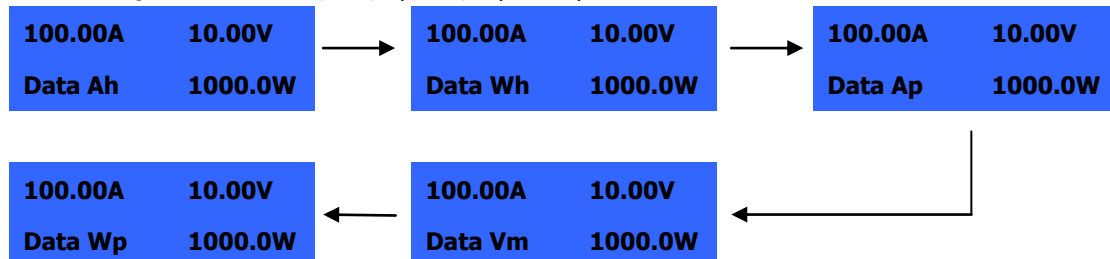
Measurement Screen

The measurement screen continuously displays Amps, Volts and Watts. All other measured values are presented sequentially, every two seconds, in the "Data-Queue" position of the display. Data values are identified by their units (Ah, Wh, Ap, Vm, Wp). All measurement screen values are updated every 0.4 seconds.

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

100.00A	10.00V
Data Ah	1000.0W

The "Data Queue" shows: Ah, Wh, Ap, Vm, Wp in sequence:



(Current) Amps & Peak 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) displayed 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 for reduced time and consider using connectors which can handle large current.

(Voltage) Volts & Minimum Volts V, Vm

The displayed 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 the startup screen ended. The Volts value is measured on the SOURCE side.

(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.

(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 a charge measurement.

(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. Watts values are measured on the LOAD side.

Wiring, Connections & Applying Power

Warning: Loose connections can cause component damage! Only switch power between meter & LOAD. The Red SOURCE wire goes to positive (+) battery or other device terminals and black to Negative (-). 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 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.

Safety Precautions

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

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.

If you encounter any problems or have any questions during using, please email zfkj66@yahoo.com or tel./fax. +86-371-67992783.