



VADER User Guide(MAN405)

(Items #12430 & #12435)



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Charging the Battery:

Please charge the battery fully prior to using the **VADER!**

With the unit turned off, open the case and locate the charge port and charge lamp on the upper left hand side.

Connect the charging cable to the included AC adapter and plug the adapter into a standard 120VAC 60Hz outlet. The other end of the cable plugs into the charge port on the VADER. **DO NOT attempt to close the cover with the charger connected.**

Charging Status:

The red charge lamp on the VADER should illuminate indicating the unit is charging.

As the unit charges the lamp will dim, when the red charge lamp on the VADER turns off, the unit is fully charged and ready for use.

When the VADER is powered on and connected to a compatible Android™ device, the voltmeter application on the tablet indicates the battery status by the green rectangle in the top right corner of the screen. When nearly discharged, the battery level line will change from green to red.

The VADER can be charged from 0% to 85% in under 4 hours. An 85% charge can give the user approximately 8 hours of runtime.

Push Button Operation:

Turning the unit ON:

Press the orange Push Button to turn the **Power ON**.

Now depressed, the blue LED should start blinking.

Turning the unit off:

If the power is already ON,

Press the Push button to turn the **Power OFF**. The blue LED should stop blinking.

Connection Status Indicator (Blue Push Button Lamp):

Power ON indications:

Not Connected : Single Blink from the blue LED

The VADER is On and is ready to connect to a data logger.

Connected : Double Blink from the blue LED

The VADER has successfully connected to a data logger.

Power OFF indication:

The blue LED is Off

Normally it will be Off because the unit was turned Off
or the battery voltage level is extremely low.

Connecting an Android™ device to the VADER:

Install the desired applications (TSS, PLS, or VM Lite) on your Android™ device.

Our applications support Android™ 7 through 13.

External Connections:

- Red and Black Sheathed Banana Jacks
- 5 Pin Connector (Compatible with M. C. Miller Equipment)



Included Accessories:

- Charging Cable - Mini USB
- 12W USB Charger
- 6 Foot Red and Black Test Leads with Clips and shrouded banana plugs (1 each)
- Sturdy Carrying Case
- Carabiner / Belt Clip



Voltmeter Characteristics:

- High Voltage Isolation for Operator Safety : Tested to 1kV steady-state/15kV transient voltage levels (designed for higher voltage level isolation) – operator isolated from power supply
- Non-Saturating : Voltmeter will not saturate on 5.7VDC and higher ranges with superimposed AC signals up to 120VAC (for readings up to approximately 50% of full scale at 60Hz) and/or inductive spikes up to 2kV appearing at the input terminals
- Extensive Ranges : Various DC Ranges (40mV full scale to 570V full scale) plus 4V, 40V, and 400V AC Ranges. All DC Ranges have <80ms response times for accurate On/Off pair readings during fast current interruption cycling (for example, 700ms ON / 300ms OFF).

Power Source:

- 21700 Lithium Ion rechargeable battery
- Interior battery charging port
- Re-chargeable battery lasts approximately 8 hours with continuous usage
- Battery easily replaced in the field

Communication with Tablets/Phones via WPAN technology:

- Android™ compatible
- Connection status indicator, LED, on case exterior

Connectors:

- 5-pin connector for optional push-button data-probe triggering of readings
- Two shrouded banana jacks (one red/one black) – 1,000V; CAT III (IEC 61010 rating)

Integrated Sub-meter GPS System:

- Internal GPS antenna

Environmental:

- IP65 Rated

Temperature Ranges:

- Operating Range: 32°F to 104°F (0°C to 40°C) • Battery Charging Range: 32°F to 104°F (0°C to 40°C)

Case Dimensions (approximate):

- 5-7/8" long x 3.5" wide x 1.75" high

Weight:

- 0.85lb

Specifications:

Voltmeter range, display resolution and accuracy specifications for the VADER, Input Impedance and Response Time (to 99% of final value).

Range	Display Resolution	Accuracy (% reading value)
VDC		
40mVDC, 10MΩ, 80ms	0.01mV	±0.2% ±0.08mV
400mVDC, 10MΩ, 80ms	0.1mV	±0.2% ±0.6mV
5.7VDC, 400MΩ, 80ms	0.001mV	±0.2% ±0.004V
40VDC, 75MΩ, 80ms	0.01mV	±0.2% ±0.04V
57VDC, 75MΩ, 20ms	0.01mV	±0.2% ±0.04V
57VDC, 400MΩ, 50ms	0.01mV	±0.2% ±0.04V
400VDC, 75MΩ, 80ms	0.1mV	±0.2% ±0.04V
570VDC, 75MΩ, 20ms	0.1mV	±0.2% ±0.04V
VAC		
4VAC, 75MΩ, 1.35s	0.01mV	±0.2%±0.06V
40VAC, 75MΩ, 1.35s	0.01mV	±0.2% ±0.06V
400VAC, 75MΩ, 1.35s	0.01mV	±0.2% ±0.6V

AC range specifications valid over 10-1000Hz frequency range and 5-100% of full scale range.

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