

1.Description:

XY-MUPH is an instrument with integrated buck-boost power supply module and multi-function voltage ammeter and temperature display module.

In 'PER' work mode,it can be used as buck-boost power supply module.It can convert to DC 3.5V~12V to DC 1.0V~24V and power is about 2W~3W.

In 'VAH' work mode,it can be used as multi-function voltage ammeter.It can be used to measure voltage,current,power,battery capacity,discharging time.

It also can display real time temperature in both work modes.

It is very suitable for technical engineers to develop, debug instrumentation, after-sales engineers travel maintenance, etc.

2.Features:

- 1>.Dual operating system
- 2>.Support power supply output function
- 3>.Support test power function
- 4>.Support real time temperature display
- 5>.Support over power protection
- 6>.Support under-voltage protection
- 7>.Support over-current protection
- 8>.LCD high definition display
- 9>.Automatic calibration
- 10>.Multi-parameter simultaneous display
- 11>.Support power saving mode
- 12>.Three voltage input methods
- 13>.Support voltage and current calibration
- 14>.Gear potentiometer adjust parameters, more practical and convenient
- 15>.Comfortable outer shell

3.Parameters:

- 1>.Product name: XY-MUPH Boost Buck Converter Voltmeter Ammeter with Shell;
- 2>.Model: XY-MUPH;
- 3>.Work Voltage:DC 3.5V-12V;
- 4>.Output Voltage:DC 1.0V-24V;
- 5>.Output Power:3W(MAX);
 - Maximum output power within 2W when output DC 1.2V~2V;
 - Maximum output power within 3W when output DC 2V~20V;
 - Maximum output power within 2.5W when output DC 20V~24V;
- 6>.Output voltage accuracy: +/-0.5%
- 7>.Output voltage accuracy: +/-1%
- 8>.Measure voltage range:DC 0~35V
- 9>.Measure current range:0~3A
- 10>.Measure power range:0~110W
- 11>.Measure battery capacity range:0~9999Ah

- 12>.Discharging time:0~100hours
- 13>.Measure temperature:-20℃~70℃
- 14>.Work Temperature:-40℃~85℃;
- 15>.Work Humidity:0%~95%RH;
- 16>.Size:78*28*17mm;

4.Mode Switching:

- 1>.XY-MUPH uses a Gear potentiometer to adjust parameters.Press is used as 'ON/OFF'.Rotate to left is used as 'UP'.Rotate to right is used as 'DOWN'.
- 2>.The default is the Power Output Mode PER at first;
- 3>.Keep press potentiometer for 10 second to switch mode;
- 4>.When power is remove, module can remembers current operating mode.The default work will be the same mode when power on at next time.

5.Power Output Mode PER:

- 1>.Input from standard USB male socket, Micro USB female socket and Type-C female socket.
- 2>.Output from 'OUT+' and 'OUT-'.The 'COM' terminal can not be used at PER mode.
- 3>.LCD display will display current mode 'PER' when start up.
- 4>.There is a symbol 'OUT' when work in PER mode.
- 5>.Terminal 'COM' unavailable at PER mode.
- 6>.Short press potentiometer to turn ON or OFF output voltage.Screen will display 0V and current will flashing at this time.
- 7>.Keep press potentiometer for 2 second to switch display output current or output power at the second line.
- 8>.Keep press potentiometer for 5 second to turn ON or OFF display screen backlight.But the module can output voltage normally.
- 9>.Keep press potentiometer for 10 second to turn switch work mode PER or VAH.
- 10>.Rotate potentiometer to right or left to adjust output voltage.User also can keep rotate to adjust output voltage continuously and greatly.There is a symbol 'SET' will display at the same time.Automatically save the set parameters after 2 second.
- 11>.Rotate potentiometer to right or left to switch display current temperature when turn OFF power supply output.
- 12>.XY-MUPH supports over-power protection.It will automatically stop output voltage and the LCD will display 'OPP' and flash if output power is more than 3W.
- 13>.XY-MUPH supports under-voltage protection.It will automatically stop output voltage and the LCD will display 'LVP' and flash if output voltage is less than 0.8V.
- 14>.XY-MUPH supports over-current protection.It will automatically stop output voltage and the LCD will display 'OCP' and flash if output current is more than 2A.
- 15>.The module does not support reverse connection protection, please do not short circuit and reverse.

6.Multi-function Meter Mode VAH:

1>.Module work voltage : Standard USB male socket, Micro USB female socket and Type-C female socket are used to provide work voltage for XY-MUPH.

2>.Measuring voltage : 'V' and 'COM' terminals are used to measure Measured Device Voltage.

3>.Measuring current : 'A' and 'COM' terminals are used to measure Measured Device Current.

4>.There is a symbol 'IN' when work in PER mode.

5>.Short press potentiometer to switch display current temperature or Measured Device Voltage.

6>.Keep press potentiometer for 5 second to turn ON or OFF display screen backlight. But the module can output voltage normally.

7>.Keep press potentiometer for 10 second to turn switch work mode PER or VAH.

8>.Rotate potentiometer to right or left to switch display Measured Device Power and current. And also can measure Battery capacity, Battery discharging time if connect battery.

9>.The module does not support reverse connection protection, please do not short circuit and reverse.

7. Calibrate Voltage/Current:

1>.Calibrate Voltage: Keep press potentiometer before power ON and then power ON and release potentiometer after 5 second. Automatically enter calibration mode. The voltage display will flashing. Rotate potentiometer to right or left to adjust and calibration voltage. Enter current calibration mode if keep press potentiometer for 2 second. Automatically save parameters and return to the normal display interface if keep press potentiometer for 5 second.

2>.Calibrate Current: Enter current calibration mode if keep press potentiometer for 2 second after Calibrate Voltage. The current display will flashing. Rotate potentiometer to right or left to adjust and calibration current. Automatically save parameters and return to the normal display interface if keep press potentiometer for 5 second.

3>.Voltage and current need to be separately calibrated separately in different work modes. The same way of calibration.

8. Use steps:

1>.Connect to power supply from input terminal;

2>.Set work mode by keep press potentiometer for 10second;

3>.Connect load or Device Voltage;

4>.Set required parameters;

5>.Test and use.

9. Application:

1>.Ordinary low power supply;

2>.Voltmeter;

3>.Ammeter;

- 4>.Battery capacity tester;
- 5>.Battery load capacity tester;
- 6>.Temperature monitor;

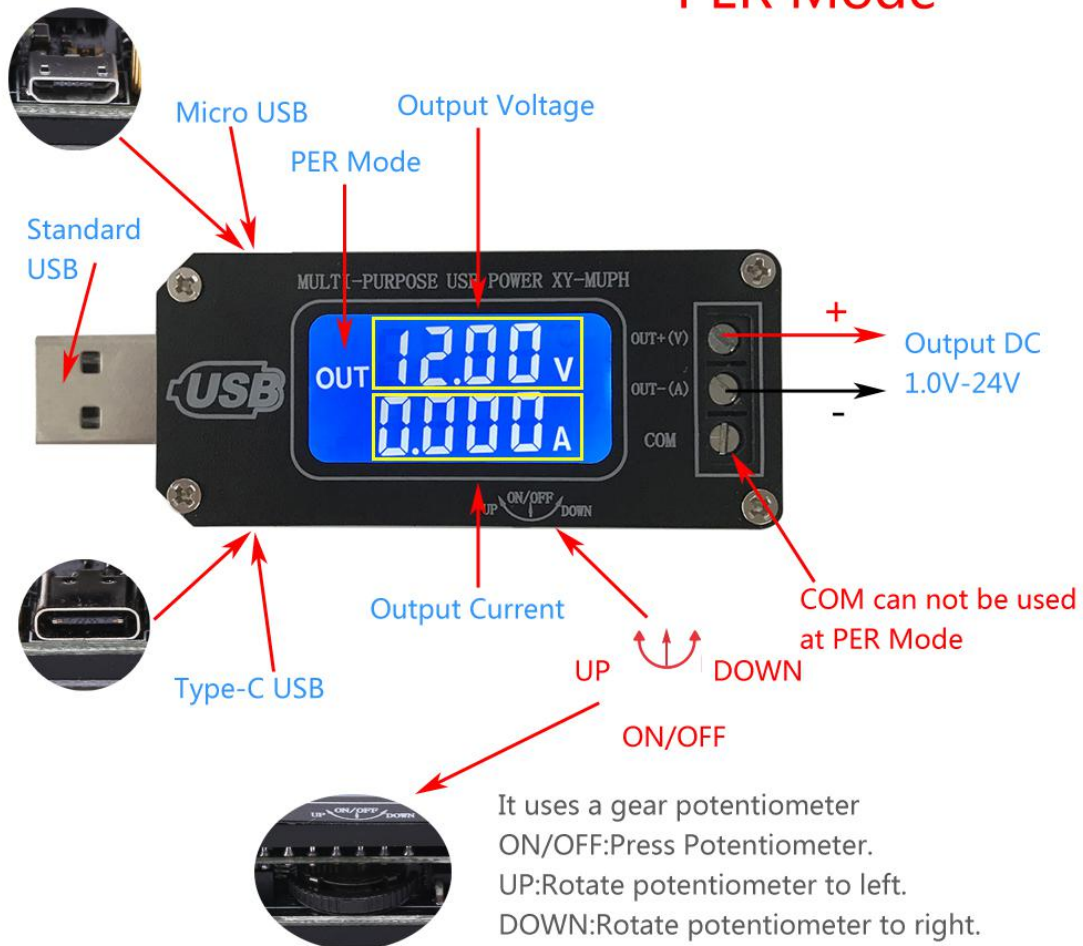
10.Note:

- 1>.The module does not support reverse connection protection, please do not short circuit and reverse.
- 2>.Adjust the working mode before use.
- 3>.It is a low power supply, please do not exceed the maximum output power.
- 4>.Please read use manual and description before use.

11.Package:

- 1>.1pcs XY-MUPH Boost Buck Converter Voltmeter Ammeter with Shell;

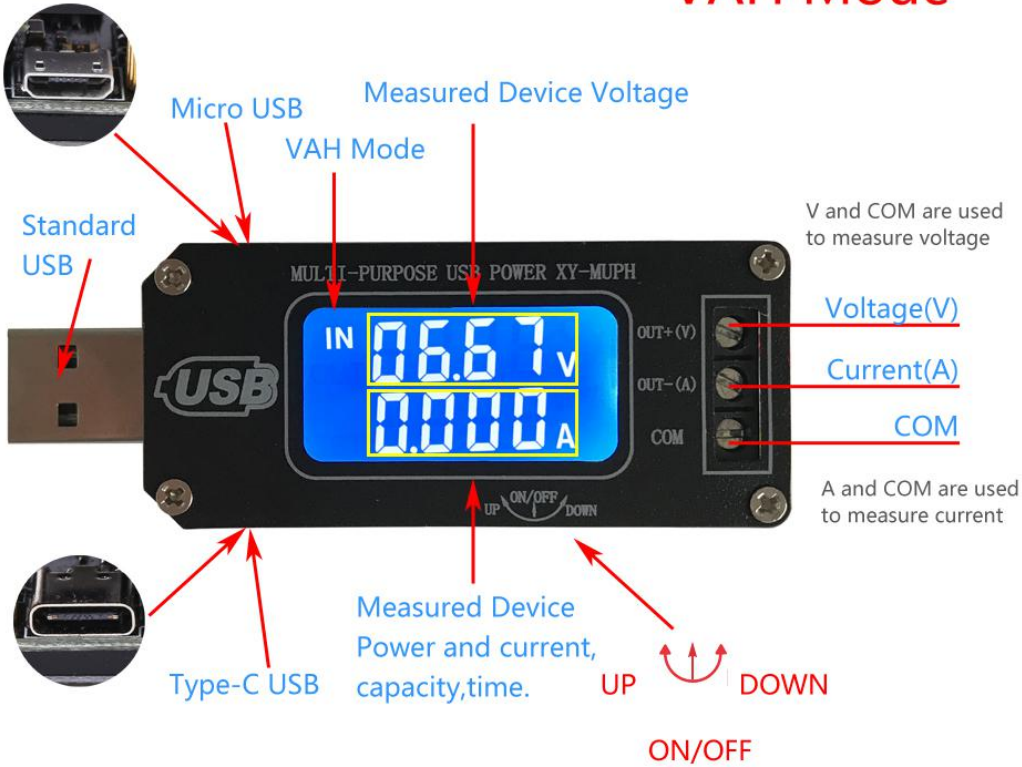
PER Mode



PER Mode:Wiring Diagram



VAH Mode



Measure Voltage(0~35V),
 Measure Current(0~3A),
 Measure Power(0~110W),
 Battery Capacity(0~9999Ah),
 Discharging Time(0~100h)

It uses a gear potentiometer
 ON/OFF: Press Potentiometer.
 UP: Rotate potentiometer to left.
 DOWN: Rotate potentiometer to right.


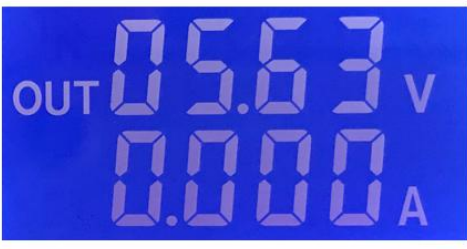


VAH Mode:Wiring Diagram











Measure Voltage(0~35V), Current(0~3A), Power(0~110W),
Battery Capacity(0~9999Ah), Discharging Time(0~100h)

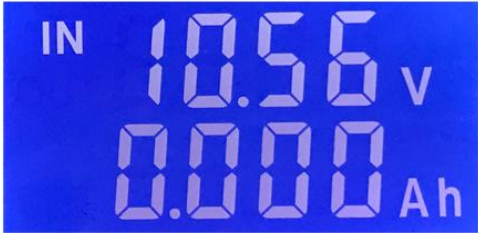

In VAH work mode, it can be used as multi-function voltage ammeter.

It can be used to measure voltage, current, power, battery capacity, discharging time.

<p>1.Display default work module at Power ON.</p>	
<p>2.Display default output voltage and output current.It will display symbol OUT at PER mode.</p>	
<p>3.Turn OFF output by short press potentiometer ON/OFF.</p>	
<p>4.Display both 0 for output voltage & current at OFF status. Current will keep flashing.</p>	

<p>5. Rotate potentiometer to right or left to switch display current temperature at OFF status.</p>	 <p>OUT 24.2°C 0.000 A</p>
<p>6. Turn ON output by short press potentiometer.</p>	 <p>OUT 05.5 V 0 A</p>
<p>7. Rotate potentiometer to right or left to adjust output voltage and current. User can keep rotate to adjust voltage continuously & greatly. Display a symbol SET at the same time. Automatically save the set parameters after 2 second.</p>	 <p>OUT 05.5 V SET 0.000 A</p>
<p>8. Display output voltage and output current.</p>	 <p>OUT 05.60 V 0.021 A</p>

<p>9.Keep press potentiometer for 2 second to switch display output current or output power at the second line.</p>	 <p>OUT 05.60 V 00.20 W</p>
<p>10.Keep press potentiometer for 5 second to turn ON or OFF display screen backlight.But the module can output normally.</p>	 <p>OUT 05.51 V 00.00 W</p>
<p>11.Keep press potentiometer for 10 second to switch work mode PER or VAH.</p>	 <p>VAH</p>
<p>12.Display Measured voltage and Measured current.</p>	 <p>IN 13.44 V 0.000 A</p>

<p>13. Rotate potentiometer to right or left to switch display Measured current or power or capacity or discharging time at second line.</p>	 <p>IN 13.43 V 00.00 W</p>
<p>14. Display battery capacity.</p>	 <p>IN 10.56 V 00.00 Ah</p>
<p>15. Display discharging time.</p>	 <p>IN 10.56 V 00:00 h</p>
<p>16. Short press potentiometer to switch display temperature or Measured Device Voltage.</p>	 <p>IN 25.5 °C 00.00 A</p>

17. Calibrate Voltage:

Keep press potentiometer before power ON and then power ON & release after 5 second. Automatically enter calibration mode. The voltage display will flashing. Rotate potentiometer to right or left to adjust and calibration voltage. Enter current calibration mode if keep press potentiometer for 2 second. Automatically save parameters and return to the normal display interface if keep press potentiometer for 5 second.



OUT 05.17 V
SET 0.000 A

18. Calibrate Current:

Enter current calibration mode if keep press potentiometer for 2 second after Calibrate Voltage. The current display will flashing. Rotate potentiometer to right or left to adjust & calibration current. Automatically save parameters and return to the normal display interface if keep press potentiometer for 5 second.



OUT 05.51 V
SET 0.000 A

