Matek Systems

UPA2L

USB Power Adapter L-2.5A

Manual

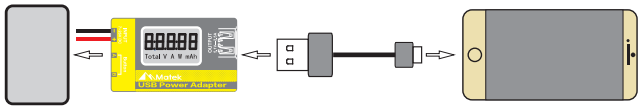
It is a multifunctional switch-mode DC-DC regulator, works with 7~26Vdc Input, and outputs 5.1Vdc/0-2.5A to charge any USB based device. It features a high efficiency switch mode design providing better heat dissipation. It can support wide power sources, such as any AC-DC power adapters(voltage range 7~26V), 2~6Cells Li-poly battery, Auto cigar-lighter slot, etc.

Features

- Low power MCU with 10bit ADC
- Segment LCD shows clear and accurate numerical readings
- 5 modes allows the user to check real-time Input voltage, Output current, Capacity, Total capacity & Time.
- 4 protections of over-voltage,over-load, short circuit, reverse polarity
- Input voltage cut-off setting & alarm
- Self-closedown function to avoid the device be over charged.
- Output delay setting for DIY Auto USB charger

Specifications

- Input voltage range: 7~26V DC
- Output current: 0~2.5A
- Voltage precision:+/-0.3% , Resolution:0.01V
- Current precision:+/-1% , Resolution:0.01A
- Efficiency: up to 93%
- Input Cut-Off Voltage: 7.00~25.00V
- Current sensing resistor: 10mΩ
- Standby current: 25mA
- Size & weight: 58x34x10mm, 25g



AC-DC power adapters, 2~6Cells Li-poly battery, Auto cigar-lighter slot

UPA2L

USB Cable

Phone, Tablet PC, GPS, etc.

How to Use

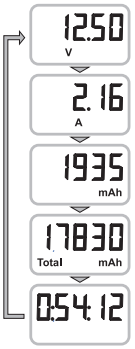
1. Connect the UPA2L to the proper power sources (AC-DC power adapters, 2~6Cells Li-poly battery, Auto cigar-lighter slot, etc.)

   ⓘ If the input voltage is not in the range of 7~26V DC, the UPA2L will alarm "BeBe..Be.Be.Be.Be.Be.Be" & "In.Hi" or "In.Lo" will blink on LCD.

2. When the UPA2L is ready for use it will remind "BeBe" & display the input voltage(V).

3. Connect a target device to the UPA2L. The UPA2L will beep once again, then the Initial mode input voltage(V) will be replaced with output current(A)

4. The 5 modes of the UPA2L can be changed by pressing the button-A to cycle as follows.



Voltage(V) - Input voltage value is displayed in real time.

Current(A) - Output current value is displayed in real time.

Capacity(mAh) - Output capacity add up to value in real time.
Count from UPA2L & device connection through disconnection.
It will be cleared after the device is unplugged.

Total capacity(Total mAh) - All capacity data in the memory.
It can be cleared by pressing button-B when Total mAh is shown.

Time(0:00:00) - Charging time escaped in real time
Count from UPA2L & device connection through disconnection

ⓘ Hold the button-A 3 seconds, the modes will be shown in automatic cycle station. Press the button-A again, the modes will be shown in manual station.

Special functions & settings

⚠ **No output as follows**
Input voltage is out of range or reach the cut-off, Self-closedown, Output delay countdown, over output voltage, over load.

1. Input voltage cut-off function

This function is special for the input source of LiPo battery or Auto Lead-acid battery.

When the input voltage is below the cut-off value. UPA2L will cut the output current, display "In.End" & alarm "Be..Be..Be..Be..Be"

If the input voltage rise, "In.End" can be removed by pressing button-B

2. Output delay function

It is special for the input source of Auto cigar-lighter slot.

It can help the devices to avoid the probable damage of secondary start-up during the auto ignition

If this function is ON, LCD screen will show "DL" & countdown the seconds until the output is ON

3. Self-closedown function

The current will be cutted automatically when the device is full charged or unpluged.

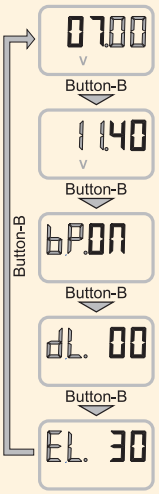
UPA2L alarm “Be..Be..Be”, and "End" is displayed.

Press the button-B to clear "End" & switch on the output current.

UPA2L detect the full charging according to End Level(EL) of trickle current . Pls set the EL according to defferent devices.
If the current is cutted automatically & device is not full charged, Pls adjust the EL value bigger.

4. Settings

Hold the button-B 3 seconds to enter the setting menu.
Press Button-B to cycle the menu, press Button-A to set the parameter
Save & exit with beep if no action within 10 seconds.



Press Button-A to set the integer of cut-off voltage between 7 to 25.

Default cut-off voltage is 7.00V

Press Button-A to set the decimal of cut-off voltage between 00 to 90.

Beep ON or OFF, Default ON

Output delay (seconds)
Value: 0, 5, 10, 20, 30, 60

Press the Button-A to cycle through the value (10, 20, 30, 40, 60, OFF), Default value is 30.
OFF - Close the function

5. Alarm & Display

In.Lo - Input voltage < 7V, "Be.Be.Be.Be.Be"
In.Hi - Input voltage > 26V, "Be.Be.Be.Be.Be"
In.End - Input voltage < the cut-off value, "Be..Be..Be..Be..Be"
End- The device is full charged or unpluged. , “Be..Be..Be”