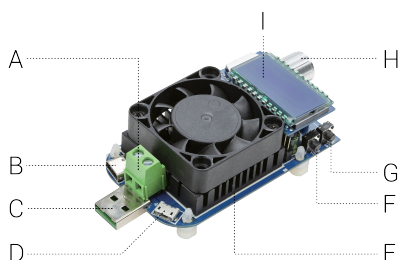# UCTRONICS®

USB Intelligent Load - 35W
Model: U6214

INTRODUCTION

UCTRONICS U6214 electronic load tester is not only an electronic load, but also can test the fast charging protocol supported by charging device, and trigger the output of fast charging protocol or other voltages.

A: Screw terminal blocks
B: Type-C port, maximum current is 5A
C: USB male port, maximum current is 5A
D: Micro USB port, maximum current is 2A (this port can't trigger fast charging)
E: Intelligent temperature-controlled heatsink, temperature trigger: 40℃; power consumption trigger: 10W
F: Trigger button "TRG", press shortly to enter the choice mode of triggering fast charging protocol, long press to test the fast charging protocol supported by charging device.
G: ON/OFF button "STOP", press shortly to turn on/off load, long press to lock load current, prevent misoperation.
H: Encoder knob, in normal operation, rotate clockwise to increase current, rotate anticlockwise to decrease current; short press and long press, different function in different modes, please refer to "SYSTEM OPERATION".
I: LCD display: the screen will display the flicker of current when connected to power, the current won't flicker when running.

SPECIFICATIONS

- Rated operational voltage: DC 4.0-25.0V
- Max discharging power: 35W
- Rated operational current: 0.03-5.00A
- Fan speed: hydraulic bearing intelligent temperature control fan. 8000±10%RPM
- Supports to test and trigger supported fast charging protocol: QC2.0 (5V、9V、12V、20V), QC3.0, AFC9V, FCP
- Constant current accuracy: ±(1％+3 digits)
- Voltage accuracy: ±(0.5％+3 digits)
- Working temperature: -20℃～40℃(-4℉～104℉)
- Port: USB, micro USB, type-C and external wiring port.
- Safe protection: anti-reverse protection, overvoltage protection (OVP), overcurrent protection (OCP), over-power protection (OPP), low-voltage protection (LVP), over-temperature protection (OTP).

SYSTEM OPERATION

● **Change display mode during normal operation**

The first line: the actual voltage;
Press the knob shortly to switch the second line displayed mode: the actual current, power, electric quantity, running time. In any display mode, rotate the knob to return current displayed.

● **Lock current to prevent misoperation**

In the mode of current displayed, long press the button "STOP" to lock and unlock the current. The locking symbol "I-" will be displayed in front of the current after locking, and you can't rotate the knob to adjust the current to prevent misoperation.

● **Test supported fast charging protocol**

Long press the trigger button "TRG", the load will test fast charging protocol QC2.0, QC3.0, AFC, FCP one by one. The supported fast charging protocol will be displayed when finish testing. QC2.0 will be displayed "2", QC3.0 will be displayed "3", AFC will be displayed "A", FCP will be displayed "F".

● **Trigger the output of fast charging protocol**

Short press the trigger button "TRG" to enter the choice mode of fast charging protocol → rotate the knob to switch protocol → press the knob shortly to select the protocol. (If the selected protocol is QC2.0 or QC3.0, you can rotate the knob to change the operating voltage, clockwise rotation is "+", anticlockwise rotation is "-". The adjusted voltage will be displayed on the second line, 5V will be displayed "-05.0" and so on. Press the knob to select the adjusted voltage.)
The load will go back to normal operation and run on the selected protocol. If the charging device doesn't support the selected protocol, the voltage will go down to the voltage supported by the charging device.
Note: the load can't trigger the output of PD protocol.

● **Set parameter**

Long press the knob to enter the mode of the setting parameter. Rotate the knob to change the parameter, clockwise rotation is "+", anticlockwise rotation is "-". Short press the knob to switch the parameter item. Long press the knob to confirm the parameter, the load will save the parameter automatically and go back to normal operation. (More Explanation of parameter please see parameter table.)

Default value and explanation of each parameter item as is shown below:

Item	Default Value	Explanation
Overvoltage protection (OVP)	25.2V	When the voltage reaches the value, the screen will display the flicker of "OVP"
Overcurrent protection (OCP)	5.1A	When the current reaches the value, the screen will display the flicker of "OCP"
Over-power protection (OPP)	35.5W	When the power reaches the value, the screen will display the flicker of "OPP"
Low-voltage protection (LVP)	4V	When the voltage falls down to the value, the screen will display the flicker of "LVP"
Over-temperature (OTP)	80℃	When the temperature reaches the value, the screen will display the flicker of "OTP"

Item	Default Value	Explanation
Maximum electric quantity (OAH)	Not Set (Ah)	Automatic statistics the electric quantity of discharge by default; If setting the value, the load will stop and display the flicker of "OAH" when the electric quantity of discharge reaches the value; Long press the button "STOP" to clear the setting parameter; The range of setting value can be changed by pressing the button "STOP".
Maximum discharging time (OHP)	Not Set (Min)	Automatic statistics the duration of discharge by default; If setting the value, the load will stop and display the flicker of "OAH" when the duration of discharge reaches the value ; Long press the button "STOP" to clear the setting parameter.
Data array (DAT)	0	0: the previous electric quantity and duration wo n't add up to the next array 1: the previous electric quantity and duration will add up to the next array
Return to normal working condition manually or automatically (REC)	OFF	ON: the load will return to normal working condition automatically when the value reaches the protection parameter; OFF: the load needs to be returned to normal work manually after the release of the protectionmechanism.
Trigger fast charging protocol automatically(AUTO)	OFF	ON: trigger fast charging protocol automatically, apply to test the aging charger OFF: doesn't trigger fast charging protocol automatically

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