



## USB Intelligent Electronic Load

<https://www.droking.com>

### Introduction:

Can not only be used as a normal electronic load, but also a USB electronic load.

Support QC2.0/ QC3.0 / AFC / FCP fast charging protocol, to output 5V / 9V / 12V / 20V and other voltage.

Note: this item doesn't support PD protocol.

### Parameters:

Rated working voltage: DC 4.0-25.0V

Max discharge power: 35W

Rated working current: 0.03-5.00A (please adjust from 0.22A if fan is on)

Max fan rotation speed: 8000±10%RPM

CC precision: ±(1%+3 digits)

Voltage precision: ±(0.5%+3 digits)

Cooling method: intelligent temperature controlled fan + all aluminum heat sink

Working environment temperature: -20°C~40°C

Input protection: reverse connection protection

OVP over voltage protection: default 25.2V, adjustable

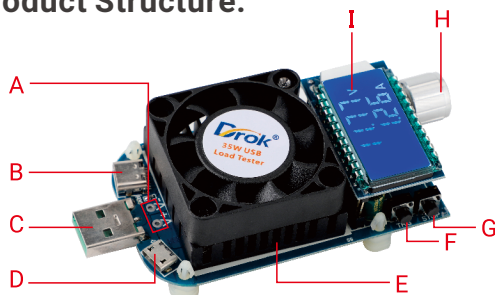
OCP over current protection: default 5.10A, adjustable

OPP over power protection: default 35.5W, adjustable

LVP low voltage protection: default 4.0V, adjustable

OTP over temperature protection: default about 80°C, not adjustable

### Product Structure:



- A. External wiring port, can be used by welding terminals
- B. Type-C port: max current 5A, can trigger fast charging protocol
- C. USB male port: max current 5A, can trigger fast charging protocol
- D. Micro USB port: max current 2A, cannot trigger fast charging protocol
- E. Aluminum heat sink and intelligent temperature controlled fan
- F. Trigger button (TRG)
- G. ON / OFF button
- H. Potentiometer
- I. LCD display

### Function Description

#### Load Function

- Can display current A, voltage V, power W, capacity Ah and discharge time.
- Automatic statistics of discharge capacity and discharge time.
- Set the max discharge capacity (OAH) and max discharge time (OHP), can realize unattended power aging test.
- Intelligent temperature controlled fan, the fan will start to work automatically when the power > 10W or the temperature > 40 °C.
- The current can be adjusted accurately to 0.01A by potentiometer, and the current can be locked to prevent misoperation.
- The load can be set to resume normal operation manually or automatically after the protection mechanism is released (REC).
- Data group function: it is select-able whether to add up the capacity value and running time of the formal stage.

#### Statistics of Discharge Capacity and Discharge Time

- Discharge capacity statistics: start counting from turning on the load, and when the through current is 0, a discharge process is completed and the statistics are finished.
- Discharge time statistics: start counting from turning on the load, and when the through current is 0, a discharge process is completed and the statistics are finished.

#### Set OAH and OHP

- Set the maximum capacity (OAH): activated OAH function, when the load discharge capacity is higher than the set maximum capacity, the electronic load will automatically stop discharge and LCD will flash OAH. Once the OAH alarm released, the capacity statistics data will be automatically cleared.
- Set the maximum discharge time (OHP): activated the OHP function, when the load running time is greater than the set maximum discharge time, the electronic load will automatically stop discharge and LCD will flash OHP. Once the OHP alarm released, the time statistics will be automatically cleared.

Note: if the OAP and OHP functions are not activated, the electronic load will record the discharge capacity and discharge time.

Activated OAH and OHP function, when reach the setting value, the electronic load will automatically stop working. If the OHP

function is activated, the electronic load running time is in the countdown mode.

#### Data Group Function DAT

Divided into "DAT0" and "DAT1"

DAT0: LCD flashes the capacity value and running time of the formal stage, and won't add up to the next stage.

DAT1: LCD flashes the capacity value and running time of the formal stage, and will automatically accumulate to the next stage.

#### REC Function

Set the load to resume normal work manually or automatically, after the protection mechanism is released.

REC: ON state, the load will automatically resume normal work after the protection mechanism is released.

REC: OFF state, only manual operation can the load resume normal work, after the protection mechanism is released.

#### AUTO Function

Set whether to automatically trigger the fast charge protocol after power-on.

AUTO: ON state, fast charging protocol will be triggered automatically when power-on, suitable for batch testing of aging charger.

AUTO: OFF state, fast charging protocol won't be triggered when power-on.

### Instructions of Load Function Interface

#### Operation Interface Instructions

- Enter the operation interface after the electronic load is powered on, and press the "ON / OFF" button to turn on/off the electronic load, rotate the potentiometer to adjust the current value of the electronic load in real time.
- Short press the potentiometer to switch the content of the LCD bottom line display (current / power / capacity / time).
- In any display interface, rotate the potentiometer, it will automatically switch to the current display interface.
- In the current display interface, hold press the "ON / OFF" button to turn on/off the data lock function. If the data lock function is turned on, the lock symbol "L" will be displayed in front of the current. At this time, the load current cannot be adjusted in real time by rotating the potentiometer to prevent misoperation.
- In the capacity / time interface, hold press the "ON / OFF" button to clear the corresponding capacity / time data.

Short press potentiometer to switch display



Current



Power

11.96v  
5.163 Ah

Capacity

11.96v  
01:27 h

Time

### Setting Interface Operation Instructions

- In the operation interface, hold press the potentiometer to enter the setting interface.
- Adjust the parameter by rotating the potentiometer, clockwise to increase and counterclockwise to decrease; short press the potentiometer to switch the parameters that need to be adjusted.
- In OAH / OHP interface, short press "ON / OFF" button to select the corresponding function be turned on / off, if it is turned off, "----" will be displayed.
- In OAH interface, hold press the "ON / OFF" button to select the capacity range (9.999Ah / 99.99Ah/999.9Ah/9999Ah).
- Completed the parameter setting, hold press the potentiometer to exit the setting interface, and the setting parameters will be automatically saved.

OVP  
SET 25.2

Set OVP  
Default 25.2V

OCP  
SET 4.10 A

Set OCP  
Default 5.10A

OPP  
SET 35.50 W

Set OPP  
Default 35.5W

LVP  
SET 4.0

Set LVP  
Default 4.0V

OAH  
SET 0.000 Ah

Set OAH

OHP  
SET 00:00 h

Set OHP

DAT  
SET 0

Set DAT

REC  
SET OFF

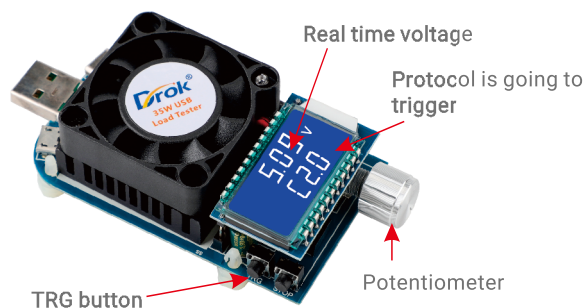
Set REC

AUTO  
SET On

Set AUTO

### Trigger Fast Charge Protocol Function

Support QC2.0, QC3.0, Samsung AFC 9V, Huawei FCP protocols.  
Fast charge auto detection function: hold press the TRG to detect the fast charging protocol the charger supports.  
Automatically trigger fast charging when power-on: fast charging is automatically triggered when power-on (AUTO: ON state), suitable for batch testing of aging chargers.



### Trigger Function Description

The trigger function is to send a signal on D + D- to induce the charger to fast charge. After entering this mode, the load will be turned off automatically.  
After the trigger is completed, the load will resume the formal on/off state.  
Only auto detection function can trigger and get result, other modes can only send the trigger signal and won't tell the trigger is successful or not.

### Trigger Fast Charge Protocol Instructions

- Confirm the fast charge protocol the charger supports  
Hold press TRG button, the LCD bottom line will dynamically flash '2.' '3.' 'A.' 'F' during the process, respectively corresponding to QC2.0, Q C3.0, AFC, FCP fast charging protocol. After the detection is completed, the protocol that the charger supports will be displayed on LCD bottom line, short press the potentiometer to return to the load interface.
- Short press TRG button to enter the trigger protocol selection interface  
If don't want to trigger fast charging, please short press TRG button to return to the load interface
- Rotate the potentiometer to select the fast charge protocol is going to trigger
- Short press the potentiometer after selection, enter the trigger of the protocol, LCD will dynamically display "----", when the trigger is completed, the corresponding voltage will be displayed as follows:

QC2.0: the LCD bottom line will display '-05.0', rotate the potentiometer to select from '-09.0', '-12.0', and '-20.0', they respectively represent 5.0V, 9.0V, 12.0V and 20.0V of QC2.0 protocol, and the LCD will display the real-time voltage on the

upper line.

Selected the voltage is going to trigger, short press the potentiometer to return to the load interface.

QC3.0: the LCD bottom line will display '-05.0', which can be increased or decreased 0.2V by rotating the potentiometer, the LCD will display the real-time voltage on the upper line.  
Selected the voltage is going to trigger, short press the potentiometer to return to the load interface.

AFC / FCP: after the trigger is completed, it will automatically return to the load interface.

5.20v  
2.--F

5.12v  
2.3A-

If the protocol is not supported, LCD display "- "

### Operation Interface Instructions

5.09v  
[2.0

QC2.0

5.09v  
[3.0

QC3.0

5.09v  
AFC

AFC

5.09v  
FCP

FCP

9.12v  
-090

QC2.0 9.0V

11.78v  
-116

QC3.0 11.6V

Upper line display the real-time voltage  
Bottom line display the voltage of selection

Recommend product  
on Amazon:



USB Meter

NO RISK. 30 Days Money  
Back Guarantee.

