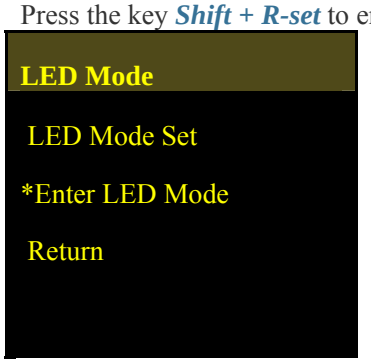
Jartul JT63 Series Electronic Load & LED Power Supply

Real Simulation LED loading

1. Entering LED mode

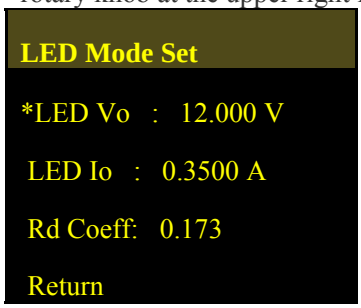
Press the key ***Shift + R-set*** to enter LED mode menu.



Choose the item ***Enter LED Mode*** and enter LED mode.

2. Setting the parameters

Press the key ***Shift + R-set*** to enter LED mode menu. Then select the item ***LED mode set*** to set the parameters. The rotary knob at the upper right front panel can be used to adjust the V_o.

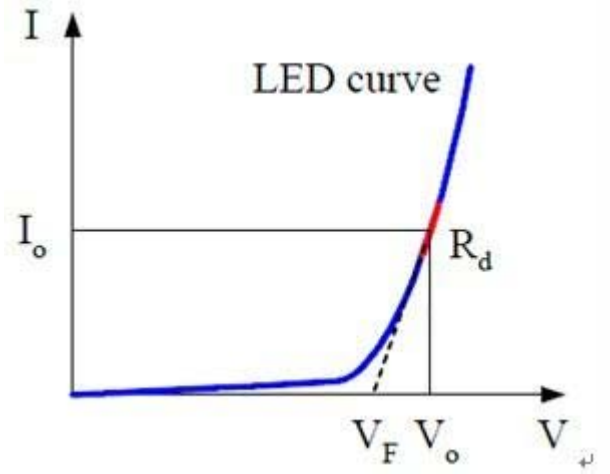


LED V_o : LED power supply working voltage

LED I_o : LED power supply working current

Rd Coefficient: Working point resistance coefficient（range 0.001 ~ 1）

3. Rd Coefficient significance



I_O is working current, which should be set as the rated current of measured LED power supply.

Vo is working voltage, which can be set as any value of output voltage range of the measured LED power supply

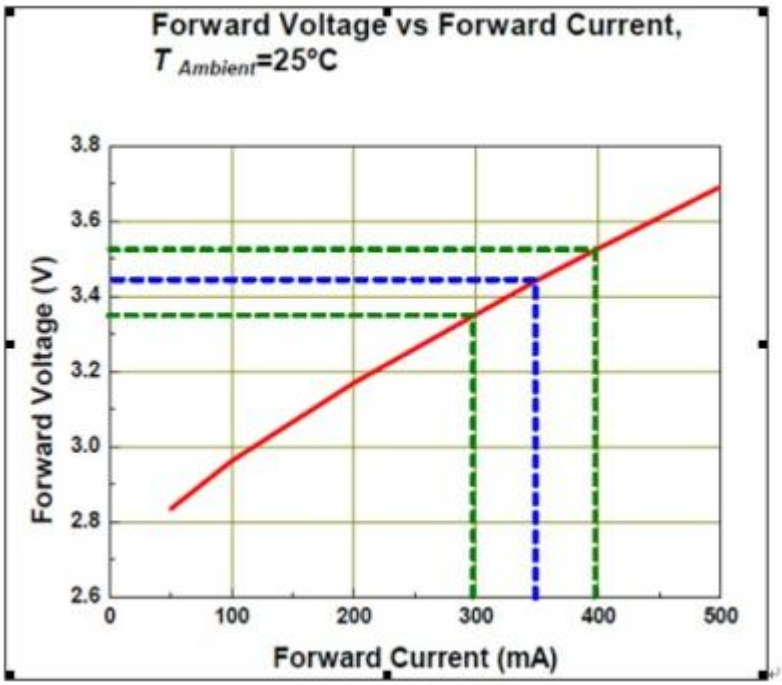
Rd is LED power supply inherent parameter, which can be found in LED power supply specification. Please refer to the part 4 for the detail.

Rd Coefficient = R_d / (V_o / I_o)

Note：Vo、Io、Rd Coefficient are all the parameters describing the LED characteristic. Since the actual output current of LED power supply slightly deviates from the rated current, so there is also a slight deviation to the actual output voltage. This is normal.

4. Counting Rd Coefficient

Suppose there is a LED string, 10 LEDs in series. The V-I characteristic curve of a single LED is as follows:



The output current I_o of LED power supply is350mA. Then according to the above diagram, the working voltage V_o of a single LED is 3.44V.

The tangent line slope (ΔV/ΔI) of the working point is the operating point resistance R_d, so a single LED Rd = (3.52 – 3.35) / (0.4 – 0.3) = 1.7Ω

Coeff. = Rd / (V_o / I_o) = 1.7 / (3.44 / 0.35) = 0.173

5. The advantage of setting Rd Coefficient

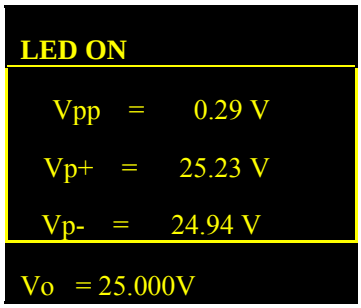
In LED power supply specification, there is voltage output range, for example: 9-36V. Different output voltage means different number of LED in series, and then Rd is different.

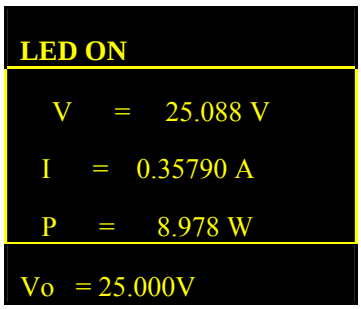
If setting R_d, each time when the test voltage is changed, Rd needs to be set again. It is very inconvenient. Since R_d is in proportion to the test voltage, users only need set an R_d Coeff and the electronic load will automatically count its corresponding R_d.

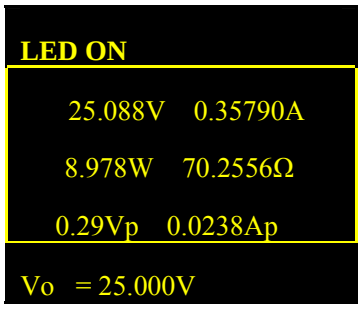
6. Simulating LED loading

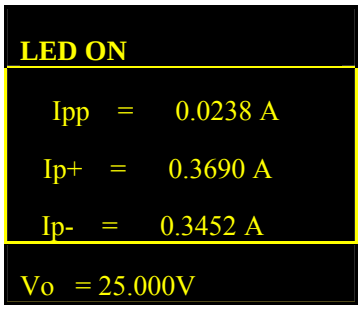
After exit the menu, press the key ***On/Off*** and start loading. After LED power supply is connected to the electronic load terminals, then turn on the LED power supply because some LED power supply cannot be turned on with no load.

7. Observing average voltage/current and ripple voltage/current









Pressing the key ▲/▼ can make the electronic load show other items, such as ripple voltage, ripple current, etc.

Users can also use the key Shift + ▲ to change the display format, and then more items can be showed at the screen.