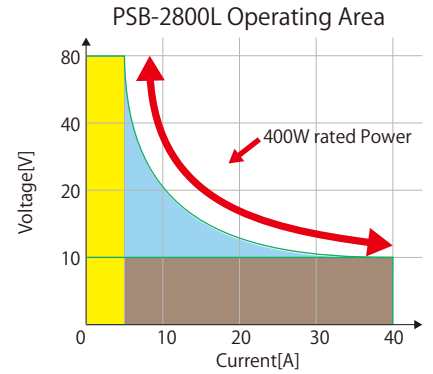
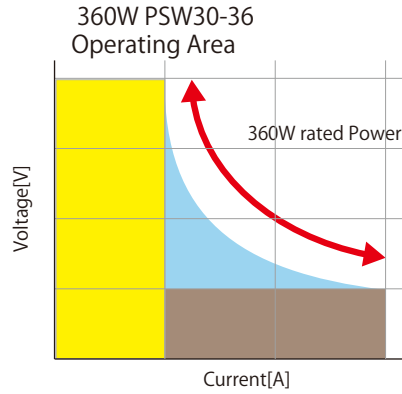
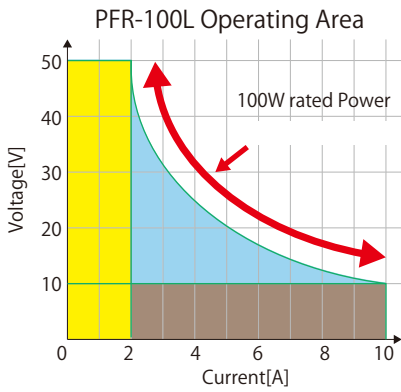


# The multi-range feature

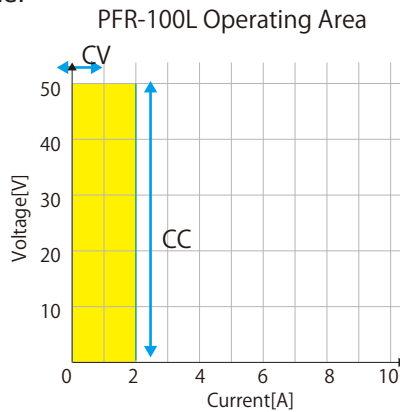
The multi-range feature allows the flexible and efficient configuration of voltage and current within the rated power range.



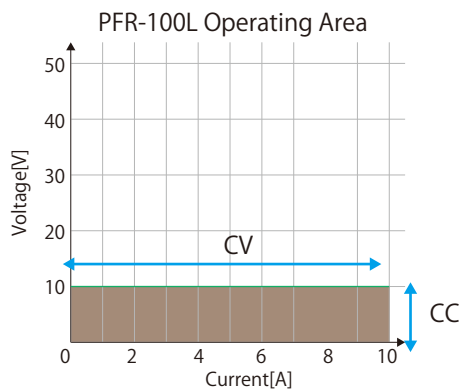
## Example: PFR-100L 100W:

Normally, DC power supply can only set the range of rated voltage and rated current. Therefore, you need to purchase 3 units if you need the following DC output power supply. However, if it is PFR, it can be applied with only one.

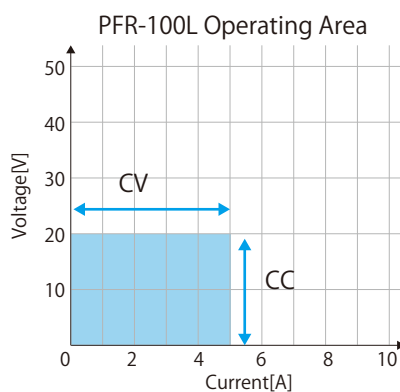
Voltage is setted 100V  
 Current can set from 0 to 2A.  
 Operating mode: CV or CC mode.



Voltage is setted 10V,  
 Current can set from 0 to 10A.  
 Operating mode: CV or CC mode.



Voltage is setted 20V,  
 Current can set from 0 to 5A.  
 Operating mode: CV or CC mode.



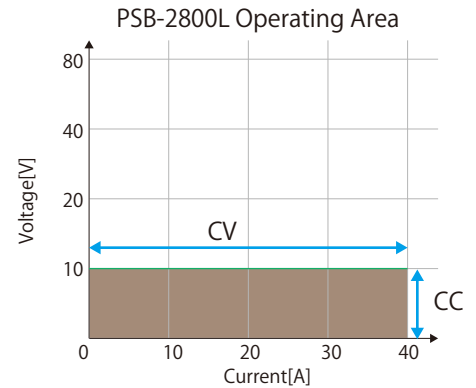
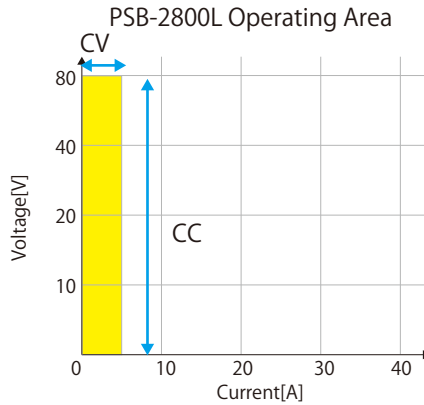
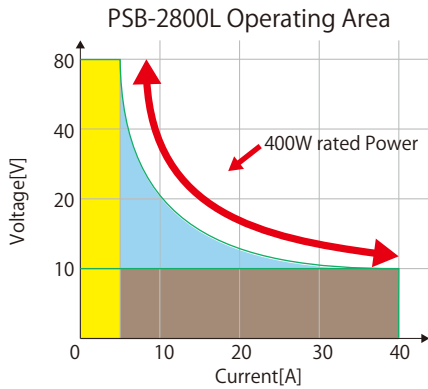
# PSB-2000 series



The multi-range feature is as same as PFR and PSW.

Voltage is setted 80V  
 Current can set from 0 to 5A.  
 Operating mode: CV or CC mode.

Voltage is setted 10V  
 Current can set from 0 to 40A.  
 Operating mode: CV or CC mode.



## Constant Power(CP) Mode

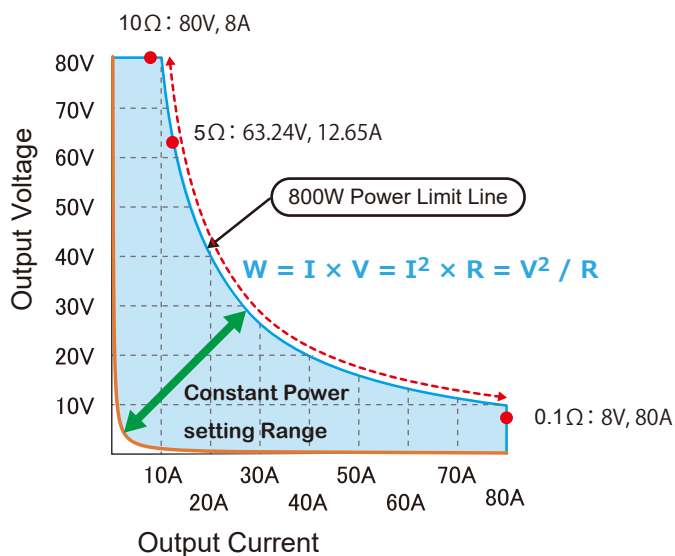
Generally, the output control of the DC Power Supply is CV control and CC control.  
 The power supply has CV and CC error amplifiers inside, and either one of the control works.  
 Whether power supply output is CV control or CC control depends on the load condition.  
 In addition to CV and CC control, the PSF is equipped with a third control, CP control, as a function of mutual relationship.  
 The actual control operation is determined by the load condition.  
 Depending on the load condition, it may be whether CP (power) control will be started after the voltage first rises, CP control is started after the current rises, or CV control or CC control. (Due to capacitive load, inductive load, constant current load, etc.)

Regarding the setting, each can be done independently.

In PSB-2800L(800 W model), Voltage (80 V max.), Current (80 A max.) and Power (800 W max.) can be set respectively.

### For example:

if you output with the above setting, it will be controlled by 80V, 80A or 800W.



When a resistor with a load of 10 Ω,  
 Voltage 80V, Current 8 A, Power 640 W  
 The control is **CV** control.  
 $80V / 10 \Omega = 8A$

When the resistance is set to 0.1 Ω  
 Voltage 8V, Current 80 A, Power 640 W  
 And control is **CC** control  
 $80 A \times 0.1 \Omega = 80V$

when the resistance is between 0.125 and 8 Ω,  
 Control is **CP** control.  
 $W = I \times V = I^2 \times R = V^2 / R$

For example, if the resistance is 5 Ω  
 Voltage 63.24 V, Current 12.65 A, Power 800 W  
 And control is CP control.