

**NanoNC**  
**High Voltage Generator**  
**(HV Power Supply)**  
(Model:ESN-HV30/ESN-HV30N)  
**Manual**

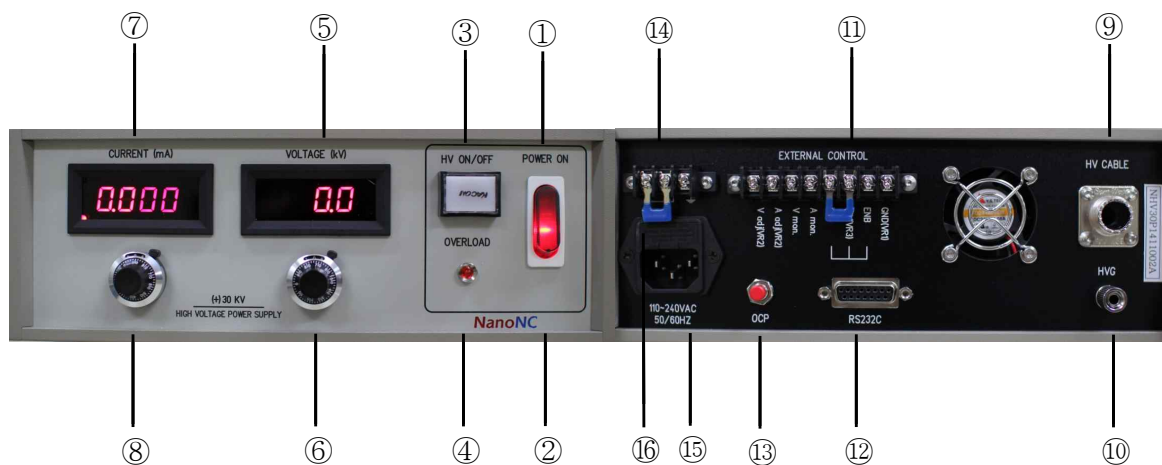
(+)30kV-1mA(Portable Type-B)  
(-)30kV-1mA(Portable Type-B)

나노엔씨 **NanoNC**  
[www.nanonc.co.kr](http://www.nanonc.co.kr)

## A.Specifications

1. Input Voltage : 110 ~ 240VAC, 50/60Hz , single phase
2. Output Voltage : DC 1KV ~ 30KV
3. Out Current : 0 ~ 1mA
4. Stability : max load  $\pm 0.1\%$
5. Ripple : less than 0.1%
6. Dimensions(mm) : 250(W) x 310(D) x 95(H)
7. Weight(kg) : ~ 5.1Kg

## B.Functions



### 1.Front Panel

- ①② Power ON/OFF switch
- ③ HV(High Voltage) output ON/OFF switch
- ④ Alarm lamp for overcurrent protection
- ⑤ Output voltage meter : display 0.0 ~ 30.0KV  $\pm 2\%$
- ⑥ Output voltage adjustable potentiometer(voltage regulator,10K $\Omega$ ) : 0 ~ 30KV
- ⑦ Output current meter : display 0.000 ~ 0.999 mA  $\pm 2\%$
- ⑧ Output current adjustable potentiometer(current regulator,10K $\Omega$ ) : 0 ~ 1mA

### 2.Rear Panel

- ⑨ HV cable
- ⑩ Ground(HVG) terminal
- ⑪ External control terminal(Remote control)
- ⑫ RS232C Port (Option)
- ⑬ Overcurrent limitation selection switch
- ⑭ Power ON/OFF switch
- ⑮ AC input connector, 110Vac or 220Vac
- ⑯ Fuse 3A

## C. Operation Method

### 1. Power ON

a) First, check whether the current lever number is turned to the maximum value, or the median value (current lever number about "5").

b) Second, check **whether the [HV ON/OFF] button is in a pressed down state(light on).**

※ When the [HV ON/OFF] button is pushed out, the voltage do not increase even though the voltage lever is raised.

c) Turn on [POWER ON] S/W

d) Raise the voltage lever slowly and set the optimal value during solution discharge or solution injection.

### 2. Power OFF

a) Turn the voltage lever counter clockwise to make zero.

b) Afterwards, check whether the [HV ON/OFF] button is pulled off, and turn off the power switch.

※ **About [HV ON/OFF].....**

*When [HV ON/OFF] button is set to protrude, the voltage value shown in the voltage indicator window falls down to "0". When the button is pressed again, it recovers the original voltage value set.*

*[HV ON/OFF] button is used on equipment actuation, cleaning the nozzle part, and when temporally blocking the power for another task.*

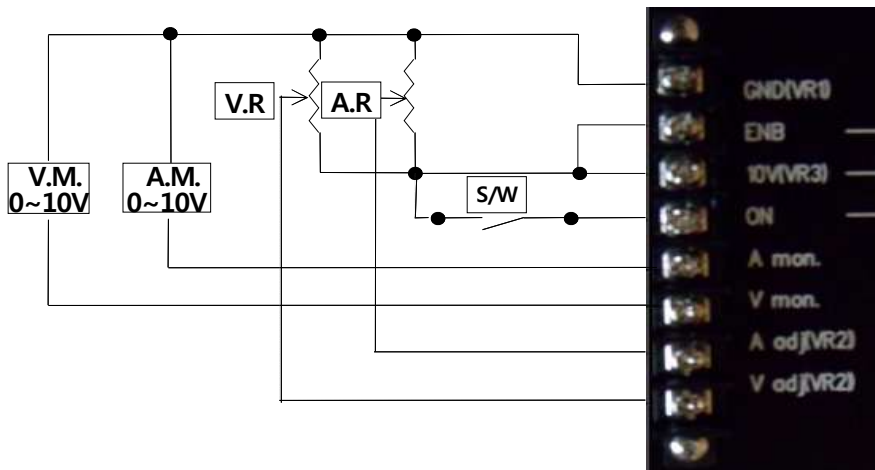
※ **About current value.....**

*Current is a disturbance current of DC power applied on the solution, and most solutions apply very small currents below 0.5mA.*

*If the current value shows more than 0.5mA value, there is a current flowing in an unnecessary place, therefore equipment inspection must be done.*

## D. External Control(Remote Control)

### ※External Control Terminal Port function



- 1) V.R.(voltage regulator) control : connection with Voltage Volume Regulator(10KΩ) for external control.
- 2) A.R.(ampere regulator) control : connection with Current Volume Regulator(10KΩ)for external control.
- 3) V.M.(voltage monitor) 0~10V : 0 ~ 30KV Correspondence Monitor
- 4) A.M.(ampere monitor) 0~10V : 0 ~ 1mA Correspondence Monitor
- 5) S/W : High Voltage ON/OFF Switch for external control.

## E. Cautions

※ The alligator clip must rest on insulated materials, in other words, part where electricity do not pass. If the metal part is in contact with high voltage applied line, and is discharged somewhere else with small noises(tic, tic, tic), or shows momentary spark effect, the equipment must be inspected immediately.

### - Product Support & Call Center-

The term of warranty is one year from the date of purchase. Within this period, the warranty does not apply to damage caused by consumer, and repairs or replacement due to the damage will be made at a charge to the customer for parts or labor, provided the customer shall be responsible for any transportation cost.

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