



# NCH6100HV High Voltage DC Power Supply

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Version 1.0.0

## Attention

- ◇ Attention : High voltage circuit on the board, do not touch the circuit board and components if it' s working.
- ◇ Warning: Overload prohibited (Input voltage/output current out of range).
- ◇ Warning: Exposing outdoor prohibited, using in moist or raining place prohibited.
- ◇ Warning: Board will generate heat, be sure the board is well heat dissipation.

## Features

NCH6100HV high voltage power supply module is miniature step-up DC-DC converter with high efficiency and low heat operating from 12 to 24VDC input, with an output of 85 to 235VDC set by a precise potentiometer. Designed for Nixie tube, VFD tube, Magic eye etc. Shutdown mode are controlled via SHDN logic input. PCB terminals and pin headers are optional.

## Technical specifications

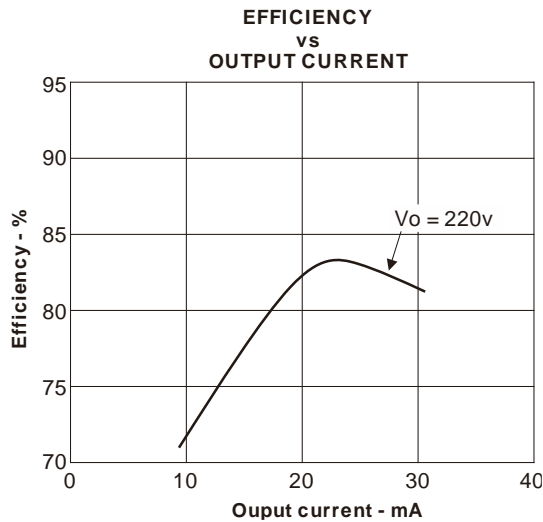
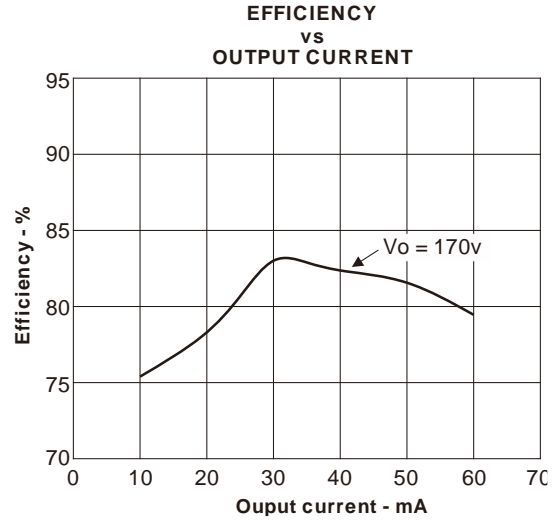
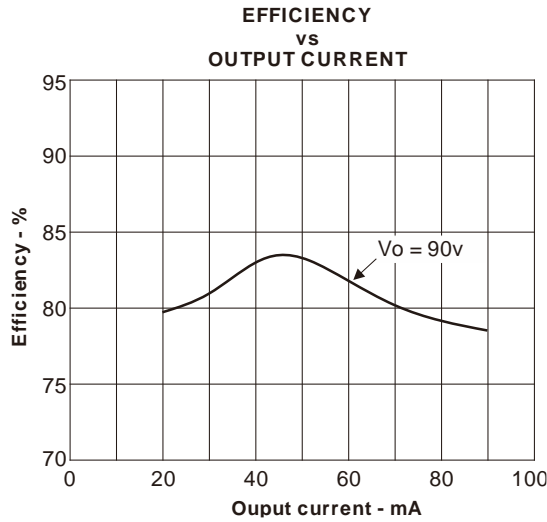
### Electronic Specifications

Specification	Symbol	Min	Typ	Max	Units
Input voltage	$V_{IN}$	10.00	12.00	24.00	Volts
Output voltage ( $I_o = 10mA$ )	$V_{OUT}$	85.00	---	235.00	Volts
Output current ( $V_{IN} = 12V V_{OUT} = 90V$ )	$I_{OUT}$	0	45	95	mAmps
Output current ( $V_{IN} = 12V V_{OUT} = 170V$ )		0	35	55	mAmps
Output current ( $V_{IN} = 12V V_{OUT} = 220V$ )		0	24	35	mAmps
SHDN input voltage	$V_{SHDN}$	1.2	---	$V_{IN}$	Volts
SHDN input current	$I_{SHDN}$	---	---	2	mAmps
Shutdown current ( $V_{IN} = 12V V_{OUT} = 170V$ )	$I_{OFF}$	---	15	---	mAmps
Efficiency ( $V_{IN} = 12-18VDC, 50\%-80\%$ rated load)	Efficiency	---	80	---	%

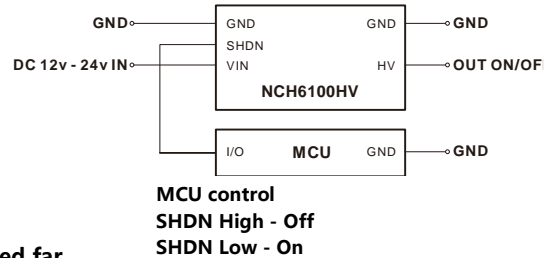
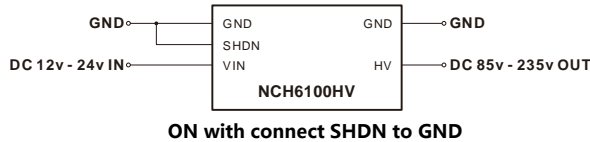
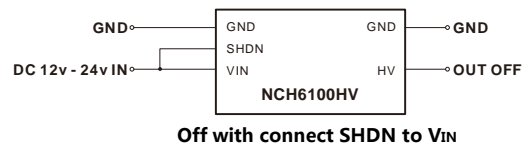
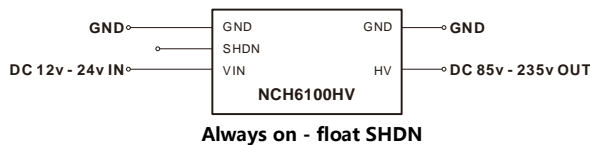
#### Notes:

1. Ground or float SHDN to enable switcher, must be tied to  $V_{IN}$  to turn off switcher.
2. No input reverse polarity protection is provided.

**Efficiency curve (  $V_{IN} = DC 12V$  )**



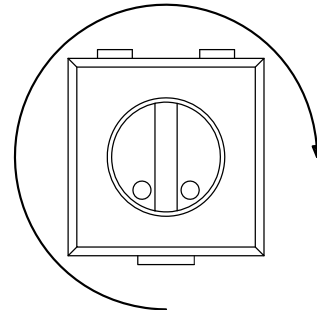
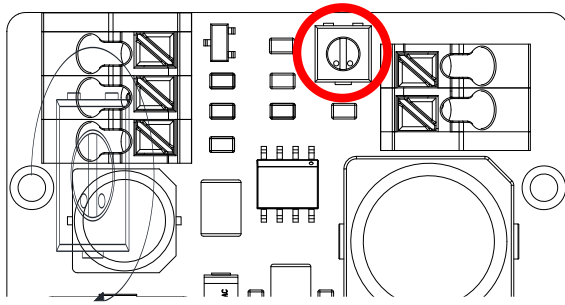
**Typical connection**



**Note:**

1. Recommended input capacitor if the module is located far from the power.
2. Module will generate heat, be sure the board is well heat dissipation.

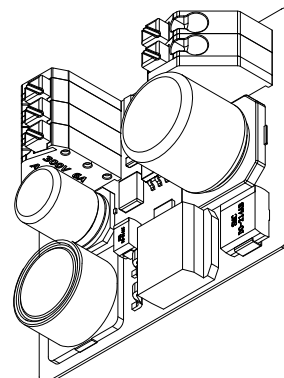
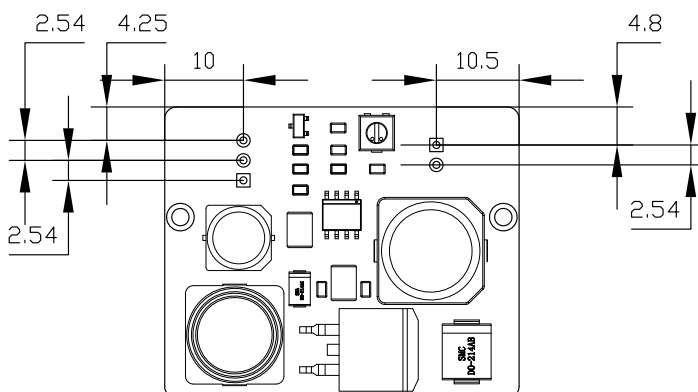
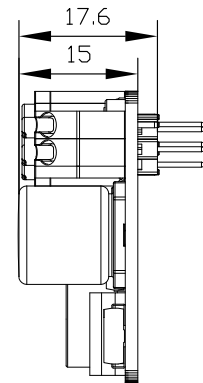
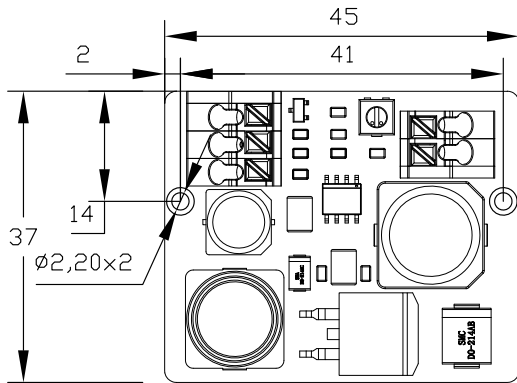
### Adjust output voltage



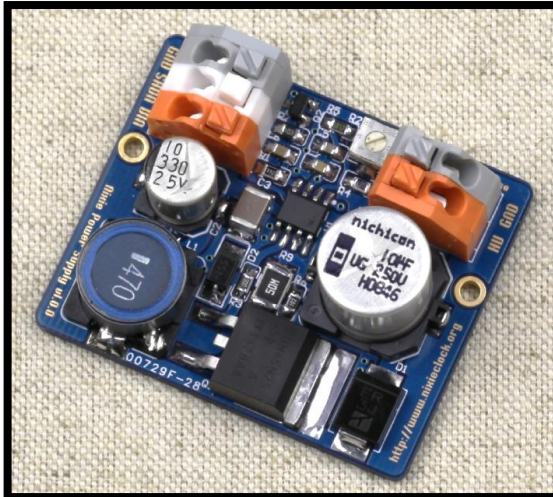
Adjust output voltage with a precise potentiometer on the board.  
Rotate the potentiometer clockwise increase output voltage.

Output voltage increasing

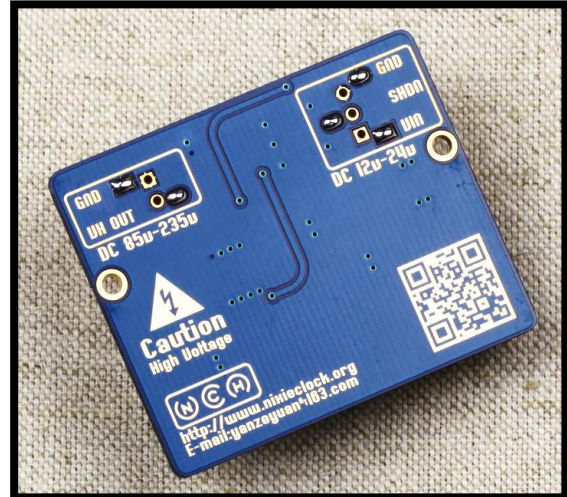
### Module outline



PCB terminals and pin headers are optional, check the outline follow the drawing above.

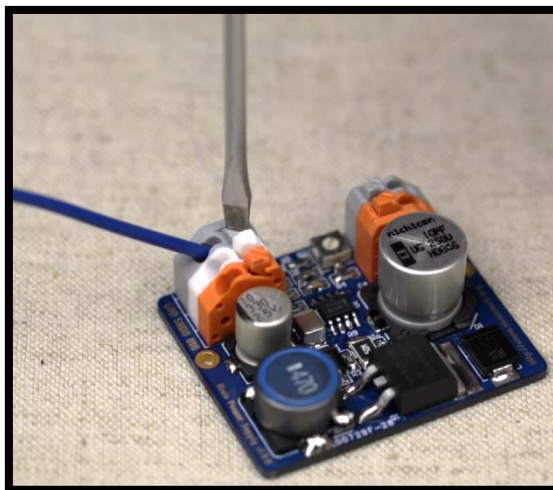


Picture of top of NCH6100HV



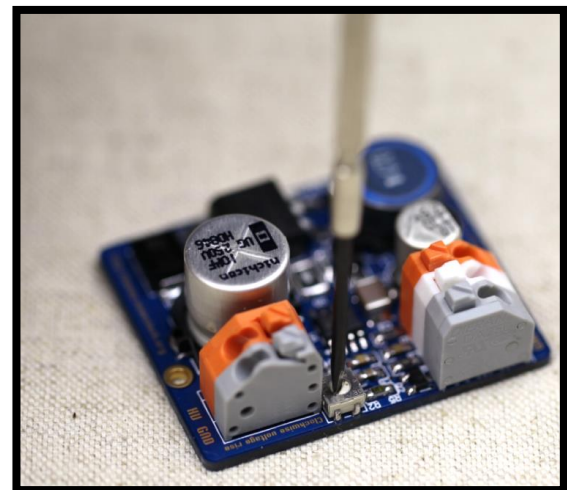
Picture of bottom of NCH6100HV

## Instructions



### Cables connection

1. Press the PCB terminals with a screwdriver.
2. Insert the cable.
3. AWG22-16 cable recommended.



### Adjust output voltage

1. Rotate the potentiometer with a screwdriver.
2. Rotate the potentiometer clockwise increase output voltage.
3. Disconnect load when adjust output voltage.

