

# Switching Power Supply

## SWITCHING POWER SUPPLY

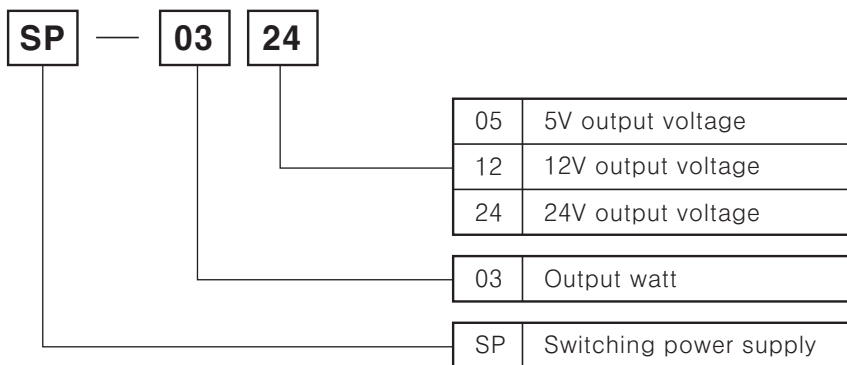
### ■ Features

- Compact size, High quality, Competitive price
- Universal input power source
- Able to drive various controllers
- Over current protection circuit built in
- DIN rail mounting and able to set without the rail

**⚠ Please read "Caution for your safety" in operation manual before using.**



### ■ Ordering information



### ■ Specifications

Model	SP-0305	SP-0312	SP-0324
Output voltage	5VDC	12VDC	24VDC
Allowable output voltage range	95 ~ 105%		
Output current	0.6A	0.25A	0.13A
Output watt	3W		
Efficiency	50 ~ 55%	67 ~ 74%	
Power supply	100-240VAC 50/60Hz		
Allowable output fluctuation range	90 ~ 110% of rated voltage		
Current consumption	Max. 0.15A		
Allowable output frequency range	47 ~ 450Hz		
Output ripple voltage	Max. 2%		
Output voltage fluctuation ratio	Max. 0.5% (at 85-286VAC 100% load)		
Output over current protection	Operated at over 110% of output current		
Output indicator	Red LED		
Insulation resistance	Min. 100MΩ (at 500VDC)		
Dielectric strength	2000VAC 50/60Hz for 1 minute		
Vibration	0.75mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 2 hour		
Shock	300m/s <sup>2</sup> (Approx. 30G) 3 times at X, Y, Z direction		
Ambient temperature	-10 ~ +50°C (at non-freezing status), Storage : -20~70°C		
Ambient humidity	45 ~ 85%RH		
Weight	Approx. 108g		

(A) Counter

(B) Timer

(C) Temp. controller

(D) Power controller

(E) Panel meter

(F) Tacho/ Speed/ Pulse meter

(G) Display unit

(H) Sensor controller

(I) Proximity sensor

(J) Photo electric sensor

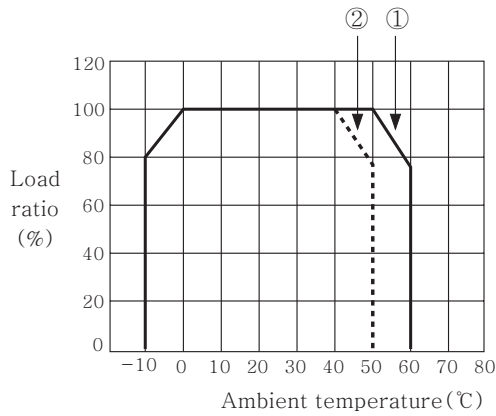
(K) Pressure sensor

(L) Rotary encoder

(M) 5-Phase stepping motor & Driver & Controller

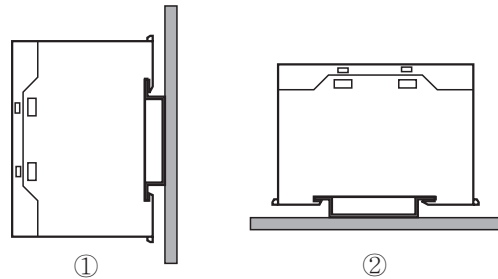
# SP Series

## Output feature

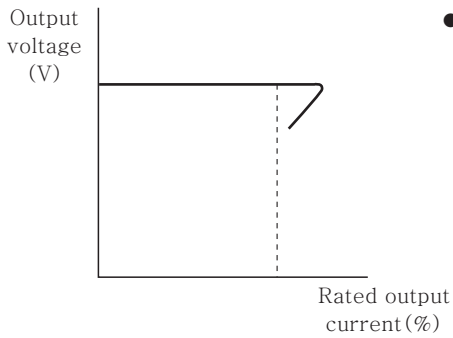


<Output feature for the ambient temperature influence >

- Please be sure when installing as the efficiency is decreased by ambient temperature.
- Please refer to output feature beside when installing as the efficiency is affected by mounting status.

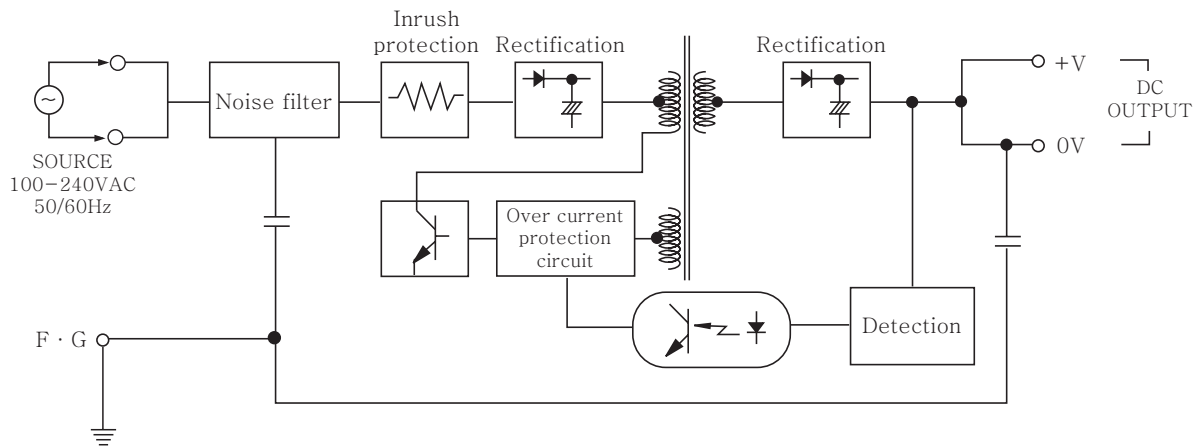


## Over current protection feature



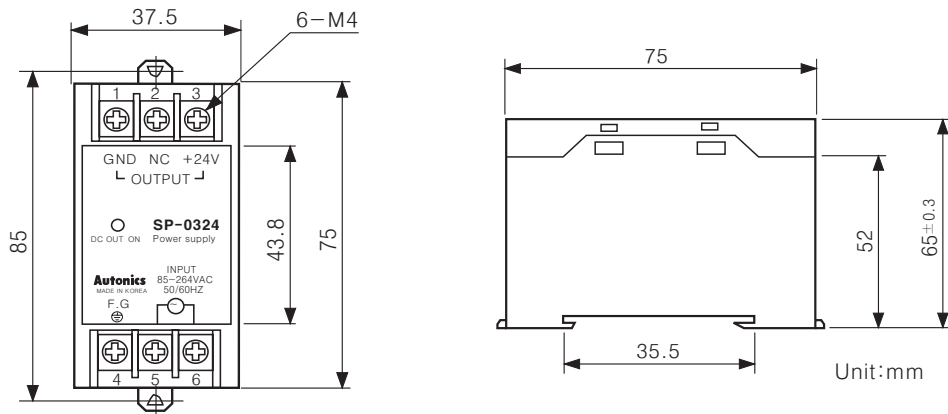
- It is protected from load over current due to over current protection circuit built in. When load current is over the rated current the over current protection circuit is operated (Output voltage is decreased) and when the current is under the rated current the operation of the over current protection circuit is stopped (Returned to rated output voltage).

## Block diagram

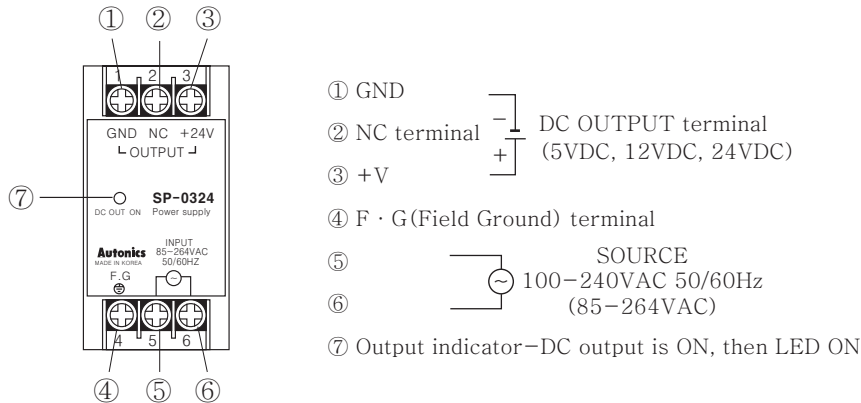


# Switching Power Supply

## ■ Dimensions

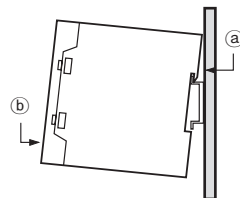


## ■ Front part identification

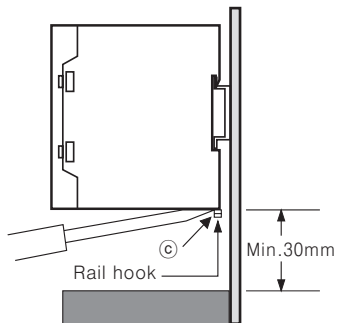


## ■ Rail mounting method

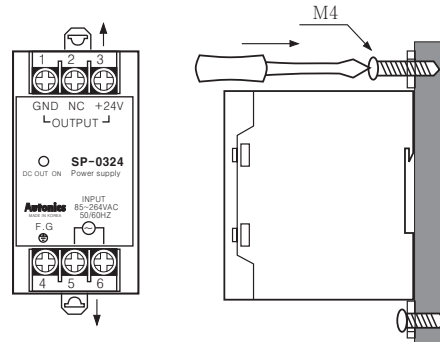
- To install the power supply on the rail
  - : Firstly put the power supply on the part (a) of the rail and then press it for the direction (b).



- To remove the power supply from the rail
  - : Firstly put a screw driver into the part (c) and push it downward.



- When there is no the rail it is able to mount by screwing a bolt at the hook on the body as following figure.



※ When mounting the power supply on the rail please install with a distance of at least 30mm so that It is easier to dismount the power supply later.

(A) Counter

(B) Timer

(C) Temp. controller

(D) Power controller

(E) Panel meter

(F) Tacho/Speed/Pulse meter

(G) Display unit

(H) Sensor controller

(I) Proximity sensor

(J) Photo electric sensor

(K) Pressure sensor

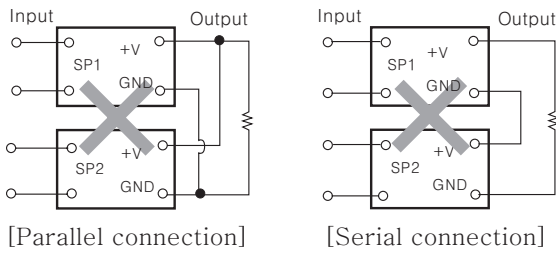
(L) Rotary encoder

(M) 5-Phase stepping motor & Driver & Controller

# SP Series

## ■ Proper usage

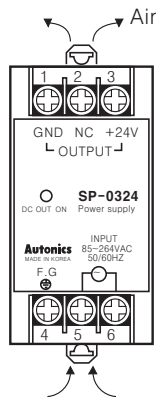
### ◎ Serial and parallel operation



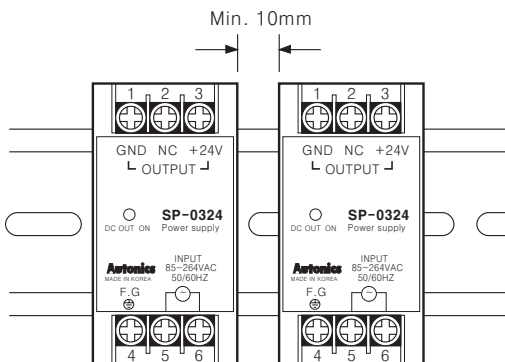
\* The power supply shouldn't be used in serial and parallel connection in any case. Please use it individually always.

### ◎ Caution for mounting

● Please install it at ventilating place in order to dissipate the heat effectively then it is able to improve the reliability for a long time.



● When installing two or more power supplies side by side please keep the interval at least 10mm so that the heat is dissipated effectively.



### ◎ Caution for using

- Please wire input power (AC) to the input power terminal properly. If wiring it to other terminals the inner circuit will be broken.
- It is working with 2000VAC between the terminal and case for 1minute, but it will be broken if the over voltage is supplied for several minutes
- The power supply has 100MΩ of insulation resistance between the terminal and case. Please use D.C insulation tester with 500VDC for the insulation resistance of the power supply.
- Please check as below when problem is happened.
  1. Short of DC output terminal  
(When over current is supplied the over current protection circuit is operated and when the load current is under the rated current it is stopped.)
  2. Wiring of AC input and DC output terminal properly.
  3. AC input voltage in rated voltage.