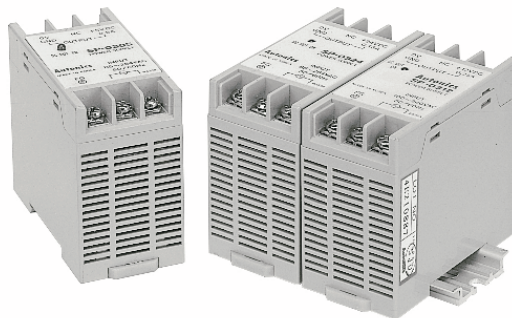


DIN Rail Mount Type Switching Mode Power Supply

■ Features

- Compact size, high quality, cost-effective
- Universal input power
- Enables to drive various controllers
- Built-in output short over current protection circuit
- DIN rail mounting and mountable without the rail

⚠ Please read "Safety Considerations" in the instruction manual before using.



■ Ordering Information

SP

—

03

24

Output voltage

Output power

Item

05	5VDC
12	12VDC
24	24VDC
03	3W
SP	Switching Mode Power Supply

■ Specifications

Model		SP-0305	SP-0312	SP-0324
Output power		3W		
Input condition	Voltage	100-240VAC~ (permissible voltage: 85-264VAC)		
	Frequency	50/60Hz		
	Efficiency	67 to 74%		
	Current consumption	Max. 0.15A		
Output characteristics	Voltage	5VDC=	12VDC=	24VDC=
	Current	0.6A	0.25A	0.13A
	Allowable voltage range	Max. ±5%		
	Ripple	Max. 5%		
	Voltage fluctuation ratio	Max. 0.5% (at 85-264VAC 100% load)		
Over-current protection		Min. 110%		
Series / Parallel operation		Not available		
Indicator		Output indicator: Red LED		
Insulation resistance		Over 100MΩ (at 500VDC megger)		
Dielectric strength		2,000VAC 50/60Hz for 1 minute		
Vibration		0.75mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours		
Shock		300m/s ² (approx. 30G) in each X, Y, Z direction for 3 times		
Environ-ment	Ambient temperature	-10 to 50°C, storage: -20 to 70°C		
	Ambient humidity	35 to 85%RH		
Unit weight		Approx. 100g		

※Environment resistance is rated at no freezing of condensation.

SENSORS

CONTROLLERS

MOTION DEVICES

SOFTWARE

(J) Temperature Controllers

(K) SSRs

(L) Power Controllers

(M) Counters

(N) Timers

(O) Digital Panel Meters

(P) Indicators

(Q) Converters

(R) Digital Display Units

(S) Sensor Controllers

(T) Switching Mode Power Supplies

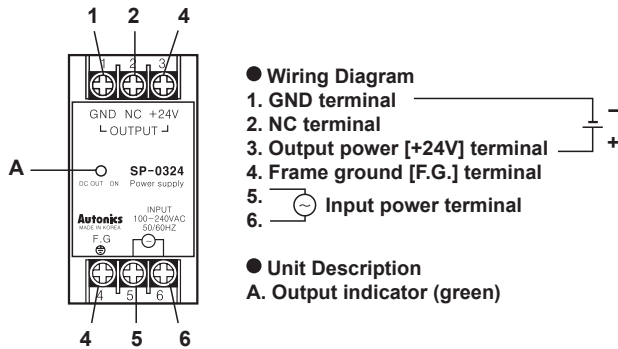
(U) Recorders

(V) HMIs

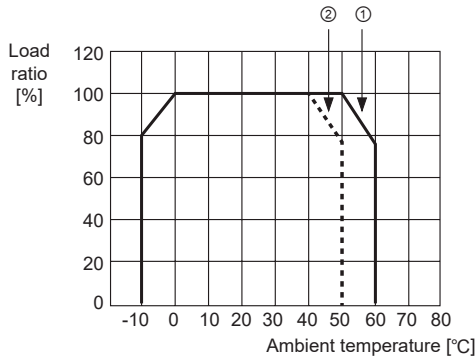
(W) Panel PC

(X) Field Network Devices

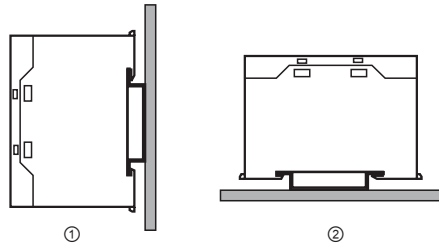
■ Wiring Diagram/Unit Description



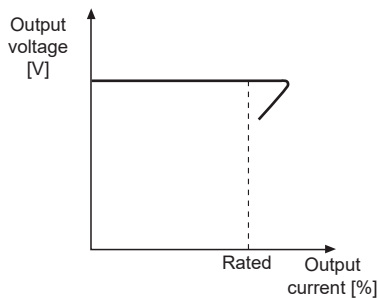
■ Output Derating Curve by Ambient Temperature



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

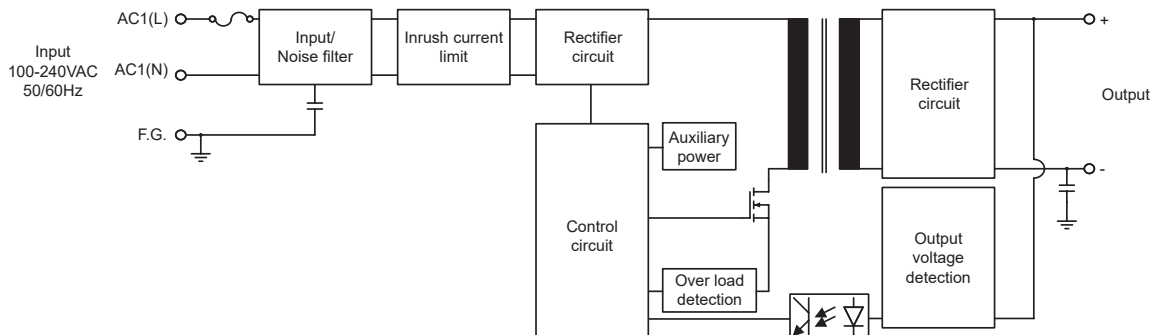


■ Feature Data of Over-Current Protection



- It is able to protect overcurrent by load with built in over-current protection circuit. When the over rated current is flowed, the circuit is operated (output voltage is fallen) and it is released when the load current is under the rated current (it is returned to the rated output voltage).

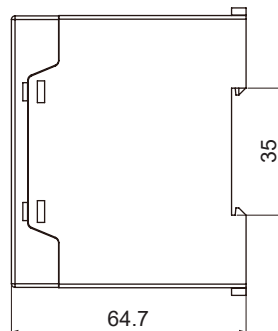
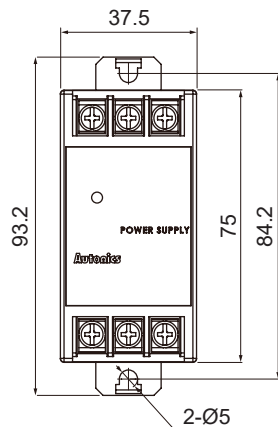
■ Block Diagram



DIN Rail Mount Type Switching Mode Power Supply

■ Dimensions

(unit: mm)

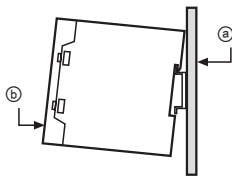


■ Installation

◎ DIN rail mounting

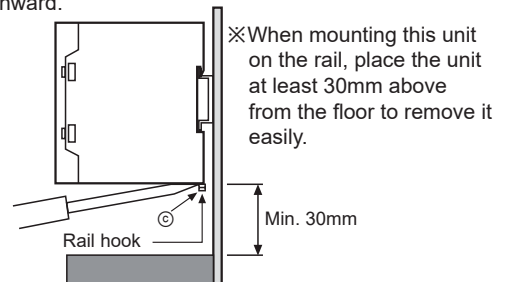
● Mounting to DIN rail

Put the unit on the part ㉑ of the rail before press it to the direction ㉒.



● Removing from DIN rail

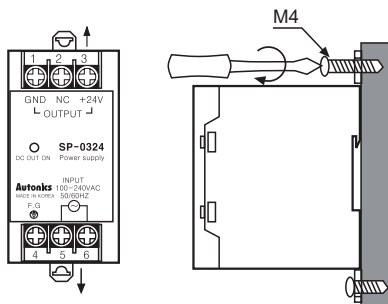
Put a screw driver into the part ㉓ before push it downward.



◎ Panel mounting

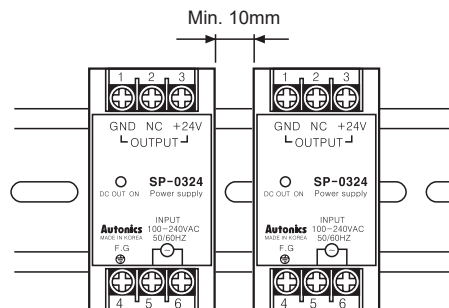
● When there is no DIN rail

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



◎ Spacing

When installing multiple SMPSSs, please keep space at least 10mm between SMPSSs for heat radiation.



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(T)
Switching
Mode Power
Supplies

(U)
Recorders

(V)
HMI's

(W)
Panel PC

(X)
Field Network
Devices

■ Proper Usage

Cautions during use

1. Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
2. Do not connect the output voltage neither in serial nor in parallel.
3. Since there is no harmonic suppression or power factor correction circuit, install the circuit separately if necessary.
4. Since using the condenser input method, power factor is in the range of 0.4 to 0.6. When using distribution board or transformer, check the capacity of the input voltage.

$$\text{Input apparent power[VA]} = \frac{\text{Output active power[W]}}{\text{Powerfactor} \times \text{Efficiency}}$$

5. Even though a noise filter is installed inside the product, the product can be affected by noise depending on the installation location or wiring.
6. If the internal fuse is damaged, please contact our A/S center.
7. To ensure the reliability of the product, install the product on the panel or metal surface vertically to the ground.
8. Install the unit in the well ventilated place.
9. Do not use near the equipment which generates strong magnetic force or high frequency noise.
10. This unit may be used in the following environments.
 - ① Indoors (in the environment condition rated in 'Specifications')
 - ② Altitude max. 2,000m
 - ③ Pollution degree 2
 - ④ Installation category II