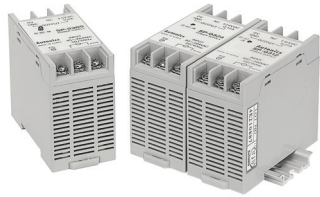


Autonics

SWITCHING MODE POWER SUPPLY

SP SERIES

INSTRUCTION MANUAL



Thank you for choosing our Autonics product.

Please read the following safety considerations before use.

Safety Consideration

⚠ Please observe all safety considerations for safe and proper product operation to avoid hazards.

⚠ ⚠ symbol represents caution due to special circumstances in which hazards may occur.

⚠ Warning Failure to follow these instructions may result in serious injury or death.

⚠ Caution Failure to follow these instructions may result in personal injury or product damage.

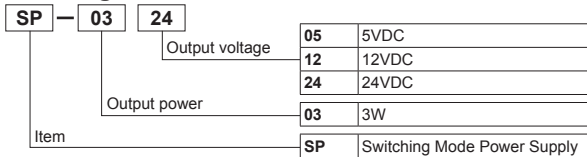
Warning

- Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss.** (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)
Failure to follow this instruction may result in fire, personal injury, or economic loss.
- Install on the device panel or DIN rail, and ground to the F.G. terminal separately.**
Failure to follow this instruction may result in electric shock or fire.
- Do not connect, repair, or inspect the unit while connected to a power source.**
Failure to follow this instruction may result in electric shock or fire.
- Check 'Wiring Diagram' before wiring.**
Failure to follow this instruction may result in fire.
- Do not disassemble or modify the unit.**
Failure to follow this instruction may result in electric shock or fire.

Caution

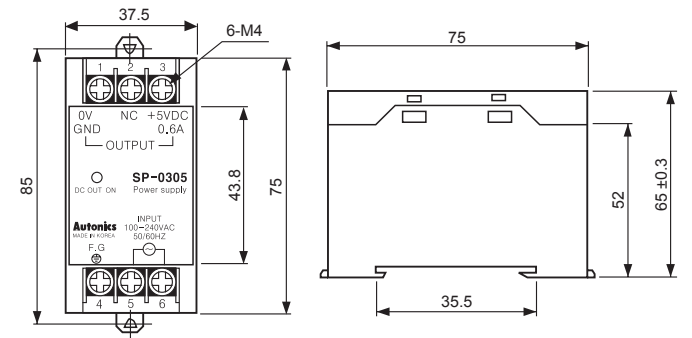
- When connecting the F.G. terminal, use AWG 14 (2.1mm²) cable or over and tighten the terminal screw with a tightening torque of 0.7 to 0.9N·m.**
Failure to follow this instruction may result in fire or malfunction due to contact failure.
- Use the unit within the rated specifications.**
Failure to follow this instruction may result in shortening the life cycle of the product, fire, or product damage.
- Use dry cloth to clean the unit, and do not use water or organic solvent.**
Failure to follow this instruction may result in electric shock or fire.
- Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.**
Failure to follow this instruction may result in fire or explosion.
- Keep metal chip, dust, and wire residue from flowing into the unit.**
Failure to follow this instruction may result in fire or product damage.
- Do not touch the product during operation or for a certain period of time after stopping.**
Failure to follow this instruction may result in burns.
- Upon occurrence of an error, disconnect the power source.**
Failure to follow this instruction may result in fire or product damage.

Ordering Information



⚠ The above specifications are subject to change and some models may be discontinued without notice.
⚠ Be sure to follow cautions written in the instruction manual and the technical descriptions (catalog, homepage).

Dimensions



Specifications

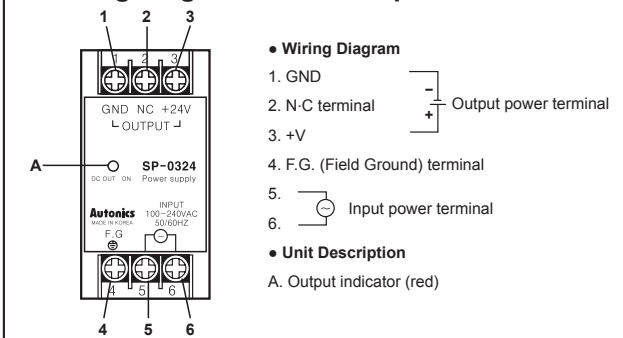
Model	SP-0305	SP-0312	SP-0324
Output power	3W		
Input	Voltage 100-240VAC~ (permissible voltage: 85-264VAC~)		
	Frequency 50/60Hz		
	Efficiency 67 to 74%		
	Current consumption Max. 0.15A		
Output	Voltage 5VDC≒	12VDC≒	24VDC≒
	Current 0.6A	0.25A	0.13A
	Allowable voltage range Max. ±5%		
	Ripple Max. 5%		
	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	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours	
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 minutes	
Shock	Mechanical	300m/s ² (approx. 30G) in each X, Y, Z direction for 3 times	
	Malfunction	100m/s ² (approx. 10G) 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	
Specification of Input cable	AWG 22 to 16		
Tightening torque	0.7 to 0.9N·m		
Unit weight	Approx. 100g		

⚠ Environment resistance is rated at no freezing of condensation.

Cautions during Use

- Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
- Do not connect the output voltage neither in serial nor in parallel.
- Since there is no harmonic suppression or power factor correction circuit, install the circuit separately if necessary.
- 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.
- Even though a noise filter is installed inside the product, the product can be affected by noise depending on the installation location or wiring.
- If the internal fuse is damaged, please contact our A/S center.
- To ensure the reliability of the product, install the product on the panel or metal surface vertically to the ground.
- Install the unit in the well ventilated place.
- Do not use near the equipment which generates strong magnetic force or high frequency noise.
- This unit may be used in the following environments.
 - Indoors (in the environment condition rated in 'Specifications')
 - Altitude max. 2,000m
 - Pollution degree 2
 - Installation category II

Wiring Diagram/Unit Description

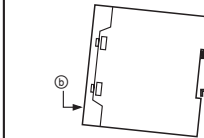


Installation

Mounting on DIN rail and removing

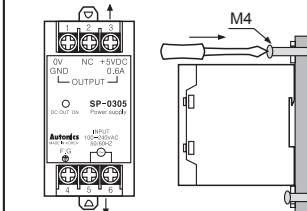
To mount the power supply on DIN rail

First put the power supply on the part ② of the rail and then press it for the direction ①.

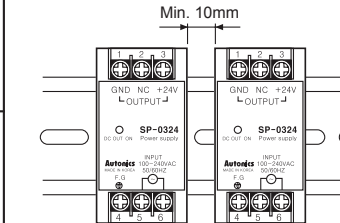


Mounting on Panel

When there is no DIN rail

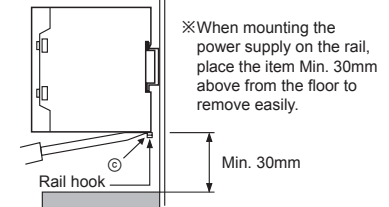


Installation interval



To remove the power supply from DIN rail

Firstly put a screw driver into the part ③ and push it downward.



⚠ When mounting the power supply on the rail, place the item Min. 30mm above from the floor to remove easily.

Min. 30mm

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

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

Major Products

- Photoelectric Sensors
- Fiber Optic Sensors
- Door Sensors
- Door Side Sensors
- Area Sensors
- Proximity Sensors
- Pressure Sensors
- Rotary Encoders
- Connectors/Sockets
- Switching Mode Power Supplies
- Control Switches/Lamps/Buzzers
- I/O Terminal Blocks & Cables
- Stepper Motors/Drivers/Motion Controllers
- Graphic Logic Panels
- Field Networking Devices
- Laser Marking System(Fiber, Co., Nd:YAG)
- Laser Welding/Cutting System
- Temperature Controllers
- Temperature/Humidity Transducers
- SSRs/Power Controllers
- Counters
- Timers
- Panel Meters
- Tachometer/Pulse(Rate) Meters
- Display Units
- Sensor Controllers

Autonics Corporation

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