Switch Mode Power Supply (15/30/60/120/240/480-W Models)

S8VK-G12024

Image

Case model, 100 to 240 VAC, Power rating 120 W, Output: 24 VDC, Terminal blocks (Rod terminal), Parallel operation, Harmonic current emissions

Power rating	120 W
Output voltage	24 VDC
Rated input voltage	100 to 240 VAC
Construction	Covered type
Connection	Terminal blocks
Terminal type	Rod terminal

Specifications

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Power rating		120 W
Output voltage		24 VDC
Efficiency		83% typ. (at 100 VAC input) 86% typ. (at 200 VAC input)
Input	**Rated input voltage**	100 to 240 VAC
	Allowable input voltage variable range	85 to 264 VAC (Single-phase) 90 to 350 VDC
	Frequency	50/60Hz (47 to 63 Hz)
	Rated input current	1.5 A typ. (at 100 VAC input) 0.75 A typ. (at 200 VAC input)
	Leakage current	0.5 mA max. (at 100 VAC input) 1.0 mA max. (at 200 VAC input)
	Inrush current (cold start at 25 ℃)	16 A typ. (at 100 VAC input) 32 A typ. (at 200 VAC input)
Output	**Rated output current**	5 A
	Output voltage variable range	-10 to +15% With V.ADJ
	Maximum peak current	6 A
	Ripple	150 mV(p-p) max. at 20 MHz
	Static input variation influence	0.4% max.
	Static load variation influence	0.8% max.
	Ambient temperature variation influence	0.05%/℃ max.

	Start up time	800 ms typ. (at 100 VAC input) 800 ms typ. (at 200 VAC input)
	Hold time	40 ms typ. (at 100 VAC input) 40 ms typ. (at 200 VAC input)
Additional functions	**Overload protection**	Yes, automatic reset
	Overvoltage protection	Yes, Shut off the input voltage and turn on the input again
	Series operation	Yes (Up to 2 Power Supplies with external diode)
	Parallel operation	Yes (Up to 2 Power Supplies)
	Output indicator	Yes (color: green, lighting from 80 to 90% or more of rated voltage)
Insulation	**Dielectric strength**	Between all input terminals and all output terminals: 3 kVAC for 1 min, Cut-off current: 20 mA Between all input terminals and PE terminals: 2 kVAC for 1 min, Cut-off current: 20 mA Between all output terminals and PE terminals: 1 kVAC for 1 min, Cut-off current: 20 mA
	Insulation resistance	Between all output terminals and all input terminals/ PE terminals: 100 MΩ min., at 500 VDC
Environment	**Vibration resistance**	10 to 55 Hz, 0.375 mm single amplitude in each 3 directions for 2 hours
	Shock resistance	150 m/s^2, in each 6 directions 3 times
	Ambient temperature (Operating)	-40 to 70 ℃ (with no freezing or condensation)
	Ambient temperature (Storage)	-40 to 85 ℃ (with no freezing or condensation)
	Ambient humidity (Operating)	95% max.
	Ambient humidity (Storage)	95% max.
Reliability	**MTBF**	135,000 hours min.
	Life expectancy	10 years (at rated input, a load rate of 50% load, under the temperature of 40 ℃, standard mounting)
Construction	**Construction**	Covered type
	Connection	Terminal blocks
	Terminal type	Rod terminal
	Mounting	DIN track mounting
	Cooling fan	Cooling fan No
	Degree of protection	IP20, EN/IEC 60529
	Weight (Main)	620 g max.

Note

Do not use the Inverter output for the Power Supply. Inverters with an output frequency of 50/60 Hz are available, but the rise in the internal temperature of the Power Supply may result in ignition or burning.

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Dimension

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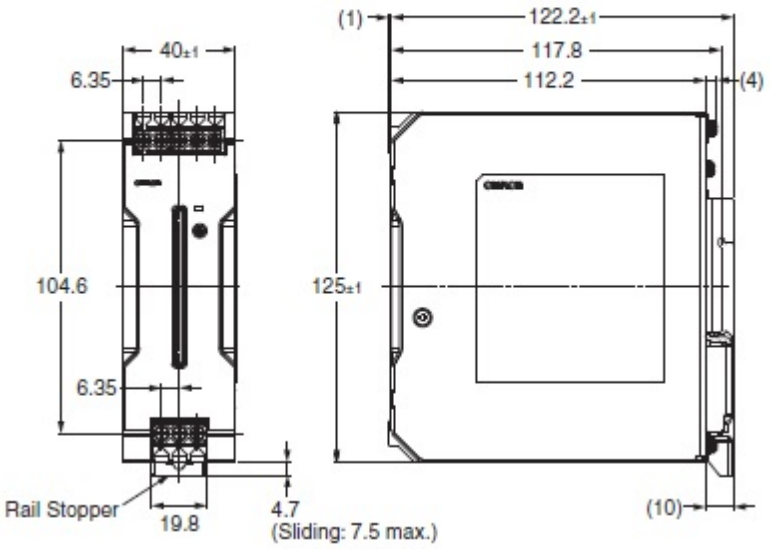
S8VK-G12024 (120 W)



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Mounting

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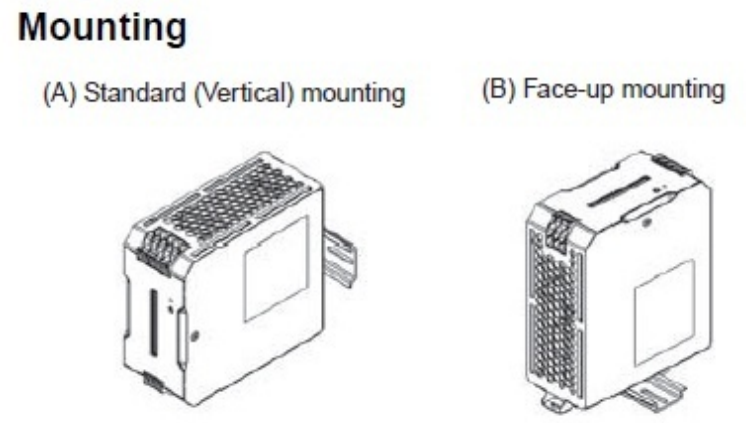
Mounting state



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Connection diagram

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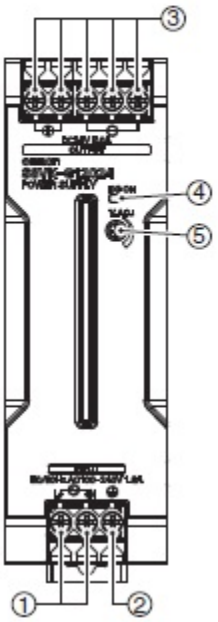
Terminal arrangement

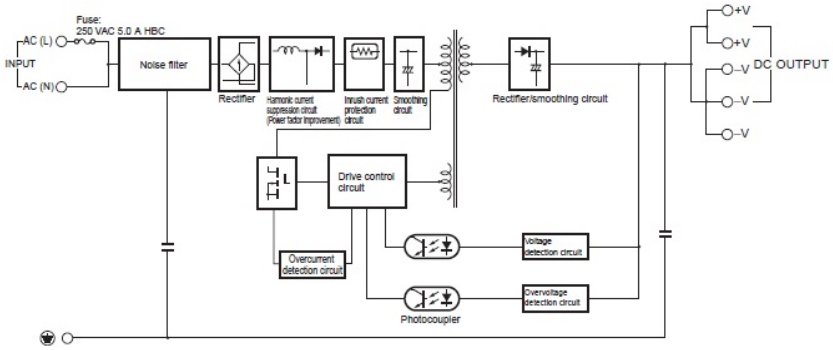
S8VK-G12024



No.	Name	Function
1	Input terminals (L), (N)	Connect the input lines to these terminals. ✻1
2	Protective Earth terminal (PE)	Connect the ground line to this terminal. ✻2
3	DC Output terminals (–V), (+V)	Connect the load lines to these terminals.
4	Output indicator (DC ON: Green)	Lights while a direct current (DC) output is ON.
5	Output voltage adjuster (V.ADJ)	Use to adjust the voltage.

✻1. The fuse is located on the (L) side. It is not user-replaceable. For a DC input, connect the positive voltage to the L terminal.
✻2. This is the protective earth terminal specified in the safety standards. Always ground this terminal.

Block diagram



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Derating curve

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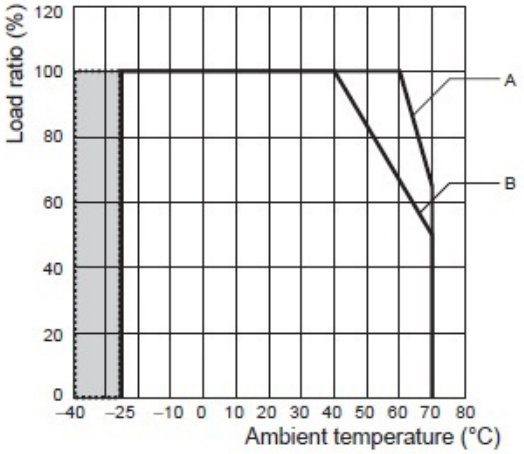
120 W (S8VK-G12024)



Note: **1.** At less than 90 VAC, the derating is 2.5%/V
2. For a DC power input, reduce the load given in the above derating curve by multiplying the following coefficients.
S8VK-G12024: 0.9
3. ⬚ See "–40°C Operation Guarantee Condition"

A. Standard mounting
60°C and over: the derating is 3.5%/°C
B. Face-up mounting
40°C and over: the derating is 1.67%/°C

–40°C Operation Guarantee Condition

The unit can start up and operate normally at –40°C,
but the following criteria will be inferior to the values of datasheet.
Please consider these influences.

		120 W 24 V
Ripple (Typ.)	230 VAC input	440 mV
Ripple (Max.)	230 VAC input	450 mV
Start up time (Typ.)	230 VAC input	760 ms
Hold time (Typ.)	230 VAC input	20 ms

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