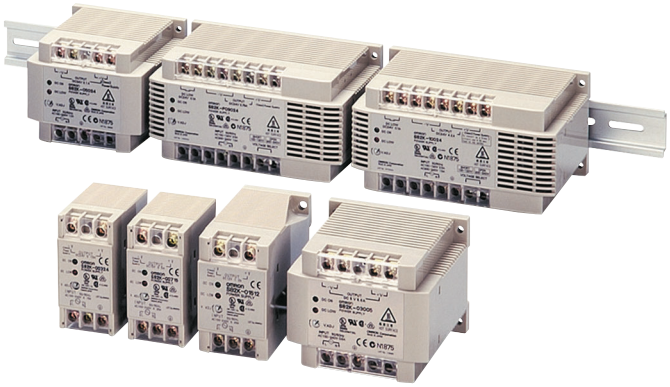
Switch Mode Power Supply
S82K (3/7.5/15/30/50/90/100-W Models)

CSM_S82K_DS_E_2_1

Ultimate DIN-rail-mounting Power Supply with a Power Range of 3 to 100 W

- EMI: EN 61204-3 class B
- Input: 85 to 264 VAC (except 90-W and 100-W models)
- Safety standards: UL 60950-1/508, cUL: CSA C22.2 No. 14 (Class 2: Per No. 223), cUR: CSA No. 60950-1, EN 60950-1 (= VDE 0805, Teil 1), EN50178 (= VDE 0160)
- Undervoltage alarm indication available for standard models.]
- RoHS-compliant



Model Number Structure

■ Model Number Legend

Note: Not all combinations are possible. Refer to *List of Models* in *Ordering Information*, below.

S82K - □ □ □ □ □ □

1 2 3

1. Power Factor Correction

None: No
P: Yes

2. Power Ratings

003: 3 W
007: 7.5 W
015: 15 W
030: 30 W
050: 50 W
090: 90 W
100: 100 W

3. Output Voltage

05: +5 VDC
12: +12 VDC
15: +15 VDC
24: +24 VDC
27: ±12 VDC
28: ±15 VDC

Ordering Information

■ List of Models

Note: For details on normal stock models, contact your nearest OMRON representative.

Power ratings	Output voltage	Output current	Function Configuration			Models
			Output	Undervoltage alarm indicator/output	PFC	
3 W	5 V	0.6 A	Single output	Yes	No	S82K-00305
	12 V	0.25 A				S82K-00312
	15 V	0.2 A				S82K-00315
	24 V	0.13 A				S82K-00324
7.5 W	5 V	1.5 A				S82K-00705
	12 V	0.6 A				S82K-00712
	15 V	0.5 A				S82K-00715
	24 V	0.3 A				S82K-00724
	±12 V	0.3 A/0.2 A	Dual output			S82K-00727
	±15 V	0.2 A/0.2 A				S82K-00728
15 W	5 V	2.5 A	Single output			S82K-01505
	12 V	1.2 A				S82K-01512
	24 V	0.6 A				S82K-01524
30 W	5 V	5.0 A				S82K-03005 (See note 1.)
	12 V	2.5 A				S82K-03012
	24 V	1.3 A				S82K-03024
50 W	24 V	2.1 A				S82K-05024
90 W	24 V	3.75 A			No	S82K-09024
					Yes	S82K-P09024
100 W	24 V	4.2 A (See note 2.)			No	S82K-10024
					Yes	S82K-P10024

Note:1. The output capacity of the S82K-03005 is 25 W.
2. The output current for S82K-P10024 during parallel operation is 3.78 A.

Specifications

■ Ratings/Characteristics

Item			Power ratings (See note 1.)	S82K				
				Single output		Dual output	Single output	
				3 W	7.5 W	7.5 W	15 W	30 W
Efficiency (typical)				60% min. (Varies depending on specifications)	64% min. (Varies depending on specifications)		66% min. (Varies depending on specifications)	
Input	Voltage (See note 2.)	AC		100 to 240 VAC (85 to 264 VAC)				
		DC		90 to 350 VDC				Not possible
	Frequency			50/60 Hz (47 to 450 Hz)				
	Current (See note 3.)	100-V input		0.15 A max.	0.25 A max.		0.45 A max.	0.9 A max.
		200-V input					0.25 A max.	0.6 A max.
	Power Factor			---				
	Harmonic current emissions			---				
	Leakage current (See note 3.)	100-V input		0.5 mA max.				
		200-V input		1 mA max.				
	Inrush current (See note 3.)	100-V input		15 A max. (for cold start at 25°C)				25 A max. (for cold start at 25°C)
		200-V input		30 A max. (for cold start at 25°C)				50 A max. (for cold start at 25°C)
	Noise filter			Yes				
Output (See note 4.)	Voltage Adjustment Range			±10% (with V. ADJ) (See note 5.)		Not possible (See note 6.)	±10% (with V. ADJ) (–10% to 15% for S82K-03012/-03024) (See note 5.)	
	Ripple (See note 3.)			2% (p-p) max.				
	Input variation influence			0.5% max. (at 85 to 264 VAC input, 100% load)				
	Load variation influence (rated input voltage)			1.5% max. (0 to 100% load)		+V: 1.5% max. –V: 3% max. (0 to 100% load)	1.5% max. (0 to 100% load)	
	Temperature variation influence (See note 3.)			0.05%/°C max.				
	Startup time			100 ms max. (up to 90% of output voltage at rated input and output)				
	Hold time (See note 3.)			20 ms min.				
Additional functions	Overload protection (See note 7.)			105% to 160% of rated load current (105% to 250% of rated load current for dual output models), gradual current/voltage drop, automatic reset (See note 8.)				105% to 160% of rated load current, gradual current increase, voltage drop intermittent operation, automatic reset
	Overvoltage protection			No				
	Undervoltage alarm indication			Yes (color: red)				
	Undervoltage alarm output			No				
	Parallel operation			No				
Other	Operating ambient temperature			Refer to the derating curve in *Engineering Data*. (with no icing or condensation)				
	Storage temperature			–25 to 65°C (with no icing or condensation)				
	Operating ambient humidity			25% to 85% (Storage humidity: 25% to 90%)				
	Dielectric strength			3.0 kVAC for 1 min. (between all inputs and all outputs) 2.0 kVAC for 1 min. (between all inputs and PE terminals) 1.0 kVAC for 1 min. (between all outputs and PE terminals)				
		Detection current		10 mA			20 mA	
	Insulation resistance			100 MΩ min. (between all outputs and all inputs, PE terminals) at 500 VDC				
	Vibration resistance			10 to 55 Hz, 0.375-mm single amplitude for 2 h each in X, Y, and Z directions				
	Shock resistance			300 m/s^2, 3 times each in ±X, ±Y, ±Z directions				
	Output indicator			Yes (color: green)				
	EMI	Conducted Emissions		Conforms to EN61204-3 EN55011 Class B and based on FCC Class B				
		Radiated Emissions		Conforms to EN61204-3 EN55011 Class B				
	EMS			Conforms to EN61204-3 High severity levels				
	Approved standards	UL cUL cUR EN/VDE		UL 508 (Listing; Class 2: Per UL1310), Class 2 (excluding Dual Output models), UL60950-1 CSA C22.2 No.14 (Class 2: Per No. 223, excluding Dual output models) CSA No. 60950-1 EN50178 (VDE0160), EN60950-1 (VED0805 Teil 1) Based on VDE0160/P100				
	Weight			150 g max.			260 g max.	380 g max.

Note:1. When a load is connected that has a built-in DC-DC converter, the overload protection may operate at startup and the power supply may not start. Refer to *Overload Protection* on page 8 for details.

2. Use with DC voltage input is beyond the conditions of approval or conformance to applicable safety standards. (DC input possible with 15 W max. Use the 7.5-W single-output models under the load of 90% max. if the voltage range is between 90 and 110 VDC.
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. There is no polarity.

3. Defined with a 100% load and the rated input voltage (100 or 200 VAC.)

4. The output specification is defined at the power supply output terminals.

5. If the output voltage adjuster (V. ADJ) is turned, the voltage will increase by more than +10% of the voltage adjustment range. (+15% for S82K-03012/-03024) When adjusting the output voltage, confirm the actual output voltage from the Power Supply and be sure that the load is not damaged.

6. The settings for the output voltage must be within the following range:
+V: ±1% of the rated value
–V: ±5% of the rated value

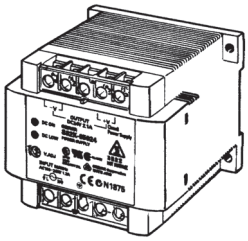
7. Refer to *Overload Protection* on page 8 for details.

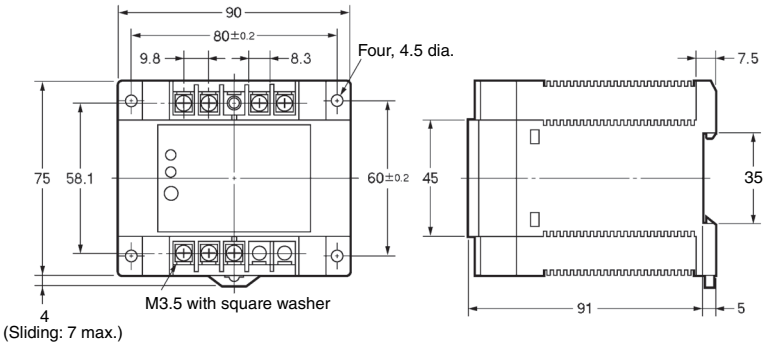
8. When using the 7.5-W single-output models within the input voltage range between 90 and 110 VDC, the protection function will operate at a current of 95% to 160% of the rated load current.

Item			Power ratings (See note 1.)	S82K			S82K-P	
				Single output				
				50 W	90 W	100 W	90 W	100 W
Efficiency (typical)				80% min. (Varies depending on specifications)				
Input	Voltage (See note 2.)	AC		100 to 240 VAC (85 to 264 VAC)	100 V (85 to 132 VAC)/200 V (170 to 264 VAC) Selectable			
		DC		Not possible				
	Frequency			50/60 Hz (47 to 450 Hz)			50/60 Hz (47 to 63 Hz)	
	Current (See note 3.)	100-V input		1.3 A max.	2.5 A max.			
		200-V input		0.8 A max.	1.5 A max.			
	Power Factor			---			0.7 min. (at 200 VAC input, at rated output), 100 V: unlimited	
	Harmonic current emissions			---			Conforms to EN6100-3-2 (200-V only)	
	Leakage current (See note 3.)	100-V input		0.5 mA max.				
		200-V input		1 mA max.				
	Inrush current (See note 3.)	100-V input		25 A max. (for cold start at 25°C)				
		200-V input		50 A max. (for cold start at 25°C)				
	Noise filter			Yes				
Output (See note 4.)	Voltage Adjustment Range			±10% (with V. ADJ) (–10% to 15% for S82K-05024) (See note 5.)			±10% (with V. ADJ) (See note 5.)	
	Ripple (See note 3.)			2% (p-p) max.				
	Input variation influence			0.5% max. (at 85 to 264 VAC input, 100% load)	0.5% max. (at 85 to 132 VAC input /170 to 264 VAC input, 100% load)			
	Load variation influence (rated input voltage)			1.5% max. (0 to 100% load)				
	Temperature variation influence (See note 3.)			0.05%/°C max.				
	Startup time			100 ms max. (up to 90% of output voltage at rated input and output)	200 ms max.			
	Hold time (See note 3.)			20 ms min.				
Additional functions	Overload protection (See note 6.)			105% to 160% of rated load current, gradual current increase, voltage drop intermittent operation, automatic reset	105% to 160% of rated load current, inverted L drop, automatic reset (See note 7.)			
	Overvoltage protection			No				
	Undervoltage alarm indication			Yes (color: red)				
	Undervoltage alarm output			No	Yes			
	Parallel operation			No		Yes (up to 2 units.)	No	Yes (up to 2 units.) (See note 8.)
Other	Operating ambient temperature			Refer to the derating curve in *Engineering Data*. (with no icing or condensation)				
	Storage temperature			–25 to 65°C (with no icing or condensation)				
	Operating ambient humidity			25% to 85% (Storage humidity: 25% to 90%)				
	Dielectric strength			3.0 kVAC for 1 min. (between all inputs and all outputs) 2.0 kVAC for 1 min. (between all inputs and PE terminals) 1.0 kVAC for 1 min. (between all outputs and PE terminals)				
		Detection current		20 mA				
	Insulation resistance			100 MΩ min. (between all outputs and all inputs, PE terminals) at 500 VDC				
	Vibration resistance			10 to 55 Hz, 0.375-mm single amplitude for 2 h each in X, Y, and Z directions				
	Shock resistance			300 m/s^2, 3 times each in ±X, ±Y, ±Z directions			150 m/s^2, 3 times each in ±X, ±Y, ±Z directions	
	Output indicator			Yes (color: green)				
	EMI	Conducted Emissions		Conforms to EN61204-3 EN55011 Class B and based on FCC Class B	Conforms to EN61204-3 EN55011 Class B and based on FCC Class A			
		Radiated Emissions		Conforms to EN61204-3 EN55011 Class B				
	EMS			Conforms to EN61204-3 High severity levels				
	Approved standards	UL cUL cUR EN/VDE		UL508 (Listing; Class 2: Per UL1310), Class 2 (excluding dual output models) (See note 9.), UL60950-1 CSA C22.2 No.14 (Class 2: Per No. 223, excluding dual output models) (See note 9.) CSA No. 60950-1 EN50178 (= VDE0160), EN60950-1 (= VDE0805 Teil 1) Based on VDE0106/P100			UL508 (Listing; Class 2: Per UL1310), Class 2 (excluding dual output models) (See note 9.), UL60950-1 CSA C22.2 No.14 (Class 2: Per No. 223, excluding dual output models) (See note 9.) CSA No. 60950-1 EN50178 (= VDE0160), EN60950-1 (= VDE0805 Teil 1) Based on VDE0106/P100	
	Weight			400 g max.	600 g max.		1000g max.	

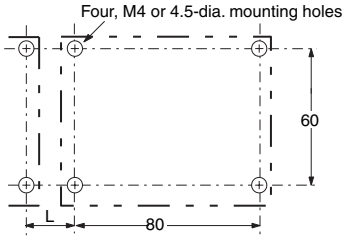
Note:
1. When a load is connected that has a built-in DC-DC converter, the overload protection may operate at startup and the power supply may not start. Refer to *Overload Protection* on page 8 for details.
2. Use with DC voltage input is beyond the conditions of approval or conformance to applicable safety standards. 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. There is no polarity.
3. Defined with a 100% load and the rated input voltage (100 or 200 VAC.)
4. The output specification is defined at the power output terminals.
5. If the output voltage adjuster (V. ADJ) is turned, the voltage will increase by more than +10% of the voltage adjustment range. (+15% for S82K-03012/-03024) When adjusting the output voltage, confirm the actual output voltage from the Power Supply and be sure that the load is not damaged.
6. Refer to *Overload Protection* on page 8 for details.
7. When using the 90-W model at an ambient temperature of 25°C or less, the overload protection function will operate at 101% to 111% of the rated output current. When using the 90-W model at an ambient temperature exceeding 25°C, the overload protection function will operate at 92% to 111% of the rated output current.
8. Parallel operation is set with the Parallel/Single Operation Selector.
9. To meet Class-2 requirements with the 100-W, either a fuse or circuit breaker that is UL listed or CSA certified, and rated at 4.2 A max. should be wired in series with the load to be connected to the Power Supply. Only then can the Power Supply output be considered as meeting Class 2.

S82K-030□□ (30 W)
S82K-05024 (50 W)



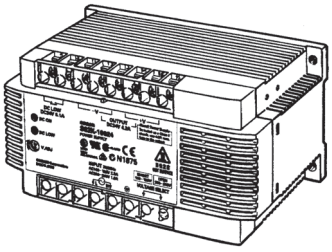


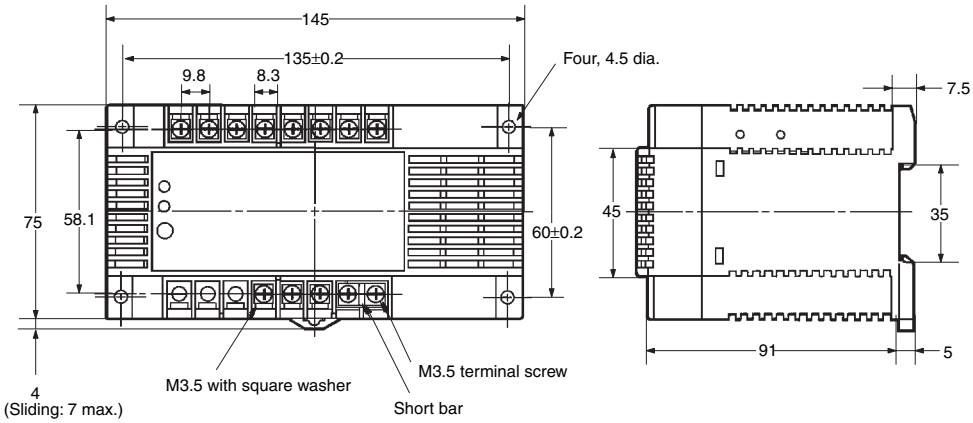
Mounting Holes



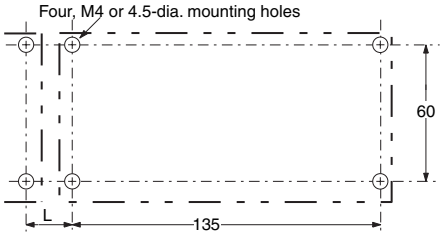
Note: If more than one Power Supply is installed in a row, keep a distance of 20 mm min. (L = 20 mm min.) between each adjacent Power Supply.

S82K-□09024 (90 W)
S82K-□10024 (100 W)





Mounting Holes



Note: If more than one Power Supply is installed in a row, keep a distance of 20 mm min. (L = 20 mm min.) between each adjacent Power Supply.