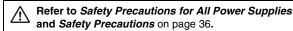
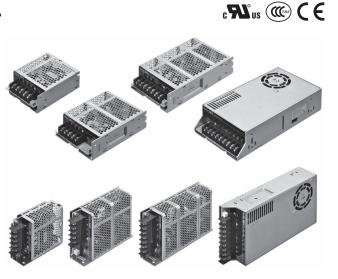


## Switch Mode Power Supply (15/25/35/50/75/100/150/200/350-W Models) S8FS-C

### High Reliability at a Reasonable Cost. Reliable, Basic Power Supplies That Contribute to Stable Equipment Operation.

- High Reliability: Enhanced abnormal overvoltage resistance and lightning surge resistance for stable operation even with an unstable input voltage.
- Long Life: Japanese 105°C electrolytic capacitors are used to achieve stable quality and long life. A reliable 3-year warranty.\*
- Wide Input Ranges: 100 to 120 VAC and 200 to 240 VAC
- Full Lineup: Models are available for the main output voltages and capacities used in FA applications.
- Global Standards: Conforms to CE (all models), Approved for UL (all models) and CCC (15 to 150-W models).
- Easy mounting to DIN Rails with Mounting Brackets.
- \* Refer to Period and Terms of Warranty on page 39.





### **Product Lineup**

Output	Power rating											
voltage	15 W	25 W	35 W	50 W	75 W	100 W	150 W	200 W	350 W			
5 V	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
12 V	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
15 V	Yes	Yes	Yes	Yes	Yes	Yes	Yes					
24 V	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
36 V						Yes	Yes	Yes	Yes			
48 V				Yes	Yes	Yes	Yes	Yes	Yes			

### **Model Number Structure**

### **Model Number Legend**

Note: Not all combinations are possible. Refer to List of Models in Ordering Information on page 2.

S8FS-C			
	(1)	(2)	(3)

### (1) Power Rating

Code	Power rating
015	15 W
025	25 W
035	35 W
050	50 W
075	75 W
100	100 W
150	150 W
200	200 W
350	350 W

### (2) Output Voltage

Code	Output voltage
05	5 V
12	12 V
15	15 V
24	24 V
36	36 V
48	48 V

### (3) Configuration

Code	Terminal Block	Direction
Blank	Models with terminal block facing upward	
J	Models with terminal block facing forward	
D	Models with DIN rail	

### S8FS-C

### **Ordering Information**

### **List of Models**

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

Power rating	Input voltage	Output voltage (VDC)	Output current	Built-in fan	Model with terminal block facing upward	Model with terminal block facing forward	Model wtih DIN rail
		5 V	3 A			S8FS-C01505J	S8FS-C01505
45 141		12 V	1.3 A			S8FS-C01512J	S8FS-C01512
15 W		15 V	1 A			S8FS-C01515J	S8FS-C01515
		24 V	0.7 A			S8FS-C01524J	S8FS-C01524
	1	5 V	5 A		S8FS-C02505	S8FS-C02505J	S8FS-C02505
05.147		12 V	2.1 A		S8FS-C02512	S8FS-C02512J	S8FS-C02512
25 W		15 V	1.7 A		S8FS-C02515	S8FS-C02515J	S8FS-C02515
		24 V	1.1 A		S8FS-C02524	S8FS-C02524J	S8FS-C02524
	1	5 V	7 A		S8FS-C03505	S8FS-C03505J	S8FS-C03505
	100 to 240 VAC	12 V	3 A		S8FS-C03512	S8FS-C03512J	S8FS-C03512
35 W	(allowable range:	15 V	2.4 A		S8FS-C03515	S8FS-C03515J	S8FS-C0351
	85 to 264 VAC or 120 to 370 VDC	24 V	1.5 A		S8FS-C03524	S8FS-C03524J	S8FS-C03524
	*1)	5 V	10 A		S8FS-C05005	S8FS-C05005J	S8FS-C05009
		12 V	4.2 A		S8FS-C05012	S8FS-C05012J	S8FS-C05012
50 W		15 V	3.4 A		S8FS-C05015	S8FS-C05015J	S8FS-C0501
		24 V	2.2 A		S8FS-C05024	S8FS-C05024J	S8FS-C0502
		48 V	1.1 A		S8FS-C05048	S8FS-C05048J	S8FS-C0504
	-	5 V	14 A		S8FS-C07505	S8FS-C07505J	S8FS-C0750
		12 V	6.2 A		S8FS-C07512	S8FS-C07512J	S8FS-C0751
75 W		15 V	5 A	None	S8FS-C07515	S8FS-C07515J	S8FS-C0751
7011		15 V 5 A None 24 V 3.2 A	110110	S8FS-C07524	S8FS-C07524J	S8FS-C0752	
		48 V	1.6 A		S8FS-C07548	S8FS-C07548J	S8FS-C0754
	100 to 120 VAC.	5 V	20 A		S8FS-C10005	S8FS-C10005J	S8FS-C1000
	200 to 240 VAC	12 V	8.5 A		S8FS-C10012	S8FS-C10012J	S8FS-C1001
	(allowable range:	15 V	7 A		S8FS-C10015	S8FS-C10015J	S8FS-C1001
100 W	85 to 132 VAC, 176 to 264 VAC, or	24 V	4.5 A		S8FS-C10024	S8FS-C10024J	S8FS-C1002
	248 to 373 VDC	36 V	2.8 A		S8FS-C10024	S8FS-C10036J	S8FS-C1002
	(Select with the switch.) *2)	48 V	2.3 A		S8FS-C10030	S8FS-C10048J	S8FS-C1004
	2)	5 V	2.5 A 26 A		S8FS-C15005	S8FS-C15005J	S8FS-C1500
	-	12 V	12.5 A		S8FS-C15005	S8FS-C15003J	S8FS-C1500
	-	15 V	12.5 A		S8FS-C15012	S8FS-C15012J	S8FS-C1501
150 W	-	24 V	6.5 A		S8FS-C15015	S8FS-C15024J	S8FS-C1501
					S8FS-C15024		
	100 to 100 VAC	36 V	4.3 A			S8FS-C15036J	S8FS-C1503
	100 to 120 VAC, 200 to 240 VAC	48 V	3.3 A		S8FS-C15048	S8FS-C15048J	S8FS-C1504
	(allowable range:	5 V	40 A		S8FS-C20005	S8FS-C20005J	S8FS-C2000
000.144	90 to 132 VAC, 180 to 264 VAC, or	12 V	17 A		S8FS-C20012	S8FS-C20012J	S8FS-C2001
200 W	254 to 373 VDC	24 V	8.8 A		S8FS-C20024	S8FS-C20024J	S8FS-C2002
	(Select with the switch.)	36 V	5.9 A		S8FS-C20036	S8FS-C20036J	S8FS-C2003
	*2)	48 V	4.43 A		S8FS-C20048	S8FS-C20048J	S8FS-C2004
		5 V	60 A		S8FS-C35005	S8FS-C35005J	S8FS-C3500
		12 V	29 A	.,	S8FS-C35012	S8FS-C35012J	S8FS-C3501
350 W		24 V	14.6 A	Yes	S8FS-C35024	S8FS-C35024J	S8FS-C3502
		36 V	9.7 A		S8FS-C35036	S8FS-C35036J	S8FS-C3503
		48 V	7.32 A		S8FS-C35048	S8FS-C35048J ting Brackets (Ord	S8FS-C3504

Note: You can use brackets that are sold separately to mount the Power Supplies to DIN Rail. Refer to Mounting Brackets (Order Separately) on page 29.

<sup>\*1.</sup> The range for compliance with EC Directives and safety standards (UL, EN, etc.) is 100 to 240 VAC.

<sup>\*2.</sup> The range for compliance with EC Directives and safety standards (UL, EN, etc.) is 100 to 120 VAC, 200 to 240 VAC.

### **Ratings, Characteristics, and Functions**

lka u-		₹.	F.V	40.17		6414		
Item						24 V		
Efficiency	<i>ı</i> *	-						
		230 VAC input	82% typ.		86% typ.	87% typ.		
	Voltage range *							
	Voltage range *   Frequency *		50 /60 Hz (47 to 450 Hz)					
	Current *	115 VAC input	0.3 A typ.		typ. 85% typ. 85% typ. 0 typ. 86% typ. 87% typ. 0 to 370 VDC (The L terminal for the DC input is the positive siding is required according to the input voltage. Refer to Derating to the input voltage and to the input to the input voltage and to the input voltage, power shut off (shut off the input voltage and turn to the input voltage, power shut off (shut off the input voltage and turn to its possible, external diodes are required.)  In its possible, external diodes are required.)  In its possible, external diodes are required.)  In its possible, external diodes are required to the terminals and PE terminals) current cutoff 20 mA to terminals and PE terminals current cutoff 20 mA to terminals and PE terminals and PE terminals are required. To the input terminals and PE terminals			
nput	Note							
	Power factor							
	Leakage current	115 VAC input	0.05 mA	0.05 mA	0.05 mA	0.05 mA		
	Leakage Current	230 VAC input	0.10 mA	0.10 mA	0.10 mA	0.10 mA		
	Inrush current *	115 VAC input	16 A typ.					
	(for a cold start at 25°)	230 VAC input	32 A typ.					
	Rated Output Curre	ent	3 A	1.3 A	1 A	0.7 A		
	Voltage adjustment	range *	-10% to 10% (with V. Al	DJ)				
			30 mVp-p max.	30 mVp-p max.	40 mVp-p max.	30 mVp-p max.		
	Input variation influ	ence *	0.5% max.					
Outroit	Voltage range *  Frequency *  Current *  Power factor  Leakage current  Inrush current * (for a cold start at 25°)  Rated Output Current  Voltage adjustment Ripple & Noise voltage *  Input variation influt Load variation influt Temperature variation influence  Startup time *  Hold time *  Overload protection Overvoltage protection Series operation Parallel operation Remote sensing Remote control Output indicator  Withstand voltage Insulation resistance Ambient operating Vibration resistance Shock resistance  Withstance  Insulation resistance  Withstance  Ambient operating Vibration resistance Shock resistance  Withstance  Insulation resistance  Withstance  Ambient operating Vibration resistance  Shock resistance  Weight Cooling fan Degree of protection Harmonic current e	ence *	1.0% max.					
Output			0.03%/°C max.					
	Startun tima *	115 VAC input	490 ms typ.	500 ms typ.	470 ms typ.	480 ms typ.		
	Startup time "	230 VAC input	470 ms typ.	480 ms typ.	450 ms typ.	460 ms typ.		
	Hald Sim - *	115 VAC input	14 ms typ.	16 ms typ.	18 ms typ.	15 ms typ.		
	Hold time *	•						
	Overload protection			, , , , , , , , , , , , , , , , , , , ,				
	Overvoltage protec	tion *		ated output voltage, pow	ver shut off (shut off the inp	out voltage and turn on the inp		
Addi-	Overheat protection	1	No					
tional	Series operation		Yes (For up to 2 Power S	Supplies, external diodes	s are required.)			
func- tions	Parallel operation		No (However, backup o	peration is possible, exte	ernal diodes are required.)			
ions Pa	Remote sensing		No					
	Remote control		No					
	Output indicator		Yes (LED: Green)					
			3 kVAC for 1 min. (between all input terminals and output terminals) current cutoff 20 mA					
Insula- tion	Withstand voltage		2 kVAC for 1 min. (between all input terminals and PE terminals) current cutoff 20 mA 1 kVAC for 1 min. (between all output terminals and PE terminals) current cutoff 20 mA					
	Insulation resistance	e	100 M $\Omega$ min. (between all output terminals and all input terminals/PE terminals) at 500 VDC					
	Ambient operating	temperature			e temperature. Refer to <i>De</i>	erating Curves on page 17.) (w		
	Storage temperatur	e	-40 to 85°C (with no con	densation or icing)				
Envi-	Ambient operating	humidity	20% to 90% (Storage hu	midity: 10% to 95%)				
. Jiment	Frequency*  Current * 115 VAC input 230 VAC	е						
	Shock resistance		150 m/s², 3 times each in	n ±X, ±Y, ±Z directions				
Reliabil-	MTBF		135,000 hrs min.					
ity	Life expectancy *		10 years min.					
	Dimensions (W×H×	D)		page 23.				
Con-	Weight		150 g max.					
struc- tion	Cooling fan							
		n						
			Conforms to EN 61000-3	3-2, GB17625.1				
		Conducted Emis-		<u> </u>	ass B, GB9254			
	<b>EMI</b>		Conforms to EN 61204-3 Class B, EN 55011 Class B, GB9254					
	EMS		Conforms to EN 61204-3	B high severity levels				
Stan- dards			Approved Standards UL: cURus UL 60950-1 CSA: cURus C22.2 No60 CCC: GB4943 Conformed Standards	(Recognition) OVC II Po 1950-1	012			
			No					
	Marine Standards							

<sup>\*</sup> Refer to *Conditions* on page 12.

		Power rating			25 W			
Item		Output volt-	5 V	12 V	15 V	24 V		
		age	80% typ.	84% typ.	85% typ.	86% typ.		
Efficiency	/ *		82% typ.	86% typ.	88% typ.	88% typ.		
	Voltage range *		Single phase 85 to 264 VAC	C, 120 to 370 VDC (The	L terminal for the DC input is	the positive side and safety		
	Notage range * Frequency *  Current *  (for a cold start at 25°)  Rated Output Current  Voltage adjustment range *  Ripple & Noise voltage *  Input variation influence *  Load variation influence *  Load variation influence *  Temperature variation influence *  Temperature variation influence *  Temperature variation influence *  Town parallel operation  Overload protection  Overload protection  Series operation  Parallel operation  Remote sensing  Remote control  Output indicator  Withstand voltage  Insulation resistance  Ambient operating temperature  Storage temperature  Ambient operating humidity  Vibration resistance  Shock resistance		,	erating is required accor	ding to the input voltage. Ref	er to <i>Derating Curves</i> on page 18		
-	Frequency *	445.740 :	50 /60 Hz (47 to 450 Hz)					
	Current *		0.49 A typ. 0.3 A typ.					
Input	Power factor	230 VAC IIIput	0.5 A typ.					
		115 VAC input	0.10 mA	0.10 mA	0.10 mA	0.10 mA		
	Leakage current	230 VAC input	0.20 mA	0.20 mA	0.20 mA	0.20 mA		
	Inrush current *	115 VAC input	16 A typ.	1	<u>'</u>			
	(for a cold start at 25°)	230 VAC input	32 A typ.	O.10 mA O.20 m				
	Rated Output Curr	ent	5 A	2.1 A	1.7 A	1.1 A		
	Voltage adjustmen	t range *	-10% to 10% (with V. ADJ)					
		100 to 240 VAC	20 mVp-p max.	20 mVp-p max.	30 mVp-p max.	40 mVp-p max.		
			0.5% max.					
	•		1.0% max.					
Output		100 to 240 VAC	0.03%/°C max.					
		-		T				
	Startup time *	115 VAC input	390 ms typ.		Ž1			
-			360 ms typ.					
	Hold time *		17 ms typ.					
	0		103 ms typ.	113 ms typ.	11 / ms typ.	112 ms typ.		
	•		Yes, automatic reset	d output voltage, power	abut off (abut off the input ve	Utago and turn on the input again		
-			No	d output voitage, power	shut on (shut on the input vo	ntage and turn on the input agair		
Addi-	•	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		onlies external diodes a	re required \			
Additional functions  Series operation  Parallel operation  No (However, backup operation is possible, external diodes are required.)  Remote sensing  No								
tions	•			anon lo possible, small	a. a.oaoo a.o roqaoa.,			
			No					
1	Output indicator		Yes (LED: Green)					
			3 kVAC for 1 min. (between	all input terminals and	output terminals) current cuto	off 20 mA		
Insula-	Withstand voltage		2 kVAC for 1 min. (between	all input terminals and	PE terminals) current cutoff 2	20 mA		
tion			1 kVAC for 1 min. (between	all output terminals and	PE terminals) current cutoff	20 mA		
	Insulation resistan	ce	100 M $\Omega$ min. (between all o	output terminals and all i	nput terminals/PE terminals)	at 500 VDC		
	Ambient operating	temperature	, ,	quired according to the t	emperature. Refer to <i>Deratin</i>	g Curves on page 17.) (with no		
	Storage temperatu	Iro.	condensation or icing)	nsation or icina)				
Envi-			20% to 90% (Storage humid	<u> </u>				
ronment		·	, o	, ,	in X, Y, and Z directions			
	vibration resistant	e 						
			150 m/s <sup>2</sup> , 3 times each in ±	X, ±Y, ±Z directions				
Reliabil-			135,000 hrs min.					
ity			10 years min.					
Con-	•	<b>⟨U)</b>	Refer to <i>Dimensions</i> on page	ges 20 and 23.				
struc-			250 g max.					
tion	_							
			Conforms to EN 61000-3-2,	GB17625 1				
-	Trainionio darrone							
	EMI		Conforms to EN 61204-3 Class B, EN 55011 Class B, GB9254					
	-IVII		Conforms to EN 61204-3 Class B, EN 55011 Class B, GB9254					
	EMS	EIIIISSIONS	Conforms to EN 61204-3 hi					
Stan- dards	Voltage range * Frequency *  Current *  Power factor  Leakage current  Inrush current * (for a cold start at 25°)  Rated Output Current  Voltage adjustment rar Ripple & Noise voltage * Input variation influence Load variation influence  Startup time *  Hold time *  Overload protection Overvoltage protection Overheat protection Overheat protection Series operation Parallel operation Remote sensing Remote control Output indicator  Withstand voltage  Insulation resistance Ambient operating tem Storage temperature Ambient operating tem Storage temperature Ambient operating hun Vibration resistance  Shock resistance  MTBF Life expectancy * Dimensions (W×H×D)  Weight Cooling fan Degree of protection Harmonic current emis EMS  EMS		Approved Standards UL: cURus UL 60950-1 (Re CSA: cURus C22.2 No6095 CCC: GB4943 Conformed Standards EN: EN 60950-1 OVC II Pol	ecognition) OVC II Pol2 50-1				
			No					
	Marine Standards		INO					

<sup>\*</sup> Refer to *Conditions* on page 12.

		Power rating			35 W				
Item		Output voltage	5 V	12 V	15 V	24 V			
		115 VAC input	81% typ.	83% typ.	84% typ.	87% typ.			
Efficiency	/ *	230 VAC input	81% typ.	84% typ.	84% typ.	87% typ.			
	Voltage range *					s the positive side and safety er to <i>Derating Curves</i> on page 1			
	Frequency *		50 /60 Hz (47 to 450 Hz	2)		<u> </u>			
-		115 VAC input	0.66 A typ.	,					
	Current *	230 VAC input	0.41 A typ.						
Input	Power factor								
-		115 VAC input	0.15 mA	0.15 mA	0.15 mA	0.15 mA			
	Leakage current	230 VAC input	0.30 mA	0.25 mA	0.25 mA	0.25 mA			
ŧ	Inrush current *	115 VAC input	16 A typ.						
	(for a cold start at 25°)	230 VAC input	32 A typ.						
	Rated Output Curre	ent	7 A	3 A	2.4 A	1.5 A			
	Voltage adjustmen	t range *	-10% to 10% (with V. A	ADJ)	•				
	Ripple & Noise voltage *	100 to 240 VAC input	80 mVp-p max.	90 mVp-p max.	90 mVp-p max.	80 mVp-p max.			
	Input variation influ	uence *	0.5% max.		'				
O.14	Load variation influ	uence *	1.0% max.						
Output	Temperature variation influence	100 to 240 VAC input	0.03%/°C max.						
	Startup time *	115 VAC input	750 ms typ.	750 ms typ.	760 ms typ.	770 ms typ.			
	Startup time *	230 VAC input	700 ms typ.	690 ms typ.	710 ms typ.	720 ms typ.			
	Hold time *	115 VAC input	13 ms typ.	14 ms typ.	14 ms typ.	15 ms typ.			
	noia time	230 VAC input	74 ms typ.	75 ms typ.	75 ms typ.	79 ms typ.			
	Overload protectio	n	Yes, automatic reset						
	Overvoltage protect	ction *	Yes, 115% or higher of	rated output voltage, power	shut off (shut off the input vo	oltage and turn on the input aga			
۸ddi-	Overheat protection	n	No						
Additional Series operation Yes (For up functions)  Parallel operation No (Howev tions)	Yes (For up to 2 Power	Supplies, external diodes a	re required.)						
	Parallel operation		No (However, backup of	operation is possible, extern	al diodes are required.)				
tions	Remote sensing		No						
	Remote control		No						
	Output indicator		Yes (LED: Green)						
	Remote control Output indicator  Sula- Withstand voltage		3 kVAC for 1 min. (between all input terminals and output terminals) current cutoff 20 mA						
Insula-			2 kVAC for 1 min. (between all input terminals and PE terminals) current cutoff 20 mA						
tion			1 kVAC for 1 min. (between all output terminals and PE terminals) current cutoff 20 mA						
	Insulation resistan	ce	100 M $\Omega$ min. (between	all output terminals and all i	nput terminals/PE terminals)	at 500 VDC			
	Ambient operating	temperature	−20 to 60°C (Derating is condensation or icing)	s required according to the t	emperature. Refer to <i>Deratir</i>	ng Curves on page 17.) (with no			
Envi-	Storage temperatu		-40 to 85°C (with no co						
ronment	Ambient operating	humidity	20% to 90% (Storage h						
	Vibration resistance	e		half amplitude for 2 h each half amplitude for 1 h each					
	Shock resistance			in ±X, ±Y, ±Z directions					
Reliabil-	MTBF		135,000 hrs min.						
ity	Life expectancy *		10 years min.						
Cor	Dimensions (W×H×	(D)	Refer to <i>Dimensions</i> on	pages 20 and 23.					
Con- struc-	Weight		250 g max.						
tion	Cooling fan		No						
	Degree of protection								
	Harmonic current e		Conforms to EN 61000-	-3-2, GB17625.1					
	ЕМІ	Conducted Emissions	Conforms to EN 61204-	-3 Class B, EN 55011 Class	s B, GB9254				
		Radiated Emissions		-3 Class B, EN 55011 Class	s B, GB9254				
Stan-	EMS		Conforms to EN 61204-	ਤ nigh severity levels					
dards	Safety Standards		Approved Standards UL: cURus UL 60950-1 CSA: cURus C22.2 Not CCC: GB4943 Conformed Standards EN: EN 60950-1 OVC II						
			No						
	Marine Standards								

<sup>\*</sup> Refer to *Conditions* on page 12.

		Power rating			50 W				
Item		Output voltage	5 V	12 V	15 V	24 V	48 V		
		115 VAC input	79% typ.	83% typ.	84% typ.	86% typ.	87% typ.		
Efficiency	y *	230 VAC input	80% typ.	84% typ.	85% typ.				
	Voltogo rongo *		- ''	3.					
	voltage range		standards do not ap	ply.) (Derating is requi	red according to the inpu	t voltage. Refer to Dera	ating Curves on page		
	Frequency *		50 /60 Hz (47 to 45)	0 Hz)		86% typ. 86% typ. ne DC input is the posvoltage. Refer to Dera  0.25 mA  0.55 mA  2.2 A  100 mVp-p max.  710 ms typ. 640 ms typ. 14 ms typ. 77 ms typ. ff the input voltage and arrent cutoff 20 mA current cutoff 20 mA cut			
	Current *	115 VAC input	0.97 A typ.						
	Gurroni	230 VAC input	0.59 A typ.						
nput	Power factor								
	Leakage current	115 VAC input	0.25 mA	0.25 mA	0.25 mA	0.25 mA	0.25 mA		
	Leakage Current	230 VAC input	0.60 mA	0.55 mA	0.55 mA	0.55 mA	0.55 mA		
	Voltage range * Frequency * Current * Power factor Leakage current Inrush current * (for a cold start at 25°) Rated Output Current Voltage adjustment Ripple & Noise voltage * Input variation infilence Startup time * Hold time * Overload protection Overvoltage prote Overheat protection Parallel operation Remote sensing Remote control Output indicator  Withstand voltage Insulation resistant Ambient operating Storage temperature Ambient operating Vibration resistant Shock resistance Ambient operating Vibration resistant Shock resistance Ambient operating Overload protection Remote sensing Remote control Output indicator  Withstand voltage Insulation resistant Ambient operating Vibration resistant Shock resistance Ambient operating Vibration resistant Shock resistance Ambient operating Overload protection Remote sensing Remote control Output indicator	115 VAC input	16 A typ.						
	(for a cold start at 25°)	230 VAC input	32 A typ.						
	Rated Output Curre	ent	10 A	4.2 A	3.4 A	2.2 A	1.1 A		
	Voltage adjustmen	t range *	-10% to 10% (with	V. ADJ)	-				
		100 to 240 VAC	80 mVp-p max.	110 mVp-p max.	100 mVp-p max.	100 mVp-p max.	120 mVp-p max.		
		input	0.5% max.						
	•		1.0% max.						
Output		ı	1.U /o IIIdX.						
		100 to 240 VAC input	0.03%/°C max.						
	a	115 VAC input	730 ms typ.	730 ms typ.	710 ms typ.	710 ms typ.	770 ms typ.		
	Startup time *	230 VAC input	680 ms typ.	670 ms typ.	610 ms typ.	,	690 ms typ.		
		115 VAC input	12 ms typ.	14 ms typ.	14 ms typ.		* .		
	Hold time *	230 VAC input	71 ms typ.	77 ms typ.	78 ms typ.				
	Overload protectio	•	Yes, automatic rese			- 71			
	•				ne. power shut off (shut	off the input voltage an	d turn on the input ac		
	· ·		No		5-, p (	86% typ. 87% typ. 86% typ. 87% typ. al for the DC input is the positive side an input voltage. Refer to Derating Curves  0.25 mA 0.55 mA  0.55 mA 0.55 mA  2.2 A 1.1 A  2.2 A 1.1 A  710 ms typ. 690 ms to 14 ms typ. 14 ms typ. 14 ms typ. 14 ms typ. 77 ms typ. 80 ms typ. 80 ms typ. 14 ms typ. 15 ms typ. 16 ms typ. 16 ms typ. 17 ms typ. 18 ms typ. 18 ms typ. 18 ms typ. 18 ms typ. 19 ms typ. 10 ms typ. 19 ms typ. 19 ms typ. 19 ms typ. 10 ms			
Additional Series operation Yes (For up to 2 Power Supplies, external diodes are required.)  Func- Parallel operation No (However, backup operation is possible, external diodes are required.)									
	•		, ,			2.2 A  1.1 A  100 mVp-p max.  120 mVp-p r  770 ms typ. 640 ms typ. 640 ms typ. 14 ms typ. 77 ms typ. 80 ms typ. ut off the input voltage and turn on the inp			
ions	•		No (However, Back	tup operation is possit	ne, external aloaes are i				
			No						
			Yes (LED: Green)						
	Output indicator		, ,	hotwoon all input torm	inals and output tormina	ls) ourrant autoff 20 m/	1		
	Remote control		3 kVAC for 1 min. (between all input terminals and output terminals) current cutoff 20 mA						
nsula- tion			2 kVAC for 1 min. (between all input terminals and PE terminals) current cutoff 20 mA						
	Inquistion register	••	1 kVAC for 1 min. (between all output terminals and PE terminals) current cutoff 20 mA						
	insulation resistan	ce	100 MΩ min. (between all output terminals and all input terminals/PE terminals) at 500 VDC						
	Ambient operating	temperature	condensation or icir		ng to the temperature. H	eter to <i>Derating Curve</i>	s on page 17.) (with r		
	Storage temperatu	re		o condensation or icin	g)				
Envi-	Ambient operating		,	ge humidity: 10% to 95	o,				
ronment		•	, ,	•	2 h each in X, Y, and Z	directions			
	vibration resistance	e			1 h each in X, Y, and Z				
	Shock resistance		150 m/s², 3 times e	ach in ±X, ±Y, ±Z dire	ctions				
Reliabil-	MTBF		135,000 hrs min.						
ty	Life expectancy *		10 years min.						
	Dimensions (W×H>	(D)	Refer to Dimension	s on pages 20 and 24	·	<u></u>			
Con-	Weight		300 g max.	·	<del></del>				
struc- ion	Cooling fan		No						
	Degree of protection	on							
	Harmonic current	emissions	Conforms to EN 61	000-3-2, GB17625.1					
		Conducted	Conforms to EN 61	204-3 Class B, EN 550	011 Class B GB0254				
	ЕМІ	Emissions	Comonis to Liver	204-0 Olass B, EN 550	711 Olass B, GB9204				
		Radiated Emissions	Conforms to EN 612	204-3 Class B, EN 550	011 Class B, GB9254				
	EMS		Conforms to EN 612	204-3 high severity lev	rels	86% typ. 86% typ. e DC input is the posyoltage. Refer to Dera  0.25 mA  0.55 mA  2.2 A  100 mVp-p max.  710 ms typ. 640 ms typ. 14 ms typ. 77 ms typ. f the input voltage an equired.)  current cutoff 20 mA extremt cutoff			
Stan- lards	Safety Standards		Approved Standard UL: cURus UL 609 CSA: cURus C22.2 CCC: GB4943 Conformed Standar	50-1 (Recognition) O\ No60950-1	/C II Pol2				
			EN: EN 60950-1 OV	/C II Pol2					
	Marine Standards		EN: EN 60950-1 O\	/C II Pol2					

<sup>\*</sup> Refer to *Conditions* on page 12.

Output Power Additional functions  Addition  A	verheat protection eries operation arallel operation	range * 100 to 240 VAC input ence * ence * 100 to 240 VAC input 115 VAC input 230 VAC input 115 VAC input 230 VAC input	standards do not at 50 /60 Hz (47 to 45 1.4 A typ. 0.83 A typ 0.25 mA 0.60 mA 16 A typ. 32 A typ. 14 A 10% to 10% (with 80 mVp-p max. 0.5% max. 1.0% max. 1.0% max. 750 ms typ. 710 ms typ. 12 ms typ. 12 ms typ. 75 ms typ. 75 s, automatic res Yes, 115% or high. No	0.25 mA 0.25 mA 0.60 mA  6.2 A V. ADJ)  110 mVp-p max.  720 ms typ. 680 ms typ. 13 ms typ. 74 ms typ. et	0.25 mA 0.60 mA  5 A  90 mVp-p max.  730 ms typ. 690 ms typ. 13 ms typ.	0.25 mA	0.25 mA 0.60 mA  1.6 A  140 mVp-p max.  700 ms typ. 730 ms typ.		
Output Power Lead Input Power Input Input Power Input	equency *  urrent *  ower factor  eakage current  rush current *  ra cold start at 25°)  ated Output Curre oltage adjustment pple & Noise oltage *  put variation influence  artup time *  old time *  verload protection vervoltage protect verheat protection arallel operation  arallel operation	230 VAC input  115 VAC input 230 VAC input  115 VAC input 230 VAC input 115 VAC input 230 VAC input 115 VAC input 230 VAC input ence * 100 to 240 VAC input 115 VAC input 230 VAC input 230 VAC input 230 VAC input	77% typ. Single phase 85 to standards do not at 50 /60 Hz (47 to 48 1.4 A typ. 0.83 A typ 0.25 mA 0.60 mA 16 A typ. 32 A typ. 14 A -10% to 10% (with 80 mVp-p max. 0.5% max. 1.0% max. 1.0% max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high	83% typ. 264 VAC, 120 to 370 Voply.) (Derating is required to 120 to 370 Voply.) (Derating is required to 120 to 1	84% typ.  VDC (The L terminal for red according to the input of the in	87% typ. The DC input is the posut voltage. Refer to Dera  0.25 mA  0.60 mA  3.2 A  110 mVp-p max.  750 ms typ. 690 ms typ. 14 ms typ.	87% typ. sitive side and safety ating Curves on page  0.25 mA 0.60 mA  1.6 A  140 mVp-p max.  700 ms typ. 730 ms typ.		
Output Power Core Core Core Core Core Core Core Co	equency *  urrent *  ower factor  eakage current  rush current *  ra cold start at 25°)  ated Output Curre oltage adjustment pple & Noise oltage *  put variation influence  artup time *  old time *  verload protection vervoltage protect verheat protection arallel operation  arallel operation	230 VAC input  115 VAC input 230 VAC input  115 VAC input 230 VAC input 115 VAC input 230 VAC input 115 VAC input 230 VAC input ence * 100 to 240 VAC input 115 VAC input 230 VAC input 230 VAC input 230 VAC input	77% typ. Single phase 85 to standards do not at 50 /60 Hz (47 to 48 1.4 A typ. 0.83 A typ 0.25 mA 0.60 mA 16 A typ. 32 A typ. 14 A -10% to 10% (with 80 mVp-p max. 0.5% max. 1.0% max. 1.0% max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high	83% typ. 264 VAC, 120 to 370 Voply.) (Derating is required to 120 to 370 Voply.) (Derating is required to 120 to 1	84% typ.  VDC (The L terminal for red according to the input of the in	87% typ. The DC input is the posut voltage. Refer to Dera  0.25 mA  0.60 mA  3.2 A  110 mVp-p max.  750 ms typ. 690 ms typ. 14 ms typ.	87% typ. sitive side and safety ating Curves on page  0.25 mA 0.60 mA  1.6 A  140 mVp-p max.  700 ms typ. 730 ms typ.		
Dutput Power Additions Rent Rent Pout Power Rent Power Rent Power Rent Pout Pout Pout Pout Pout Pout Pout Pou	equency *  urrent *  ower factor  eakage current  rush current *  ra cold start at 25°)  ated Output Curre oltage adjustment pple & Noise oltage *  put variation influence  artup time *  old time *  verload protection vervoltage protect verheat protection arallel operation  arallel operation	115 VAC input 230 VAC input 115 VAC input 230 VAC input 115 VAC input 1230 VAC input 230 VAC input 15 VAC input 16 range * 100 to 240 VAC input 16 rence * 100 to 240 VAC input 115 VAC input 230 VAC input 1230 VAC input 135 VAC input 135 VAC input 135 VAC input 135 VAC input 136 VAC input 137 VAC input 138 VAC input 148 VAC input 150 VAC input	Single phase 85 to standards do not al 50 /60 Hz (47 to 45 1.4 A typ. 0.83 A typ 0.25 mA 0.60 mA 16 A typ. 32 A typ. 14 A10% to 10% (with 80 mVp-p max. 0.5% max. 1.0% max. 1.0% max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high No	264 VAC, 120 to 370 Vpply.) (Derating is required to 120 to 370 Vpply.) (Derating is required to 120	VDC (The L terminal for red according to the input of the	0.25 mA 0.60 mA  110 mVp-p max.  750 ms typ. 690 ms typ. 14 ms typ.	o.25 mA  0.25 mA  0.60 mA  1.6 A  140 mVp-p max.		
Dutput Power Additions Paration Ports Paration Power P	equency *  urrent *  ower factor  eakage current  rush current *  ra cold start at 25°)  ated Output Curre oltage adjustment pple & Noise oltage *  put variation influence  artup time *  old time *  verload protection vervoltage protect verheat protection arallel operation  arallel operation	230 VAC input  115 VAC input 230 VAC input 115 VAC input 230 VAC input 230 VAC input ent range * 100 to 240 VAC input ence * 100 to 240 VAC input 115 VAC input 230 VAC input 230 VAC input 230 VAC input	50 /60 Hz (47 to 48 1.4 A typ. 0.83 A typ 0.25 mA 0.60 mA 16 A typ. 32 A typ. 14 A -10% to 10% (with 80 mVp-p max. 0.5% max. 1.0% max. 0.03%/°C max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. Yes, automatic res	0.25 mA 0.60 mA  6.2 A V. ADJ)  110 mVp-p max.  720 ms typ. 680 ms typ. 13 ms typ. 74 ms typ. et	0.25 mA 0.60 mA  5 A  90 mVp-p max.  730 ms typ. 690 ms typ. 13 ms typ.	0.25 mA 0.60 mA 3.2 A 110 mVp-p max. 750 ms typ. 690 ms typ. 14 ms typ.	0.25 mA 0.60 mA  1.6 A  140 mVp-p max.  700 ms typ. 730 ms typ.		
Dutput Pow Leal Inru (for a Rate Volt Ripp volt Inpu Loa Terr atio Star Hold Ove Ove Ove Seri conal unc- cions Ren Out Insula- ion Insula- ion Insula-	purrent *  power factor  pakage current  rush current * ra cold start at 25°)  pated Output Curre  poltage adjustment pple & Noise  put variation influe pad variation influe parture variation influence  partup time *  pold time *  prerioad protection prevervoltage protect prerios operation  parallel operation  preserver factor  preser	230 VAC input  115 VAC input 230 VAC input 115 VAC input 230 VAC input 230 VAC input ent range * 100 to 240 VAC input ence * 100 to 240 VAC input 115 VAC input 230 VAC input 230 VAC input 230 VAC input	1.4 A typ. 0.83 A typ 0.25 mA 0.60 mA 16 A typ. 32 A typ. 14 A -10% to 10% (with 80 mVp-p max. 0.5% max. 1.0% max. 1.0% max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high	0.25 mA 0.60 mA  6.2 A V. ADJ)  110 mVp-p max.  720 ms typ. 680 ms typ. 13 ms typ. 74 ms typ. et	0.60 mA  5 A  90 mVp-p max.  730 ms typ. 690 ms typ. 13 ms typ.	0.60 mA  3.2 A  110 mVp-p max.  750 ms typ. 690 ms typ. 14 ms typ.	0.60 mA  1.6 A  140 mVp-p max.  700 ms typ. 730 ms typ.		
Dutput Pow Leal Inru (for a  Rate Volt Ripp volt Inpu Loa Terr atio Star Hold Ove Ove Ove Ove Seri ions Ren Ren Out Insula- ion Insula- In	ower factor  cakage current  rush current * ra cold start at 25°)  ated Output Curre oltage adjustment pple & Noise oltage * put variation influe and variation influe continue to the cold time *  old time *  verload protection vervoltage protect verheat protection arallel operation	230 VAC input  115 VAC input 230 VAC input 115 VAC input 230 VAC input 230 VAC input ent range * 100 to 240 VAC input ence * 100 to 240 VAC input 115 VAC input 230 VAC input 230 VAC input 230 VAC input	0.83 A typ 0.25 mA 0.60 mA 16 A typ. 32 A typ. 14 A -10% to 10% (with 80 mVp-p max. 0.5% max. 1.0% max. 1.0% max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high	0.60 mA  6.2 A  V. ADJ)  110 mVp-p max.  720 ms typ. 680 ms typ. 13 ms typ. 74 ms typ. et	84% typ. 87% typ. 84% typ. 87% typ.  DC (The L terminal for the DC input is the positive decording to the input voltage. Refer to Derative decording to the input voltage and input decording current cutoff 20 mA and and pet terminals) current cutoff 20 mA and and PE terminals) current cutoff 20 mA and and PE terminals) current cutoff 20 mA and and input terminals/PE terminals) at 500 VD grows to the temperature. Refer to Derating Curves of the each in X, Y, and Z directions the each in X, Y, and Z directions the input voltage and input terminals. The input voltage and the input voltage.	0.60 mA  1.6 A  140 mVp-p max.  700 ms typ. 730 ms typ.			
Dutput Pow Leal Inru (for a  Rate Volt Ripp volt Inpu Loa Terr atio Star Hold Ove Ove Ove Ove Seri ions Ren Ren Out Insula- ion Insu	ower factor  cakage current  rush current * ra cold start at 25°)  ated Output Curre oltage adjustment pple & Noise oltage * put variation influe and variation influe continue to the cold time *  old time *  verload protection vervoltage protect verheat protection arallel operation	115 VAC input 230 VAC input 115 VAC input 230 VAC input 230 VAC input ent range * 100 to 240 VAC input ence * ence * 100 to 240 VAC input 115 VAC input 230 VAC input 230 VAC input 230 VAC input 115 VAC input 115 VAC input	0.25 mA 0.60 mA 16 A typ. 32 A typ. 14 A -10% to 10% (with 80 mVp-p max. 0.5% max. 1.0% max. 1.0% max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high	0.60 mA  6.2 A  V. ADJ)  110 mVp-p max.  720 ms typ. 680 ms typ. 13 ms typ. 74 ms typ. et	0.60 mA  5 A  90 mVp-p max.  730 ms typ. 690 ms typ. 13 ms typ.	0.60 mA  3.2 A  110 mVp-p max.  750 ms typ. 690 ms typ. 14 ms typ.	0.60 mA  1.6 A  140 mVp-p max.  700 ms typ. 730 ms typ.		
Dutput Input Loa Terration Star Hold Serional unc-ions Ren Output Input	rush current * rush current * ra cold start at 25°) ated Output Curre oltage adjustment pple & Noise oltage * put variation influe and variation influe and variation influence artup time * verload protection vervoltage protect verheat protection arallel operation	230 VAC input 115 VAC input 230 VAC input ent range * 100 to 240 VAC input ence * ence * 100 to 240 VAC input 115 VAC input 230 VAC input 135 VAC input 145 VAC input 150 VAC input 150 VAC input 160 VAC input 170 VAC input	0.25 mA 0.60 mA 16 A typ. 32 A typ. 14 A -10% to 10% (with 80 mVp-p max. 0.5% max. 1.0% max. 1.0% max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high	0.60 mA  6.2 A  V. ADJ)  110 mVp-p max.  720 ms typ. 680 ms typ. 13 ms typ. 74 ms typ. et	0.60 mA  5 A  90 mVp-p max.  730 ms typ. 690 ms typ. 13 ms typ.	0.60 mA  3.2 A  110 mVp-p max.  750 ms typ. 690 ms typ. 14 ms typ.	0.60 mA  1.6 A  140 mVp-p max.  700 ms typ. 730 ms typ.		
Output  Output  Output  Output  Addistional functions  Rate Voit Ripp voit Inpu Loa Terratio  Star  Hold  Ove Ove Para Ren Out Insula- tion  Insula-	rush current * ra cold start at 25°) ated Output Curre oltage adjustment pple & Noise oltage * put variation influ oad variation influ emperature vari- ion influence artup time * old time * verload protection vervoltage protect verheat protection irrallel operation irrallel operation	230 VAC input 115 VAC input 230 VAC input ent range * 100 to 240 VAC input ence * ence * 100 to 240 VAC input 115 VAC input 230 VAC input 135 VAC input 145 VAC input 150 VAC input 150 VAC input 160 VAC input 170 VAC input	0.60 mA 16 A typ. 32 A typ. 14 A -10% to 10% (with 80 mVp-p max. 0.5% max. 1.0% max. 1.0% max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high.	0.60 mA  6.2 A  V. ADJ)  110 mVp-p max.  720 ms typ. 680 ms typ. 13 ms typ. 74 ms typ. et	0.60 mA  5 A  90 mVp-p max.  730 ms typ. 690 ms typ. 13 ms typ.	0.60 mA  3.2 A  110 mVp-p max.  750 ms typ. 690 ms typ. 14 ms typ.	0.60 mA  1.6 A  140 mVp-p max.  700 ms typ. 730 ms typ.		
Output English Paragraph P	rush current * ra cold start at 25°) ated Output Curre oltage adjustment pple & Noise oltage * put variation influ oad variation influ emperature vari- ion influence artup time * old time * verload protection vervoltage protect verheat protection irrallel operation irrallel operation	115 VAC input 230 VAC input ent range * 100 to 240 VAC input ence * ence * 100 to 240 VAC input 115 VAC input 230 VAC input 115 VAC input 1230 VAC input	16 A typ. 32 A typ. 14 A -10% to 10% (with 80 mVp-p max. 0.5% max. 1.0% max. 0.03%/°C max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high.	6.2 A V. ADJ)  110 mVp-p max.  720 ms typ. 680 ms typ. 13 ms typ. 74 ms typ. et	5 A  90 mVp-p max.  730 ms typ. 690 ms typ. 13 ms typ.	3.2 A  110 mVp-p max.  750 ms typ. 690 ms typ. 14 ms typ.	1.6 A  140 mVp-p max.  700 ms typ. 730 ms typ.		
(for a   Rate   Volt   Ripp   Volt   Inpu   Loa   Term atio   Star   Hold   Ove   Ove   Ove   Seri   Unc-ional unc-ions   Rem   Rem   Out   Insulation   Insulation   Insulation   Insulation   Rate   Insulation   Insulation   Rate   Insulation   Insul	ra cold start at 25°) ated Output Curre oltage adjustment pple & Noise oltage * put variation influ out variation influ emperature variation influence artup time * old time * verload protection vervoltage protect verheat protection arallel operation	230 VAC input ent range * 100 to 240 VAC input lence * ence * 100 to 240 VAC input 115 VAC input 230 VAC input 115 VAC input 230 VAC input 115 VAC input 115 VAC input	32 A typ. 14 A -10% to 10% (with 80 mVp-p max. 0.5% max. 1.0% max. 0.03%/°C max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high.	V. ADJ)  110 mVp-p max.  720 ms typ. 680 ms typ. 13 ms typ. 74 ms typ. et	90 mVp-p max.  730 ms typ. 690 ms typ. 13 ms typ.	750 ms typ. 690 ms typ. 14 ms typ.	140 mVp-p max.  700 ms typ. 730 ms typ.		
Output  Addions Insulation  Rate Volt Ripp volt Inpu Loa Terratio  Ove Ove Ove Ove Ove Ove Ove Ove Ove Ov	ated Output Curre plage adjustment pple & Noise plage * put variation influe pad variation influe perature variation influence artup time * pold time * preverse protection preverse protection press operation press operation press operation press operation press operation	range * 100 to 240 VAC input ence * ence * 100 to 240 VAC input 115 VAC input 230 VAC input 115 VAC input 230 VAC input	14 A -10% to 10% (with 80 mVp-p max. 0.5% max. 1.0% max. 0.03%/°C max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high.	V. ADJ)  110 mVp-p max.  720 ms typ. 680 ms typ. 13 ms typ. 74 ms typ. et	90 mVp-p max.  730 ms typ. 690 ms typ. 13 ms typ.	750 ms typ. 690 ms typ. 14 ms typ.	140 mVp-p max.  700 ms typ. 730 ms typ.		
Output English volt  Rippy volt Inpu Loa Terratio Star Hold Ove Ove Ove Seri ional ional ional ions Ren Out Insula- ion Insula-	oltage adjustment pple & Noise oltage * put variation influ pad variation influ emperature vari- ion influence artup time * old time * verload protection vervoltage protect verheat protection eries operation arallel operation	range * 100 to 240 VAC input ence * ence * 100 to 240 VAC input 115 VAC input 230 VAC input 115 VAC input 230 VAC input	-10% to 10% (with 80 mVp-p max. 0.5% max. 1.0% max. 0.03%/°C max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high.	V. ADJ)  110 mVp-p max.  720 ms typ. 680 ms typ. 13 ms typ. 74 ms typ. et	90 mVp-p max.  730 ms typ. 690 ms typ. 13 ms typ.	750 ms typ. 690 ms typ. 14 ms typ.	140 mVp-p max.  700 ms typ. 730 ms typ.		
Output English Para  Addi- ional unc- ions Ren Out  Ren Out  Insula- ion  Ripp Volt Inpu Coa  Ove Ove Ove Seri Ren Out Insula- ion Insu	pple & Noise plage * put variation influe pad variation influe pad variation influe pad variation influe parture variation influence partup time * pold time * preserved a protection preverved a protection preserved a protection p	100 to 240 VAC input ence * ence * 100 to 240 VAC input 115 VAC input 230 VAC input 115 VAC input 230 VAC input 230 VAC input	80 mVp-p max.  0.5% max.  1.0% max.  0.03%/°C max.  750 ms typ.  710 ms typ.  12 ms typ.  75 ms typ.  Yes, automatic res  Yes, 115% or high.	720 ms typ. 680 ms typ. 13 ms typ. 74 ms typ.	730 ms typ. 690 ms typ. 13 ms typ.	750 ms typ. 690 ms typ. 14 ms typ.	700 ms typ. 730 ms typ.		
Output Inpu Loa Tem atio Star Hold Ove Ove Ove Serional unc- ions Ren Out nsula- ion Insu	put variation influed variation influence variation influence artup time *  old time *  verload protection vervoltage protection verse operation arallel operation variation of the verse operation variation	input ence * ence * 100 to 240 VAC input 115 VAC input 230 VAC input 230 VAC input 230 VAC input 115 VAC input	0.5% max. 1.0% max. 0.03%/°C max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high.	720 ms typ. 680 ms typ. 13 ms typ. 74 ms typ.	730 ms typ. 690 ms typ. 13 ms typ.	750 ms typ. 690 ms typ. 14 ms typ.	700 ms typ. 730 ms typ.		
Output Tem atio  Star  Hold  Ove Ove Ove Serional unc- ions Ren Out  nsula- ion Insu	pad variation influence variation influence artup time *  old time *  verload protection vervoltage protection verbeat protection veries operation arallel operation	ence * ence * 100 to 240 VAC input 115 VAC input 230 VAC input 115 VAC input 230 VAC input 230 VAC input	1.0% max.  0.03%/°C max.  750 ms typ.  710 ms typ.  12 ms typ.  75 ms typ.  Yes, automatic res  Yes, 115% or high-	680 ms typ. 13 ms typ. 74 ms typ. et	690 ms typ. 13 ms typ.	87% typ. 87% typ. he DC input is the post voltage. Refer to Derail voltage. Refer to Derail voltage. Refer to Derail voltage. Refer to Derail voltage and sequired.)  3.2 A  110 mVp-p max.  750 ms typ. 690 ms typ. 14 ms typ. 76 ms typ. 16 ms typ. 76 ms typ.  17 ms typ. 18 ms typ. 19 ms typ. 19 ms typ. 10 ms typ. 10 ms typ. 11 ms typ. 11 ms typ. 12 ms typ. 13 ms typ. 14 ms typ. 15 ms typ. 16 ms typ. 17 ms typ. 18 ms typ. 19 ms typ. 19 ms typ. 10 ms typ. 10 ms typ. 11 ms typ. 11 ms typ. 12 ms typ. 13 ms typ. 14 ms typ. 15 ms typ. 16 ms typ. 17 ms typ. 18 ms typ. 19 ms typ. 19 ms typ. 10 ms typ. 10 ms typ. 10 ms typ. 11 ms typ. 11 ms typ. 12 ms typ. 13 ms typ. 14 ms typ. 15 ms typ. 16 ms typ. 17 ms typ. 18 ms typ. 19 ms typ. 19 ms typ. 10 ms typ. 10 ms typ. 10 ms typ. 10 ms typ. 11 ms typ. 11 ms typ. 12 ms typ. 13 ms typ. 14 ms typ. 15 ms typ. 16 ms typ. 17 ms typ. 18 ms typ. 19 ms typ. 19 ms typ. 10 ms typ. 10 ms typ. 10 ms typ. 10 ms typ. 11 ms typ. 12 ms typ. 13 ms typ. 14 ms typ. 15 ms typ. 16 ms typ. 17 ms typ. 18 ms typ. 19 ms typ. 19 ms typ. 10 ms typ. 11 ms typ. 11 ms typ. 12 ms typ. 13 ms typ. 14 ms typ. 15 ms typ. 16 ms typ. 17 ms typ. 18 ms typ. 19 ms typ. 19 ms typ. 10 ms typ. 10 ms typ. 10 ms typ. 11 ms typ. 11 ms typ. 12 ms typ. 13 ms typ. 14 ms typ. 15 ms typ. 16 ms typ. 17 ms typ. 18 ms typ. 19 ms typ. 19 ms typ. 10 ms typ. 10 ms typ. 10 ms typ. 10 ms typ. 11 ms typ. 12 ms typ. 11 ms typ. 12 ms typ. 13 ms typ. 14 ms typ. 15 ms typ. 16 ms typ. 16 ms typ. 17 ms typ. 18 ms typ. 19 ms typ. 19 ms typ. 10 ms typ. 11 ms typ. 11 ms typ. 12 ms typ. 13 ms typ. 14 ms typ. 15 ms typ. 16 ms typ. 16 ms typ. 16 ms typ. 17 ms typ. 18 ms typ. 18 ms typ. 19 ms typ. 19 ms typ. 19 ms typ. 10 ms typ. 11 ms typ. 11 ms typ. 12 ms typ. 13 ms typ. 14 ms typ. 15 ms	730 ms typ.		
Addi- ional iunc- ions  Ren Out  Ren Out Insula- ion Insu	emperature vari- ion influence artup time * old time * verload protection vervoltage protect verheat protection iries operation arallel operation	100 to 240 VAC input 115 VAC input 230 VAC input 115 VAC input 230 VAC input 230 VAC input	0.03%/°C max. 750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high-	680 ms typ. 13 ms typ. 74 ms typ. et	690 ms typ. 13 ms typ.	690 ms typ. 14 ms typ.	730 ms typ.		
Addi- ional unc- ions Ren Out nsula- ion  Term atio  Ove Ove Ove Ove Ove Ove Ove Ove Ove Ov	artup time *  old time *  verload protection vervoltage protection verheat protection eries operation arallel operation	input 115 VAC input 230 VAC input 115 VAC input 230 VAC input 1 tion *	750 ms typ. 710 ms typ. 12 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high	680 ms typ. 13 ms typ. 74 ms typ. et	690 ms typ. 13 ms typ.	690 ms typ. 14 ms typ.	730 ms typ.		
Additional functions Insulation  Star  Hold Ove Ove Ove Para Ren Out Insulation Insu	artup time *  old time *  verload protection vervoltage protect verheat protection eries operation arallel operation	115 VAC input 230 VAC input 115 VAC input 230 VAC input 1 1 tion *	710 ms typ. 12 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high-	680 ms typ. 13 ms typ. 74 ms typ. et	690 ms typ. 13 ms typ.	690 ms typ. 14 ms typ.	730 ms typ.		
Addi- ional unc- ions Ren Ren Out nsula- ion Insu	old time * verload protection vervoltage protection verheat protection eries operation urallel operation	230 VAC input 115 VAC input 230 VAC input 1 tion *	710 ms typ. 12 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high-	680 ms typ. 13 ms typ. 74 ms typ. et	690 ms typ. 13 ms typ.	690 ms typ. 14 ms typ.	730 ms typ.		
Addi- ional unc- ions Ren Ren Out	verload protection vervoltage protection verheat protection eries operation trallel operation	115 VAC input 230 VAC input 1 tion *	12 ms typ. 75 ms typ. Yes, automatic res Yes, 115% or high-	13 ms typ. 74 ms typ.	13 ms typ.	14 ms typ.			
Addi- ional iunc- ions Ren Ren Out	verload protection vervoltage protection verheat protection eries operation trallel operation	230 VAC input 1 tion *	75 ms typ. Yes, automatic res Yes, 115% or high	74 ms typ.		71	15 ms typ.		
Addi- ional clunc- ions Ren Ren Out unsula- ion Unsula- Insu	vervoltage protection verheat protection eries operation arallel operation	tion *	Yes, automatic res Yes, 115% or high	et		76 ms tvn	78 ms typ.		
Addi- ional clunc- ions Ren Ren Out unsula- ion Unsula- Insu	vervoltage protection verheat protection eries operation arallel operation	tion *	Yes, 115% or high		7 · · · · · · · · · · · · · · · · · · ·	7 0 1110 typ.	7 6 1110 13 p.		
Addi- ional unc- ions Ren Ren Out unsula- ion Insu	verheat protection eries operation arallel operation		No	er ot rated output voltac	ge. power shut off (shut	off the input voltage and	d turn on the input ac		
nsula- ional  Seri Para Ren Out  Nithing Insula- Insul	Overvoltage protection * Yes, 115% of No Series operation Yes (For up to the content of the cont			5-, p (					
nsula- ions Para Ren Out  nsula- ion Insu	rallel operation		Yes (For up to 2 Po	ower Supplies, external	I diodes are required.)				
Ren Out  nsula- ion Insu	•		` '			required.)			
Rem Out Insula- tion With			,			,			
nsula- iion With	emote control								
nsula- ion Insu	utput indicator		Yes (LED: Green)				<u> </u>		
ion	•		` '	(between all input termi	inals and output termina	als) current cutoff 20 mA			
Insu	Output indicator		3 kVAC for 1 min. (between all input terminals and output terminals) current cutoff 20 mA 2 kVAC for 1 min. (between all input terminals and PE terminals) current cutoff 20 mA						
	_		1 kVAC for 1 min. (between all output terminals and PE terminals) current cutoff 20 mA						
Ami	sulation resistand	e	100 MΩ min. (betw	een all output terminals	s and all input terminals	s/PE terminals) at 500 V	/DC		
Ami	mbiant anavatina	ta	-20 to 60°C (Derating is required according to the temperature. Refer to <i>Derating Curves</i> on page 17.) (with no						
	mbient operating	temperature	condensation or ici						
Stor	orage temperatur	е	-40 to 85°C (with r	no condensation or icing	g)				
onment Ami	mbient operating	humidity	20% to 90% (Stora	ige humidity: 10% to 95	5%)				
Vibr	bration resistance	e							
Sho	nock resistance			each in $\pm X$ , $\pm Y$ , $\pm Z$ direction					
Reliabil- MTE	TBF		135,000 hrs min.						
	fe expectancy *		10 years min.						
Dim	mensions (W×H×	D)	Refer to Dimension	ns on pages 21 and 24.					
Con- Wei	eight		350 g max.						
struc- tion Coo	ooling fan		No						
	egree of protection	n							
Hari	armonic current e	missions	Conforms to EN 61	1000-3-2, GB17625.1					
		Conducted Emissions	Conforms to EN 61	1204-3 Class B, EN 550	011 Class B, GB9254				
EMI	И	Radiated	Conforms to EN 61	1204 2 Class R EN 550	011 Class B. GB0254				
	40	Emissions							
EMS	VIS .			1204-3 high severity lev	reis				
dards	afety Standards		Approved Standard UL: cURus UL 609 CSA: cURus C22.2 CCC: GB4943 Conformed Standa EN: EN 60950-1	950-1 (Recognition) OV 2 No60950-1 ırds	/C II Pol2				
Mar			No	V J II I VIE					

<sup>\*</sup> Refer to *Conditions* on page 12.

		Power rating			10	00 W			
Item		Output voltage	5 V	12 V	15 V	24 V	36 V	48 V	
		115 VAC input	80% typ.	82% typ.	83% typ.	85% typ.	86% typ.	87% typ.	
tticiency	y ^	230 VAC input	81% typ.	83% typ.	84% typ.	87% typ.	87% typ.	88% typ.	
	Voltago rango *						86% typ. 87% typ. ct with the switch. ards do not apply.) g Curves on page 1  0.40 mA  0.60 mA  2.8 A  90 mVp-p max.  450 ms typ. 36 ms typ. 36 ms typ. 41 ms typ.  put voltage and turr  uired.)  current cutoff 20 mA arrent cutoff 20 mA		
	ency *   115 VAC input   230 VAC input   240 VAC input   240 VAC input   230 V							8.)	
			50 /60 Hz (47 t	o 450 Hz)					
		115 VAC input	2 A typ.	•			86% typ. 87% typ. elect with the switch. ndards do not apply.) ting Curves on page 1  0.40 mA 0.60 mA  2.8 A  90 mVp-p max.  450 ms typ. 36 ms typ. 36 ms typ. 41 ms typ. e input voltage and turn equired.)  s) current cutoff 20 mA effer to Derating Curve		
	Current *	230 VAC input	1.1 A typ.						
nput	Power factor	· ·							
		115 VAC input	0.35 mA	0.35 mA	0.35 mA	0.35 mA	0.40 mA	0.40 mA	
	Leakage current	230 VAC input	0.60 mA	0.55 mA	0.60 mA	0.50 mA	0.60 mA	0.60 mA	
	Inrush current *	115 VAC input	32 A typ.	"			"		
		230 VAC input	32 A typ.				86% typ. 87% typ. lect with the switch. lect with the switch. lect with the switch. lect with the switch. O.40 mA  0.40 mA  0.60 mA  2.8 A  90 mVp-p max.  450 ms typ. 690 ms typ. 36 ms typ. 41 ms typ. linput voltage and turr cutoff 20 mA current cutoff 20 mA current cutoff 20 mA current cutoff 20 mA current cutoff 20 mA fer to Derating Curve rections		
	Rated Output Cur	rent	20 A	8.5 A	7 A	4.5 A	2.8 A	2.3 A	
	Voltage adjustme	nt range *	-10% to 10% (	with V. ADJ)				1	
	Ripple & Noise	100 to 120 VAC/200 to	70 mVp-p max	100 m\/n-n	70 mVp-p max.	120 mVp-p max.	90 mVp-p max.	120 mVp-p	
		•	0.5% max.	max.		max.	86% typ. 87% typ. elect with the switch. ndards do not apply.) ting Curves on page 18  0.40 mA  0.60 mA  2.8 A  90 mVp-p max.  450 ms typ. 690 ms typ. 36 ms typ. 41 ms typ. e input voltage and turn of the current cutoff 20 mA cuto	max.	
	•		1.0% max.						
Output	Temperature vari-	100 to 120 VAC/200 to	0.03%/°C max.						
	ation influence	•			140	100	150 :	400	
	Startup time *	•	710 ms typ.	440 ms typ.	440 ms typ.	430 ms typ.	, , ,	430 ms typ	
		•	720 ms typ.	700 ms typ.	720 ms typ.	660 ms typ.	, , ,	660 ms typ	
	Hold time *	•	23 ms typ.	37 ms typ.	36 ms typ.	34 ms typ.		34 ms typ.	
		•	29 ms typ.	40 ms typ.	39 ms typ.	39 ms typ.	41 ms typ.	38 ms typ.	
	-		Yes, automatic						
	Overheat protection			gher of rated outpu	ıt voltage, power shu	t off (shut off the ii	nput voltage and turn	on the input a	
Addi-	Series operation	on	No						
tional			, .		s, external diodes ar		quired.)		
func- tions	•		,	backup operation	is possible, externa	al diodes are req			
	Remote sensing		No						
			No "FR O						
	Output indicator		Yes (LED: Gree	•					
	went to the		3 kVAC for 1 min. (between all input terminals and output terminals) current cutoff 20 mA 2 kVAC for 1 min. (between all input terminals and PE terminals) current cutoff 20 mA						
Insula- tion	withstand voitage	•			•		2.8 A  2.8 A  2.3 A  2.8 A  2.3 A  2.8 A  2.3 A  2.3 A  2.3 A  2.4 So ms typ. 430 m max.  2.6 G90 ms typ. 660 m max.  36 ms typ. 34 ms ms  41 ms typ. 38 ms  41 ms typ. 38 ms  41 ms typ. 38 ms  42 current cutoff 20 mA  38 current cutoff 20 mA  39 current cutoff 20 mA  30 current cutoff 20 mA  31 current cutoff 20 mA  32 current cutoff 20 mA  33 current cutoff 20 mA  36 current cutoff 20 mA  37 current cutoff 20 mA  38 current cutoff 20 mA  39 current cutoff 20 mA  30 current cutoff 20 mA  30 current cutoff 20 mA  31 current cutoff 20 mA  32 current cutoff 20 mA  33 current cutoff 20 mA  34 current cutoff 20 mA  35 current cutoff 20 mA  36 current cutoff 20 mA  37 current cutoff 20 mA  38 current cutoff 20 mA  39 current cutoff 20 mA  30 current cutoff 20 mA  30 current cutoff 20 mA  31 current cutoff 20 mA  32 current cutoff 20 mA  33 current cutoff 20 mA  34 current cutoff 20 mA  35 current cutoff 20 mA  36 current cutoff 20 mA  37 current cutoff 20 mA  38 current cutoff 20 mA  39 current cutoff 20 mA  30 current cutoff 20 mA		
	Inculation vaciates				•			/DC	
		<del></del>	–20 to 60°C (D	erating is require		•	•		
		<u> </u>	`	nsation or icing)					
Envi-			,	ith no condensati			86% typ. 87% typ. ect with the switch. dards do not apply.) g Curves on page 18  0.40 mA  0.60 mA  2.8 A  90 mVp-p max.  450 ms typ. 690 ms typ. 36 ms typ. 41 ms typ. input voltage and turn of the current cutoff 20 mA cutoff 20 m		
ronment	Ambient operating	g numicity	,	Storage humidity:	•	n V V and 7 -1:			
	Vibration resistan	ce			litude for 2 h each i litude for 1 h each i				
	Shock resistance			es each in ±X, ±					
Reliabil-	MTBF		135,000 hrs mi	in.					
ity	Life expectancy *		10 years min.						
	Dimensions (W×H	×D)	Refer to Dimen	nsions on pages 2	1 and 24.				
Con-	Weight		400 g max.	-			elect with the switch. Idards do not apply.) Ing Curves on page 18.  0.40 mA 0.60 mA  2.8 A  90 mVp-p max.  450 ms typ. 690 ms typ. 36 ms typ. 41 ms typ. 2 input voltage and turn or equired.)  s) current cutoff 20 mA		
struc- tion	Cooling fan		No						
	Degree of protecti	ion							
	Harmonic current	emissions	Conforms to El	N 61000-3-2, GB	17625.1				
	EMI	Conducted Emissions	Conforms to Ef	N 61204-3 Class	B, EN 55011 Class	B, GB9254			
	CIVII	Radiated Emissions	Conforms to El	N 61204-3 Class	B, EN 55011 Class	B, GB9254			
	EMS		Conforms to El	N 61204-3 high s	everity levels				
Stan- dards	Voltage range *  Frequency *  Current *  Power factor  Leakage current   Inrush current * (for a cold start at 25°)  Rated Output Currer  Voltage adjustment Ripple & Noise voltage * Input variation influt Load variation influt Temperature variation influence Startup time *  Hold time *  Overload protection Overvoltage protection Overvoltage protection Series operation Parallel operation Remote sensing Remote control Output indicator  Withstand voltage Insulation resistance Ambient operating Vibration resistance Storage temperatur Ambient operating Vibration resistance Shock resistance  Ambient operating Vibration resistance Shock resistance  Ambient operating Vibration resistance Shock resistance  Ambient operating Vibration resistance Shock resistance Ambient operating Vibration resistance Shock resistance Ambient operating Vibration resistance Ambient operating Vibration resistance Shock resistance Ambient operating Vibration resistance Ambient operation Storage temperature Ambient operation			. 60950-1 (Recog 22.2 No60950-1 andards	nition) OVC II Pol2				
	Marine Standards		No						

<sup>\*</sup> Refer to Conditions on page 12.

Power rating										
tem Output voltage		5 V	12 V	15 V	24 V	36 V	48 V			
Efficiency *		115 VAC input	81% typ.	84% typ.	85% typ.	86% typ.	86% typ.	87% typ.		
		230 VAC input	82% typ.	85% typ.	86% typ.	87% typ.	87% typ.	88% typ.		
	Voltage range *	oltage range *		Single phase 90 to 132 VAC, Single phase 180 to 264 VAC, 254 to 373 VDC Select with the switch. (The L terminal for the DC input is the positive side and safety standards do not apply.) (Derating is required according to the input voltage. Refer to <i>Derating Curves</i> on page 18.)						
	Frequency *		50 /60 Hz (47 to	450 Hz)						
	O +	115 VAC input	2.8 A typ.							
nput	Current *	230 VAC input	1.6 A typ.							
IIIput	Power factor									
-	Laskana suuusut	115 VAC input	0.50 mA	0.50 mA	0.50 mA	0.50 mA	0.40 mA	0.50 mA		
	Leakage current	230 VAC input	0.75 mA	0.75 mA	0.75 mA	0.70 mA	0.60 mA	0.70 mA		
	Inrush current *	115 VAC input	32 A typ.							
	(for a cold start at 25°)	230 VAC input	32 A typ.							
	Rated Output Curre	ent	26 A	12.5 A	10 A	6.5 A	4.3 A	3.3 A		
	Voltage adjustment	t range *	-10% to 10% (w	vith V. ADJ)						
	Ripple & Noise voltage *	100 to 120 VAC/200 to 240 VAC input	50 mVp-p max.	90 mVp-p max.	110 mVp-p max.	100 mVp-p max.	200 mVp-p max.	120 mVp-p max.		
	Input variation influ		0.5% max.							
Output	Load variation influ		1.0% max.							
	Temperature variation influence	100 to 120 VAC/200 to 240 VAC input	0.03%/°C max.	1	1					
	Startup time *	115 VAC input	770 ms typ.	730 ms typ.	740 ms typ.	770 ms typ.	730 ms typ.	760 ms typ.		
-	•	230 VAC input	750 ms typ.	720 ms typ.	730 ms typ.	760 ms typ.	720 ms typ.	750 ms typ.		
	Hold time *	115 VAC input	29 ms typ.	24 ms typ.	27 ms typ.	23 ms typ.	23 ms typ.	21 ms typ.		
		230 VAC input	35 ms typ.	30 ms typ.	31 ms typ.	28 ms typ.	29 ms typ.	27 ms typ.		
-	Overload protection	n	Yes, automatic							
	Overvoltage protect	tion *	Yes, 115% or higher of rated output voltage, power shut off (shut off the input voltage and turn on the input again)							
Addi-	Overheat protection	n	No							
tional	Series operation	·		Power Supplies,	external diodes	are required.)				
func-	Parallel operation		` '	ackup operation i			guired.)			
tions	Remote sensing		No	- поставительной поставительном пост	- рессия		4			
-	Remote control		No							
-	Output indicator		Yes (LED: Green)							
	-		3 kVAC for 1 mi	n. (between all in	out terminals and	d output terminals	) current cutoff 20	mA		
Insula-	Withstand voltage		2 kVAC for 1 mi	n. (between all inp	out terminals and	d PE terminals) cu	rrent cutoff 20 mA	1		
tion			1 kVAC for 1 mi	n. (between all ou	tput terminals a	nd PE terminals) o	current cutoff 20 m	ıA		
	Insulation resistance	ce	100 MΩ min. (be	etween all output	terminals and all	input terminals/P	E terminals) at 50	0 VDC		
	Ambient operating	temperature	-20 to 60°C (Derating is required according to the temperature. Refer to <i>Derating Curves</i> on page 17.) (with no condensation or icing)							
Fm.:	Storage temperatur	re	-40 to 85°C (with no condensation or icing)							
Envi- ronment	Ambient operating	humidity	20% to 90% (Storage humidity: 10% to 95%)							
	Vibration resistanc	e	10 to 55 Hz, 0.375-mm half amplitude for 2 h each in X, Y, and Z directions 10 to 500 Hz, 0.26-mm half amplitude for 1 h each in X, Y, and Z directions							
	Shock resistance			es each in ±X, ±Y,	±Z directions					
Reliabil-	MTBF		135,000 hrs min	1.						
ity	Life expectancy *	D)	10 years min.							
Con-	Dimensions (W×H×	(U)		sions on pages 21	and 24.					
struc-	Weight		500 g max.							
tion	Cooling fan  Degree of protection	nn .	No .							
	Harmonic current e		Conforms to EN 61000-3-2 GR17625 1							
	a.mome current e	Conducted Emissions	Conforms to EN 61000-3-2, GB17625.1							
	EMI	Radiated Emissions	Conforms to EN 61204-3 Class B, EN 55011 Class B, GB9254  Conforms to EN 61204-3 Class B, EN 55011 Class B, GB9254							
	EMS	. adiated Lilissions		61204-3 Class B		D, GD3204				
Stan- dards	Safety Standards		Approved Stand	lards 60950-1 (Recogni 22.2 No60950-1		2				
	Marine Standards		No							

<sup>\*</sup> Refer to *Conditions* on page 12.

		Power rating			200 W				
Item Output voltage		5 V 12 V 24 V 36 V 48							
Efficiency *		115 VAC input	81% typ.	85% typ.	88% typ.	89% typ.	88% typ.		
		230 VAC input	81% typ.	87% typ.	88% typ.	90% typ.	90% typ.		
	Voltage range *		Single phase 90 to 132 VAC, Single phase 180 to 264 VAC, 254 to 373 VDC Select with the switch. (The L terminal for the DC input is the positive side and safety standards do not apply.) (Derating is required according to the input voltage. Refer to <i>Derating Curves</i> on page 18.)						
	Frequency *		50 /60 Hz (47 to 4	150 Hz)					
		115 VAC input	4 A typ.						
nput	Current *	230 VAC input	2.3 A typ.						
iiput	Power factor	•							
		115 VAC input	0.35 mA	0.25 mA	0.40 mA	0.20 mA	0.40 mA		
	Leakage current	230 VAC input	0.60 mA	0.50 mA	0.75 mA	0.45 mA	0.80 mA		
	Inrush current *	115 VAC input	16 A typ.						
	(for a cold start at 25°)	230 VAC input	32 A typ.						
	Rated Output Curre	ent	40 A	17 A	8.8 A	5.9 A	4.43 A		
	Voltage adjustment	t range *	-10% to 10% (wit	th V. ADJ)	·				
	Ripple & Noise voltage *	100 to 120 VAC/200 to 240 VAC input	60 mVp-p max.	60 mVp-p max.	110 mVp-p max.	130 mVp-p max.	120 mVp-p max		
	Input variation influ		0.5% max.						
Output	Load variation influ	T	1.0% max.						
	Temperature variation influence	100 to 120 VAC/200 to 240 VAC input	0.03%/°C max.						
	Startup time *	115 VAC input	620 ms typ.	630 ms typ.	580 ms typ.	630 ms typ.	620 ms typ.		
		230 VAC input	600 ms typ.	610 ms typ.	550 ms typ.	600 ms typ.	600 ms typ.		
	Hold time *	115 VAC input	32 ms typ.	30 ms typ.	38 ms typ.	30 ms typ.	31 ms typ.		
		230 VAC input	37 ms typ.	35 ms typ.	45 ms typ.	37 ms typ.	37 ms typ.		
	Overload protection	n	Yes, automatic re						
_		Overvoltage protection *		er of rated output voltag	e, power shut off (shut	off the input voltage and	d turn on the input ag		
Addi-	Overheat protection	n	No						
tional	Series operation		` .	Power Supplies, extern		•			
func- tions	Parallel operation		*	ckup operation is poss	ible, external diodes a	re required.)			
	Remote sensing		No						
	Remote control		No						
	Output indicator		Yes (LED: Green	,					
			3 kVAC for 1 min. (between all input terminals and output terminals) current cutoff 20 mA						
Insula- tion	Withstand voltage		2 kVAC for 1 min. (between all input terminals and PE terminals) current cutoff 20 mA						
11011				(between all output te		•			
	Insulation resistant	ce	,	ween all output termina	•				
	Ambient operating	temperature	no condensation	ating is required accord or icina)	ling to the temperature	. Refer to <i>Derating Cu</i>	irves on page 17.) (		
	Storage temperatur	re		no condensation or ici	ng)				
Envi-	Ambient operating		20% to 90% (Storage humidity: 10% to 95%)						
ronment		<u> </u>	,	5-mm half amplitude fo	,	Z directions			
	Vibration resistanc	е		6-mm half amplitude fo					
	Shock resistance		150 m/s <sup>2</sup> , 3 times each in $\pm$ X, $\pm$ Y, $\pm$ Z directions						
Reliabil-	MTBF		135,000 hrs min.						
ity	Life expectancy *		10 years min.						
0	Dimensions (W×H×	(D)	Refer to Dimension	ons on pages 22 and 2	5.				
Con- struc-	Weight		700 g max.						
tion	Cooling fan		No						
	Degree of protection								
	Harmonic current e	T							
	EMI	Conducted Emissions	Conforms to EN 61204-3 Class A, EN 55011 Class A						
		Radiated Emis- sions	Conforms to EN 6	61204-3 Class A, EN 5	5011 Class A				
	EMS	5.00	Conforms to EN 6	51204-3 high severity le	evels				
Stan- dards	EMS Safety Standards		Conforms to EN 61204-3 high severity levels  Approved Standards UL : cURus UL 60950-1 (Recognition) OVC II Pol2 CSA: cURus C22.2 No60950-1 Conformed Standards						
			EN: EN 60950-1						
	Marine Standards								

<sup>\*</sup> Refer to *Conditions* on page 12.

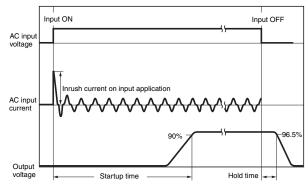
		Power rating			350 W			
tem Output voltage		5 V 12 V 24 V 36 V 48 V						
		115 VAC input	77% typ.	83% typ.	86% typ.	87% typ.	87% typ.	
Efficiency * 230 VAC input		78% typ.	85% typ.	88% typ.	88% typ.	88% typ.		
	Voltage range *		Single phase 90 to 132 VAC, Single phase 180 to 264 VAC, 254 to 373 VDC Select with the swi (The L terminal for the DC input is the positive side and safety standards do not apply.) (Derating is required according to the input voltage. Refer to <i>Derating Curves</i> on page 18.)					
					nput voltage. Refer to	Derating Curves on pa	age 18.)	
	Frequency *	T	50 /60 Hz (47 to 4	450 Hz)				
	Current *	115 VAC input	6.4 A typ.					
nput	Danier factor	230 VAC input	3.5 A typ.					
	Power factor	445.840		10.40	10.40	0.40	10.40	
	Leakage current	115 VAC input 230 VAC input	0.40 mA 0.75 mA	0.40 mA 0.80 mA	0.40 mA 0.75 mA	0.40 mA 0.80 mA	0.40 mA 0.80 mA	
		115 VAC input	16 A typ.	0.00 IIIA	0.75 IIIA	0.00 IIIA	0.00 IIIA	
	Inrush current * (for a cold start at 25°)	230 VAC input	32 A typ.					
	Rated Output Curre	•	60 A	29 A	14.6 A	9.7 A	7.32 A	
ŀ	Voltage adjustment		-10% to 10% (wi	-	14.07	0.1 K	7.02 A	
ŀ	Ripple & Noise	100 to 120 VAC/200 to	•					
	voltage *	240 VAC input	110 mVp-p max.	130 mVp-p max.	120 mVp-p max.	180 mVp-p max.	180 mVp-p max	
	Input variation influ	uence *	0.5% max.				·	
Output	Load variation influ	uence *	2.0% max.	1.0% max.				
Output	Temperature vari- ation influence	100 to 120 VAC/200 to 240 VAC input	0.03%/°C max.					
		115 VAC input	610 ms typ.	620 ms typ.	580 ms typ.	610 ms typ.	610 ms typ.	
	Startup time *	230 VAC input	570 ms typ.	590 ms typ.	560 ms typ.	590 ms typ.	590 ms typ.	
		115 VAC input	25 ms typ.	18 ms typ.	17 ms typ.	19 ms typ.	19 ms typ.	
	Hold time *	230 VAC input	31 ms typ.	25 ms typ.	23 ms typ.	25 ms typ.	24 ms typ.	
	Overload protection	•	Yes, automatic re		71		- 51	
	Overvoltage protection *		Yes, 115% or higher of rated output voltage, power shut off (shut off the input voltage and turn on the input again)					
	Overvoltage protect	etion *		her of rated output volt	age, power shut off (sh	nut off the input voltage	e and turn on the in	
	Overvoltage protection		again) Yes, power shut of	her of rated output volt off (shut off the input v an abnormal condition)	oltage and turn on the			
tional			again) Yes, power shut cooling fan is in a	off (shut off the input v	oltage and turn on the	input again) (Overhea		
tional func-	Overheat protection		again) Yes, power shut cooling fan is in a Yes (For up to 2	off (shut off the input v an abnormal condition)	oltage and turn on the	input again) (Overhead.)		
tional func-	Overheat protection		again) Yes, power shut cooling fan is in a Yes (For up to 2	off (shut off the input v un abnormal condition) Power Supplies, exter	oltage and turn on the	input again) (Overhead.)		
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tional functions  Insulation  Environment  Reliability  Con-	Overheat protection Series operation Parallel operation Remote sensing Remote control Output indicator Withstand voltage Insulation resistand Ambient operating Storage temperatur Ambient operating Vibration resistance MTBF Life expectancy * Dimensions (W×H× Weight	ce temperature re humidity	again) Yes, power shut of cooling fan is in a yes (For up to 2) No (However, base) No No Yes (LED: Green 3 kVAC for 1 min 1 kVAC for 1 min 100 MΩ min. (bet 100 min 100 MΩ for 100 min 100 MΩ to 20 to 60°C (Der (with no condens 100 min 100	off (shut off the input van abnormal condition) Power Supplies, exter ackup operation is possible.  (between all input tell (between all output tell (between all output tell tween all output tell (between all output tell	oltage and turn on the nal diodes are require sible, external diodes rminals and output terminals and PE terminals and PE terminals and PE terminals and all input terminals and all input terminals of the temperaturing to the temperaturing)  95%)  or 2 h each in X, Y, are rections	input again) (Overhead)  d.) are required.)  minals) current cutoff als) current cutoff 20 inals) current cutoff 20 inals/PE terminals) at re. Refer to Derating and Z directions	20 mA mA 0 mA 500 VDC	
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tional func- tions	Overheat protection Series operation Parallel operation Remote sensing Remote control Output indicator  Withstand voltage Insulation resistant Ambient operating Storage temperatur Ambient operating Vibration resistance MTBF Life expectancy * Dimensions (W×H× Weight Cooling fan Degree of protection Harmonic current e	ce temperature re humidity e  D) on emissions Conducted Emissions	again) Yes, power shut cooling fan is in a Yes (For up to 2 No (However, ba No No Yes (LED: Green 3 kVAC for 1 min 12 kVAC for 1 min 100 MΩ min. (bet -20 to 60°C (Der (with no condens -40 to 85°C (with 20% to 90% (Sto 10 to 55 Hz, 0.37 10 to 500 Hz, 0.2 150 m/s², 3 times 135,000 hrs min. 10 years min. Refer to Dimensi 800 g max. Yes (ON/OFF co Conforms to EN 6 Conforms to EN 6 CSA: cURus CU2 Conformed Standa UL: cURus UL 6 CSA: cURus CU2 Conformed Standa VA (Standa VA)	off (shut off the input van abnormal condition). Power Supplies, exter ackup operation is possible. (between all input terminating is required accordation or icing). In ocondensation or icing at many and a condensation or icing. (between all output terminating is required accordation or icing). In ocondensation or icing at many and a condensation or icing. (b) and a many and a condensation or icing. (c) and a many and a many and a condensation or icing. (c) and a many and a condensation or icing. (c) and a condensation or icing.	oltage and turn on the nal diodes are require sible, external diodes  rminals and output ter rminals and PE terminals and PE terminals and all input terminals and PE terminals a	input again) (Overhead)  d.) are required.)  minals) current cutoff als) current cutoff 20 inals) current cutoff 20 inals/PE terminals) at re. Refer to Derating and Z directions	20 mA mA 500 VDC	
tional functions  Insulation  Environment  Reliability  Construction	Overheat protection Series operation Parallel operation Remote sensing Remote control Output indicator  Withstand voltage Insulation resistant Ambient operating Storage temperatur Ambient operating Vibration resistance MTBF Life expectancy * Dimensions (W×H× Weight Cooling fan Degree of protection Harmonic current et EMI EMS	ce temperature re humidity e  D) on emissions Conducted Emissions	again) Yes, power shut cooling fan is in a Yes (For up to 2 No (However, bank) No No Yes (LED: Green 3 kVAC for 1 min 2 kVAC for 1 min 1 kVAC for 1 min 100 MΩ min. (bet -20 to 60°C (Der (with no condens -40 to 85°C (with 20% to 90% (Sto 10 to 55 Hz, 0.37 10 to 500 Hz, 0.2 150 m/s², 3 times 135,000 hrs min. 10 years min. Refer to Dimensi 800 g max. Yes (ON/OFF co	off (shut off the input van abnormal condition). Power Supplies, exter ackup operation is possible. (between all input terminating is required accordation or icing). In ocondensation or icing at many and a condensation or icing. (between all output terminating is required accordation or icing). In ocondensation or icing at many and a condensation or icing. (b) and a many and a condensation or icing. (c) and a many and a many and a condensation or icing. (c) and a many and a condensation or icing. (c) and a condensation or icing.	oltage and turn on the nal diodes are require sible, external diodes  rminals and output ter rminals and PE terminals and PE terminals and all input terminals and PE terminals a	input again) (Overhead)  d.) are required.)  minals) current cutoff als) current cutoff 20 inals) current cutoff 20 inals/PE terminals) at re. Refer to Derating and Z directions	20 mA mA 0 mA 500 VDC	

<sup>\*</sup> Refer to *Conditions* on page 12.

### **Conditions**

Efficiency		The value is given for the rated output voltage and rated output current.		
	Voltage range	Although some inverters give 50/60 Hz as the output frequency, do not use an inverter output as the power source for the Power Supply. Doing so may result in smoking or burning due to internal temperature		
Input	Frequency	increases in the Power Supply. If you connect a UPS to the input, do not connect one with a square wave output.		
	Current	The value is given for the rated output voltage and rated output current.		
	Inrush current (for a cold start at 25°C)	The value is given for a cold start at 25°C. Refer to following for details.		
	Voltage adjustment range	If the output voltage adjuster (V. ADJ) is turned, the voltage will increase by 10% or more over the voltage adjustment range.  When adjusting the output voltage, confirm the actual output voltage from the Power Supply and be sure that load is not damaged.		
	Ripple & Noise voltage	The value is given for the rated output voltage and rated output current. The value is for an ambient operating temperature of 25°C.		
Output	Input variation influence	This is the maximum variation in the output voltage when the input voltage is gradually changed within the allowable input voltage range at the rated output voltage and rated output current.		
	Load variation influence	This is the value when the output current is changed from 0 A to the rated output current while the input voltage is within the allowable input voltage.		
	Startup time	The value is given for the rated output voltage and rated output current. The value is given for a cold start at 25°C. Refer to following for details.		
	Hold time	The value is given for the rated output voltage and rated output current. Refer to following for details.		
Additional functions	Overvoltage protection	Refer to Overvoltage Protection on page 19 for information on resetting the input power.		
Reliability	Life expectancy	Refer to Recommended Replacement Periods and Periodic Replacement for Preventive Maintenance on page 39 for details.		

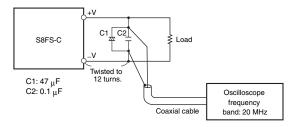
### Inrush Current, Startup Time, and Output Hold Time



Note: Twice the normal input current will flow for a redundant system. Sufficiently check the fusing characteristics of fuses and the operating characteristics of breakers and select fuses and breakers so that external fuses will not burn out or breakers will not operate due to inrush current.

### **Ripple Noise Voltage**

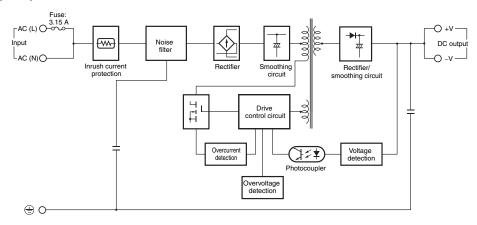
The specified standard for the ripple voltage noise was measured with the following measurement circuit.

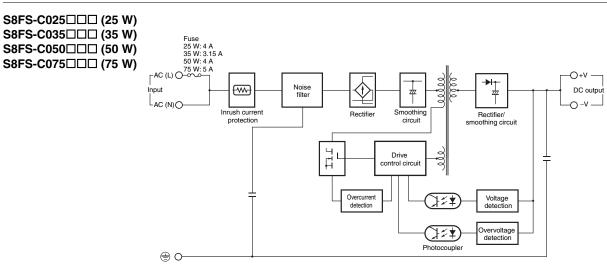


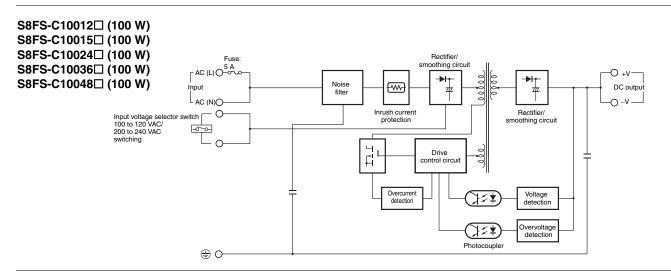
### **Connections**

### **Block Diagrams**

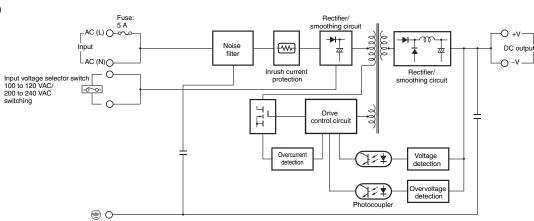
### S8FS-C015□□□ (15 W)



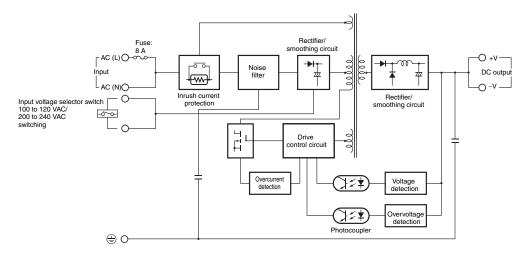




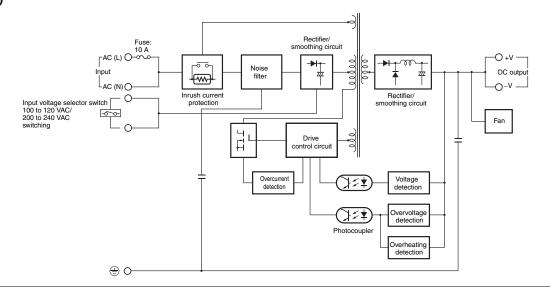
S8FS-C10005□ (100 W) S8FS-C150□□□ (150 W)



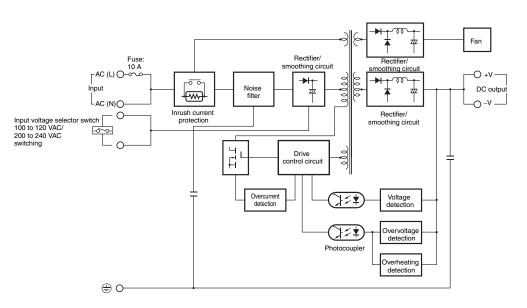
### S8FS-C200□□□ (200 W)



### S8FS-C35024□ (350 W)



S8FS-C35005□ (350 W) S8FS-C35012□ (350 W) S8FS-C35036□ (350 W) S8FS-C35048□ (350 W)



### **Construction and Nomenclature**

### **Nomenclature**

#### 25-W, 35-W, 50-W, 15-W Models 100-W and 150-W Models 200-W and 350-W Models and 75-W Models OMRON SEFS POWER SUPPLY 4 4 أعاصاصاصاصاصاصا (5) (5) 2 (3) (3) S8FS-C025□□ S8FS-C050□□ S8FS-C100□□ S8FS-C200□□ S8FS-C035□□ S8FS-C075□□ S8FS-C150□□ S8FS-C350□□ RON SOFS POWER SUPPLY (6) -(5) (5) 2 2 1 S8FS-C025□□□ S8FS-C015□□□ S8FS-C050□□□ S8FS-C100□□□ S8FS-C200□□□ S8FS-C035□□□ S8FS-C075□□□ S8FS-C150□□□ S8FS-C350□□□ CHECK INPUT VOLTAGE SELECTOR SWITCH BEFORE POWER ON INPUT:100-120VAC (輸入) 200-240VAC 6

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)	Lit while the DC output is ON.
5	Output voltage adjuster (V. ADJ)	Use to adjust the output voltage.
6	Input voltage selector switch	Used to switch the input voltage. *3, *4

<sup>\*1.</sup> The fuse is located on the (L) side. It is not user replaceable. For a DC power 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.

<sup>\*3.</sup> The 100-W, 150-W, 200-W, and 350-W models only.

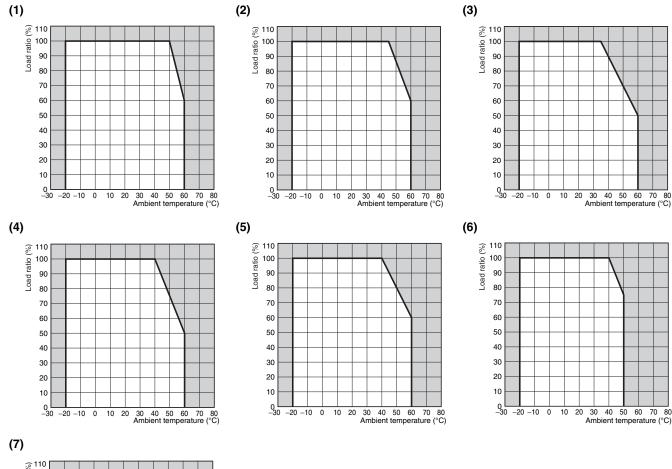
<sup>\*4.</sup> Refer to Input Voltage Selector Switch in Safety Precautions on page 36.

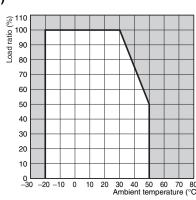
### **Engineering Data**

### **Derating Curves**

**Derating for Ambient Temperatures** 

Power rating Output voltage	15 W	25 W	35 W	50 W	75 W	100 W	150 W	200 W	350 W
5 V		(2)			(3)	(4)	(5)	(7)	(1)
12 V	(1)		(1)	(1) (1)				(6)	(1)
15 V	(1)	(1)	(1)		(1)				
24 V						(2)	(1)		
36 V								(6)	(1)
48 V				(1)	(1)				



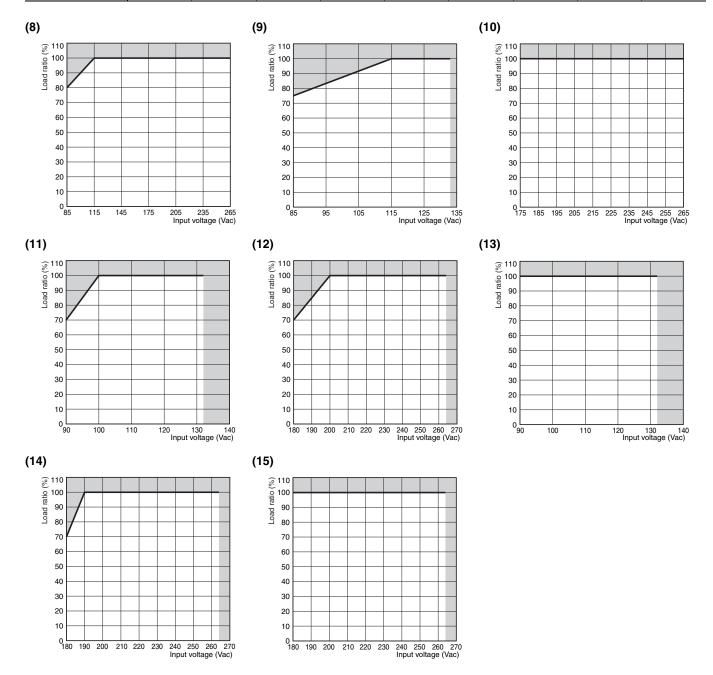


Note: The internal parts may occasionally deteriorate or be damaged. Use the standard mounting method only. Do not use the Power Supply in the area outside the derating curve.

### S8FS-C

### **Derating for Input Voltages**

Power rating Output voltage	15 W	25 W	35 W	50 W	75 W	100 W	150 W	200 W	350 W
5 V								(11) (14)	(11) (15)
12 V	(8)	(8)	(8)	(8)	(8)			(11)(14)	(11) (13)
15 V	(0)	(8)	(0)	(8)	(0)	(9) (10)	(44) (40)		
24 V						(9) (10)	(11) (12)		
36 V								(13) (15)	(11) (15)
48 V				(8)	(8)				

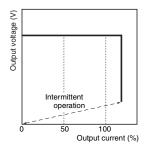


Note: The internal parts may occasionally deteriorate or be damaged. Use the standard mounting method only. Do not use the Power Supply in the area outside the derating curve.

#### **Overload Protection**

The load and the Power Supply are automatically protected from short-circuit currents and overcurrent damage by this function. Overload protection is activated if the output current rises above 105% of the rated current.

When the output current returns within the rated range, the overload protection is automatically cleared.



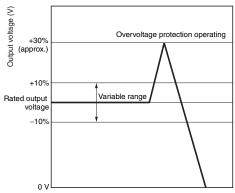
The values shown in the above diagrams are for reference only.

Note: 1. If the Power Supply has been short-circuited or supplied with an overcurrent longer than 10 seconds, the internal parts of the Power Supply may occasionally deteriorate or be damaged.

Internal parts may possibly deteriorate or be damaged if the Power Supply is used for applications with frequent inrush current or overloading at the load end. Do not use the Power Supply for such applications.

### **Overvoltage Protection**

Consider the possibility of an overvoltage and design the system so that the load will not be subjected to an excessive voltage even if the feedback circuit in the Power Supply fails. When an excessive voltage that is approximately 130% of the rated voltage or more is output, the output voltage is shut OFF, preventing damage to the load due to overvoltage. Reset the input power by turning it OFF for at least three minutes and then turning it back ON again.



The values shown in the above diagrams are for reference only.

Note: Do not turn ON the power again until the cause of the overvoltage has been removed.

### Overheat Protection (S8FS-C350□□□ Only)

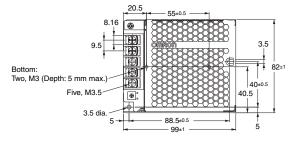
If the internal temperature rises excessively as a result of fan failure or any other reason, the overheat protection circuit will operate to protect internal elements. Reset the input power by turning it OFF for at least three minutes and then turning it back ON again.

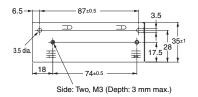
Dimensions (Unit: mm)

# Power Supplies Models with Terminal Block Facing Upward

### S8FS-C025□□ (25 W)





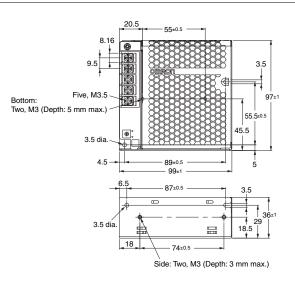


#### Panel mounting hole dimensions

	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
Bottom mounting	Two, M3 40±0.5	Two, 3.5 dia.
Side mounting	Two, M3	Two, 3.5 dia.

### S8FS-C035□□ (35 W)



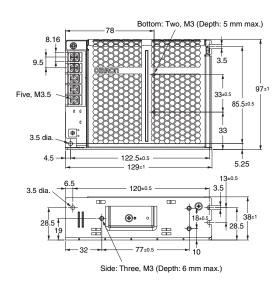


### Panel mounting hole dimensions

	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
Bottom mounting	Two, M3 55.5±0.5	Two, 3.5 dia.
Side mounting	Two, M3	Two, 3.5 dia.

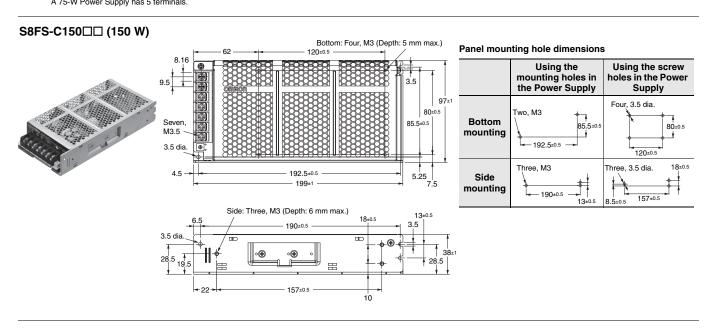
### S8FS-C050□□ (50 W)



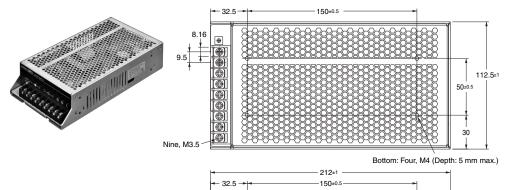


	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
Bottom mounting	Two, M3 85.5-0.5	Two, 3.5 dia.
Side mounting	Three, M3	Three, 3.5 dia. 18±0.5

#### S8FS-C075□□ (75 W) S8FS-C100□□ (100 W) Panel mounting hole dimensions 8.16 Using the mounting holes in the Power Using the screw holes in the Supply **Power Supply** Bottom: Two, M3 (Depth: 5 mm max.) Two, 3.5 dia. 84.5±0. **Bottom** 84.5±0.5 mounting 78±0.5 32 -- 152.5±0.5 Three, M3 18±0.5 Side 152.5±0.5 mounting 159±1 - 150±0.5 117±0.5 Side: Three, M3 (Depth: 6 mm max.) 13±0.5 150±0.5 3.5 dia The figure shows a 100-W Power Supply. A 75-W Power Supply has 5 terminals.



### S8FS-C200□□ (200 W)

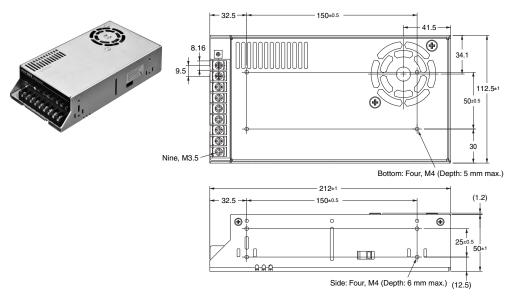


**•** 

#### Panel mounting hole dimensions

	Using the screw holes in the Power Supply		
Bottom mounting	Four, 4.5 dia.  50±0.5		
Side mounting	Four, 4.5 dia. 25±0.5		

### S8FS-C350□□ (350 W)



### Panel mounting hole dimensions

•

Side: Four, M4 (Depth: 6 mm max.)

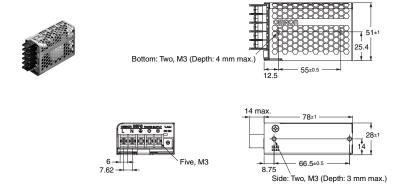
25±0.5

(12.5)

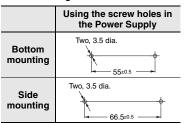
	Using the screw holes in the Power Supply
Bottom mounting	Four, 4.5 dia.
Side mounting	Four, 4.5 dia.

### **Models with Terminal Block Facing Forward**

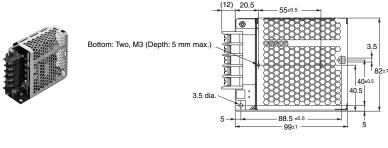
### S8FS-C015□□J (15 W)



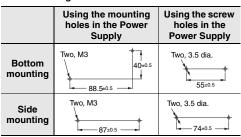
#### Panel mounting hole dimensions

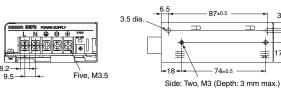


### S8FS-C025□□J (25 W)

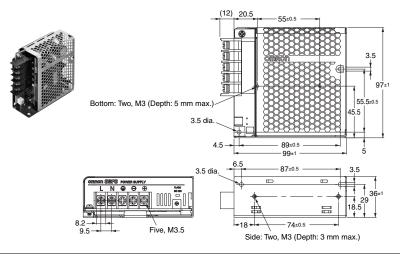


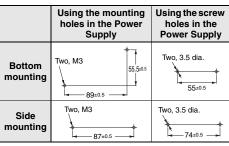
### Panel mounting hole dimensions





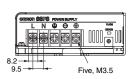
### S8FS-C035□□J (35 W)

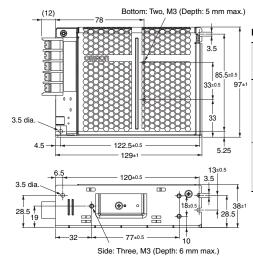




# S8FS-C050□□J (50 W)

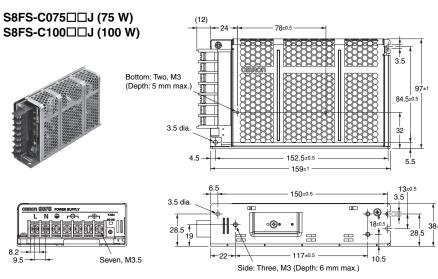






#### Panel mounting hole dimensions

	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
Bottom mounting	Two, M3 85.5±0.5	Two, 3.5 dia.
Side mounting	Three, M3	Three, 3.5 dia. 18±0.5

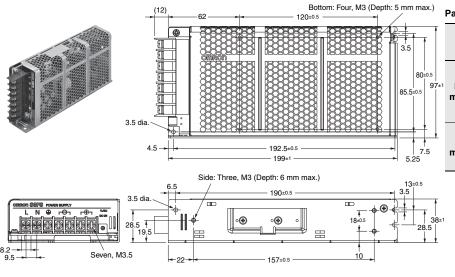


### Panel mounting hole dimensions

	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply	
Bottom mounting	Two, M3 84.5±0.5	Two, 3.5 dia.	
Side mounting	Three, M3	Three, 3.5 dia. 18±0.5 9.5±0.5 117±0.5	

Note: The figure shows a 100-W Power Supply. A 75-W Power Supply has 5 terminals.

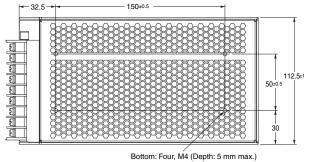
### S8FS-C150□□J (150 W)

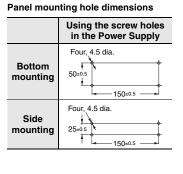


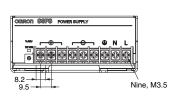
		Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply		
±1	Bottom mounting	Two, M3 85,5±0.5	Four, 3.5 dia.		
	Side mounting	Three, M3	Three, 3.5 dia. 18±0.5 8.5±0.5 157±0.5		

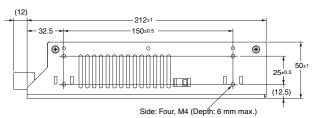
### S8FS-C200□□J (200 W)









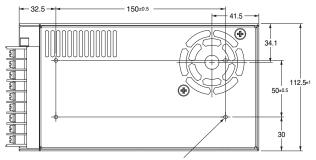


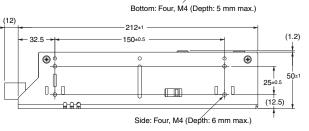
### S8FS-C350□□J (350 W)



Nine, M3.5

**• • • • • • • • •** 





	Using the screw holes in the Power Supply	
Bottom mounting	Four, 4.5 dia.	
Side mounting	Four, 4.5 dia. 25±0.5	

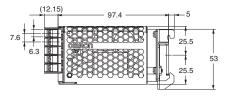
### S8FS-C

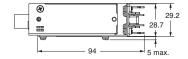
### Models with DIN rail

### S8FS-C015□□D (15 W)



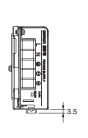


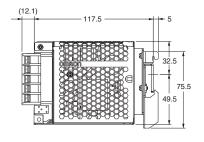


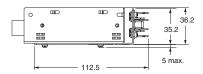


### S8FS-C025□□D (25 W)



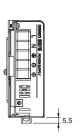


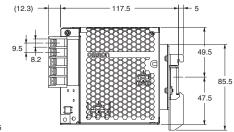


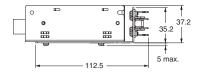


### S8FS-C035□□D (35 W)

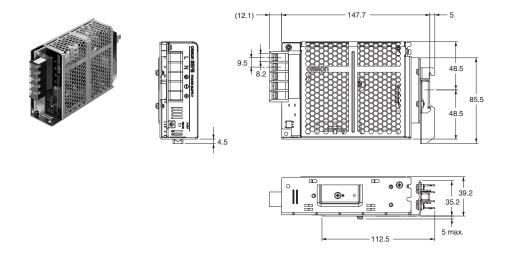




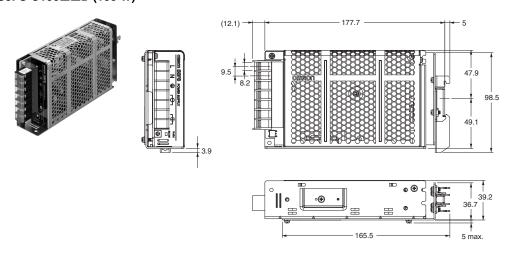




### S8FS-C050□□D (50 W)

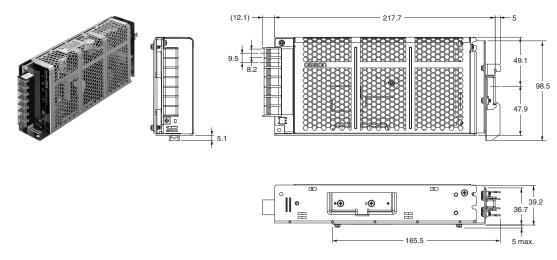


### S8FS-C075□□D (75 W) S8FS-C100□□D (100 W)

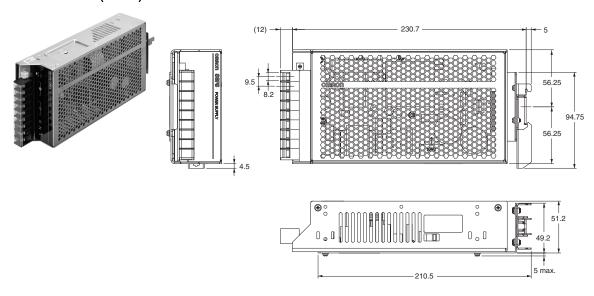


Note: The figure shows a 100-W Power Supply. A 75-W Power Supply has 5 terminals.

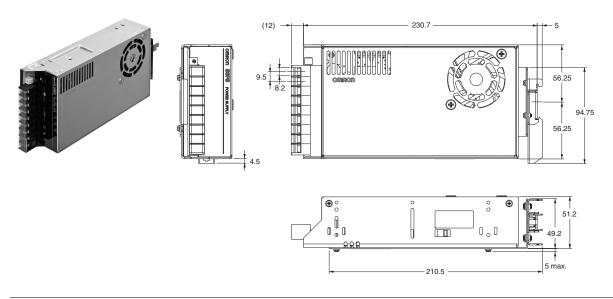
### S8FS-C150□□D (150 W)



### S8FS-C200□□D (200 W)



### S8FS-C350□□D (350 W)

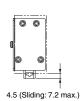


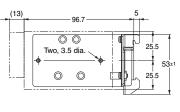
### **Mounting Brackets (Order Separately)**

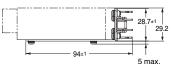
Power rating	Mounting direction	Model	
15 W		S82Y-FSC015DIN	
25 W		S82Y-FSC025DIN	
35 W		S82Y-FSC050DIN	
50 W		5821-FSC050DIN	
75 W	DIN Rail		
100 W		S82Y-FSC150DIN	
150 W			
200 W		S82Y-FSC350DIN	
350 W		5821-F5C350DIN	
15 W		S82Y-FSC015DIN-S	
25 W		S82Y-FSC025DIN-S	
35 W		S82Y-FSC035DIN-S	
50 W	Bottom-mounting to DIN Rail	S82Y-FSC050DIN-S	
75 W		S82Y-FSC100DIN-S	
100 W		3821-F3C100DIN-5	
150 W		S82Y-FSC150DIN-S	
200 W	Dottom mounting with I brooksto	COOV ECCEPT (4 breekets)	
350 W	Bottom-mounting with L-brackets	S82Y-FSC350B (4 brackets)	

### S82Y-FSC015DIN

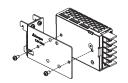






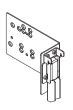


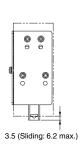
### **Mounting Method**

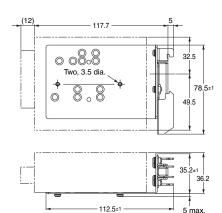


Accessories (2 locations)
Be sure to use the accessory screws.
Mounting screw tightening torque: 0.48 to
0.59 N·m for M3 screws

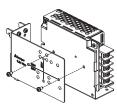
### S82Y-FSC025DIN





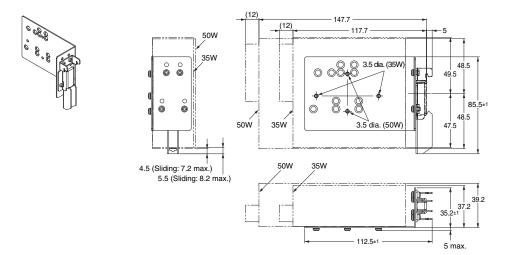


### Mounting Method

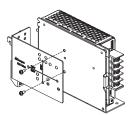


Accessories (2 locations)
Be sure to use the accessory screws.
Mounting screw tightening torque: 0.48 to
0.59 N·m for M3 screws

### S82Y-FSC050DIN

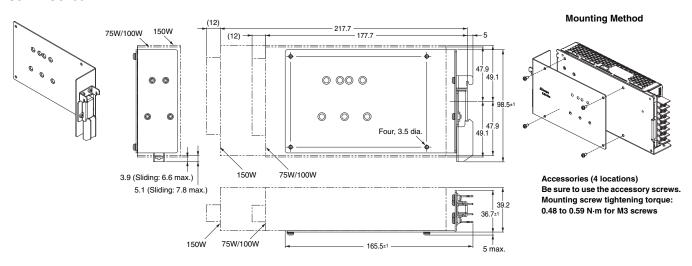


### **Mounting Method**

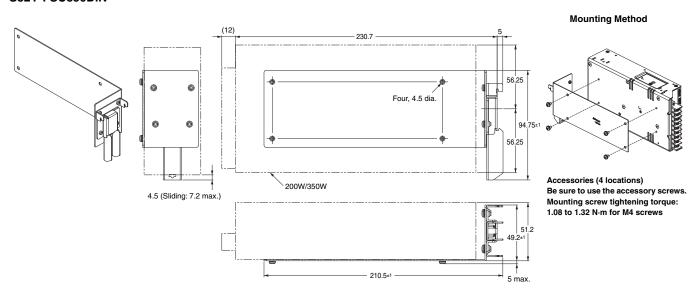


Accessories (2 locations)
Be sure to use the accessory screws.
Mounting screw tightening torque:
0.48 to 0.59 N·m for M3 screws

### S82Y-FSC150DIN



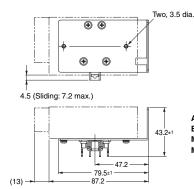
### S82Y-FSC350DIN



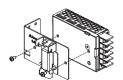
### S82Y-FSC015DIN-S







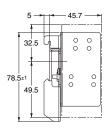
#### **Mounting Method**

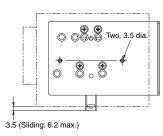


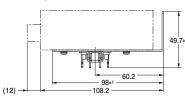
Accessories (2 locations)
Be sure to use the accessory screws.
Mounting screw tightening torque: 0.48 to 0.59 N·m for M3 screws

### S82Y-FSC025DIN-S

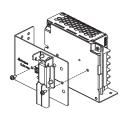








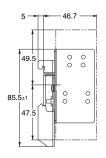
### **Mounting Method**

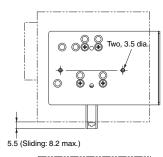


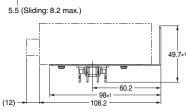
Accessories (2 locations)
Be sure to use the accessory screws.
Mounting screw tightening torque: 0.48 to
0.59 N·m for M3 screws

### S82Y-FSC035DIN-S

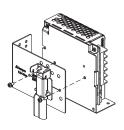








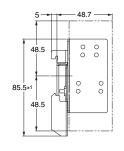
### **Mounting Method**

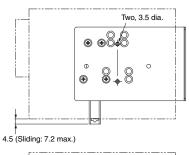


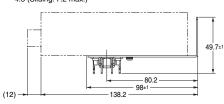
Accessories (2 locations)
Be sure to use the accessory screws.
Mounting screw tightening torque: 0.48 to 0.59
N·m for M3 screws

### S82Y-FSC050DIN-S

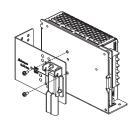






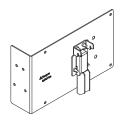


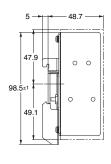
### **Mounting Method**

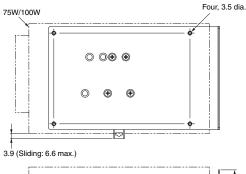


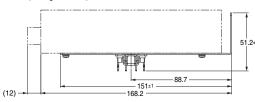
Accessories (2 locations) Be sure to use the accessory screws. Mounting screw tightening torque: 0.48 to 0.59 N·m for M3 screws

### S82Y-FSC100DIN-S

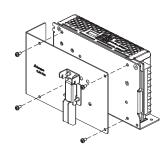








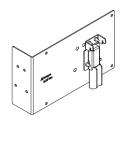
**Mounting Method** 

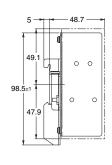


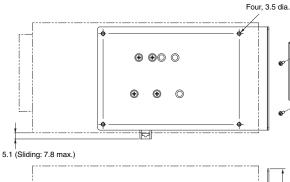
Accessories (4 locations) Be sure to use the accessory screws. Mounting screw tightening torque: 0.48 to 0.59 N·m for M3 screws

**Mounting Method** 

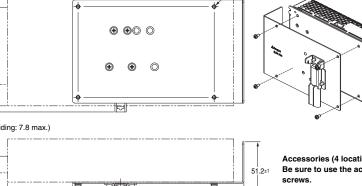
### S82Y-FSC150DIN-S







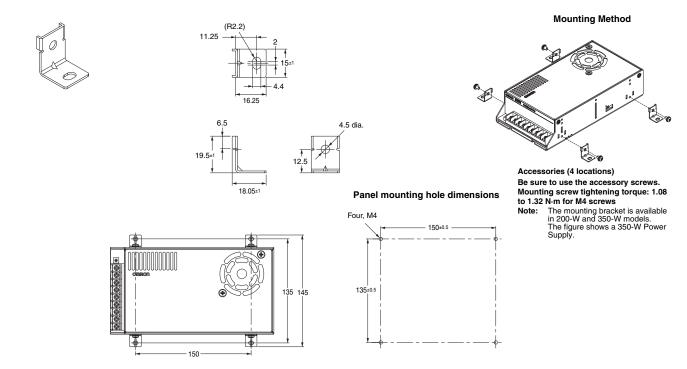
-208.2 -



-108.7 - 151±1

Mounting screw tightening torque: 0.48 to 0.59 N·m for M3 screws

### S82Y-FSC350B (Four Brackets)



### For Users of S8JC DIN Rail-mounting Power Supplies

If you are using a DIN Rail-mounting S8JC-series Power Supply, you can use a DIN Rail-mounting S8FS-C-series Power Supply or replace it with an S8FS-C-series Power Supply with a Forward-facing Terminal Block and a DIN Rail Mounting Bracket.

Table of Corresponding S8JC Power Supplies and S8FS-C□J Power Supplies with DIN Rail Mounting Brackets

Power rating	S8JC-Z *2	S8JC-ZS		S8FS-C Power Supply		DIN Rail-mounting Bracket *1
	S8JC-Z01505CD	S8JC-ZS01505CD-AC2	$\Rightarrow$	S8FS-C01505J		
15 W	S8JC-Z01512CD	S8JC-ZS01512CD-AC2	$\Rightarrow$	S8FS-C01512J	+	S82Y-FSC015DIN
	S8JC-Z01524CD	S8JC-ZS01524CD-AC2	$\Rightarrow$	S8FS-C01524J		
	S8JC-Z03505CD	S8JC-ZS03505CD-AC2	$\Rightarrow$	S8FS-C03505J		
35 W	S8JC-Z03512CD	S8JC-ZS03512CD-AC2	$\Rightarrow$	S8FS-C03512J	+	S82Y-FSC050DIN
	S8JC-Z03524CD	S8JC-ZS03524CD-AC2	$\Rightarrow$	S8FS-C03524J		
	S8JC-Z05005CD	S8JC-ZS05005CD-AC2	$\Rightarrow$	S8FS-C05005J		
50 W	S8JC-Z05012CD	S8JC-ZS05012CD-AC2	$\Rightarrow$	S8FS-C05012J	١.	S82Y-FSC050DIN
30 W	S8JC-Z05024CD	S8JC-ZS05024CD-AC2	$\Rightarrow$	S8FS-C05024J	+	3021-1 30030DIN
	S8JC-Z05048CD		$\Rightarrow$	S8FS-C05048J		
	S8JC-Z10005CD	S8JC-ZS10005CD-AC2	$\Rightarrow$	S8FS-C10005J		S82Y-FSC150DIN
100 W	S8JC-Z10012CD	S8JC-ZS10012CD-AC2	$\Rightarrow$	S8FS-C10012J	١.	
100 VV	S8JC-Z10024CD	S8JC-ZS10024CD-AC2	$\Rightarrow$	S8FS-C10024J	+	3021-F3C130DIN
	S8JC-Z10048CD		$\Rightarrow$	S8FS-C10048J		
	S8JC-Z15005CD	S8JC-ZS15005CD-AC2	$\Rightarrow$	S8FS-C15005J		
150 W	S8JC-Z15012CD	S8JC-ZS15012CD-AC2	$\Rightarrow$	S8FS-C15012J	١.	S82Y-FSC150DIN
150 W	S8JC-Z15024CD	S8JC-ZS15024CD-AC2	$\Rightarrow$	S8FS-C15024J	+	3021-F3C130DIN
	S8JC-Z15048CD		$\Rightarrow$	S8FS-C15048J		
	S8JC-Z35005CD	S8JC-ZS35005CD-AC2	$\Rightarrow$	S8FS-C35005J		
350 W	S8JC-Z35012CD	S8JC-ZS35012CD-AC2	$\Rightarrow$	S8FS-C35012J	+	S82Y-FSC350DIN
	S8JC-Z35024CD	S8JC-ZS35024CD-AC2	$\Rightarrow$	S8FS-C35024J		

<sup>\*1.</sup> To mount an S8FS-series Power Supply that is not a DIN Rail-mounting model to a DIN Rail, purchase a DIN Rail-mounting Bracket separately from the Power Supply.

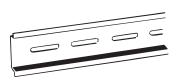
<sup>\*2.</sup> Consult with your OMRON representative if you use a 15-W or 35-W S8JC-Z Power Supply with a 48-V output voltage.

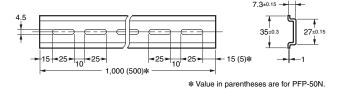
### **DIN Rail (Order Separately)**

Note: All units are in millimeters unless otherwise indicated.

### **Mounting Rail**

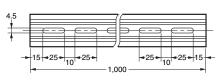
(Material: Aluminum)

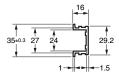




# Mounting Rail (Material: Aluminum)





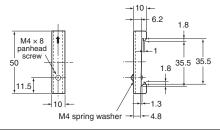




Model PFP-100N PFP-50N

### **End Plate**







- Note: 1. If there is a possibility that the Power Supply will be subject to vibration or shock, use a steel DIN Rail. Otherwise, metallic filings may result from aluminum abrasion.
  - 2. If there is a possibility of the Power Supply sliding sideways, place an End Plate (PFP-M) on each end of the Power Supply.

### **Terminal Cover (Order Separately)**

Terminal block direction	Power rating	Applicable models	Terminal Cover model number	
	25-W	S8FS-C025□□		
	35-W	S8FS-C035□□	S82Y-FSC-C5	
	50-W	S8FS-C050□□	3021-130-03	
Models with terminal block	75-W	S8FS-C075□□		
facing upward	100-W	S8FS-C100□□	S82Y-FSC-C7	
	150-W	S8FS-C150□□	3021-130-07	
	200-W	S8FS-C200□□	S82Y-FSC-C9	
	350-W	S8FS-C350□□	3021-130-09	
	15-W	S8FS-C015□□J/D	S82Y-FSC-C5MF	
	25-W	S8FS-C025□□J/D		
	35-W	S8FS-C035□□J/D	S82Y-FSC-C5F	
	50-W	S8FS-C050□□J/D	3021-130-051	
Models with terminal block facing forward	75-W	S8FS-C075□□J/D		
9	100-W	S8FS-C100□□J/D	S82Y-FSC-C7F	
	150-W	S8FS-C150□□J/D	3021-130-071	
	200-W	S8FS-C200□□J/D	S82Y-FSC-C9F	
	350-W	S8FS-C350□□J/D	3021-130-09F	

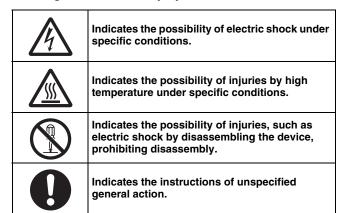
### **Safety Precautions**

Refer to Safety Precautions for All Power Supplies.

#### **Warning Indications**

CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.		
Precautions for Safe Use	Supplementary comments on what to do or avoid doing, to use the product safely.		
Precautions for Correct Use	Supplementary comments on what to do or avoid doing, to prevent failure to operate, malfunction or undesirable effect on product performance.		

#### **Meaning of Product Safety Symbols**



### **⚠** CAUTION

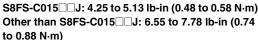
Minor electric shock, fire, or Product failure may occasionally occur. Do not disassemble, modify, or repair the Product or touch the interior of the Product.



Minor burns may occasionally occur. Do not touch the Product while power is being supplied or immediately after power is turned OFF.



Fire may occasionally occur. Tighten terminal screws to the specified torque.





Minor injury due to electric shock may occasionally occur. Do not touch the terminals while power is being supplied.



Minor electric shock, fire, or Product failure may occasionally occur. Do not allow any pieces of metal or conductors or any clippings or cuttings resulting from installation work to enter the Product.



### **Precautions for Safe Use**

### **Ambient Operating and Storage Environments**

- Store the Power Supply at a temperature of –40 to 85°C and a humidity of 10% to 95%.
- The internal parts may occasionally deteriorate or be damaged.
   Use the standard mounting method only. Do not use the Power Supply outside the derating range.
- Use the Power Supply at a humidity of 20% to 90%.
- Do not use the Power Supply in locations subject to direct sunlight.
- Do not use the Power Supply in locations where liquids, foreign matter, or corrosive gases may enter the interior of the Power Supplies.

#### **Installation Environment**

- Do not use the Power Supply in locations subject to shocks or vibrations. Install the Power Supply away from contactors and other parts and devices that are sources of vibration.
- Install the Power Supply well away from any sources of strong, high-frequency noise and surge.

### Input Voltage Selector Switch

For 100-W or higher models, the input voltage is factory-set to 200 to 240 V.

To use an input voltage of 100 to 120 VAC, change the input voltage selector switch to the 100 to 120 VAC setting. To use a DC input, set the input voltage selector switch to the 200 to 240 VAC setting.

 Minor electric shock may occasionally occur. Do not operate the input voltage selector switch while power is being supplied.

#### Mounting

- Take adequate measures to ensure proper heat dissipation to increase the long-term reliability of the Power Supply.
- For models other than the S8FS-C350□□□, be sure to allow convection in the atmosphere around devices when mounting. Do not use the Power Supply in locations where the ambient temperature exceeds the range of the derating curve.
- For the S8FS-C350 —: Forced air cooling with a fan is used. Do not allow the ventilation holes to be blocked. The effectiveness of cooling would be reduced.
- The internal parts may occasionally deteriorate or be damaged.
   Use the standard mounting method only. Do not use the Power Supply outside the derating range.
- If you mount the Power Supply by using the screw holes provided on the chassis, the screws should preferably not penetrate beyond the exterior by more than 3 mm inside the Power Supply. If you use screws that are longer than this, make sure that they do not penetrate beyond the depth given in the dimensional diagram. Use the following tightening torque.

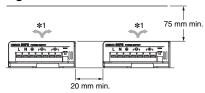
0.48 to 0.59 N·m for M3 screws

- 1.08 to 1.32 N·m for M4 screws
- When cutting out holes for mounting, make sure that cuttings do not enter the interior of the Power Supplies.
- The internal parts may occasionally deteriorate or be damaged due to adverse heat radiation. Do not loosen the screws on the Power Supplies.

### Mounting

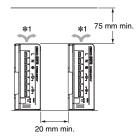
The standard mounting pattern is shown below.

### **Mounting Pattern A**



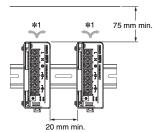
The above figure shows a model with the terminal block facing upward.

### **Mounting Pattern B**



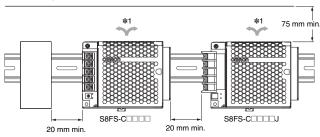
The above figure shows a model with the terminal block facing upward.

### Mounting Pattern C \*2



The above figure shows a model with the terminal block facing forward.

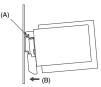
### **Mounting Pattern D\*2**

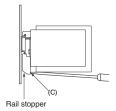


To mount the Power Supply to a DIN Rail, hook portion (A) of the Power Supply onto the DIN Rail and press the Power Supply in direction (B) until you hear it lock into place. Make sure that the catch on the Mounting Bracket is engaged with the DIN Rail.

To dismount the Power Supply, pull down portion (C) with a flat-blade screwdriver and pull out the Power Supply.

- \*1. Air flow
- \*2. For mounting patterns C and D, a separately sold Mounting Bracket is used to mount the Power Supplies to DIN Rail. Refer to *Mounting Brackets* (Order Separately) on page 29 for the separately sold Mounting Brackets.





### Wiring

- Connect the ground completely.
   A protective earthing terminal stipulated in safety standards is used. Electric shock or malfunction may occur if the ground is not connected completely.
- Minor fire may possibly occur. Ensure that input and output terminals are wired correctly.
- Do not apply more than 75 N force to the terminal block when tightening it.
- Be sure to remove the sheet covering the Power Supply for machining before power-ON so that it does not interfere with heat dissipation.
- Use the following material for the wires to be connected to the S8FS-C to prevent smoking or ignition caused by abnormal loads.

### **Recommended Wire Gauges**

Terminals	Model	Recommended Wire Gauges
	S8FS-C015□□□	AWG14 to 22
Input	S8FS-C025□□□ to S8FS-C100□□□	AWG12 to 20
прис	S8FS-C150□□□ or S8FS-C200□□□	AWG12 to 16
	S8FS-C350□□□	AWG12
	S8FS-C015□□□	AWG14 to 18
	S8FS-C02512 to S8FS-C02524□	
	S8FS-C03515 to S8FS-C03524□	AWG12 to 20
	S8FS-C05024 to S8FS-C05048□	
	S8FS-C02505 or S8FS-C03512□	
	S8FS-C05012 to S8FS-C05015□	
	S8FS-C07515 to S8FS-C07548□	AWG12 to 16
Output	S8FS-C10024 to S8FS-C10048□	
	S8FS-C15036 to S8FS-C15048□	
	S8FS-C03505 or S8FS-C05005□	
	S8FS-C07505 to S8FS-C07512□	AWG12
	S8FS-C10005 to S8FS-C10015□	
	S8FS-C15005 to S8FS-C15024□	
	S8FS-C200□□□ or S8FS-C350□□□	
Protective	S8FS-C015□□□	AWG14
earth terminal	S8FS-C025□□□ to S8FS-C350□□□	AWG12 to 14

Note: The current capacity for the output terminals on the S8FS-C025□□□ to S8FS-C350□□□ is 25 A for each terminal. Make sure to use multiple terminals together if the current flow is higher than the current capacity for each terminal.

#### **Overload Protection**

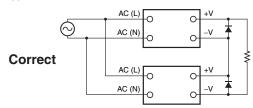
- If the Power Supply has been short-circuited or supplied with an overcurrent longer than 10 seconds, the internal parts of the Power Supply may occasionally deteriorate or be damaged.
- Internal parts may possibly deteriorate or be damaged if the Power Supply is used for applications with frequent inrush current or overloading at the load end. Do not use the Power Supply for such applications.

### **Output Voltage Adjuster (V. ADJ)**

- The output voltage adjuster (V. ADJ) may possibly be damaged if it is turned with unnecessary force. Do not turn the adjuster with excessive force.
- After completing output voltage adjustment, be sure that the output capacity or output current does not exceed the rated output capacity or rated output current.

### **Series Operation**

Two Power Supplies can be connected in series.



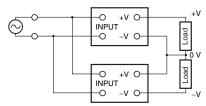
Note: 1. If the load is short-circuited, a reverse voltage will be generated inside the Power Supply. If this occurs the Power Supply may possibly deteriorate or be damaged. Always connect a diode as shown in the figure. Select a diode having the following ratings.

Туре	Schottky Barrier diode		
Dielectric strength (VRRM)	Twice the rated output voltage or above		
Forward current (I <sub>F</sub> )	Twice the rated output current or above		

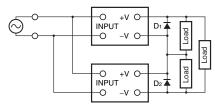
 Although Power Supplies having different specifications can be connected in series, the current flowing through the load must not exceed the smaller rated output current.

#### **Making Positive/Negative Outputs**

• The outputs are floating outputs (i.e., the primary circuits and secondary circuits are separated). You can therefore make positive and negative outputs by using two Power Supplies. You can make positive and negative outputs with any of the models. If positive and negative outputs are used, connect Power Supplies of the same model as shown in the following figure. (Combinations with different output capacities or output voltages can be made. However, use the lower of the two maximum rated output currents as the current to the loads.)



 Depending on the model, internal circuits may be damaged due to startup failure when the power is turned ON if loads such as a servomotor or operational amplifier operate in series. Therefore, connect bypass diodes (D<sub>1</sub>, D<sub>2</sub>) as shown in the following figure.

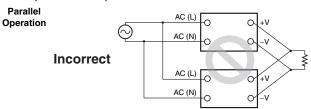


• Select a diode having the following ratings.

Туре	Schottky Barrier diode
Dielectric strength (VRRM)	Twice the rated output voltage or above
Forward current (I <sub>F</sub> )	Twice the rated output current or above

### **Parallel Operation**

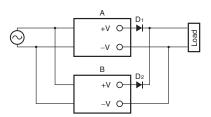
Parallel operation is not possible.



### **Backup Operation**

Backup operation is possible if you use two Power Supplies of the same model.

Connect diodes as shown in the following figure for backup operation.



Select a diode having the following ratings.

Туре	Schottky Barrier diode
Dielectric strength (VRRM)	Twice the rated output voltage or above
Forward current (I <sub>F</sub> )	Twice the rated output current or above

- The output voltages of Power Supplies A and B output must be set higher only by a value equivalent to the drop in forward voltages (V<sub>F</sub>) of diodes D<sub>1</sub> and D<sub>2</sub>.
- Power loss occurs equivalent to the Power Supply output current (lout) times the diode forward voltage (VF), and heat is generated.
   The diode must be cooled to ensure that its temperature is kept at or below the value indicated in the diode catalog.
- There will be a power loss caused by load power and diodes. Be sure that this total power loss does not exceed the rated output power (rated output voltage times rated output current) of each Power Supply.

### In Case There Is No Output Voltage

There is a possibility that functions such as overcurrent protection, over-voltage protection or overheating protection are functioning. The internal protection circuit may operate if a large amount of surge voltage such as a lightening surge occurs while turning ON the Power Supply.

In case there is no output voltage, please check the following points before contacting us:

- Checking overload protection status:
   Check whether the load is in overload status or is short-circuited.
   Remove wires to load when checking.
- Checking overvoltage or internal protection:
   Turn the power supply OFF once, and leave it OFF for at least 3 minutes. Then turn it ON again to see if this clears the condition.
- Check overheating protection (350-W model):
   Switch off the input power supply and switch back on after allowing sufficient time for cooling.

### **Charging Batteries**

If you connect a battery at the load, install overcurrent control and overvoltage protection circuits.

### **Period and Terms of Warranty**

### **Warranty Period**

The Power Supply warranty is valid for a period of three years from the date of shipment from the factory.

### **Terms of Warranty**

The warranty is valid only for the following operating conditions.

- 1. Average ambient operating temperature of the Power Supply: 40°C max.
- 2. Average load rate: 80% max.
- 3. Mounting method: Standard mounting
- \* The maximum ratings must be within the derating curve.

If the Power Supply fails for reasons attributable to OMRON within the above warranty period, OMRON will repair or replace the faulty part of the Power Supply at the place of purchase or the place where the Power Supply delivered without charge. This warranty does not cover the following types of failures.

- (1) Failures that result from handling or operation of the Power Supply under conditions or in environments that are not given in this document and not given in any other specifications exchanged between OMRON and the customer
- (2) Failures that originate in causes other than the delivered product itself
- (3) Failures caused by disassembly, modification, or repair of the Power Supply by anyone other than OMRON
- (4) Failures caused by applications or uses for which the Power Supply was not originally intended
- (5) Failures caused by factors that could not be anticipated with the scientific or technical knowledge available when the Power Supply was shipped
- (6) Failures caused by other causes for which OMRON is not responsible, such as natural disasters and other acts of God This warranty is limited to the individual product that was delivered and does not cover any secondary, subsequent, or related damages.

# Recommended Replacement Periods and Periodic Replacement for Preventive Maintenance

The recommended replacement period for preventive maintenance is greatly influenced by the application environment of the Power Supply. As a guideline, the recommended replacement period is 7 to 10 years.\* To prevent failures and accidents that can be caused by using a Power Supply beyond its service life, we recommend that you replace the Power Supply as early as possible within the recommended replacement period. However, bear in mind that the recommended replacement period is for reference only and does not guarantee the life of the Power Supply.

Many electronic components are used in the Power Supply and the Power Supply depends on the correct operation of these components to achieve the original Power Supply functions and performance. However, the influence of the ambient temperature on aluminum electrolytic capacitors is large, and the service life is reduced by half for each 10°C rise in temperature (Arrhenius law). When the capacity reduction life of the electrolytic capacitor is reached, Power Supply failures or accidents may occur. We therefore recommend that you replace the Power Supply periodically to minimize Power Supply failures and accidents in advance.

\* The recommended replacement period applies under the following conditions: rated input voltage, load rate of 50% max., ambient temperature of 40°C max., and the standard mounting method. (The fan is excluded for models with fans.)

This product model is designed with a service life of 10 years minimum under the above conditions.

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### **Terms and Conditions Agreement**

### Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

### Warranties.

- (a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.
- (b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

See http://www.omron.com/global/ or contact your Omron representative for published information.

### Limitation on Liability; Etc.

OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

### Suitability of Use.

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

### Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

### Performance Data.

Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

### Change in Specifications.

Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

### **Errors and Omissions.**

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

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