

Switch Mode Power Supply S8FS-G (15/30/50/100/150/300/600-W Models)

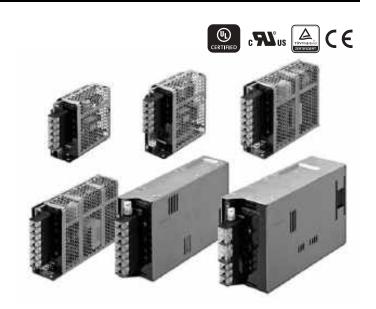
Superior Basic Performance That **Ensures Reliability. Wide Range** of Standards Certification and **Greater Usability.**

- Superior basic performance that ensures reliability Ambient temperatures up to 70°C, greater resistance to rusting with aluminum/stainless steel case, and applications at altitudes up to 3,000 m.
- Certification for Global Standards North America: UL 508 (Listing)*, CSA C22.2 Europe: Overvoltage Category III (EN 50178)

EMI: Class B (EN 61204-3)

No need for control circuit transformers for which the Machinery Directive is specified. (EN/IEC 61558-2-16) * Refer to pages 4 to 10 for certified models.

 Greater Usability The Terminal Block Cover prevents screws from dropping out and the Front Cover prevents ingress of foreign matter.



Refer to Safety Precautions for All Power Supplies and Safety Precautions on page 29.

Lineup

Output voltage	Power rating									
Output voltage	15 W	30 W	50 W	100 W	150 W	300 W	600 W			
5 V	Yes	Yes	Yes	Yes	Yes					
12 V	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			
48 V					Yes	Yes	Yes			

Model Number Structure

Model Number Legend

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

S8FS-	$G \square \square \square$				-		
	1	2	3	4	5	6	7

i. i owei italings	z. Output voitage
015: 15 W	05: 5 V
030: 30 W	12: 12 V
050: 50 W *1	15: 15 V
100: 100 W *2	24: 24 V

150: 150 W ***3** 48: 48 V

300: 300 W 600: 600 W

2 Output voltage 3. Configuration

C: With cover/Direct mounting CD: With cover/DIN Rail mounting

None: Screw terminal block Connectors *4

5. Option (2) *5

None: None Parallel operation

7. Option (4) *7 None: None

Extended hold time

6. Option (3) *6 None: None

Remote control

^{*1.} The output electric power is 40 W for products with an output voltage of 5 V.

^{*2.} The output electric power is 80 W for products with an output voltage of 5 V.

^{*3.} The output electric power is 105 W for products with an output voltage of 5 V.

^{*4.} Applicable only for 150 W or less and 24 V.

^{*5.} Applicable only for 600 W and 24 V.

^{*6.} Applicable only for 100 W or more and 24 V.

^{*7.} Applicable only for 300 W or more and 24 V.

S8FS-G

Ordering Information

List of Models

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

With Cover/DIN Rail Mounting

ower ratings	Input voltage	Output voltage (VDC)	Output current	Built-in fan	Model
		5 V	3 A		S8FS-G01505CD
45 10/		12 V	1.3 A		S8FS-G01512CD
15 W		15 V	1 A		S8FS-G01515CD
		24 V	0.65 A		S8FS-G01524CD
		5 V	6 A		S8FS-G03005CE
30 W		12 V	3 A		S8FS-G03012CE
30 VV		15 V	2.4 A		S8FS-G03015CE
		24 V	1.5 A		S8FS-G03024CI
		5 V	8 A * 1		S8FS-G05005CE
50 W	100 to 240 VAC (Permissible range	12 V	4.3 A		S8FS-G05012CE
100 W	85 to 264 VAC,	15 V	3.5 A	None	S8FS-G05015CE
	80 to 370 VDC) *4	24 V	2.2 A		S8FS-G05024CE
	₹ -1	5 V	16 A * 2		S8FS-G10005C
		12 V	8.5 A		S8FS-G10012CE
		15 V	7 A		S8FS-G10015CE
		24 V	4.5 A		S8FS-G10024CE
		5 V	21 A * 3		S8FS-G15005CE
		12 V	13 A		S8FS-G15012CE
150 W		15 V	10 A		S8FS-G15015CE
		24 V	6.5 A		S8FS-G15024CE
		48 V	3.3 A		S8FS-G15048CE
	100 to 240 VAC	12 V	25 A		S8FS-G30012CD
300 W	(Permissible range	15 V	20 A		S8FS-G30015CE
300 W	85 to 264 VAC, 120 to 370 VDC)	24 V	14 A		S8FS-G30024CE
	120 (0 370 VDC)	48 V	7 A	Yes	S8FS-G30048CE
	100 to 240 VAC	12 V	50 A	res	S8FS-G60012CD
600 W	(Permissible range	15 V	40 A		S8FS-G60015CE
000 00	85 to 264 VAC,	24 V	27 A		S8FS-G60024CE
	120 to 350 VDC)	48 V	13 A		S8FS-G60048CD

Note: Ask your OMRON representative for pricing information on optional models.

With Cover/DIN Rail Mounting (Extended hold time type)

Power ratings	Input voltage	Output voltage (VDC)	Output current	Built-in fan	Model
300 W	100 to 240 VAC (Permissible range 85 to 264 VAC, 120 to 370 VDC)	24 V	14 A	Yes	S8FS-G30024CD-H
600 W	100 to 240 VAC (Permissible range 85 to 264 VAC, 120 to 350 VDC)	24 V	27 A	res	S8FS-G60024CD-H

^{*1.} The output electric power is 40 W.

^{*2.} The output electric power is 80 W.

^{*3.} The output electric power is 105 W.

^{*4.} Applicable to products produced from May 2018.

With Cover/Direct Mounting

Power ratings	Input voltage	Output voltage (VDC)	Output current	Built-in fan	Model
		5 V	3 A		S8FS-G01505C
15 W		12 V	1.3 A		S8FS-G01512C
15 VV		15 V	1 A		S8FS-G01515C
		24 V	0.65 A		S8FS-G01524C
		5 V	6 A		S8FS-G03005C
30 W		12 V	3 A		S8FS-G03012C
30 W		15 V	2.4 A		S8FS-G03015C
		24 V	1.5 A		S8FS-G03024C
	400 (- 040)/40	5 V	8 A * 1		S8FS-G05005C
50 W	100 to 240 VAC (Permissible range	12 V	4.3 A		S8FS-G05012C
50 W	85 to 264 VAC,	15 V	3.5 A	None	S8FS-G05015C
	80 to 370 VDC) *4	24 V	2.2 A		S8FS-G05024C
100 W	*4	5 V	16 A * 2		S8FS-G10005C
		12 V	8.5 A		S8FS-G10012C
		15 V	7 A		S8FS-G10015C
		24 V	4.5 A		S8FS-G10024C
		5 V	21 A * 3		S8FS-G15005C
		12 V	13 A		S8FS-G15012C
150 W		15 V	10 A		S8FS-G15015C
		24 V	6.5 A		S8FS-G15024C
		48 V	3.3 A		S8FS-G15048C
	100 to 240 VAC	12 V	25 A		S8FS-G30012C
300 W	(Permissible range	15 V	20 A		S8FS-G30015C
300 W	85 to 264 VAC,	24 V	14 A		S8FS-G30024C
	120 to 370 VDC)	48 V	7 A	Yes	S8FS-G30048C
	100 to 240 VAC	12 V	50 A	res	S8FS-G60012C
600 W	(Permissible range	15 V	40 A		S8FS-G60015C
000 VV	85 to 264 VAC,	24 V	27 A		S8FS-G60024C
	120 to 350 VDC)	48 V	13 A		S8FS-G60048C

Note: 1. Ask your OMRON representative for pricing information on optional models.

To mount a Power Supply from the front, purchase a DIN Rail-mounting Power Supply and a Front-mounting Bracket (sold separately). Refer to page 27.

With Cover/Direct Mounting (Extended hold time type)

Power ratings	Input voltage	Output voltage (VDC)	Output current	Built-in fan	Model
300 W	100 to 240 VAC (Permissible range 85 to 264 VAC, 120 to 370 VDC)	- 24 V	14 A	Yes	S8FS-G30024C-H
600 W	100 to 240 VAC (Permissible range 85 to 264 VAC, 120 to 350 VDC)	Z4 V	27 A	res	S8FS-G60024C-H

With Cover/Direct Mounting (Connector type)

Power ratings	Input voltage	Output voltage (VDC)	Output current	Built-in fan	Model
15 W	400 +- 040 \/A 0		0.65 A		S8FS-G01524CE
30 W	100 to 240 VAC (Permissible range		1.5 A		S8FS-G03024CE
50 W	85 to 264 VAC,	24 V	2.2 A	None	S8FS-G05024CE
100 W	80 to 370 VDC) *4		4.5 A		S8FS-G10024CE
150 W	^ 4		6.5 A		S8FS-G15024CE

^{*1.} The output electric power is 40 W.

^{2.} Front-mounting is not possible.

^{*2.} The output electric power is 80 W.

^{*3.} The output electric power is 105 W.

^{*4.} Applicable to products produced from May 2018.

S8FS-G

Specifications

		Power rating	15 W					
Item		Output voltage	5 V 12 V 15 V 24					
		100 VAC input	80% typ.	84% typ.	84% typ.	85% typ.		
Efficiency *		200 VAC input	80% typ.	84% typ.	84% typ.	86% typ.		
Linciency 4		230 VAC input	80% typ.	84% typ.	84% typ.			
	Voltage range #	230 VAC IIIput	Single phase, 85 to 26			86% typ.		
	Voltage range *		0 1 /	<u> </u>	,			
	Frequency *	T	50/60 Hz (47 to 450 Hz	Z)				
	Current *	100 VAC input	0.32 A typ.					
		200 VAC input	0.2 A typ.					
Input	Power factor							
	Leakage current *	100 VAC input	0.5 mA max.					
	Leakage current *	200 VAC input	1 mA max.					
	Inrush current *	100 VAC input	14 A typ.					
	(for a cold start at	200 VAC input	28 A typ.					
	25°C)							
	Rated Output Currer		3 A	1.3 A	1 A	0.65 A		
	Voltage adjustment	range *	–10% to 15% (with V.A	ADJ)				
	Ripple & Noise voltage *	100 to 240 VAC input	40 mVp-p max.	40 mVp-p max.	40 mVp-p max.	60 mVp-p max.		
	Input variation influe	ence *	0.5% max.					
2	Load variation influe	ence *	1.0% max.					
Output	Temperature variation influence	100 to 240 VAC input	0.05%/°C max.					
		100 VAC input	1,000 ms max.					
	Startup time *	200 VAC input	1,000 ms max.					
		100 VAC input	15 ms typ.	14 ms typ.	15 ms typ.	15 ms typ.		
	Hold time *	200 VAC input	75 ms typ.	70 ms typ.	75 ms typ.	70 ms typ.		
	Overland protection			70 ms typ.	75 ms typ.	70 ms typ.		
	Overload protection		Yes, automatic reset	f rated cutout valtage	nowar abut off (abut off th	an input valtage and turn		
	Overvoltage protect	ion ≭	Yes, 120% or higher of rated output voltage, power shut off (shut off the input voltage and turn of the input again)					
	Overheat protection		No					
Additional	· '		Yes (For up to two Power Supplies, external diodes are required.)					
unctions	Series operation		· ·		· · · · · · · · · · · · · · · · · · ·			
	Parallel operation		No (However, backup operation is possible, external diodes are required.)					
	Remote sensing		No					
	Remote control		No					
	Output indicator		Yes (LED: Green)					
			3 kVAC for 1 min. (bet	ween all input terminal	s and output terminals) c	urrent cutoff 20 mA		
Insulation	Withstand voltage		2 kVAC for 1 min. (bet	ween all input terminal	s and PE terminals) curre	ent cutoff 20 mA		
ilisulation			1 kVAC for 1 min. (bet	ween all output termina	als and PE terminals) cur	rent cutoff 20 mA		
	Insulation resistance	е	100 MΩ min. (betweer	all output terminals ar	nd all input terminals/PE t	erminals) at 500 VDC		
	Ambient operating to	emperature	-20 to 70°C (Derating	is required according t	o the temperature.) (with	no condensation or icing)		
	Storage temperature)	-25 to 75°C (with no c	ondensation or icing)				
Environment	Ambient operating h		90% max. (Storage hu	0,				
	Vibration resistance		, ,	· · · · · · · · · · · · · · · · · · ·	litude for 2 h each in X, Y	, and Z directions		
	Shock resistance		150 m/s ² . 3 times each	•	-	,		
	MTBF		135,000 hrs min.	±1, ±1, ±2 ancolo				
Reliability	Life expectancy *		10 years min.					
	• •	N	· · · · · · · · · · · · · · · · · · ·	n nogo 10				
	Dimensions (W×H×E	וי	Refer to Dimensions o	ıı page 19.				
Construction	Weight		250 g					
	Cooling fan		No					
	Degree of protection							
	Harmonic current en	1	Conforms to EN 61000					
	EMI *	Conducted Emissions	Conforms to EN 61204	1-3 Class B, EN 55011	Class B			
		Radiated Emissions	Conforms to EN 61204	1-3 Class B, EN 55011	Class B			
	EMS		Conforms to EN 61204	1-3 high severity levels				
standards	Safety Standards			8-1 (Recognition, OVCI excluding models with 1, No.62368-1 (exclud ,000 m], OVCII [> 2,00 EC 62368-1 (OVCII [≤ 1558-2-16	II [≤ 3,000 m], Pol2) connector option) ling models with connecto 00 m and ≤ 3,000 m], Pol2			
	Marine Standards		No					
	SEMI		Conforms to F47-0706	(200 VAC input)				
		and Eurotians on no		,				

^{*} Refer to Ratings, Characteristics, and Functions on page 11.

		Power rating	30 W				
Item		Output voltage	5 V 12 V 15 V 24 V				
		100 VAC input	81% typ.	84% typ.	86% typ.	86% typ.	
Efficiency *		200 VAC input	81% typ.	86% typ.	88% typ.	88% typ.	
Lineidiley 4		230 VAC input	81% typ.	86% typ.	88% typ.	89% typ.	
	Voltage range *	200 Trio input		264 VAC, 80 to 370 VDC		00 % typ.	
	Frequency *		50/60 Hz (47 to 450	· · · · · · · · · · · · · · · · · · ·			
		100 VAC input	0.72 A typ.				
	Current *	200 VAC input	0.43 A typ.				
Innut	Power factor						
Input		100 VAC input	0.5 mA max.				
	Leakage current *	200 VAC input	1 mA max.				
	Inrush current *	100 VAC input	14 A typ.				
	(for a cold start at	200 VAC input	28 A typ.				
	25°C)	•	,		1	T	
	Rated Output Curre		6 A	3 A	2.4 A	1.5 A	
	Voltage adjustment	range *	-10% to 15% (with	V.ADJ)			
	Ripple & Noise voltage *	100 to 240 VAC input	50 mVp-p max.	60 mVp-p max.	50 mVp-p max.	60 mVp-p max.	
	Input variation influ	ence *	0.5% max.				
	Load variation influ		1.0% max.				
Output	Temperature						
	variation influence	100 to 240 VAC input	0.05%/°C max.				
	01	100 VAC input	1,000 ms max.				
	Startup time *	200 VAC input	1,000 ms max.				
	11.11 <i>d</i> 4	100 VAC input	11 ms typ.	10 ms typ.	11 ms typ.	10 ms typ.	
	Hold time *	200 VAC input	60 ms typ.	50 ms typ.	50 ms typ.	55 ms typ.	
	Overload protection	1	Yes, automatic rese	et	<u>'</u>		
	Overvoltage protect	tion *		er of rated output voltage,	power shut off (shut off th	ne input voltage and turn	
			the input again)				
Additional	Overheat protection	1	No Yes (For up to two Power Supplies, external diodes are required.)				
functions	Series operation				· · · · · · · · · · · · · · · · · · ·		
	Parallel operation		No (However, backup operation is possible, external diodes are required.)				
	Remote sensing		No				
	Remote control		No				
	Output indicator		Yes (LED: Green)				
			,	between all input terminal	• •		
Insulation	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		,	een all output terminals ar	•		
	Ambient operating t		,	ng is required according t	o the temperature.) (with	no condensation or icin	
	Storage temperatur		,	o condensation or icing)			
Environment	Ambient operating I		, ,	humidity: 90% max.)			
	Vibration resistance	•	·	max., 0.375-mm half amp		, and ∠ directions	
	Shock resistance			ach in ±X, ±Y, ±Z directio	ns		
Reliability	MTBF		135,000 hrs min.				
	Life expectancy *	D)	10 years min.				
	Dimensions (W×H×	υ)	Refer to Dimension	s on page 19.			
Construction	Weight		250 g				
	Cooling fan	_	No				
	Degree of protection		Conforms to EN 61	000 2 2			
	Harmonic current e		Conforms to EN 61		Class D		
	EMI *	Conducted Emissions		204-3 Class B, EN 55011			
	EMC	Radiated Emissions		204-3 Class B, EN 55011			
	EMS			204-3 high severity levels			
Standards	Safety Standards		UL 60950-1, UL 62: CSA C22.2 No.107 CSA C22.2 No.609 EN 50178 (OVCIII [I [≤ 3,000 m], Pol2) connector option) ing models with connecto 00 m and ≤ 3,000 m], Pol2		
	Marine Standards		No	(=.4.20 302011)			
	SEMI			706 (200 VAC input)			
5 () 5 (and Functions on na		(=00 7/10 input)			

^{*} Refer to Ratings, Characteristics, and Functions on page 11.

		Power rating	50 W					
Item		Output voltage						
		100 VAC input	81% typ.	84% typ.	86% typ.	86% typ.		
Efficiency *		200 VAC input	82% typ.	86% typ.	88% typ.	89% typ.		
		230 VAC input	82% typ.	86% typ.	88% typ.	89% typ.		
	Voltage range ∗		, i	264 VAC, 80 to 370 VDC		3070 3/F		
	Frequency *		50/60 Hz (47 to 45					
		100 VAC input	1.1 A typ.	- · · - /				
	Current *	200 VAC input	0.62 A typ.					
Input	Power factor							
прис		100 VAC input	0.5 mA max.					
	Leakage current *	200 VAC input	1 mA max.					
	Inrush current *	100 VAC input	14 A typ.					
	(for a cold start at	200 VAC input	28 A typ.					
	25°C)	·		1.0.4		1004		
	Rated Output Curre		8 A	4.3 A	3.5 A	2.2A		
	Voltage adjustment	range *	-10% to 15% (with	V.ADJ)				
	Ripple & Noise voltage *	100 to 240 VAC input	40 mVp-p max.	40 mVp-p max.	40 mVp-p max.	60 mVp-p max.		
	Input variation influ		0.5% max.					
Output	Load variation influe	ence *	1.0% max.					
	Temperature variation influence	100 to 240 VAC input	0.05%/°C max.					
	Startup time *	100 VAC input	1,000 ms max.					
	Juliup tillio T	200 VAC input	1,000 ms max.					
	Hold time *	100 VAC input	14 ms typ.	11 ms typ.	10 ms typ.	10 ms typ.		
	Tiola timo 4	200 VAC input	75 ms typ.	60 ms typ.	60 ms typ.	55 ms typ.		
	Overload protection		Yes, automatic reset					
	Overvoltage protect	ion *	Yes, 120% or higher the input again)	er of rated output voltage,	power shut off (shut off the	ne input voltage and turn		
	Overheat protection		No					
Additional functions	Series operation		Yes (For up to two	Power Supplies, external	diodes are required.)			
runctions	Parallel operation		No (However, back	cup operation is possible,	external diodes are require	red.)		
	Remote sensing		No					
	Remote control		No					
	Output indicator		Yes (LED: Green)					
			3 kVAC for 1 min. (between all input termina	Is and output terminals) o	urrent cutoff 20 mA		
	Withstand voltage		2 kVAC for 1 min. (between all input terminal	Is and PE terminals) curre	ent cutoff 20 mA		
Insulation	go		1 kVAC for 1 min. (between all output terminals and PE terminals) current cutoff 20 mA					
			500 VAC for 1 min.	(between all output termi	inals and RC terminals) c	urrent cutoff 20 mA		
	Insulation resistance	e	100 MΩ min. (betw	een all output terminals a	nd all input terminals/PE	terminals) at 500 VDC		
	Ambient operating t	•	,	ing is required according	to the temperature.) (with	no condensation or icing		
	Storage temperature		`	no condensation or icing)				
Environment	Ambient operating h	<u>-</u>		humidity: 90% max.)				
	Vibration resistance		· ·	max., 0.375-mm half amp		, and Z directions		
	Shock resistance			each in ±X, ±Y, ±Z direction	ons			
Reliability	MTBF		135,000 hrs min.					
	Life expectancy *	N	10 years min.	00				
	Dimensions (W×H×I	<i>(</i>)	Refer to Dimension	is on page 20.				
Construction	Weight		300 g					
	Cooling fan	,	No					
	Degree of protection			000 3 3				
	Harmonic current er	Conducted Emissions	Conforms to EN 61		Class B			
	EMI *	Radiated Emissions		204-3 Class B, EN 55011 204-3 Class B, EN 55011				
	EMS	Addiated Lillissivils		204-3 class B, EN 350 F				
Standards	Safety Standards		UL 508 (Listing, ex UL 60950-1, UL 62 CSA C22.2 No.107 CSA C22.2 No.609 EN 50178 (OVCIII	cluding models with connicated the constant of	ector option) II [\leq 3,000 m], Pol2) I connector option) ding models with connecton mand \leq 3,000 m], Pol:			
			Conforms to PELV	C 61558-2-16	0,000 111, 1 012)			
	Marine Standards		Conforms to EN/IE	C 61558-2-16	0,000 m ₁ , 1 0.2)			

^{*} Refer to Ratings, Characteristics, and Functions on page 11.

14		Power rating	100 W				
ITOM			5 V	12 V	15 V	24 V	
Item		Output voltage	<u> </u>			=	
Efficiency 4		100 VAC input 200 VAC input	79% typ.	84% typ.	85% typ. 87% typ.	87% typ.	
Efficiency *			81% typ.	86% typ.		89% typ.	
	V-14	230 VAC input	81% typ.	86% typ.	87% typ.	89% typ.	
	Voltage range *		<u> </u>	264 VAC, 80 to 370 VDC			
	Frequency *	400 \/ 40 :	50/60 Hz (47 to 450) HZ)			
	Current *	100 VAC input	2.1 A typ.				
		200 VAC input	1.2 A typ.				
Input	Power factor	400 \/ 40 :					
	Leakage current *	100 VAC input	0.5 mA max.				
	lament accomment de	200 VAC input	1 mA max.				
	Inrush current * (for a cold start at	100 VAC input	14 A typ.				
	25°C)	200 VAC input	28 A typ.				
	Rated Output Curre	nt	16 A	8.5 A	7 A	4.5 A	
	Voltage adjustment	range *	-10% to 15% (with	V.ADJ)			
	Ripple & Noise	4004-0403/40:	70 1/	00>/	400 == \(\lambda = = = = = = = = = = = = = = = = = = =	00 == \/- = =====	
	voltage *	100 to 240 VAC input	70 mVp-p max.	90 mVp-p max.	100 mVp-p max.	80 mVp-p max.	
	Input variation influ	ence *	0.5% max.		<u>'</u>	<u> </u>	
Output	Load variation influe	ence *	1.0% max.				
Output	Temperature	100 to 240 VAC input	0.05%/°C max.				
	variation influence	•					
	Startup time *	100 VAC input	1,000 ms max.				
	Ciantap inno v	200 VAC input	1,000 ms max.				
	Hold time *	100 VAC input	12 ms typ.	11 ms typ.	11 ms typ.	10 ms typ.	
	Tiola tille 4	200 VAC input	70 ms typ.	55 ms typ.	55 ms typ.	55 ms typ.	
	Overload protection		Yes, automatic rese	et	<u>'</u>	<u> </u>	
	Overvoltage protect	ion *		er of rated output voltage,	power shut off (shut off the	e input voltage and turn o	
	Over voitage protect	1011 4	the input again)				
	Overheat protection		No				
Additional functions	Series operation		Yes (For up to two	Power Supplies, external	diodes are required.)		
iuncuons	Parallel operation		No (However, back	up operation is possible, e	external diodes are require	ed.)	
	Remote sensing		No				
	Remote control		Yes (Only for mode	Is with remote control opti	on)		
	Output indicator		Yes (LED: Green)	<u></u>	<u> </u>		
			3 kVAC for 1 min. (between all input terminals	s and output terminals) cu	rrent cutoff 20 mA	
			,	between all input terminals			
	Withstand voltage		1 kVAC for 1 min. (between all output termina	als and PE terminals) curre	ent cutoff 20 mA	
Insulation			Only Remote contro				
				(between all output termir	nals and RC terminals) cu	rrent cutoff 20 mA	
	Insulation resistance	e	100 MΩ min. (between	een all output terminals ar	nd all input terminals/PE te	erminals) at 500 VDC	
	Ambient energting t		-20 to 70°C (Derati	ng is required according to	the temperature. Refer to	Engineering Data) (with i	
	Ambient operating t	emperature	condensation or icir			- / `	
	Storage temperature	е	-25 to 75°C (with n	o condensation or icing)			
F	Ambient operating h	numidity	90% max. (Storage humidity: 90% max.)				
Environment			10 to 55 Hz, 4.5 G max., 0.375-mm half amplitude for 2 h each in X, Y, and Z directions				
Environment	Vibration resistance			max., 0.375-mm half ampl	itude for 2 h each in X, Y,	and Z directions	
Environment	Vibration resistance Shock resistance		10 to 55 Hz, 4.5 G	max., 0.375 -mm half ampl ach in $\pm X$, $\pm Y$, $\pm Z$ direction		and Z directions	
	+	•	10 to 55 Hz, 4.5 G	· · · · · · · · · · · · · · · · · · ·		and Z directions	
	Shock resistance)	10 to 55 Hz, 4.5 G I 150 m/s ² , 3 times e	· · · · · · · · · · · · · · · · · · ·		and Z directions	
	Shock resistance MTBF		10 to 55 Hz, 4.5 G i 150 m/s², 3 times e 135,000 hrs min.	ach in ±X, ±Y, ±Z direction		and Z directions	
Reliability	Shock resistance MTBF Life expectancy *		10 to 55 Hz, 4.5 G I 150 m/s ² , 3 times e 135,000 hrs min. 10 years min.	ach in ±X, ±Y, ±Z direction		and Z directions	
Reliability	Shock resistance MTBF Life expectancy * Dimensions (WxHxI		10 to 55 Hz, 4.5 G i 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to <i>Dimension</i>	ach in ±X, ±Y, ±Z direction		and Z directions	
Reliability	Shock resistance MTBF Life expectancy * Dimensions (W×H×I Weight	D)	10 to 55 Hz, 4.5 G i 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to <i>Dimension</i> 400 g	ach in ±X, ±Y, ±Z direction		and Z directions	
Reliability	Shock resistance MTBF Life expectancy * Dimensions (W×H×L Weight Cooling fan Degree of protection	D)	10 to 55 Hz, 4.5 G i 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to <i>Dimension</i> 400 g No	ach in ±X, ±Y, ±Z direction s on page 21.		and Z directions	
Reliability	Shock resistance MTBF Life expectancy * Dimensions (W×H×I Weight Cooling fan	n nissions	10 to 55 Hz, 4.5 G i 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to <i>Dimension</i> 400 g No Conforms to EN 61	ach in ±X, ±Y, ±Z direction s on page 21.	ns	and Z directions	
Reliability	Shock resistance MTBF Life expectancy * Dimensions (W×H×L Weight Cooling fan Degree of protection	n missions Conducted Emissions	10 to 55 Hz, 4.5 G I 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to <i>Dimension</i> 400 g No Conforms to EN 61 Conforms to EN 61	ach in ±X, ±Y, ±Z direction s on page 21. 000-3-2 204-3 Class B, EN 55011	Class B	and Z directions	
Reliability	Shock resistance MTBF Life expectancy * Dimensions (W×H×I Weight Cooling fan Degree of protection Harmonic current er EMI *	n nissions	10 to 55 Hz, 4.5 G I 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to <i>Dimension</i> 400 g No Conforms to EN 61 Conforms to EN 61 Conforms to EN 61	ach in ±X, ±Y, ±Z direction s on page 21. 000-3-2 204-3 Class B, EN 55011 204-3 Class B, EN 55011	Class B	and Z directions	
Reliability	Shock resistance MTBF Life expectancy * Dimensions (W×H×I Weight Cooling fan Degree of protection Harmonic current er	n missions Conducted Emissions	10 to 55 Hz, 4.5 G I 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to <i>Dimension</i> 400 g No Conforms to EN 61 Conforms to EN 61 Conforms to EN 61 Conforms to EN 61	ach in ±X, ±Y, ±Z direction s on page 21. 000-3-2 204-3 Class B, EN 55011 204-3 Class B, EN 55011 204-3 high severity levels	Class B		
Reliability	Shock resistance MTBF Life expectancy * Dimensions (W×H×I Weight Cooling fan Degree of protection Harmonic current er EMI *	n missions Conducted Emissions	10 to 55 Hz, 4.5 G i 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to <i>Dimension</i> 400 g No Conforms to EN 61 Conforms to EN 61 Conforms to EN 61 UL 508 (Listing, exc	ach in ±X, ±Y, ±Z direction s on page 21. 000-3-2 204-3 Class B, EN 55011 204-3 high severity levels cluding models with conne	Class B Class B ector option or remote con		
Reliability	Shock resistance MTBF Life expectancy * Dimensions (W×H×I Weight Cooling fan Degree of protection Harmonic current er EMI *	n missions Conducted Emissions	10 to 55 Hz, 4.5 G I 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to <i>Dimension</i> 400 g No Conforms to EN 61 Conforms to EN 61 Conforms to EN 61 Conforms to EN 61 UL 508 (Listing, exu	ach in ±X, ±Y, ±Z direction s on page 21. 000-3-2 204-3 Class B, EN 55011 204-3 Class B, EN 55011 204-3 high severity levels	Class B Class B ector option or remote conntrol option)		
Reliability Construction Standards	Shock resistance MTBF Life expectancy * Dimensions (WxHxI Weight Cooling fan Degree of protection Harmonic current er EMI * EMS	n missions Conducted Emissions	10 to 55 Hz, 4.5 G I 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to <i>Dimension</i> 400 g No Conforms to EN 61 Conforms to EN 61 Conforms to EN 61 UL 508 (Listing, exc UL 508 (Recognitio UL 60950-1, UL 62: CSA C22.2 No.107	s on page 21. 200-3-2 204-3 Class B, EN 55011 204-3 high severity levels cluding models with conne n, models with remote cor 368-1 (Recognition, OVCI.1 (excluding models with	Class B Class B ector option or remote conntrol option) I [≤ 3,000 m], Pol2) connector option or remote	trol option) te control option)	
Reliability	Shock resistance MTBF Life expectancy * Dimensions (W×H×I Weight Cooling fan Degree of protection Harmonic current er EMI *	n missions Conducted Emissions	10 to 55 Hz, 4.5 G I 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to <i>Dimension</i> 400 g No Conforms to EN 61 Conforms to EN 61 Conforms to EN 61 UL 508 (Listing, exc UL 508 (Recognitio UL 60950-1, UL 62 CSA C22.2 No.107 CSA C22.2 No.6095	s on page 21. 2000-3-2 204-3 Class B, EN 55011 204-3 Class B, EN 55011 204-3 high severity levels cluding models with connen, models with remote consideration, OVCI 368-1 (Recognition, OVCI 1 (excluding models with 0-1, No.62368-1 (excluding	Class B Class B ctor option or remote con trol option) I ≤ 3,000 m], Pol2) connector option or remote models with connector opti	trol option) te control option) tion or remote control optio	
Reliability	Shock resistance MTBF Life expectancy * Dimensions (WxHxI Weight Cooling fan Degree of protection Harmonic current er EMI * EMS	n missions Conducted Emissions	10 to 55 Hz, 4.5 G I 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to Dimension 400 g No Conforms to EN 61 Conforms to EN 61 Conforms to EN 61 UL 508 (Listing, exc UL 508 (Recognitio UL 60950-1, UL 62: CSA C22.2 No.6095 EN 50178 (OVCIII	ach in ±X, ±Y, ±Z direction s on page 21. 200-3-2 204-3 Class B, EN 55011 204-3 Class B, EN 55011 204-3 high severity levels cluding models with connent, models with remote cording models with remote cording models with connent (excluding models with 0-1, No.62368-1 (excluding ≤ 2,000 m], OVCII [> 2,000 m], OVCII [> 2,000 m], OVCII [> 2,000 m]	Class B Class B ctor option or remote conntrol option) [≤ 3,000 m], Pol2) connector option or remote models with connector option or models with connector option on mand ≤ 3,000 m], Pol2	trol option) te control option) tion or remote control optio	
Reliability	Shock resistance MTBF Life expectancy * Dimensions (WxHxI Weight Cooling fan Degree of protection Harmonic current er EMI * EMS	n missions Conducted Emissions	10 to 55 Hz, 4.5 G I 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to Dimension 400 g No Conforms to EN 61 Conforms to EN 61 Conforms to EN 61 UL 508 (Listing, exc UL 508 (Recognitio UL 60950-1, UL 62: CSA C22.2 No.6095 EN 50178 (OVCIII	s on page 21. 200-3-2 204-3 Class B, EN 55011 204-3 Class B, EN 55011 204-3 high severity levels cluding models with connent of the constant	Class B Class B ctor option or remote conntrol option) [≤ 3,000 m], Pol2) connector option or remote models with connector option or models with connector option on mand ≤ 3,000 m], Pol2	trol option) te control option) tion or remote control optio	
Reliability	Shock resistance MTBF Life expectancy * Dimensions (WxHxI Weight Cooling fan Degree of protection Harmonic current er EMI * EMS	n missions Conducted Emissions	10 to 55 Hz, 4.5 G I 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to <i>Dimension</i> 400 g No Conforms to EN 61 Conforms to EN 61 Conforms to EN 61 UL 508 (Listing, exc UL 508 (Recognitio UL 60950-1, UL 62: CSA C22.2 No.107 CSA C22.2 No.6095 EN 50178 (OVCIII; EN/IEC 60950-1, E	s on page 21. 200-3-2 204-3 Class B, EN 55011 204-3 Class B, EN 55011 204-3 high severity levels cluding models with conne n, models with remote cor 368-1 (Recognition, OVCI 1 (excluding models with 0-1, No.62368-1 (excluding <2,000 m], OVCII [> 2,00 N/IEC 62368-1 (OVCII [≤ 2) C 61558-2-16	Class B Class B ctor option or remote conntrol option) [≤ 3,000 m], Pol2) connector option or remote models with connector option or models with connector option on mand ≤ 3,000 m], Pol2	trol option) te control option) tion or remote control optio	
Reliability	Shock resistance MTBF Life expectancy * Dimensions (WxHxI Weight Cooling fan Degree of protection Harmonic current er EMI * EMS	n missions Conducted Emissions	10 to 55 Hz, 4.5 G I 150 m/s², 3 times e 135,000 hrs min. 10 years min. Refer to <i>Dimension</i> 400 g No Conforms to EN 61 Conforms to EN 61 Conforms to EN 61 UL 508 (Listing, exc UL 508 (Recognitio UL 508 (Recognitio UL 508 (C22.2 No.107 CSA C22.2 No.6095 EN 50178 (OVCIII EN/IEC 60950-1, E Conforms to EN/IEC	s on page 21. 200-3-2 204-3 Class B, EN 55011 204-3 Class B, EN 55011 204-3 high severity levels cluding models with conne n, models with remote cor 368-1 (Recognition, OVCI 1 (excluding models with 0-1, No.62368-1 (excluding <2,000 m], OVCII [> 2,00 N/IEC 62368-1 (OVCII [≤ 2) C 61558-2-16	Class B Class B ctor option or remote conntrol option) [≤ 3,000 m], Pol2) connector option or remote models with connector option or models with connector option on mand ≤ 3,000 m], Pol2	trol option) te control option) tion or remote control option	

^{*} Refer to Ratings, Characteristics, and Functions on page 11.

		Power rating	150 W					
Item		Output voltage	5 V	12 V	15 V	24 V	48 V	
		100 VAC input	78% typ.	84% typ.	85% typ.	87% typ.	85% typ.	
Efficiency *1		200 VAC input	81% typ.	87% typ.	88% typ.	89% typ.	88% typ.	
		230 VAC input	81% typ.	87% typ.	88% typ.	90% typ.	88% typ.	
	Voltage range *		Single phase, 85 to 264 VAC, 80 to 370 VDC					
	Frequency *		50 /60 Hz (47 to 450 Hz)					
		100 VAC input	3 A typ.	,				
	Current *	200 VAC input	1.8 A typ.					
Input	Power factor	•						
mput		100 VAC input	0.5 mA max.					
	Leakage current *	200 VAC input	1 mA max.					
	Inrush current *	100 VAC input	14 A typ.					
	(for a cold start at	200 VAC input	28 A typ.					
	25°C) Rated Output Currer	· ·	21 A 13 A 10 A 6.5 A 3.3 A					
	Voltage adjustment		–10% to 15% (with	-	10 A	0.5 A	3.3 A	
	Ripple & Noise	range •	-1076 to 1376 (With	(V.AD3)				
	voltage *	100 to 240 VAC input	100 mVp-p max.	110 mVp-p max.	80 mVp-p max.	110 mVp-p max.	120 mVp-p max	
	Input variation influe	ence *	0.5% max.					
	Load variation influe		1.0% max.					
Output	Temperature	100 to 240 VAC inner						
	variation influence	100 to 240 VAC input	0.05%/ C IIIax.					
	Startup time *	100 VAC input	1,000 ms max.					
	3p 4	200 VAC input	1,000 ms max.					
	Hold time ≭	100 VAC input	14 ms typ.	10 ms typ.	10 ms typ.	10 ms typ.	11 ms typ.	
		200 VAC input	80 ms typ.	55 ms typ.	55 ms typ.	55 ms typ.	55 ms typ.	
	Overload protection		Yes, automatic res					
	Overvoltage protect	ion *	Yes, 120% or higher of rated output voltage, power shut off (shut off the input voltage and turn on					
	<u> </u>		the input again) No					
Additional	Overheat protection Series operation		Yes (For up to two Power Supplies, external diodes are required.)					
functions	Parallel operation		No (However, backup operation is possible, external diodes are required.)					
_	·		No (Flowever, backup operation is possible, external diodes are required.)					
	Remote sensing Remote control		Yes (Only for models with remote control option)					
	Output indicator		Yes (LED: Green)					
	Output malcator		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 output terminals) current cutoff 20 mA					
	Withstand voltage		1 kVAC for 1 min.(between all output terminals and PE terminals) current cutoff 20 mA					
Insulation			Only Remote control					
			500 VAC for 1 min.(between all output terminals and RC terminals) current cutoff 20 mA					
	Insulation resistance	е	100 M Ω min.(between all output terminals and all input terminals/PE terminals) at 500 VDC					
	Ambient operating t	emperature	-20 to 70°C (Derating is required according to the temperature. Refer to Engineering Data) (with no					
			condensation or icing) -25 to 75°C (with no condensation or icing)					
Environment	Storage temperature		`					
	Ambient operating h	•	, ,	e humidity: 90% ma			di	
	Vibration resistance		10 to 55 Hz, 4.5 G max., 0.375-mm half amplitude for 2 h each in X, Y, and Z directions					
	Shock resistance		150 m/s², 3 times each in ±X, ±Y, ±Z directions 135.000 hrs min.					
Reliability	MTBF Life expectancy *		135,000 nrs min. 10 years min.					
	Dimensions (W×H×I	n)	Refer to <i>Dimension</i>	ne on nago ??				
	Weight	1		io on page 23.				
Construction	Cooling fan		500 g					
	Degree of protection	1	No					
	Harmonic current er			1000-3-2 (Applicable	e at 80% or less of t	he rated load)		
	. Id. III O Gall Gilt Gi	Conducted Emissions		1204-3 Class B, EN		14104 1044.)		
	EMI *	Radiated Emissions						
	EMS		Conforms to EN 61204-3 Class B, EN 55011 Class B Conforms to EN 61204-3 high severity levels					
						r remote control opti	on)	
			UL 508 (Recognition	on, models with rem	note control option)	•	,	
Standards				2368-1 (Recognition			ol option)	
	Safety Standards					otion or remote contro connector option or re		
			EN 50178 (OVCIII	[≤ 2,000 m], OVCII	[> 2,000 m and ≤ 3,	000 m], Pol2)		
			EN/IEC 60950-1, E Conforms to EN/IE	EN/IEC 62368-1 (O\ FC 61558-2-16	/UII [≤ 3,000 m], Po	12)		
				(EN/IEC 60204-1)				
	Marine Standards		No					
	SEMI		Conforms to F47-0	706 (200 VAC inpu	t)			
	JLIVII			Conforms to F47-0706 (200 VAC input)				

Note: Refer to Ratings, Characteristics, and Functions on page 11.

lt a ma	Power rating			300 W			
Item Output voltage			12 V	15 V	24 V	48 V	
		100 VAC input	81% typ.	81% typ.	82% typ.	82% typ.	
Efficiency *		200 VAC input	85% typ.	85% typ.	87% typ.	87% typ.	
indicately 4		230 VAC input	85% typ.	86% typ.	87% typ.	87% typ.	
	Voltage range *	230 VAC IIIput	* '	4 VAC, 120 to 370 VDC	07 70 typ.	01 /0 typ.	
	Frequency *		50/60 Hz (47 to 63 Hz)	+ VAC, 120 to 370 VDC			
	Trequency 4	100 VAC input	4.2 A typ.				
	Current *	200 VAC input	2.1 A typ.				
Input	Power factor	200 VAC IIIput	0.9 min.				
iliput	rowel lactor	100 VAC input	0.5 mA max.				
	Leakage current *	200 VAC input	1 mA max.				
			-				
	Inrush current * (for a cold start at 25°C)	100 VAC input	14 A typ.				
	,	200 1710 mput	28 A typ.	20.4	44.0	7.4	
	Rated Output Curre		25 A	20 A	14 A	7 A	
	Voltage adjustment		-10% to 15% (with V.A	1	450 \(\sigma - \sigma - \sigma \)	200 \/	
	• • • • • • • • • • • • • • • • • • • •	100 to 240 VAC input	140 mVp-p max.	270 mVp-p max.	150 mVp-p max.	330 mVp-p max.	
	Input variation influ		0.5% max.				
	Load variation influ	ence *	1.0% max.				
	Temperature variation influence	100 to 240 VAC input	0.05%/°C max.				
Output	variation innactice	100 VAC input	1,000 ms max.				
	Startup time *	200 VAC input	1,000 ms max.				
		•			30 ms typ.		
	Hold time ≭	100 VAC input	30 ms typ.	30 ms typ.	40 ms typ. (Extended hold time type)	30 ms typ.	
		200 VAC input	30 ms typ.	25 ms typ.	30 ms typ. 40 ms typ. (Extended hold time type)	30 ms typ.	
	Overload protection		Yes, automatic reset				
	Overvoltage protection *		Yes, 120% or higher of rated output voltage, power shut off (shut off the input voltage and turn on the input agai				
	Overheat protection		Yes, power shut off (shut off the input voltage and turn on the input again)				
Additional Sunctions F	Series operation			ver Supplies, external di	,		
	Parallel operation		` '	•••	· · · · · · · · · · · · · · · · · · ·		
	Remote sensing		No (However, backup operation is possible, external diodes are required.) No				
	Remote control		Yes (Only for models with remote control option)				
	Output indicator		Yes (LED: Green)	nui remote control option	')		
	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 output terminals) current cutoff 20 mA				
	Withstand voltage		1 kVAC for 1 min. (between all input terminals and PE terminals) current cutoff 20 mA				
Insulation	Witholana Voltago		, ,				
			Only Remote control 500 VAC for 1 min. (between all output terminals and RC terminals) current cutoff 20 mA				
	Insulation resistance	<u> </u>	100 M Ω min. (between all output terminals and all input terminals/PE terminals) at 500 VDC				
	Ambient operating t		-20 to 70°C (Derating is required according to the temperature.) (with no condensation or icing)				
	Storage temperature	•	-25 to 75°C (with no condensation or icing)				
Environment	Ambient operating I		3,				
Liiviioiiiieiit	Vibration resistance		90% max. (Storage humidity: 90% max.) 10 to 55 Hz, 4.5 G max., 0.375-mm half amplitude for 2 h each in X, Y, and Z directions				
	Shock resistance						
	MTBF		150 m/s², 3 times each in ±X, ±Y, ±Z directions				
Reliability			135,000 hrs min.				
	Life expectancy *	2)	10 years min.				
	Dimensions (WxHxI	(ט	Refer to Dimensions on page 25				
Construction	Weight		700 g				
	Cooling fan		Yes				
	Degree of protection						
	Harmonic current er	1	Conforms to EN 61000				
	EMI *	Conducted Emissions		-3 Class B, EN 55011 (
		Radiated Emissions	Conforms to EN 61204	-3 Class B, EN 55011 (Class B		
	EMS		Conforms to EN 61204-3 high severity levels				
Standards	Safety Standards		UL 508 (Listing, excluding models with remote control option) UL 508 (Recognition, models with remote control option) UL 60950-1, UL 62368-1 (Recognition, OVCII [\le 3,000 m], Pol2) CSA C22.2 No.107.1 (excluding models with remote control option) CSA C22.2 No.60950-1, No.62368-1 (excluding models with remote control option) EN 50178 (OVCIII [\le 2,000 m], OVCII [$>$ 2,000 m and \le 3,000 m], Pol2) EN/IEC 60950-1, EN/IEC 62368-1 (OVCIII [\le 3,000 m], Pol2) Conforms to EN/IEC 61558-2-16 Conforms to PELV (EN/IEC 60204-1)				
	Marine Standards		No	·			
	SEMI		Conforms to F47-0706	(200 VAC input)			

^{*} Refer to Ratings, Characteristics, and Functions on page 11.

		Power rating		60	00 W		
Item		Output voltage	12 V	15 V	24 V	48 V	
		100 VAC input	84% typ.	84% typ.	85% typ.	88% typ.	
Efficiency *		200 VAC input	88% typ.	88% typ.	89% typ.	92% typ.	
Line concy 4		230 VAC input	88% typ.	88% typ.	90% typ.	92% typ.	
	Voltage range *	200 TAO Input	Single phase, 85 to 264		30 % typ.	32 /0 typ.	
	Frequency *		50 /60 Hz(47 to 63 Hz)				
	r requericy -	100 VAC input	·				
	Current *	•	7.7 A typ.				
•		200 VAC input	3.8 A typ.				
Input	Power factor	T	0.9 min.				
	Leakage current *	100 VAC input	0.5 mA max.				
		200 VAC input	1 mA max.				
	Inrush current *	100 VAC input	14 A typ.				
	(for a cold start at 25°C)		28 A typ.	+		+	
	Rated Output Curre	nt	50 A	40 A	27 A	13 A	
	Voltage adjustment	range *	-10% to 15% (with V.A	DJ)			
	Ripple & Noise voltage *	100 to 240 VAC input	170 mVp-p max.	170 mVp-p max.	280 mVp-p max.	340 mVp-p max.	
	Input variation influ	ence *	0.5% max.	-	•	1	
	Load variation influ	ence *	1.0% max.				
	Temperature	4004 0404401 4	0.050//00				
	variation influence	100 to 240 VAC input	0.05%/°C max.				
Output	Chartury there at	100 VAC input	1,000 ms max.				
	Startup time *	200 VAC input	1,000 ms max.				
					30 ms typ.		
	Hold time *	100 VAC input	30 ms typ.	25 ms typ.	40 ms typ. (Extended	30 ms typ.	
					hold time type)		
					30 ms typ.		
		200 VAC input	30 ms typ.	25 ms typ.	40 ms typ. (Extended	30 ms typ.	
	0 1 1 1 1 1 1 1		V		hold time type)		
	Overload protection		Yes, automatic reset				
	Overvoltage protection *		Yes, 120% or higher of rated output voltage, power shut off (shut off the input voltage and turn on the input again) Yes, power shut off (shut off the input voltage and turn on the input again)				
	Overheat protection	1					
Additional	Series operation		Yes (For up to two Pow	er Supplies, external dio	des are required.)		
₩-	Parallel operation		Yes (up to five Power S	Supplies, S8FS-G60024 (models with parallel opera	ition option) only).	
	Remote sensing		No				
	Remote control		Yes (Only Remote control)				
	Output indicator		Yes (LED: Green)				
			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				
	Withstand voltage		1 kVAC for 1 min. (between all output terminals and PE terminals) current cutoff 20 mA				
Insulation			Only Remote control				
			500 VAC for 1 min. (be	tween all output terminals	s and RC terminals) currer	nt cutoff 20 mA	
	Insulation resistance	e	100 MΩ min. (between	all output terminals and	all input terminals/PE term	inals) at 500 VDC	
	Ambient operating t	temperature	-20 to 70°C (Derating is required according to the temperature.) (with no condensation or icing)				
	Storage temperature	•	, ,	· · · · · · · · · · · · · · · · · · ·			
Environment	Ambient operating I		-25 to 75°C (with no condensation or icing) 90% max. (Storage humidity: 90% max.)				
	Vibration resistance		10 to 55 Hz, 4.5 G max., 0.375-mm half amplitude for 2 h each in X, Y, and Z directions				
	Shock resistance		150 m/s², 3 times each in ±X, ±Y, ±Z directions				
	MTBF		· · ·				
Reliability			135,000 hrs min.				
	Life expectancy *	_,	10 years min.				
	Dimensions (W×H×I	(ט	Refer to <i>Dimensions</i> or	page 26.			
Construction	Weight		1,050 g				
	Cooling fan		Yes				
	Degree of protection	n					
	Harmonic current e	missions	Conforms to EN 61000	-3-2			
	EMI &	Conducted Emissions	Conforms to EN 61204	-3 Class B, EN 55011 Cla	ass B		
	EMI *	Radiated Emissions	Conforms to EN 61204	-3 Class B, EN 55011 Cla	ass B		
	EMS		Conforms to EN 61204-3 high severity levels				
			UL 508 (Listing, excluding models with remote control option)				
			UL 508 (Recognition, m	nodels with remote contro	ol option)		
Standards			UL 60950-1, UL 62368-1 (Recognition, OVCII [≤ 3,000 m], Pol2)				
	Safety Standards		CSA C22.2 No.107.1 (excluding models with remote control option) CSA C22.2 No.60950-1, No.62368-1 (excluding models with remote control option)				
	Juicty Standards			000 m], OVCII [> 2,000 r		οι οριιστή	
			EN/IEC 60950-1, EN/IE	C 62368-1 (OVCII [≤ 3,0			
			Conforms to EN/IEC 61558-2-16				
			Conforms to PELV (EN/IEC 60204-1)				
	Marine Standards		No				
	SEMI		Conforms to F47-0706	(200 VAC input)			
Defer to Det	inga Characteriation	and Functions on na	20 11	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		

^{*} Refer to Ratings, Characteristics, and Functions on page 11.

Ratings, Characteristics, and Functions

Efficiency			The value is when both rated output voltage and rated output current are satisfied.		
	Voltag	e range ency	Do not use an inverter output for the Power Supply. Inverters with an output frequency of 50/60 Hz are available, but the rise in the internal temperature of the Power Supply may result in ignition or burning.		
Input	Currer	nt	The value is when both rated output voltage and rated output current are satisfied.		
	Leaka	ge current	The values are determined according to the Act on Power Supply Safety of Electrical Appliances and Materials.		
	Inrush current (for a cold start at 25°C)		For a cold start at 25°C. Refer to the following figure.		
	Voltag	e adjustment range	If the output voltage adjuster (V. ADJ) is turned, the voltage will increase by more than +15% of the voltage adjustment range. When adjusting the output voltage, confirm the actual output voltage from the Power Supply and be sure that the load is not damaged.		
	Ripple	& Noise voltage	The value is when both rated output voltage and rated output current are satisfied. A characteristic when the ambient operating temperature is 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 v	variation influence	This is the value when the output current is changed from 0 A to the rated output curre while the input voltage is within the allowable input voltage.		
	Startu	p time	The value is when both rated output voltage and rated output current are satisfied. For a cold start at 25°C. Refer to the following figure.		
	Hold time		The value is when both rated output voltage and rated output current are satisfied. At 25°C. Refer to the following figure.		
Additional functions	Overvoltage protection		Refer to Overvoltage Protection on page 18 for the time when input voltage shuts off and input turns on again.		
Reliability	Life expectancy		Refer to Recommended Replacement Periods and Periodic Replacement for Preventive Maintenance on page 33 for details.		
Ctondord-	EMI	Conducted Emissions	The 150-W and higher models conform to Class B when an aluminum plate is set under the		
Standards	EMI	Radiated Emissions	Power Supply.		

Standard Compliance

- The input voltage range for compliance with EC Directives and other safety standards (UL, EN, etc.) is 90 to 264 VAC.
- EN/IEC 61558-2-16

To comply with EN/IEC 60204-1 (Machine Safety), a transformer is required in the control circuit. If, however, a Power Supply that has a built-in transformer that complies with EN/IEC 6155-8-2-16 is used, an external transformer is not required.

• Safety standard targets during a DC input *

During a DC input, UL 62368-1, cUR (CSA C22.2 No. 62368-1), EN/IEC 62368-1, EN 50178, EN/IEC 61558-2-16, and EN/IEC 60204-1 are safety standard targets. (However, the input voltage range is 120 to 320 VDC. The safety standards during DC input are not acquired for the S8FS-G60048□.)

It is possible to comply with the safety standards by connecting a UL-authenticated fuse. Select a UL-authenticated fuse that satisfies the following conditions:

```
S8FS-G015  (320 VDC or above, 3 A)

S8FS-G050  (320 VDC or above, 4 A)

S8FS-G100  (320 VDC or above, 8 A)

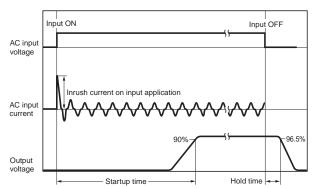
S8FS-G150  (320 VDC or above, 10 A)

S8FS-G300  (320 VDC or above, 12 A)

S8FS-G600  (320 VDC or above, 20 A)
```

- To comply with the PELV output of the EN/IEC 60204-1, ground the output negative side (-V) to PE. *
- * Applicable to products produced from May 2018

Inrush Current, Startup Time, Output Hold Time

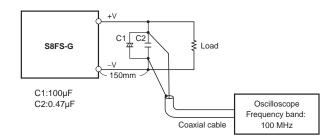


Note: The total inrush current of all of the Power Supplies will flow for parallel operation or backup operation.

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

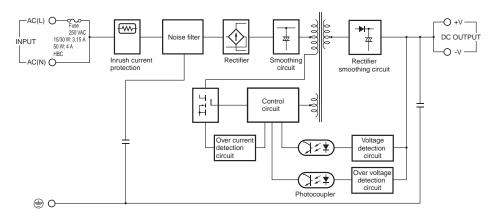
The specified standard for the ripple voltage noise was measured with a measurement circuit that is based on JEITA standard RC-9131A.



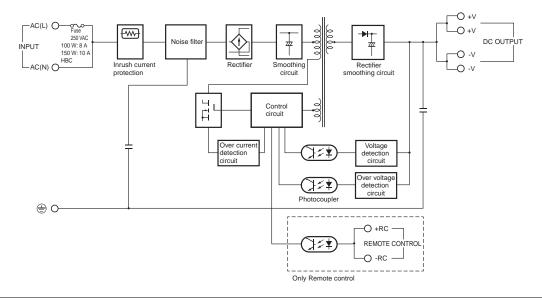
Connections

Block Diagrams

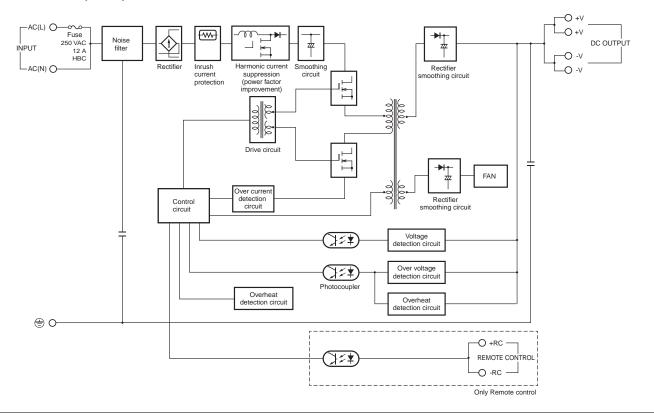
S8FS-G015□□□ (15 W) S8FS-G030□□□ (30 W) S8FS-G050□□□ (50 W)



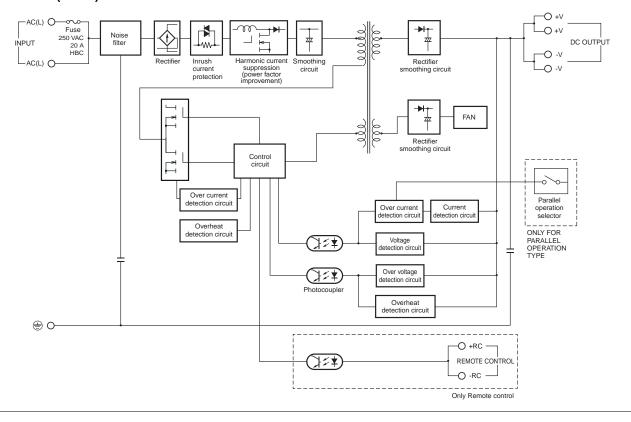
S8FS-G100□□□ (100 W) S8FS-G150□□□ (150 W)



S8FS-G300□□□ (300 W)



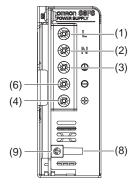
S8FS-G600□□□ (600 W)



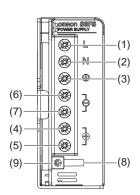
Construction and Nomenclature

Nomenclature

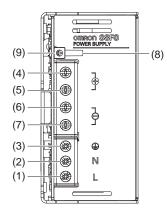




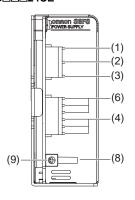
\$8FS-G100□□□ \$8FS-G150□□□



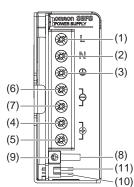
\$8FS-G300□□□ \$8FS-G600□□□



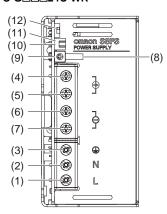
S8FS-G□□□24CE



S8FS-G□□□24C-R



S8FS-G□□□24C-WR



No.	Terminal name	Name	Function	
(1)	L	Input terminals	Connect the input lines to these terminals. *1	
(2)	N	Input terminais	Connect the input lines to these terminals. *1	
(3)	PE	Protective Earth terminal ()	Connect the ground line to this terminal. *2	
(4)	+V1			
(5)	+V2	DC output terminals	Connect the load lines to these terminals.	
(6)	-V1	DC output terminals	Connect the load lines to these terminals.	
(7)	-V2			
(8)		Output indicator (DC ON: green)	Lights while a direct current (DC) output is ON.	
(9)		Output voltage adjuster (V.ADJ)	Use to adjust the voltage.	
(10)	+RC	Remote control terminals	Wire for remote control.	
(11)	-RC	Remote control terminals	wire for remote control.	
(12)		Parallel operation switch	To operate in parallel, set the switch to the "PARALLEL" side.	

^{*1.} The fuse is located on the (L) side. It is not user-replaceable. For a DC input, connect the positive voltage to the L terminal.

Input and Output Connectors (Connector type)

-	•	•	• • •			
			Applicable connector	Housing	Terminals	Applicable crimp tool
Input side	All models	CN110	B3P5-VH (LF) (SN)	VHR-5N		
Output side	S8FS-G01524□E S8FS-G03024□E S8FS-G05024□E	CN510	B4P-VH (LF) (SN)	VHR-4N	Reel: SVH-21T-P1.1 Bulk: BVH-21T-P1.1	YC-160R
•	S8FS-G10024□E S8FS-G15024□E		B6P-VH (LF) (SN)	VHR-6N		
Manufacturer		J.S.T. Mfg. Co., Ltd.	•			

Note: The female connectors that are required for wiring are not provided with the Power Supply.

^{*2.} This is the protective earth terminal specified in the safety standards. Always ground this terminal.

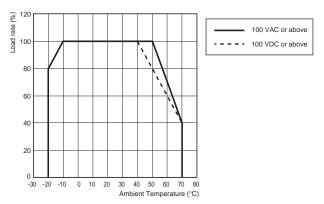
S8FS-G

Engineering Data

Derating Curves

Output Derating

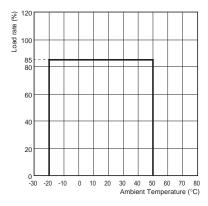
15 W, 30 W, 50 W, 100 W, and 150 W



- Note: 1. (For customers using the unit with an AC input)
 At a voltage below 100 VAC, reduce the load below the range of the derating curve shown above by the solid line, at the rate of 1.3%/V.s (40°C < Ambient temperature ≤ 70°C)
 - 2. (For customers using the unit with a DC input)
 At a voltage below 100 VDC, reduce the load below the range of the derating curve shown above by the dashed line, by multiplying with the coefficient 0.9.

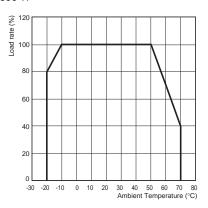
Parallel Operation

For Models with Parallel Operation Option



Note: At a voltage below 100 VAC, reduce the load at the rate of 1.3%/V.

300 W and 600 W

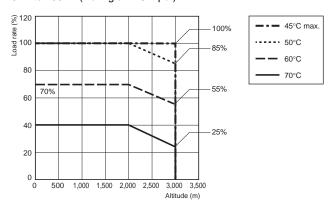


Note: At a voltage below 100 VAC, reduce the load at the rate of 1.3%/V

This Power Supply can be used at an altitude of 3,000 m.

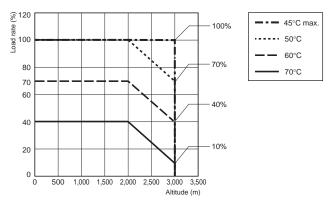
Between 2,000 and 3,000 m, derate the load according to the following derating curve.

15 W to 150 W (During an AC input)



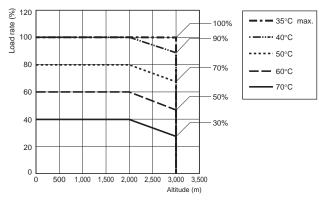
Note: At a voltage below 100 VAC, reduce the load at the rate of 1.3%/V. ($40^{\circ}C$ < Ambient temperature $\leq 70^{\circ}C$)

300 W and 600 W



Note: At a voltage below 100 VAC, reduce the load at the rate of 1.3%/V.

15 W to 150 W (During a DC input)

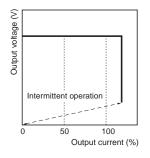


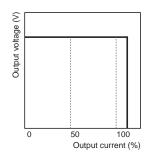
Note: At a voltage below 100 VDC, reduce the load by multiplying with the coefficient 0.9.

Engineering Data

Overload Protection

The load and the Power Supply are automatically protected from overcurrent damage by this function. Overload protection is activated if the output current rises above 105 to 160% of the rated current. When the output current returns within the rated range overload protection is automatically cleared.





Note: 1. Internal parts may occasionally deteriorate or be damaged if a short-circuited or overcurrent state continues during operation

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.

If an excessive voltage that is 120% of the rated voltage or more is output, the output voltage is shut OFF.

Reset the input power by turning it OFF for at least three minutes and then turning it back ON again.

Overheating Protection (300 W and 600 W)

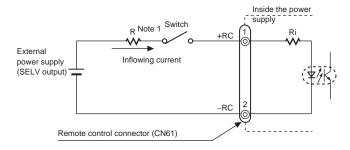
If the internal temperature of the Power Supply rises excessively as a result of fan failure or any other reason, the overheat protection circuit will be triggered to shut OFF the output voltage.

To restore operation, turn OFF the input power supply long enough for the Power Supply to cool sufficiently and then turn it ON again.

Remote Control Function (Only Remote control)

This function is to turn ON/OFF the output by applying a voltage to the remote control connector from a DC power Supply (external power supply) other than this Power Supply.

Built-in	Voltage between	Inrush current	
resistance Ri (Ω)	Output ON	Output OFF	(mA)
780	4.5 to 12.5	0 to 0.5	20 max.



Usage example of the remote control

Connectors used:

	CN61	Applicable connector	Applicable contact
Model	B2B-XH-AM	XHP-2	SXH-001T-P0.6 or SXH-002T-P0.6
Manufacturer		J.S.T. Mfg. Co., Ltd.	

Applicable crimp tool: YC-110R (J.S.T. Mfg. Co., Ltd.) or YRS-110 (J.S.T. Mfg. Co., Ltd.)

- Note: 1. When the external power supply is 4.5 to 12.5 V, the current limiting resistor R is not required. When it is 12.5 to 24.5 V, insert 1.5 k Ω as the current limiting resistor R.
 - Reverse connection of the connector may cause damage on the internal parts.
 - The +RC and -RC terminals are the secondary circuit of the Power Supply. Use an SELV output power supply for an external power supply. The remote control circuit is insulated from the secondary output of the Power Supply (functional insulation).

Reference Value

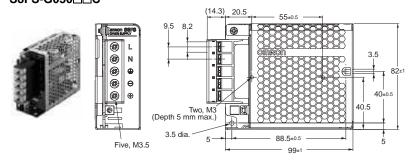
	Value			
Reliability (MTBF)	Single phase model 15W: 970,000 30W: 970,000 50W: 880,000 100W: 730,000 150W: 620,000 300W: 200,000 600W: 190,000			
Definition	MTBF stands for Mean Time Between Failures, which is calculated according to the probability of accidental device failures, and indicates reliability of devices. Therefore, it does not necessarily represent a life of the product.			
Life expectancy	10 yrs. Min.			
Definition	The life expectancy indicates average operating hours under the ambient temperature of 40°C and a load rate of 50%. Normally this is determined by the life expectancy of the built-in aluminum electrolytic capacitor.			

Dimensions (Unit: mm)

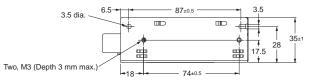
Power Supplies

15 W and 30 W

S8FS-G015□□C S8FS-G030□□C

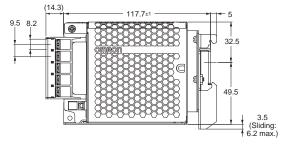


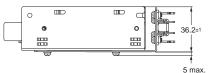
Panel mou	Panel mounting holes dimensions				
	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply			
Side Mounting	Two, M3 40±0.5	Two, 3.5 dia.			
Bottom	Two, M3	Two, 3.5 dia.			



S8FS-G015□□CD S8FS-G030□□CD

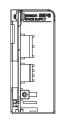


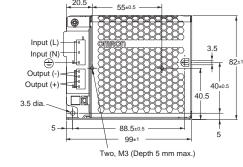


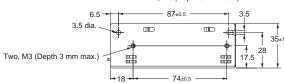


S8FS-G015□□E S8FS-G030□□E









	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
Side Mounting	Two, M3 40±0.5	Two, 3.5 dia. 55±0.5 →
Bottom Mounting	Two, M3	Two, 3.5 dia.

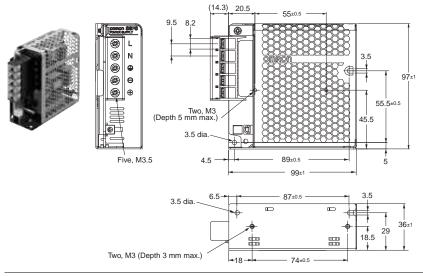
Panel mounting holes dimensions

	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
Side Mounting	Two, M3 40±0.5	Two, 3.5 dia. 1 55±0.5 →
Bottom Mounting	Two, M3	Two, 3.5 dia.

S8FS-G

50W

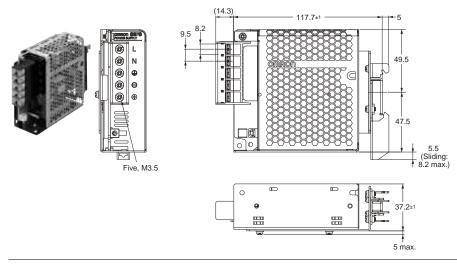
S8FS-G050□□C



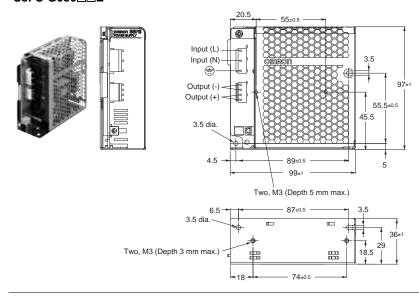
Panel mounting holes dimensions

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

S8FS-G050□□CD



S8FS-G050□□E



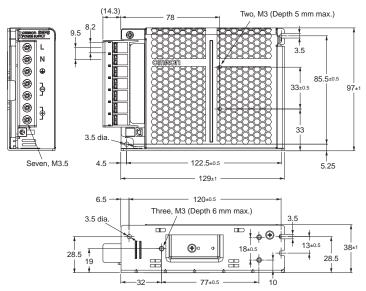
Panel mounting holes dimensions

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

100W

S8FS-G100□□C





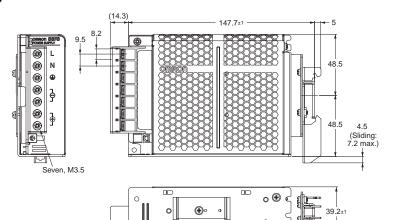
Panel mounting holes dimensions

5 max.

	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
Side Mounting	Two, M3	Two, 3.5 dia.
Bottom Mounting	Three, M3	Three, 3.5 dia.

S8FS-G100□□CD

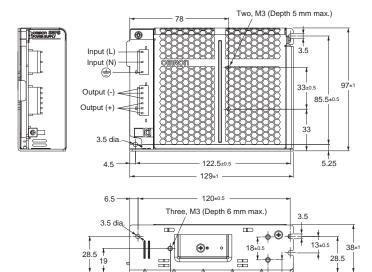




S8FS-G

S8FS-G100□□E





77±0.5

10

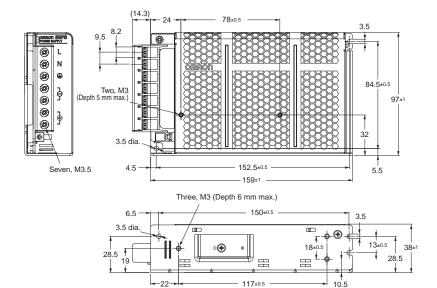
Panel mounting holes dimensions

	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
Side Mounting	Two, M3	Two, 3.5 dia.
Bottom Mounting	Three, M3	Three, 3.5 dia.

150W

S8FS-G150□□C



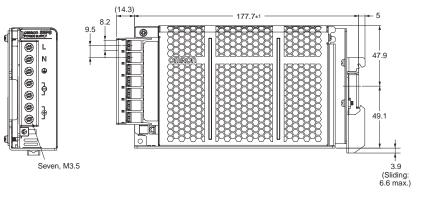


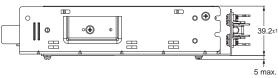
Panel mounting holes dimensions

	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
Side Mounting	Two, M3	Two, 3.5 dia.
Bottom Mounting	Three, M3 13±0.5	Three, 3.5 dia.

S8FS-G150□□CD

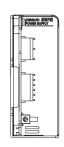


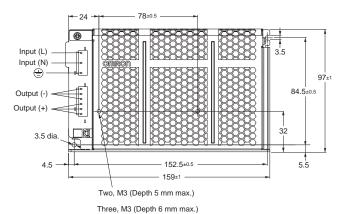


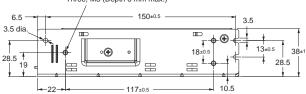


S8FS-G150□□E

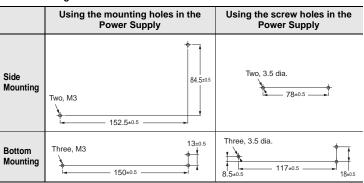






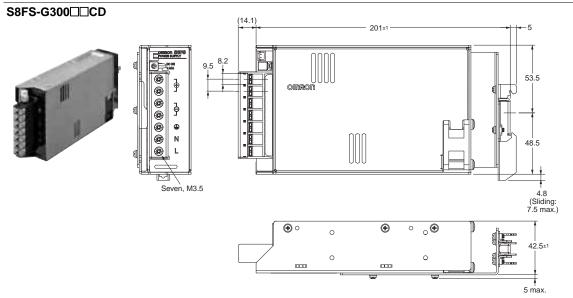


Panel mounting holes dimensions



300W

S8FS-G300□□C Two, M4 (Depth 5 mm max.) Panel mounting holes dimensions Using the screw holes in the Power Supply **⊗** Two, 4.5 dia. 102±1 Side Mounting — 64±0.5 — Four, 4.5 dia. 50.5 Bottom Mounting 74±0.5 Seven, M3.5 (3.5)170±1 60 74±0.5 • • **(** \odot 20±0.5 12 Four, M4 (Depth 5 mm max.)

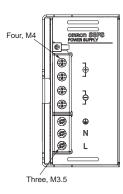


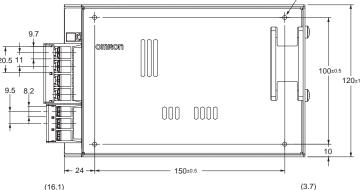
Note: Use a Front-mounting Bracket (S82Y-FSG-30F) when the DIN Rail is not strong enough for your usage environment.

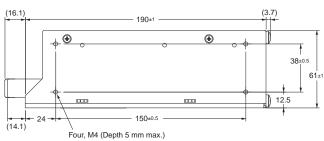
600W

S8FS-G600□□C

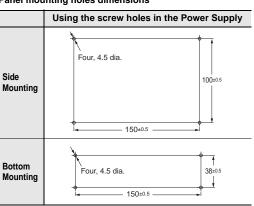








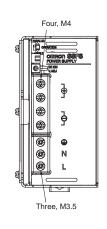
Panel mounting holes dimensions

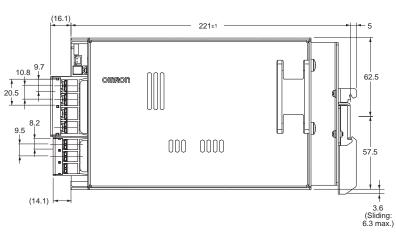


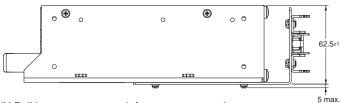
Four, M4 (Depth 5 mm max.)

S8FS-G600□□CD









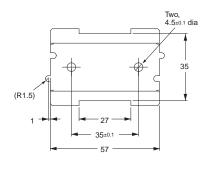
Note: Use a Front-mounting Bracket (S82Y-FSG-60F) when the DIN Rail is not strong enough for your usage environment.

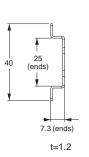
Mounting Brackets (Order Separately)

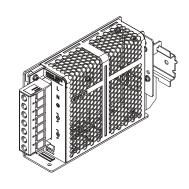
Use the Front-mounting Brackets together with DIN Rail-mounting Power Supplies (S8FS-G CD).

Power rating	Mounting direction	Model
15 W, 30 W, 50 W 100 W, 150 W and 300 W	Front-mounting	S82Y-FSG-30F
600 W	Front-mounting	S82Y-FSG-60F

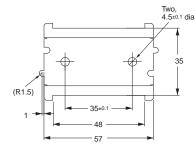
S82Y-FSG-30F

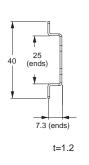


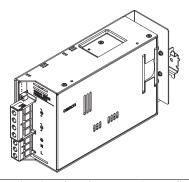




S82Y-FSG-60F







Note: Replacement brackets from the S8JX-N, S8JX-P, and S8VM series are available. Use these brackets for a front mounting configuration using direct mounting models.

Refer to the data sheet (Cat. No.: T216-E1, T217-E1, and T218-E1) for more information.

Terminal cover (Order Separately)

Power rating	Applicable models	Terminal Cover model number
15 W	S8FS-G015□□□	
30 W	S8FS-G030	S82Y-FSG-C5P
50 W	S8FS-G050	
100 W	S8FS-G100	
150 W	S8FS-G150□□□	S82Y-FSG-C7P
300 W	S8FS-G300□□□	
600 W	S8FS-G600□□□	S82Y-FSG-C7P-L (Input Output)

Note: A Terminal Block Cover is provided with the Power Supply as a standard accessory. You can purchase another one if your Cover is damaged or lost.

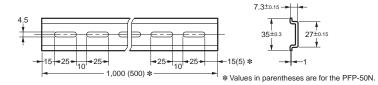
DIN Rail (Order Separately)

(Unit: mm)

Mounting Rail (Material: Aluminum)

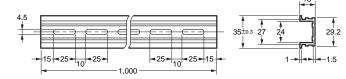
PFP-100N PFP-50N





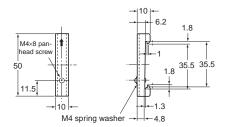
Mounting Rail (Material: Aluminum) PFP-100N2





End Plate PFP-M

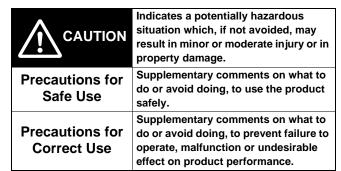




Note: If there is a possibility that the Unit will be subject to vibration or shock, use a steel DIN Rail. Otherwise, metallic filings may result from aluminum abrasion.

Safety Precautions

Refer to Safety Precautions for All Power Supplies. Warning Indications



Meaning of Product Safety Symbols



Used to warn of the risk of electric shock under specific conditions.



Used to warn of the risk of minor injury caused by high temperatures.



Use to indicate prohibition when there is a risk of minor injury from electrical shock or other source if the product is disassembled.



Used for general mandatory action precautions for which there is no specified symbol.

/!\ 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.

M3.5: 0.74 to 1.13N·m M4: 1.08 to 1.32N·m



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 –25 to 75°C and a humidity of 90% max.
- The internal parts may occasionally deteriorate or be damaged.
 Use the Power Supply within the derating curve.
- Use the Power Supply at a humidity of 90% max.
- Do not use 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. In particular, install the Power Supply as far away as possible from contractors or other devices that are a vibration source.
- Install the Power Supply well away from any sources of strong, high-frequency noise and surge.

Mounting

 Take adequate measures to ensure proper heat dissipation to increase the long-term reliability of the Power Supply.
 Be sure to allow convection in the atmosphere around devices when mounting.

Do not use in locations where the ambient temperature exceeds the range of the derating curve.

The S8FS-G015 to S8FS-G150 are cooled by natural convection. Mount them so that air convection will occur around them

The S8FS-G300 and S8FS-G600 are cooled by forced airflow. Do not allow the ventilation holes to be blocked. The effectiveness of cooling would be reduced.

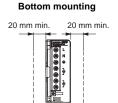
- When cutting out holes for mounting, make sure that cuttings do not enter the interior of the Power supplies.
- The internal parts may occasionally deteriorate and be broken due to adverse heat radiation. Do not loosen the screws on the Power Supply.
- If you mount the Power Supply with the holes provided on the chassis, do not exceed the depth given in the dimensional diagrams.

Use the following tightening torques.

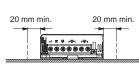
M3 screws: 0.48 to 0.59 N·m M4 screws: 1.08 to 1.32 N·m

Mounting

<Standard mounting> S8FS-G015□□□ to 150□□□

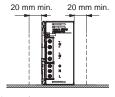


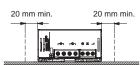
Side (horizontal orientation) mounting

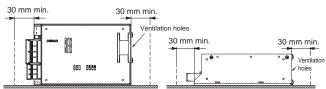


S8FS-G300 and S8FS-G600

Bottom mounting Side (horizontal orientation) mounting

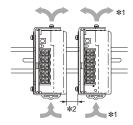






Note: Use a metal plate as the mounting surface.

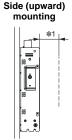
DIN rail mounting

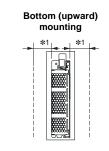


- *1. Convection of air.
- ***2.** 20 mm min.

<Other mounting types> *2 S8FS-G015 \square to 150 \square



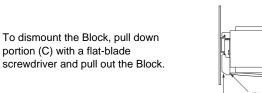


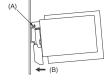


- ***1.** 20 mm min.
- *2. Applicable to products produced from May 2018

<DIN Rail Mounting>

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.





Rail stopper

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 150-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-G to prevent smoking or ignition caused by abnormal loads.

Terminals and Wiring (Screw terminal block type)

Terminals	Model	Recommendes Wire Gauges
	S8FS-G015□□□	AWG12-22
Input	S8FS-G030 to 100 to	AWG12-20
	S8FS-G150□□□ to 600□□□	AWG12-16
	S8FS-G01512□ to 01524□	AWG12-22
	S8FS-G03024□	AVVG12-22
	S8FS-G01505□	
	S8FS-G03012□, 03015□	AWG12-20
	S8FS-G05015□, 05024□	AVVG12-20
	S8FS-G15048□	
	S8FS-G05012□	AWG12-18
	S8FS-G10024□	AVVG12-18
	S8FS-G03005□	
Output	S8FS-G10015□	AWG12-16
Output	S8FS-G15024□	AWG12-16
	S8FS-G30048□	
	S8FS-G05005□	
	S8FS-G10012□	AWG12-14
	S8FS-G15015□	
	S8FS-G10005□	
	S8FS-G15005□, 15012□	AWG12
	S8FS-G30012□ to 30024□	
	S8FS-G60015□ to 60048□	AWG10-12
	S8FS-G60012□	AWG10
Protective earth terminal	S8FS-G015□□□ to 600□□□	AWG12-14

Note: The current capacity per output terminal is given in the following table.

S8FS-G015 to S8FS-G300 : 20 A

S8FS-G600□□□: 30 A

Use two terminals together if the current flow is higher than the rated terminal current.

Terminals and Wiring (Connector type)

Terminals	Model	Recommendes Wire Gauges
Input	S8FS-G01524□E to 15024□E	AWG18
Output	S8FS-G01524□E to 15024□E	AWG18

- Note: 1. The current capacity per output terminal is 5 A.

 Use two or more terminals together if the current flow is higher than the rated terminal current.
 - Do not insert and remove any connector more than 20 times.
 - 3. Refer to Input and Output Connectors on page 15 for the model numbers of the input and output connectors.

Overcurrent Protection

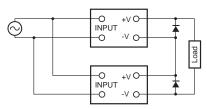
- Internal parts may possibly deteriorate or be damaged if a short-circuited, overload, or boost load state continues during operation.
- Internal parts may possibly deteriorate or be damaged if the Power Supply is used for applications with frequent inrush current or overloading at the load end. Do 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 operation.



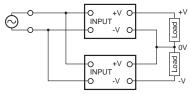
Note: 1. The diode is connected as shown in the figure. If the load is short-circuited, a reverse voltage will be generated inside the Power Supply. If this occurs the Power Supply may possibly deteriorate or be damaged. Always connect a diode as shown in the figure. Select a diode having the following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

Туре	Schottky Barrier diode
Dielectric strength (VRRM)	Twice the output voltage or above
Forward current (I _F)	Twice the rated output current or above

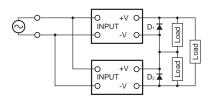
Although Power Supply having different specifications can be connected in series, the current flowing through connected in series, the current flowing through the load must not exceed the smaller rated output current.

<Making Positive/Negative Outputs>

• The outputs are floating outputs (i.e., the primary circuits and secondary circuits are separated). You can therefore make positive/negative outputs by using two Power Supplies. You can make positive/negative outputs with any of the models. If you use positive/negative outputs, connect two Power Supplies of the same model as shown below. You can combine models with different output capacities and output voltages. However, use the lower of the two rated 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 may operate in series.
 Therefore, connect bypass diodes (D1, D2) as shown in the following figure. If the list of models that support series connection of outputs says that an external diode is not required, an external diode is also not required for positive/negative outputs.

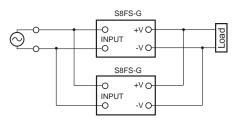


• Use the following information as a guide to the diode type, dialectic strength, and current.

Туре	Schottky Barrier diode	
Dielectric strength (VRRM)	Twice the output voltage or above	
Forward current (I _F)	Twice the rated output current or above	

Parallel Operation

Parallel operation is used when the output current from one Power Supply is insufficient for the load. Power Supplies are connected in parallel to increase the output current.



Power Supplies without the Parallel Operation Option

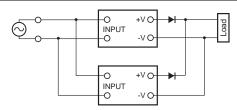
Parallel operation is not possible.

S8FS-G60024□-W□ (Models with the Parallel Operation Option)

Up to five Power Supplies can be connected in parallel operation. You must meet the following conditions to use parallel operation.

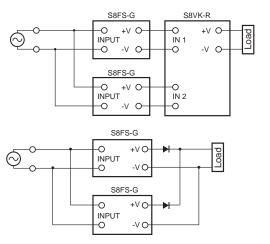
- The internal parts may occasionally deteriorate or be damaged. To operate in parallel, set the switch to the "PARALLEL" side.
- For parallel operation, always use Power Supplies with the same model number
- Use the output voltage adjusters (V. ADJ) to adjust the difference in the output voltages to 50 mV or less between Power Supplies that are used in parallel operation.
- The length and thickness of each wire connected to the load must be the same so that there is no difference in the voltage drop value between the load and the output terminals of each Power Supply.
- Drastic fluctuations in the load (including fluctuations that occur
 when starting and starting the load) may reduce the output voltage.
 If fluctuations in the output voltage that result from drastic
 fluctuations in the load would be a problem, connect external
 diodes as shown in the following diagram.
- Use the following information as a guide to the diode type, dialectic strength, and current.

Туре	Schottky Barrier diode
Dielectric strength (VRRM)	Twice the output voltage or above
Forward current (I _F)	Twice the rated output current or above



Backup Operation

Backup operation is possible if you use two Power Supplies of the same model. Even if one Power Supplies fails, operation can be continued with the other Power Supply. Make sure that the maximum load does not exceed the capacity of one Power Supply. Connect the S8VK-R or external diodes as shown in the following figure for backup operation. Refer to the S8VK-R datasheet (Cat. No.: T059) for information on using the S8VK-R.



Use the following information as a guide to the diode type, dialectic strength, and current.

Туре	Schottky Barrier diode
Dielectric strength (V _{RRM})	Twice the output voltage or above
Forward current (I _F)	Twice the rated output current or above

In Case There Is No Output Voltage

There is a possibility that overload protection, overvoltage protection, or overheating protection are functioning. The internal protection may operate if a large amount of surge voltage, such as a lightning inrush, is applied to the input. In addition, other possible causes for some models include stoppage of the built-in fan and the remote control function (OFF). Check the following five points. If there is still no output voltage, contact your OMRON representative.

- Checking Overload Protection: Remove the load wires and check whether the load is in an overload state or is short-circuited.
- Checking Overvoltage or Internal Protection:
 Turn the power supply OFF, leave it OFF for at least three minutes, and then turn it ON again to see if this clears the condition.
- Checking Overheating Protection (300 W/600 W):
 Turn OFF the input power supply long enough for the Power Supply to cool sufficiently and then turn it ON again.
- Checking for Built-in Fan Stoppage (300 W/600 W): Check whether or not the built-in fan has stopped.
- Confirming Remote Control Operation (Power Supplies with Remote Control):

Check whether or not the +RC and -RC terminals are open. Connect the terminals as specified.

Charging a Battery

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

Built-in Fan Replacement

<Only S8FS-G300□□/600□□>
The built-in fan cannot be replaced.

Audible Noise at Power ON

A harmonic current suppression circuit is built into the Power Supply. This circuit can create noise when the input is turned ON, but it will last only until the internal circuits stabilize and does not indicate any problem in the Power Supply.

Period and Terms of Warranty

Warranty Period

The Power Supply warranty is valid for a period of five 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. (See note.)
- 2. Average load rate of 80% max. (See note.)
- 3. Mounting method: Standard mounting
- 4. Rated input voltage

Note: 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 Power Supply 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 or accidents that can be caused by using a Power Supply beyond its service live, 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, the Power Supply failures or accidents may occur.

We therefore recommend that you replace the Power Supply periodically to minimize product failures or 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.

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



OMRON AUTOMATION AMERICAS HEADQUARTERS • Chicago, IL USA • 847.843.7900 • 800.556.6766 • automation.omron.com

OMRON CANADA, INC. • HEAD OFFICE

Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • automation.omron.com

OMRON ELECTRONICS DE MEXICO • HEAD OFFICE

Ciudad de México • 52.55.5901.4300 • 01.800.386.6766 • mela@omron.com

OMRON ELECTRONICS DE MEXICO • SALES OFFICE

San Pedro Garza García, N.L. • 81.12.53.7392 • 01.800.386.6766 • mela@omron.

OMRON ELECTRONICS DE MEXICO • SALES OFFICE

Eugenio Garza Sada, León, Gto • 01.800.386.6766 • mela@omron.com

OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE

São Paulo, SP, Brasil • 55 11 5171-8920 • automation.omron.com

OMRON ARGENTINA • SALES OFFICE

Buenos Aires, Argentina • +54.11.4521.8630 • +54.11.4523.8483 mela@omron.com

OTHER OMRON LATIN AMERICA SALES

+54.11.4521.8630 • +54.11.4523.8483 • mela@omron.com

Authorized Distributor:

Controllers & I/O

- Machine Automation Controllers (MAC) Motion Controllers
- Programmable Logic Controllers (PLC) Temperature Controllers Remote I/O

Robotics

• Industrial Robots • Mobile Robots

Operator Interfaces

• Human Machine Interface (HMI)

Motion & Drives

- Machine Automation Controllers (MAC) Motion Controllers Servo Systems
- Frequency Inverters

Vision, Measurement & Identification

 \bullet Vision Sensors & Systems \bullet Measurement Sensors \bullet Auto Identification Systems

Sensing

- Photoelectric Sensors Fiber-Optic Sensors Proximity Sensors
- Rotary Encoders Ultrasonic Sensors

Safety

- Safety Light Curtains Safety Laser Scanners Programmable Safety Systems
- Safety Mats and Edges Safety Door Switches Emergency Stop Devices
- $\bullet \, \mathsf{Safety} \, \mathsf{Switches} \, \& \, \mathsf{Operator} \, \mathsf{Controls} \, \bullet \, \mathsf{Safety} \, \mathsf{Monitoring/Force-guided} \, \mathsf{Relays}$

Control Components

- $\bullet \ \mathsf{Power} \ \mathsf{Supplies} \ \bullet \ \mathsf{Timers} \ \bullet \ \mathsf{Counters} \ \bullet \ \mathsf{Programmable} \ \mathsf{Relays}$
- Digital Panel Meters Monitoring Products

Switches & Relays

- Limit Switches Pushbutton Switches Electromechanical Relays
- Solid State Relays

Software

 $\bullet \ \mathsf{Programming} \ \& \ \mathsf{Configuration} \ \bullet \ \mathsf{Runtime}$

© 2020 Omron. All Rights Reserved.