

Features



- Selectable input voltage range by switch: 90-132Vac/180-264Vac/240-373Vdc
- High efficiency up to 89.5%
- No-load power loss as low as 0.75W
- Withstand 300Vac surge input for 5s (switch position at 230V)
- Output over-current, over-voltage, short-circuit and over-temperature protections
- LED indicator for power on
- 3,000Vac input to output isolation
- Operating temperature range: -30°C to +70°C
- UL 62368-1 2nd edition recognized



Part Numbering System

PSF	200	-	□□	(□)
Series Name	Output Power	-	Output Voltage	Suffix
	200: 200W		Example: 05: 5V	Omit: Standard C: Conformal coating

Selection Guide

Part Number	Output		Output Voltage Adjustable Range (Vdc)	Efficiency (%) at 230Vac input & full load	Max Load Capacitance (μF)
	Voltage (Vo, Vdc)	Current (Io, A)			
PSF200-05	5	30.0	4.5-5.5	87.0	10000
PSF200-12	12	17.0	10.2-13.8	87.5	4000
PSF200-15	15	14.0	13.5-18.0	88.0	3300
PSF200-24	24	8.8	21.6-28.8	88.5	1500
PSF200-36	36	5.9	32.4-39.6	89.0	1500
PSF200-48	48	4.4	43.2-52.8	89.5	470

Input Specifications

Parameter	Notes & Conditions	Min	Typical	Max	Unit
Input Voltage Range	AC input (switch position at 115V)	90	-	132	Vac
	AC input (switch position at 230V)	180	-	264	
	DC input (switch position at 230V)	240	-	373	Vdc
Input Frequency		47	-	63	Hz
Input Current	115Vac input	-	-	5	A
	230Vac input	-	-	3	
Inrush Current	115Vac input, cold start	-	60	80	
	230Vac input, cold start	-	60	80	

Output Specifications

Parameter	Notes & Conditions	Min	Typical	Max	Unit
Output Voltage Accuracy	Full range load	5V output	-	±3.0	%Vo
		12V output	-	±1.5	
		Others	-	±1.0	
Line Regulation	Full load	-	±0.5	-	
Load Regulation	Full range load	5V output	-	±2.0	
		12V output	-	±1.0	
		Others	-	±0.5	
Temperature Coefficient	Full load	-	-	±0.03	%/°C
Ripple & Noise ¹	20MHz bandwidth	5V/12V/15V/24V	-	150	mVp-p
		36V/48V	-	200	
Ripple Frequency	Full load	-	65	-	kHz
Minimum Load		0	-	-	%
No-load Power Consumption	230Vac input	-	-	0.75	W
Hold-up Time	115Vac input	-	12	-	ms
	230Vac input	-	16	-	

Protection Specifications

Parameter	Notes & Conditions		Min	Typical	Max	Unit
Over Current Protection Set Point	Typical Vin, auto-recovery		110	-	185	%Io
Over Voltage Protection Set Point	Shut down, re-power on to recover.	5V output	-	-	8.0	Vdc
		12V output	-	-	18.0	
		15V output	-	-	22.0	
		24V output	-	-	33.6	
		36V output	-	-	46.8	
		48V output	-	-	60.0	
Over Temperature Protection	Shut down, re-power on to recover.					
Short Circuit Protection	Hiccup, auto-recovery in 5s after fault condition is removed.					

¹ Ripple & noise measured with 47µF electrolytic capacitor and 0.1µF ceramic capacitor in parallel.

Safety and Environmental Specifications

Parameter	Notes & Conditions		Min	Typical	Max	Unit
Isolation Voltage	Input-Output	Dielectric strength test for 1min, leakage current less than10mA	3,000	-	-	Vac
	Input-FG		2,000	-	-	
	Output-FG	Dielectric strength test for 1min, leakage current less than 5mA	500	-	-	
Insulation Resistance	Input-Output/ Input-FG/Output-FG, isolation voltage at 500Vdc		100	-	-	MΩ
Operating Temperature			-30	-	+70	°C
Storage Temperature			-40	-	+85	
Operating Humidity	Non-condensing		20	-	90	%RH
Storage Humidity	Non-condensing		10	-	95	
Power Derating	+40°C ~ +70°C, 5V model		1.66	-	-	% / °C
	+50°C ~ +70°C, other models		2.50	-	-	
	90-100Vac input, 50Hz		3.50	-	-	% / Vac
	90-100Vac input, 60Hz		2.00	-	-	
	100-132Vac input		0	-	-	
	180-264Vac input		0	-	-	
Safety Class			Class I			
MTBF	MIL-HDBK-217F @25°C		300	-	-	10 ³ hours
Altitude			-	-	5,000	m

Other Specifications

Parameter	Notes
Dimension	179.00 x 99.00 x 30.00 mm
Weight	520g (Typ.)
Cooling Method	Natural convection

EMC Specifications

Parameter		Notes & Conditions	
EMI	CE	CISPR32/EN55032 CLASS A	
	RE	CISPR32/EN55032 CLASS A	
EMS	ESD	IEC/EN61000-4-2 Contact ±6KV / Air ±8KV	Criteria A
	RS	IEC/EN61000-4-3 10V/m	Criteria A
	EFT	IEC/EN61000-4-4 ±2KV	Criteria A
	Surge	IEC/EN61000-4-5 Line to Line ±2KV / Line to Ground ±4KV	Criteria A
	CS	IEC/EN61000-4-6 10 Vrms	Criteria A
	Immunities of voltage dips, short interruptions and voltage variations	IEC/EN61000-4-11 0%, 70%	Criteria B

Note: This power supply does not meet the harmonic current requirements outlined by EN61000-3-2. Please do not use this power supply under following conditions:

- 1) The terminal equipment is used in the European Union.
- 2) The terminal equipment is connected to public mains supply with 220Vac or greater rated nominal voltage.
- 3) The power supply is installed in terminal equipment with average or continuous input power greater than 75W.
- 4) The power supply belongs to part of a lighting system.

Exception:

Power supply used in the following terminal equipment does not need to fulfill EN61000-3-2:

- 1) Professional equipment with a total rated input power greater than 1000W.
- 2) Symmetrically controlled heating element with a rated power less than or equal to 200W.

Characteristic Curves

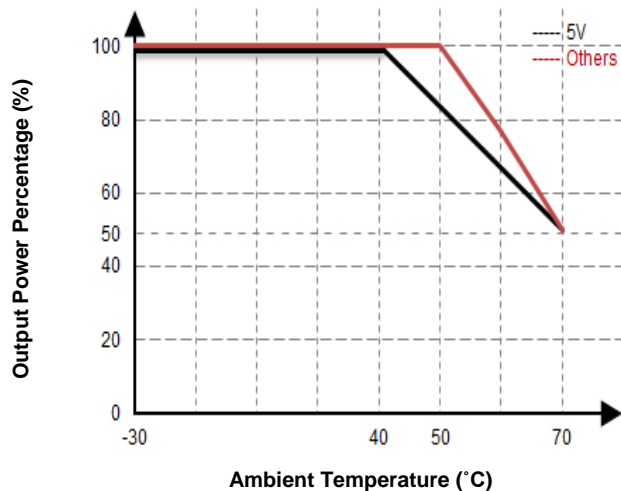


Figure 1. Temperature Derating Curve

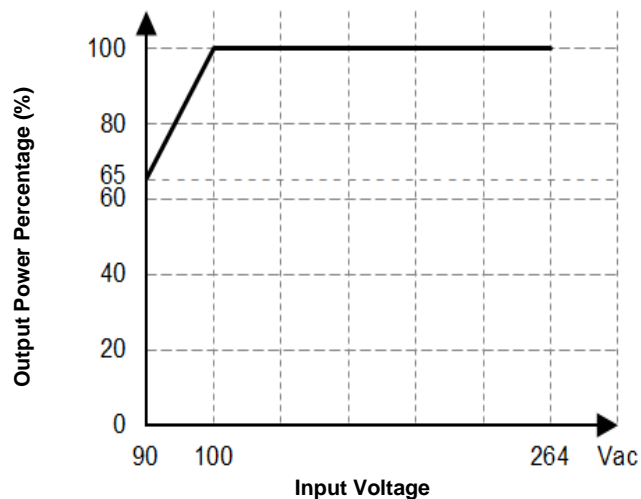


Figure 2. Input Voltage Derating Curve (50Hz)

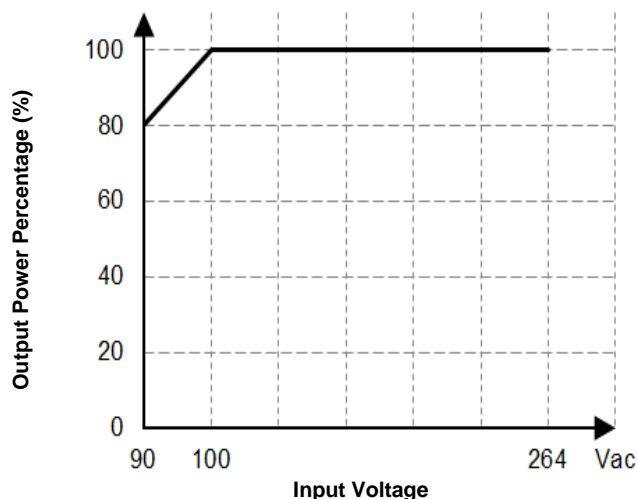


Figure 3. Input Voltage Derating Curve (60Hz)

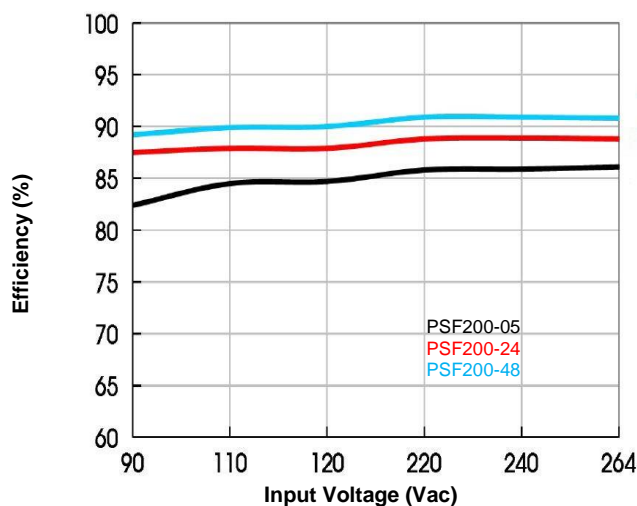


Figure 4. Efficiency vs. Input Voltage (full load)

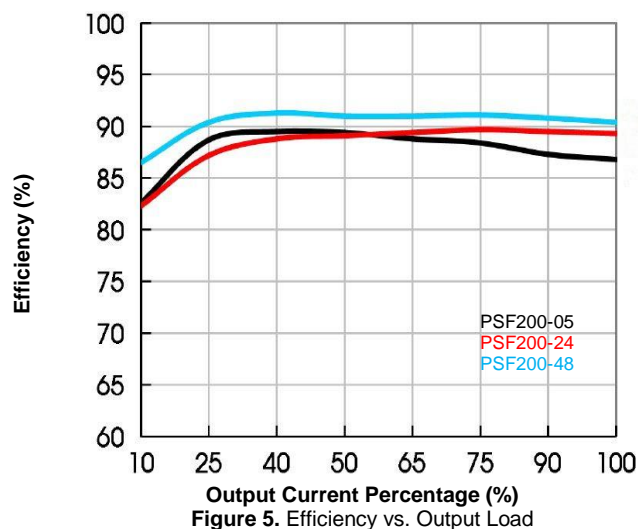
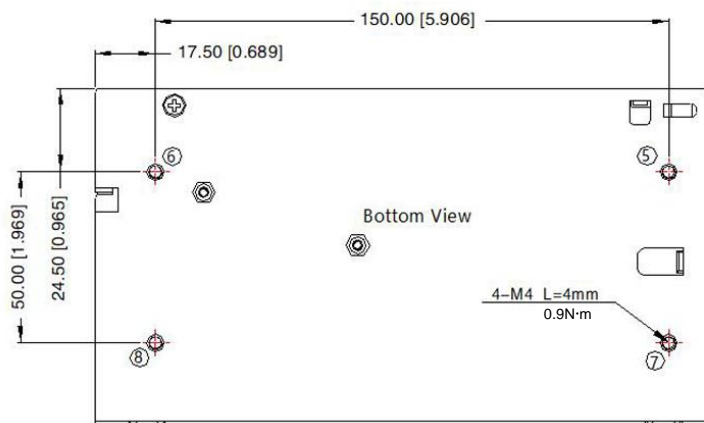
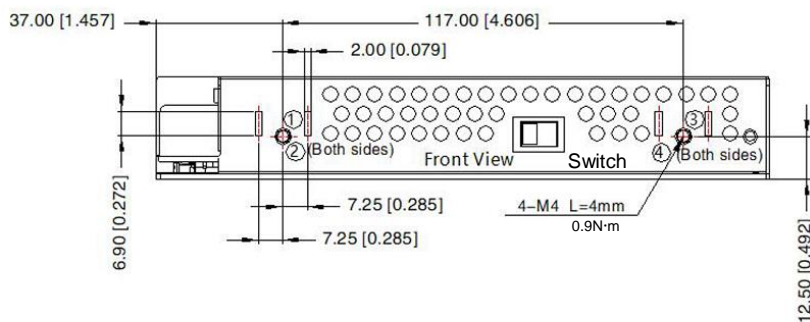
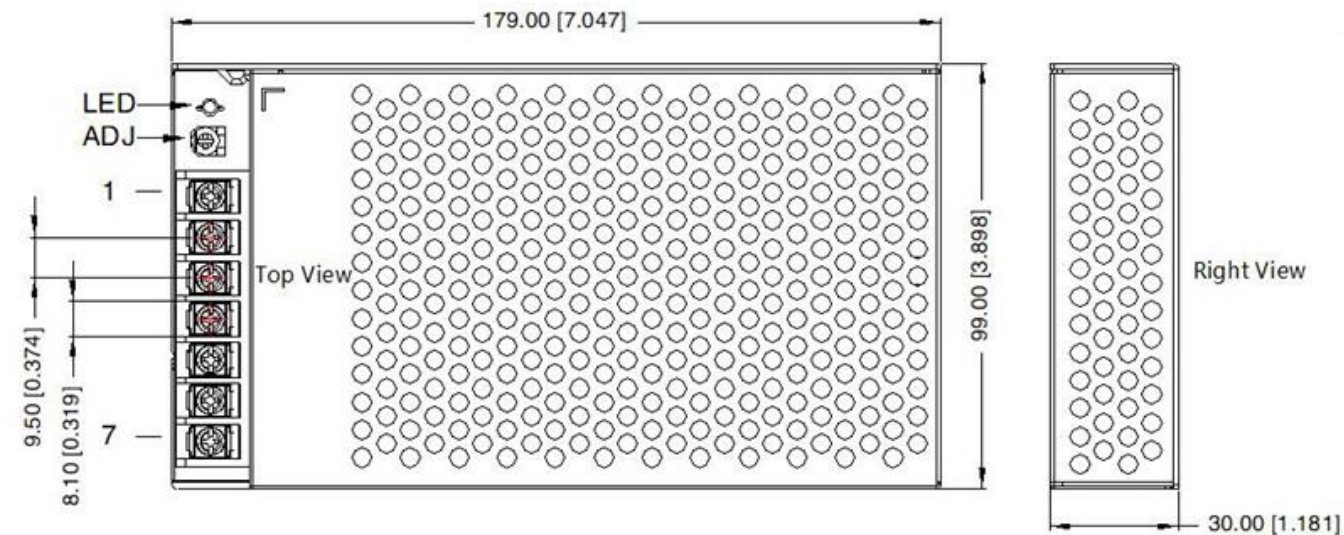


Figure 5. Efficiency vs. Output Load

Mechanical Drawing



Switch	AC Input	DC Input
115V	90-132VAC	---
230V	180-264VAC	240-373VDC

Pin	Function
1	+V
2	+V
3	-V
4	-V
5	FG
6	AC(N)
7	AC(L)

Notes:

- 1) All dimension in mm (inches)
Tolerances: ± 1.00 (± 0.039)
- 2) Wire spec: 22-12AWG
- 3) Tightening torque: M3.5, 0.8N·m
- 4) ①~⑧ any position must be connected to FG.