Size: 7.05in x 3.90in x 1.81in
(179mm x 99mm x 30mm)

FEATURES

- Universal 85-305VAC or 120~430VDC Input Voltage
- Accepts AC or DC Input (Dual-Use of Same Terminal)
- Built-In Active PFC Function
- High I/O Isolation Test Voltage up to 4000VAC
- Compact Size with a Low 1U Profile
- Output Short Circuit, Over Current, Over Voltage, and Over Temperature Protection
- Compact Size with Low 1U Profile
- LED Indicator for Power On
- Start-up delay time less than 5 seconds at -30℃
- Emissions Meet CISPR32/EN55032 Class B
- IEC/EN/UL62368, GB4943 Safety Approvals, and Safety According to EN60335

APPLICATIONS

- Industrial
- LED
- Street Light Control
- Security
- Telecommunications
- Smart Home

DESCRIPTION

The PSEF200 series of AC/DC switching power supplies offers up to 201.6 watts of output power in an enclosed 7.05” x 3.90” x 1.81” package. This series consists of single output models with an input voltage range of 85~305VAC or 120~430VAC as this series accepts AC or DC input. Each model features built-in active PFC function, high isolation test voltage, and LED indicator for power on. This series has short circuit, over current, over voltage, and over temperature protection, and also has IEC/ EN/UL62368, GB4943 safety approvals.

MODEL SELECTION TABLE

Model Number[1]	Input Voltage Range	Output Voltage	Output Current	Output Voltage Adjustable Range	Max. Ripple & Noise	Output Power	Maximum Capacitive Load	Efficiency
PSEF200-12S	85-305VAC (120-430VDC)	12V	16.7A	11.4 - 12.6V	150mV	200.4W	4000μF	88.0%
PSEF200-15S		15V	13.4A	14.25 - 15.75V	150mV	201.0W	3300μF	88.0%
PSEF200-24S		24V	8.4A	22.8 - 25.2V	150mV	201.6W	1500μF	90.0%
PSEF200-48S		48V	4.2A	45.6 - 50.4V	240mV	201.6W	470μF	89.0%

SPECIFICATIONS

All specifications are based on 25°C, Humidity <75%RH, Nominal Input Voltage, and Rated Output Load unless otherwise noted.
We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS		Min	Typ	Max	Unit
INPUT SPECIFICATIONS						
Input Voltage Range	AC Input		85		305	VAC
	DC Input		120		430	VDC
Input Voltage Frequency			47		63	Hz
Input Current	115VAC			2.5	3.0	A
	230VAC			1.3	2.0	
Inrush Current	Cold Start	115VAC		35		A
		230VAC		65		
Power Factor	Full Load	115VAC		0.98		
		230VAC		0.95		
Hot Plug			Unavailable			
OUTPUT SPECIFICATIONS						
Output Voltage			See Table			
Voltage Accuracy	Full Load Range			±1		%
Line Regulation	Rated Load			±0.5		%
Load Regulation	230VAC, 0% - 100% load			±0.5		%
Output Voltage Adjustable Range			See Table			
Output Power			See Table			
Output Current			See Table			
Minimum Load			0			%
Maximum Capacitive Load			See Table			
Ripple & Noise[2]	20MHz bandwidth (peak-to-peak value)	12V/15V/24V		150		mV
		48V		240		
Hold-Up Time	Nominal Temperature, Full Load	115VAC		8		ms
		230VAC		8		
Temperature Coefficient	0-45°C			±0.03		%/°C
Standby Power Consumption	Normal Temperature, 230VAC			0.75	1.0	W

SPECIFICATIONS

All specifications are based on 25°C, Humidity <75%RH, Nominal Input Voltage, and Rated Output Load unless otherwise noted.
We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS			Min	Typ	Max	Unit
PROTECTION							
Short Circuit Protection	Recovery time <5s after the short circuit disappears			Hiccup, continuous, self-recovery			
Over Current Protection[3]	Self-Recovery			105		200	%Io
Over-voltage Protection	Output voltage turn-off re-power on for recovery	12V			≤16.2		V
		15V			≤21.8		
		24V			≤32.4		
		48V			≤60		
Over Temperature Protection[4]	Over-temperature Protection Activation					85	℃
	Over-temperature Protection Deactivation			55			
ENVIRONMENTAL SPECIFICATIONS							
Operating Temperature				-30		+70	°C
Storage Temperature				-40		+85	°C
Storage Humidity	Non-Condensing			10		95	%RH
Operating Humidity	Non-Condensing			20		90	%RH
Power Derating	Operating Temperature Derating	-30°C to 45°C		0			%/°C
		+45°C to 70°C		2.0			
	Input Voltage Derating	85VAC – 100VAC@50Hz		2.0			%/VAC
		85VAC – 100VAC@60Hz		1.67			
		100VAC - 305VAC		0			
		120VDC - 140VDC		1.25			%/VDC
		140VDC - 430VDC		0			
MTBF	MIL-HDBK-217F@25°C			250,000			H
GENERAL SPECIFICATIONS							
Efficiency				See Table			
Isolation Test	Electric Strength Test for 1min., leakage current <10mA	Input - ⏚		2000			VAC
		Input – Output		4000			
		Output - ⏚		500			
Insulation Resistance	500VDC, 25±5°C Humidity <95%RH, non-condensing	Input - ⏚		100			MΩ
		Input – Output		100			
		Output - ⏚		100			
PHYSICAL SPECIFICATIONS							
Weight				1.05lbs (475g)			
Dimensions (L x W x H)				7.05in x 3.90in x 1.81in (179mm x 99mm x 30mm)			
Case Material				Metal (AL1100)			
Cooling				Free Air Convection			
SAFETY CHARACTERISTICS							
Safety Standard[5]				Meet IEC/EN/UL62368/EN60335/GB4943			
Safety Certification[5]				IEC/EN/UL62368/GB4943			
Safety Class				Class I			
Emissions	CE	CISPR32/EN55032		Class B			
	RE	CISPR32/EN55032		Class B			
	Harmonic Current	IEC/EN61000-3-2		Class A and CLASS D			
	Voltage Flicker	IEC/EN61000-3-3					
Immunity	ESD	IEC/EN 61000-4-2	Contact ±6KV/Air ±8KV	Perf. Criteria A			
	RS	IEC/EN 61000-4-3	10V/m	Perf. Criteria A			
	EFT	IEC/EN 61000-4-4	±4KV	Perf. Criteria A			
	Surge	IEC/EN 61000-4-5	±2KV/±4KV	Perf. Criteria A			
	CS	IEC/EN 61000-4-6	10 Vr.m.s	Perf. Criteria A			
	DIP	IEC/EN 61000-4-11	0%, 70%	Perf. Criteria B			

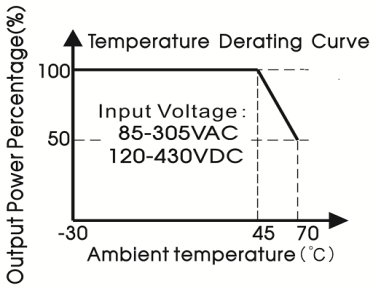
NOTES

1. Add “C” to model number to indicate terminal with protective cover, and “Q” to model number for conformal coating.
2. Tip and barrel method is used for ripple and noise test. Output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor, contact factory for more information.
3. Over-Current Protection: test at rated output voltage. Io is rated output current load.
4. Over-Temperature Protection needs to be tested under rated full load conditions.
5. This product is Listed to applicable standards and requirements by UL.
6. One magnetic bead (nickel-zinc ferrite) should be coupled with the output load line during CE/RE testing.
7. The power supply is considered a component as part of a system. All EMC items are tested on a metal plate (450mm x 450mm x 3mm). Power supply should be combined with final equipment for EMC confirmation.
8. Ambient temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m.
9. In order to improve the efficiency at high input voltage, there will be audible noise generated, but does not affect product performance and reliability.
10. Product customization service is available, please contact factory for more details.
11. Out case needs to be connected to PE (⏚) of system when terminal equipment in operating.
12. Products should be classified according to ISO14001 and related environmental laws and regulations and should be handled by qualified units.
13. Power supply is considered a component which will be installed into terminal equipment. All EMC tests should be confirmed with final equipment.

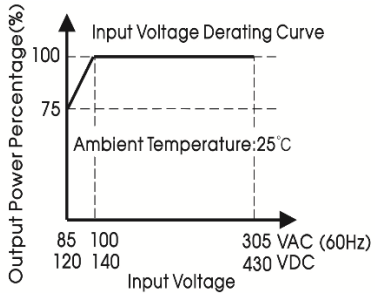
**Due to advances in technology, specifications subject to change without notice.*

DERATING CURVES

Temperature Derating Curve



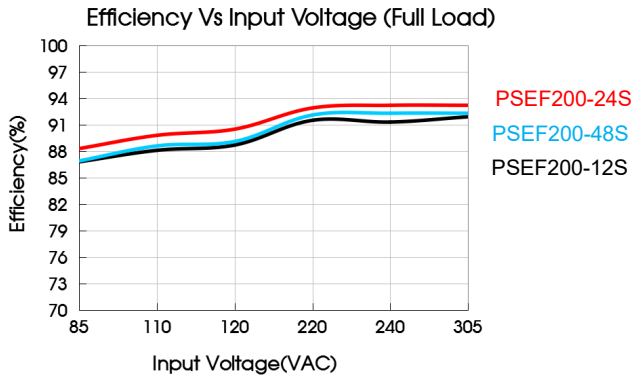
Input Voltage Derating Curve



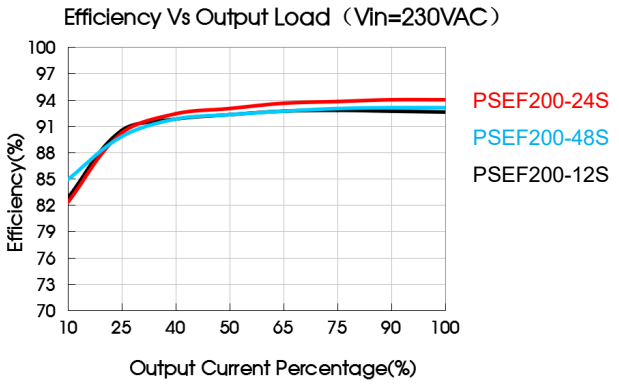
Note:
1. With an AC input voltage between 85-100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curves.
2. This product is suitable for applications using natural air cooling: for applications in closed environment, please contact factory.

EFFICIENCY GRAPHS

Efficiency vs Input Voltage (Full Load)

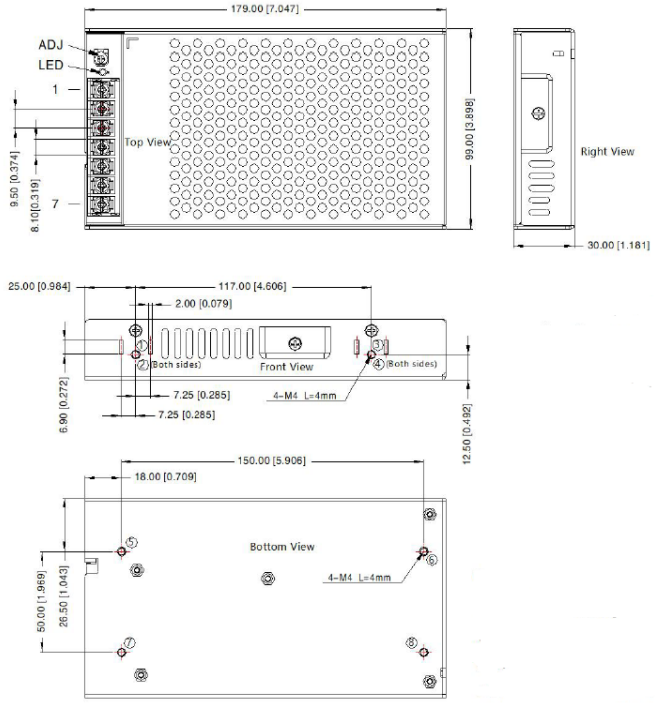


Efficiency vs Output Load (Vin=230VAC)

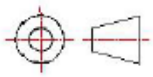


MECHANICAL DRAWINGS

Standard and "Q" Suffix Models



THIRD ANGLE PROJECTION

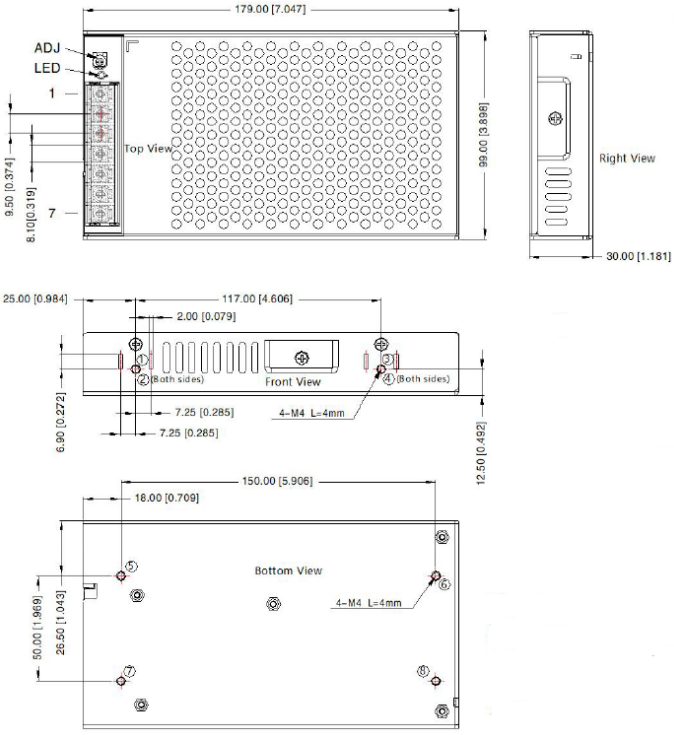


Pin Out

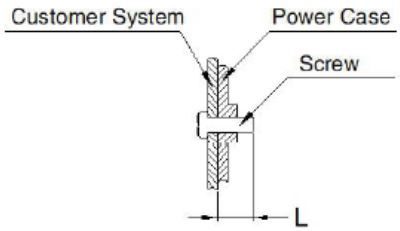
Pin	Function
1	+Vo
2	+Vo
3	-Vo
4	-Vo
5	⏚
6	AC(N)/DC(-)
7	AC(L)/DC(+)

①-⑧ any position must be connected to the earth (⏚)

"C" Suffix Models



Position	Screw Spec.	L(max)	Torque (max)
①-⑧	M4	4mm	0.9N·m



Note:
Unit: mm[inch]
Wire range: 22-12AWG
Connector Tightening Torque: M3.5, 0.8N·m
General Tolerances: ±1.00 [±0.039]

COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001: 2015 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

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