



Size: 4.88in x 1.61in x 4.33in
(124mm x 41mm x 110mm)

FEATURES

- Input Voltage Range of 85-264VAC / 120-370VDC
- Accepts AC or DC Input (Dual-Use of Same Terminal)
- High Efficiency, High Reliability
- DC OK Function
- Power On LED Indicator
- OVC II
- Built In Active PFC Function
- Output Short Circuit, Over Current, Over Voltage, and Over Temperature Protection
- RoHS Compliant
- Indoor Use
- 150% Peak Load Output for 3 Seconds
- UL61010-1, UL61010-2-201, IS13252 (Part1) & EN62368-1 (Report) Safety Approvals

DESCRIPTION

The PSFDN240 series of AC/DC converters offers up to 240 watts of power in a 4.88" x 1.61" x 4.33" DIN rail package. This series consists of single output models with a wide input voltage range of either 85-264VAC or 120-370VDC as this series supports AC and DC dual-use. Features of this series include high efficiency, high reliability, DC OK function, and power on LED indicator. It is protected against output short circuit, over current, over voltage, and over temperature conditions and has UL61010-1, UL61010-2-201, IS13252 (Part1) & EN62368-1 (Report) safety approvals.

MODEL SELECTION TABLE

Model Number	Input Voltage Range	Output Voltage	Output Voltage Adjustable Range	Output Current	Output Power	Maximum Capacitive Load	Efficiency
PSFDN240-12S	85~264VAC (100~370VDC)	12V	12-14V	16A	192W	160000µF	92%
PSFDN240-24S		24V	24-28V	10A	240W	40000µF	94%
PSFDN240-48S		48V	48-53V	5A	240W	10000µF	94%

SPECIFICATIONS

All specifications are based on Ta=25°C, Humidity <75%, 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	Rated Input (Certified Voltage)		100		240	VAC
	AC Input		85		264	
	DC Input		120		370	VDC
Input Frequency	Rated AC Input		50		60	Hz
	AC Input		47		63	
Input Current	Rated Input				3	A
	115VAC				3	
	230VAC				1.5	
Inrush Current	Cold Start	115VAC		15		A
		230VAC		30		
Power Factor	115VAC			0.98		
	230VAC			0.94		
Leakage Current	264VAC			<0.5		mA
Hot Plug			Unavailable			
OUTPUT SPECIFICATIONS						
Output Voltage			See Table			
Voltage Accuracy	Full Load Range	12V		±2.0		%
		24V/48V		±1.0		
Line Regulation	Rated Load			±0.5		%
Load Regulation	0%-100% Load			±1.0		%
Output Power			See Table			
Output Current			See Table			
Maximum Capacitive Load			See Table			
Ripple & Noise ⁽¹⁾	20MHz bandwidth (Peak-Peak Value)	12V		50	100	mV
		24V		60	120	
		48V		75	150	
Stand-by Power Consumption				4		W
Hold-Up Time	115VAC			20		ms
DC OK Signal ⁽²⁾	Resistive Load		30VDC/1A Max.			

SPECIFICATIONS

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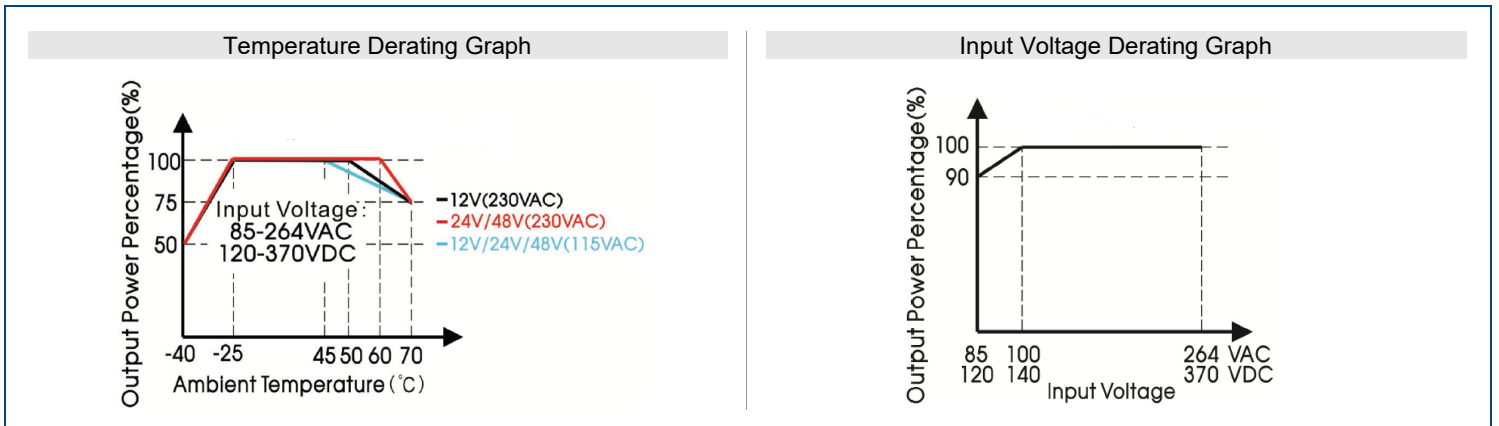
SPECIFICATION	TEST CONDITIONS		Min	Typ	Max	Unit
PROTECTION						
Short Circuit Protection	Recovery time <10s after the short circuit disappears		Constant current, continuous, self-recovery			
Over Current Protection	230VAC, Rated Load, Self-Recovery	Normal Temperature, High Temperature	110		200	%Io
		Low Temperature		≥105		
Over Voltage Protection	Output voltage turn off, re-power on for recover	12V		≤18		V
		24V		≤35		
		48V		≤60		
Over Temperature Protection	230VAC, Rated Load		-	80	-	°C
ENVIRONMENTAL SPECIFICATIONS						
Operating Temperature			-40		+70	°C
Storage Temperature			-40		+85	°C
Storage Humidity	Non-Condensing				95	%RH
Operating Humidity	Non-Condensing				90	%RH
Power Derating	Operating Temperature Derating	-40°C to -25°C		3.34		% / °C
		+45°C to +70°C	115VAC	2.0		
		+50°C to +70°C	12V 230VAC	1.25		
		+60°C to +70°C	24V/48V 230VAC	2.5		
Input Voltage Derating	85VAC-100VAC		0.67			%/VAC
MTBF	MIL-HDBK-217F @25°C		300,000			H
GENERAL SPECIFICATIONS						
Typ. Efficiency	230VAC			See Table		
Switching Frequency				100		kHz
Isolation Test	Electric strength test for 1min. Leakage Current <15mA	Input-⏏	2000			VAC
		Input-Output	3000			
		Output-⏏	500			
Insulation Resistance	At 500VDC	Input-⏏	50			MΩ
		Input-Output	50			
		Output-⏏	50			
PHYSICAL SPECIFICATIONS						
Dimensions (L x W x H)			4.88in x 1.61in x 4.33in (124mm x 41mm x 110mm)			
Weight			1.43lbs (650g) Typ.			
Casing Material			Metal (AL1100, SPCC) and Plastic (PC940)			
Cooling			Free Air Convection			
SAFETY CHARACTERISTICS						
Safety Standards	UL61010-1, UL61010-2-201, IS13252 (Part 1) & EN62368-1 (Report)		Design refers to IEC/UL62368-1			
Safety Class						Class I
Pollution Degree						2
Emissions	CE	CISPR32/EN55032				Class B
	RE	CISPR32/EN55032				Class B
	Harmonic Current	IEC/EN61000-3-2				Class A and Class D
Immunity	ESD	IEC/EN61000-4-2	Contact ±8kV/Air ±15kV			Perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m			Perf. Criteria A
	EFT	IEC/EN61000-4-4	±4kV			Perf. Criteria A
	Surge	IEC/EN61000-4-5	Line to Line ±2kV Line to Ground ±4kV			Perf. Criteria A
	CS	IEC/EN61000-4-6	10Vr.m.s			Perf. Criteria A
	Voltage Dips, Short Interruptions and Voltage Variations Immunity	IEC/EN61000-4-11	0%, 70%			Perf. Criteria B

NOTES

1. 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.
2. DC OK Signal: When the output voltage is normal, the relay is connected. When the output voltage is abnormal (<90%Vo), the relay is disconnected.
3. Room temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m.
4. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability.
5. Customization is available, please contact factory.
6. The out case needs to be connected to PE (⚡) of system when the terminal equipment is operating.
7. Products classified to ISO14001 and related environmental laws and regulations and should be handled by qualified units.
8. **WARNING:** Risk of electrical shock, fire, personal injury, or death
9. Do not use the power supply without proper grounding (Protective Earth). Use the terminal on the input block for earth connection and not one of the screws on the housing
10. Turn power off before working on the device, protect against inadvertent re-powering.
11. Make sure that the wiring is correct by following all local and national codes.
12. Do not modify or repair the unit.
13. Do not open the unit as high voltage are present inside.
14. Use caution to prevent any foreign objects from entering the housing.
15. Do not use in wet locations or in areas where moisture or condensation can be expected.
16. Do not touch during power-on, and immediately after power-off, hot surfaces may cause burns.
17. For ambient temperature ≤60°C, use ≥90°C – copper wire only for ambient temperature >60°C to 85°C, use ≥105°C – copper wire only; use only wires with a minimum dielectric strength of 300V (input) and 60V (output).

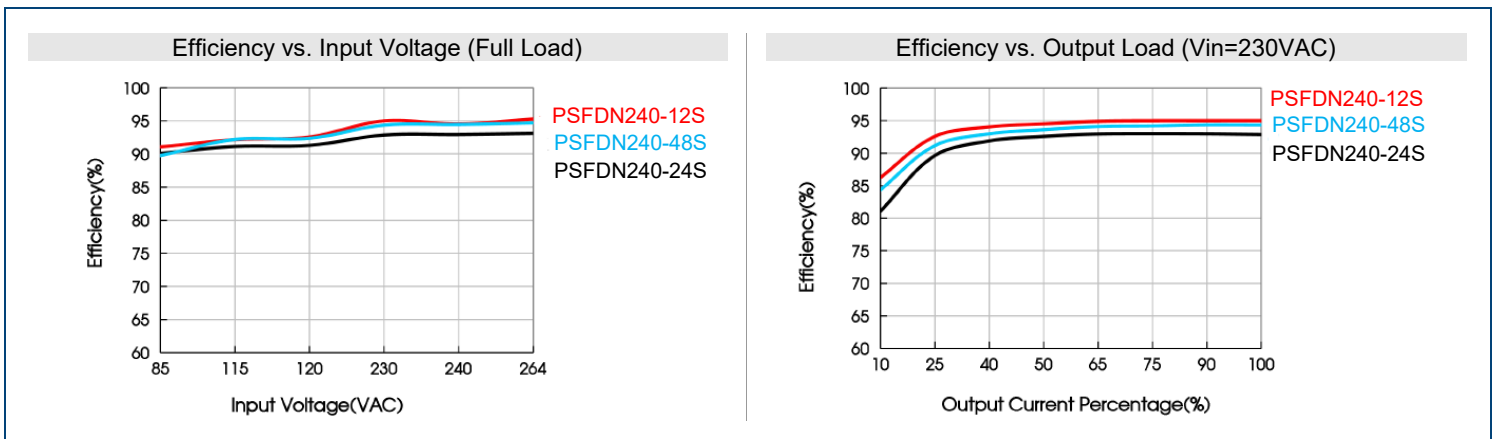
**Due to advances in technology, specifications subject to change without notice.*

DERATING CURVES

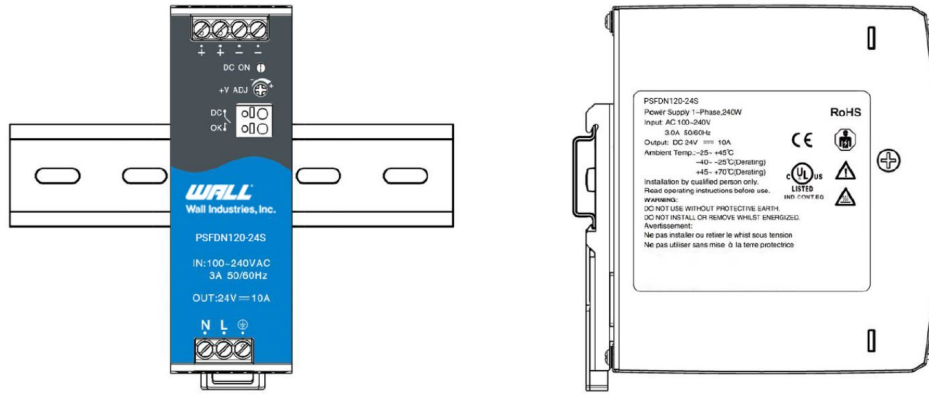


- Note:
1. With AC input voltage between 85-100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curve.
 2. This product is suitable for applications using natural air cooling for applications in closed environments. Contact factory for more details.

EFFICIENCY CURVES



EFFICIENCY CURVES



Note: Keep the following installation clearances: 20mm on top, 20mm on the bottom, 5mm on the left and right sides are recommended when the device is loaded permanently with more than 50% of the rated power. Increase this clearance to 15mm in case the adjacent device is a heat source (e.g. another power supply).

MECHANICAL DRAWINGS

Top View

41.00 [1.614]

Front View

110.00 [4.331]

128.80 [5.071]

124.00 [4.882]

118.90 [4.681]

THIRD ANGLE PROJECTION

Pin-Out	
Pin	Mark
1	-Vo
2	-Vo
3	+Vo
4	+Vo
5	AC(N)
6	AC(L)
7	

Right View

6.35 [0.250]

4 3 2 1

LED

ADJ

DC OK

5 6 7

6.35 [0.250]

Note:
Unit: mm [inch]
LED: Output Status Indicator LED
ADJ: Output Adjustable Resistor
Wire Range: Input: 26-10AWG (12-10AWG for Pin7)
Output: 12V: 12-10AWG
24V: 16-10AWG
48V: 18-10AWG
DC OK: 24-16AWG
Tightening Torque: Max. 0.79 N-m
Mounting Rail: TS35, rail needs to connect safety ground
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.

Contact **Wall Industries** for further information:

Phone: ☎ (603)778-2300
Toll Free: ☎ (888)597-9255
Fax: ☎ (603)778-9797
E-mail: sales@wallindustries.com
Web: www.wallindustries.com
Address: 37 Industrial Drive
Exeter, NH 03833

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