CE Report EN62368-1 UKCA BS EN 62368-1 RoHS

Size: 4.88in x 2.13in x 4.33in
(124mm x 54mm x 110mm)

FEATURES

- Universal 180-550VAC or 254-780VDC Input
- Singe/Two Phase Both Available
- DC OK Function
- 150% Peak Load for 5 Seconds
- Built-In Active PFC Function
- Low Ripple & Noise
- High Efficiency
- Output Short Circuit, Over Current, Over Voltage, Over Temperature, Constant Current Limit Protection
- OVC III, 2000m Altitude (UL62477 Standards)
- RoHS Compliant
- Safety According UL62368, UL61010, and UL62477

DESCRIPTION

The PSDIF240 series of AC/DC power supplies offers 240 watts of power in a 4.88” x 2.13” x 4.33” DIN rail package. This series consists of single output models with a wide input voltage range of either 180-550VAC or 254-780VDC. Each model features high efficiency, built-in active PFC, and DC OK function. It is protected against output short circuit, over current, over voltage, over temperature, and constant current limit conditions and has safety according to UL62368, UL61010, and UL62477.

MODEL SELECTION TABLE

Model Number	Input Voltage Range	Output Voltage	Output Current	Output Voltage Adjustable Range (≤240W)(1)	Output Power	Maximum Capacitive Load	Ripple & Noise	Efficiency	Certification
PSDIF240-24S	180-550VAC (254-780VDC)	24V	10A	24-28V	240W	10000μF	150mV	91%	EN/UKCA
PSDIF240-48S		48V	5A	48-55V	240W	10000μF	150mV	91%	

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	AC Input		180		550	VAC
	DC Input		254		780	VDC
Input Frequency			47		63	Hz
Input Current	230VAC				2.0	A
	400VAC				1.0	
Inrush Current	Cold Start	400VAC			110	A
Power Factor	230VAC			0.93		
	400VAC			0.90		
Leakage Current	480VAC			1mA RMS Max.		
Input Temporary Over-Voltage	Rated Load Output, 600VAC Input			5s/time, interval 10s, product without damaging		
Hot Plug				Unavailable		
OUTPUT SPECIFICATIONS						
Output Voltage				See Table		
Output Voltage Accuracy	Full Load Range			±1.0		%
Line Regulation	Rated Load			±0.5		%
Load Regulation	400VAC			±1.0		%
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)				150	mV
Hold-Up Time	Room Temperature, Full Load	230VAC		18		ms
		400VAC		18		
Start-Up Time	230VAC			1.5	3.0	s
	400VAC			0.8	1.5	
Rise Time	115VAC/230VAC, rated load			19		ms
DC OK Signal(3)	Resistive Load			30VDC/1A Max.		
Temperature Coefficient				±0.03		%/°C
PROTECTION						
Short Circuit Protection				Hiccup, Continuous, Self-Recovery		
Over Current Protection	Hiccup, Self-Recovery			≥150		%Io
Over Voltage Protection	Output voltage clamp or hiccup	24V Output		≤33		V
		48V Output		≤65		
Over Temperature Protection	400VAC Rated Load			Output Voltage Turn Off, Self-Recovery		

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SPECIFICATION	TEST CONDITIONS			Min	Typ	Max	Unit
ENVIRONMENTAL SPECIFICATIONS							
Operating Temperature				-40		+70	°C
Storage Temperature				-40		+85	°C
Operating Humidity	Non-Condensing					95	%RH
Storage Humidity	Non-Condensing			10		95	%RH
Altitude						5000	m
Power Derating	-40°C to -30°C			3.0			%/°C
	-50°C to +70°C			2.0			
	180VAC-200VAC			0.5			%/VAC
	2000m-5000m			3.5			%/Km
MTBF	MIL-HDBK-217F @25°C			300,000			H
GENERAL SPECIFICATIONS							
Typ. Efficiency	@400VAC			See Table			
Isolation Test	Electric Strength Test for 1min., Leakage Current <5mA		Input-Output	4000			VAC
			Input-PE	2000			
			Output-PE	500			
			Output-DC OK	500			
Insulation Resistance	500VDC		Input-Output	100			MΩ
			Input-PE	100			
			Output-PE	100			
PHYSICAL SPECIFICATIONS							
Weight				1.74lbs (0.79kg)			
Dimensions (L x W x H)				4.88in x 2.13in x 4.33in (124mm x 54mm x 110mm)			
Case Material				Metal (AL1100, SGCC)			
Cooling				Free Air Convection			
SAFETY CHARACTERISTICS							
Safety Standards				EN62368-1, BS EN 62368-1 (Report) Design Refers to UL508, UL61010-1, UL62477-1, UL60664, UL62368-1, GB4943.1 & EN61558-1			
Safety Class				Class I			
Emissions	CE	CISPR32/EN55032		Class B			
	RE	CISPR32/EN55032		Class B			
	Harmonic Current	IEC/EN61000-3-2		Class A			
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			
	PFM	IEC/EN61000-4-8	30A/m	Perf. Criteria B			
	Voltage Dips, Short Interruptions and Voltage Variations Immunity	IEC/EN61000-4-11	100% dip 1 period, 30% dip 25 periods, 100% interruptions 250 periods	Class B			

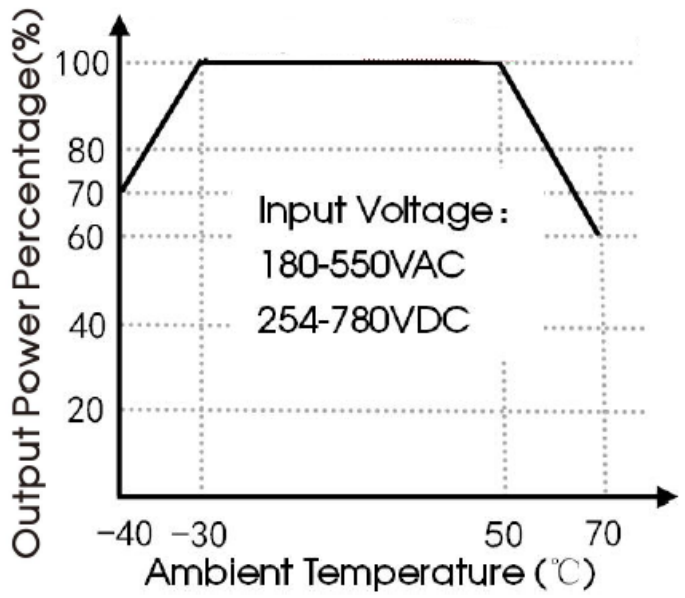
NOTES

1. The actual adjustment range may extend outside the values stated. Care should be exercised to ensure that the output voltage and power levels remain within the published maximum values.
2. The “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. 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.
4. This product is Listed to applicable standards and requirements by UL.
5. The room temperature derating of 3.5°C/1000m is needed for operating altitude greater than 2000m.
6. 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.
7. Customization is available, contact factory for more details.
8. Out case needs to be connected to PE of system when the terminal equipment is in operation.
9. Our products should be classified according to ISO14001 and related environmental laws and regulations and should be handled by qualified units.

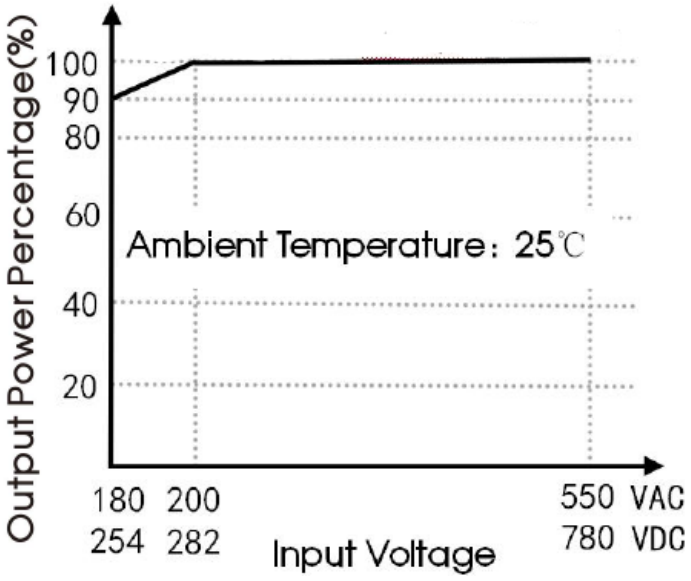
**Due to advances in technology, specifications subject to change without notice.*

CHARACTERISTIC CURVES

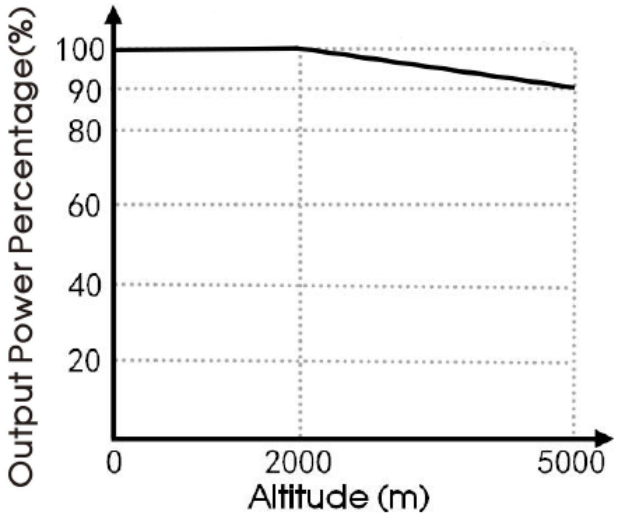
Temperature Derating Graph



Input Voltage Derating Curve



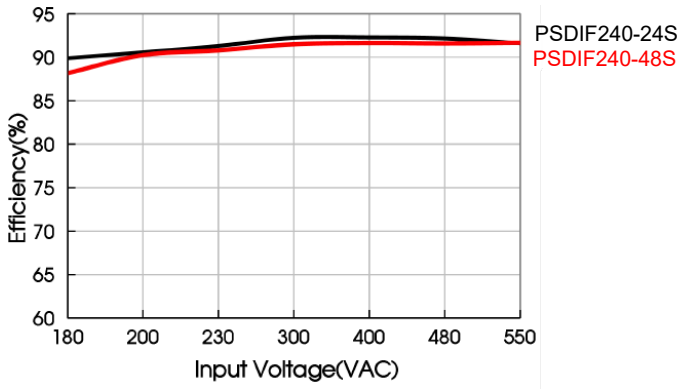
Ambient Temperature



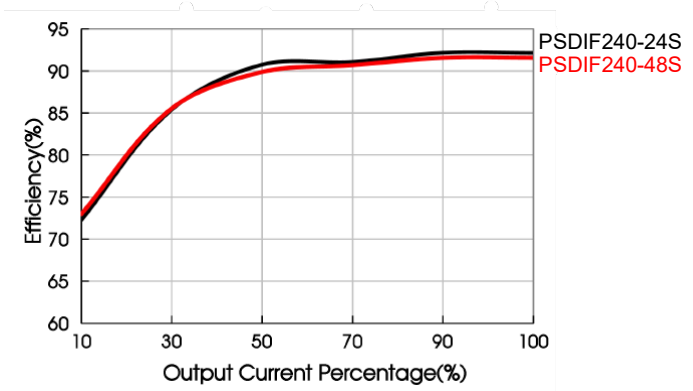
Note:
1. With an AC input between 180-200VAC and a DC input between 254-282VDC, the output power must be derated as per the temperature derating curve
2. This product is suitable for applications using natural air cooling. For applications in a closed environment, please contact factory.

EFFICIENCY GRAPHS

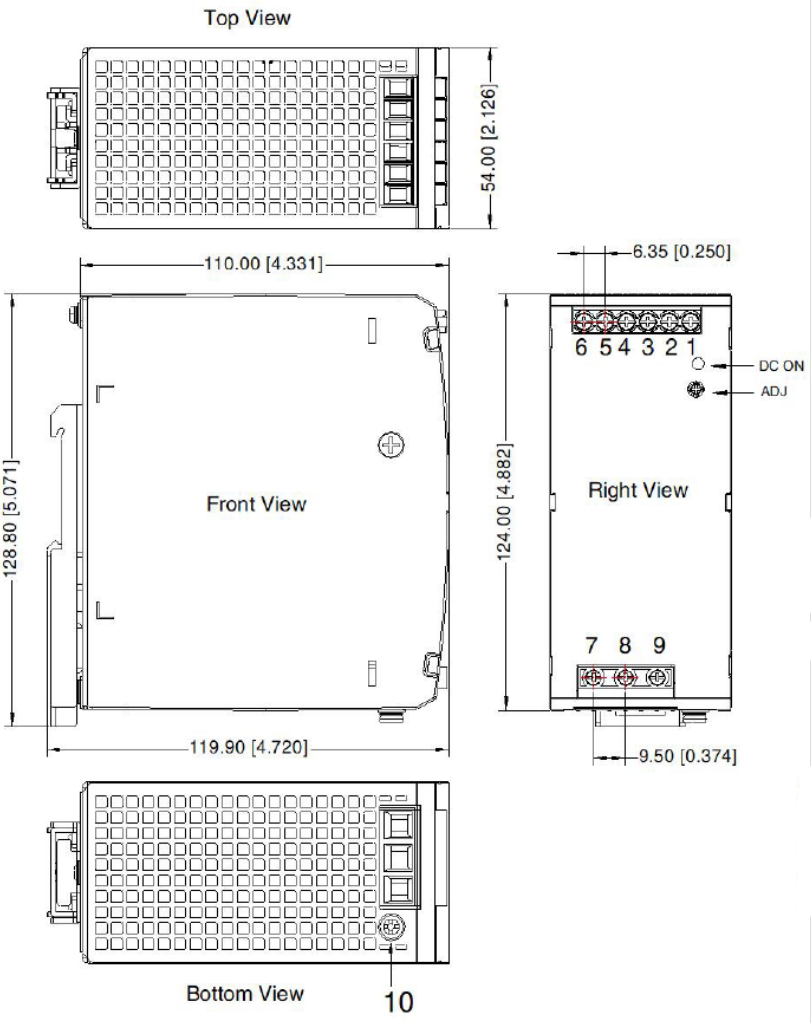
Efficiency vs. Input Voltage (Full Load)



Efficiency vs. Output Load (Vin=400VAC)



MECHANICAL DRAWINGS



THIRD ANGLE PROJECTION

Pin Out

Pin	Function
1	+Vo
2	+Vo
3	-Vo
4	-Vo
5	DC OK
6	
7	L1
8	L2
9	⏚

9,10 any position must be connected to the earth (⏚)

Note:
Unit: mm [inch]
DC ON: Output status indicator LED
ADJ: Output adjustable resistor
Wire Range: Input: 24-10AWG
(12-10AWG for pin9)
Output: 24V: 16-10AWG
48V: 18-10AWG
DC OK: 24-16AWG
Input Tightening Torque: Max. 1.0 N·m
Output Tightening Torque: Max 0.5 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 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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