



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

FEATURES

- Universal 180-600VAC or 254-848VDC Input Range
- High I/O Isolation Voltage Up to 4000VAC
- Industrial-Grade Design
- DC OK Function
- 150% Peak Load for 3 Seconds
- LED Indicator for Power On
- RoHS Compliant
- High Reliability
- High Efficiency
- Low Ripple & Noise
- Output Short Circuit, Over Current, Over Voltage, and Over Temperature Protection
- OVC III, 2000m Altitude (UL508, IEC60664 Standards)
- Safety According to UL508, UL61010, EN/IEC62368, and IEC60664

DESCRIPTION

The PSDIN120 series of AC/DC converters offers 120 watts of power in a 1.61" x 4.33" x 4.88" DIN rail package. This series consists of single output models with a wide input voltage range of either 180-600VAC or 254-848VDC. Each model features high efficiency, high reliability, high I/O isolation test voltage up to 4000VAC, and low ripple and noise. It is protected against output short circuit, over current, over voltage, and over temperature conditions and safety according to UL508, UL61010, EN/IEC62368, and IEC60664.

MODEL SELECTION TABLE

Model Number	Input Voltage Range	Output Voltage	Output Current	Output Voltage Adjustable Range ⁽¹⁾	Output Power	Maximum Capacitive Load	Ripple & Noise	Efficiency
PSDIN120-12S	180-600VAC (254-848VDC)	12V	10A	12-14V	120W	15000µF	120mV	89.5%
PSDIN120-24S		24V	5A	24-28V		10000µF	120mV	91%
PSDIN120-48S		48V	2.5A	48-55V		8000µF	150mV	92%

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		600	VAC
	DC Input		254		848	VDC
Input Frequency			47		63	Hz
Input Current	230VAC			1.2	1.4	A
	400VAC			0.7	1.0	A
Inrush Current	400VAC	Cold Start		50		A
Leakage Current					3.5	mA/rms
Hot Plug					Unavailable	
OUTPUT SPECIFICATIONS						
Output Voltage				See Table		
Output Voltage Accuracy	0% - 100% Load	12V Output		±1.5	±2.0	%
		24V/48V Output		±1.0		
Line Regulation	Rated Load			±0.5		%
Load Regulation	400VAC	12V Output		±0.5	±1.0	%
		24V/48V Output		±0.5		
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/24V Output			120	mV
		48V Output			150	
Temperature Coefficient				±0.03		%/°C
Hold-Up Time	230VAC			10		ms
	400VAC			50		
Start-Up Time	400V Input, Room temperature, Full Load (Cold Start)				2	S
DC OK Signal				30VDC/1A Max.		

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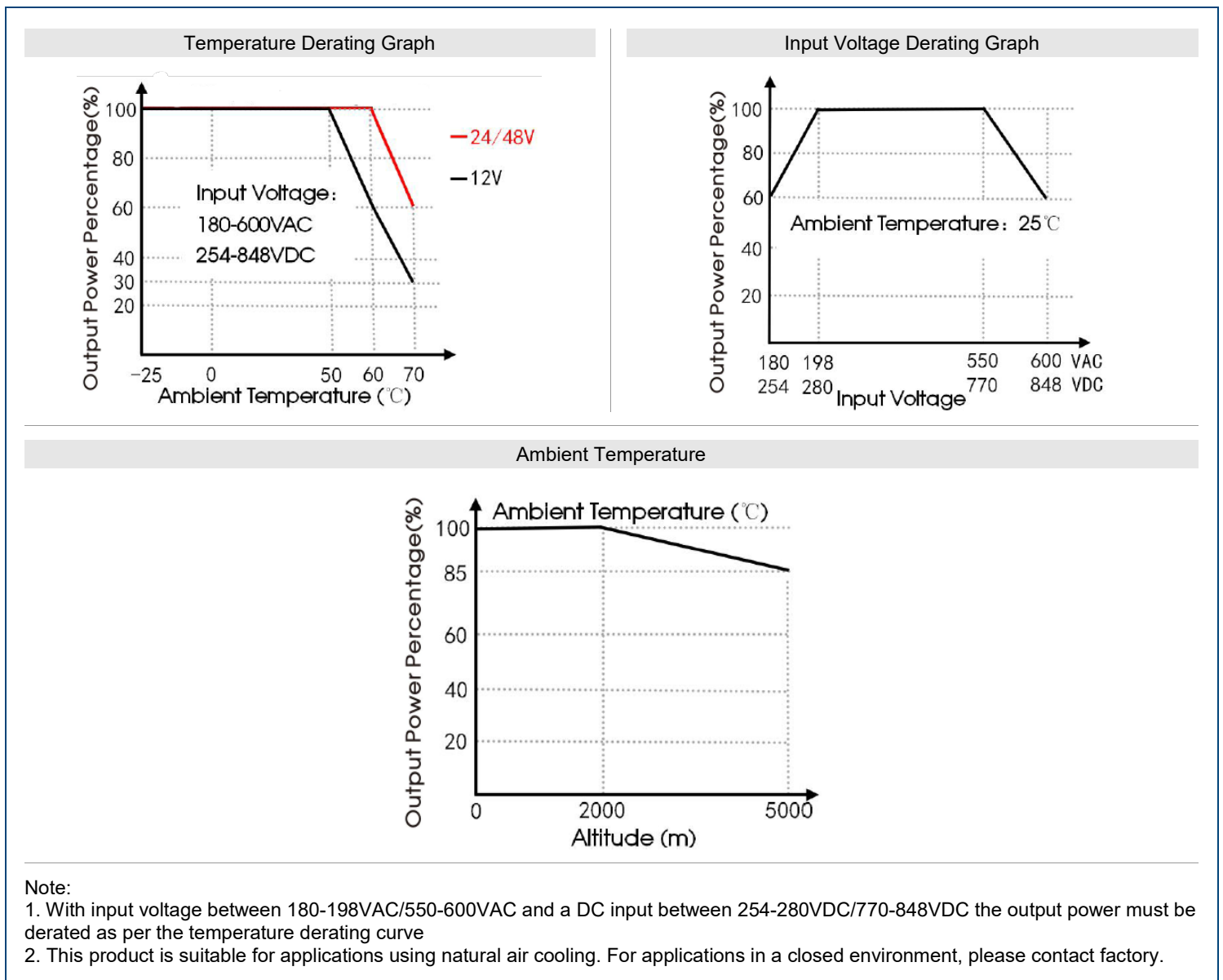
SPECIFICATION	TEST CONDITIONS		Min	Typ	Max	Unit
PROTECTION						
Short Circuit Protection	Recovery Time <5s after the short circuit disappears		Constant current hiccup, self-recovery			
Over Current Protection	Hiccup Self-Recovery			≥150		%Io
Over Voltage Protection	Output Voltage Hiccup	12V Output		≤16		V
		24V Output		≤35		
		48V Output		≤60		
Over Temperature Protection	Shutdown Output		Recovery after restart			
ENVIRONMENTAL SPECIFICATIONS						
Operating Temperature			-25		+70	°C
Storage Temperature			-40		+85	°C
Storage Humidity	Non-Condensing		10		95	%RH
Altitude					5000	m
Power Derating	12V Output	+50°C to +60°C	4.0			%I°C
		+60°C to +70°C	3.0			
	24V/48V Output	+60°C to +70°C	4.0			%VAC
	180VAC-198VAC		2.23			
	550VAC-600VAC		0.8			
2000m-5000m		5.0			%/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 <10mA	Input-Output	4000			VAC
		Input-PE	2000			
		Output-PE	500			
Insulation Resistance	500VDC	Electric Strength Test for 1min. Leakage Current <2mA	Output-DC OK	500		MΩ
		Input-Output	100			
		Input-PE	100			
		Output-PE	100			
PHYSICAL SPECIFICATIONS						
Weight			19.40oz (550g)			
Dimensions (L x W x H)			1.61in x 4.33in x 4.88in (41mm x 110mm x 124mm)			
Case Material			Metal (AL1100, SPCC, SGCC)			
Cooling			Free Air Convection			
SAFETY CHARACTERISTICS						
Safety Standards/Certifications	Design Refers to		UL508, UL61010, EN/IEC62368, IEC60664			
Safety Class			Class I			
Emissions	CE	CISPR32/EN55032	Class B			
	RE	CISPR32/EN55032	Class B			
	Voltage Flicker	IEC/EN61000-3-3				
	Harmonic Current	IEC/EN61000-3-2	Class A			
Immunity	ESD	IEC/EN61000-4-2	Contact ±4kV/Air ±8kV	Perf. Criteria A		
	RS	IEC/EN61000-4-3	10V/m	Perf. Criteria A		
	EFT	IEC/EN61000-4-4	±2kV	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	100% dip 1 period, 30% dip 25 periods, 100% interruptions 250 periods	Perf. Criteria A		
	Industrial Environment Immunity	EN61000-6-2		Class A		

NOTES

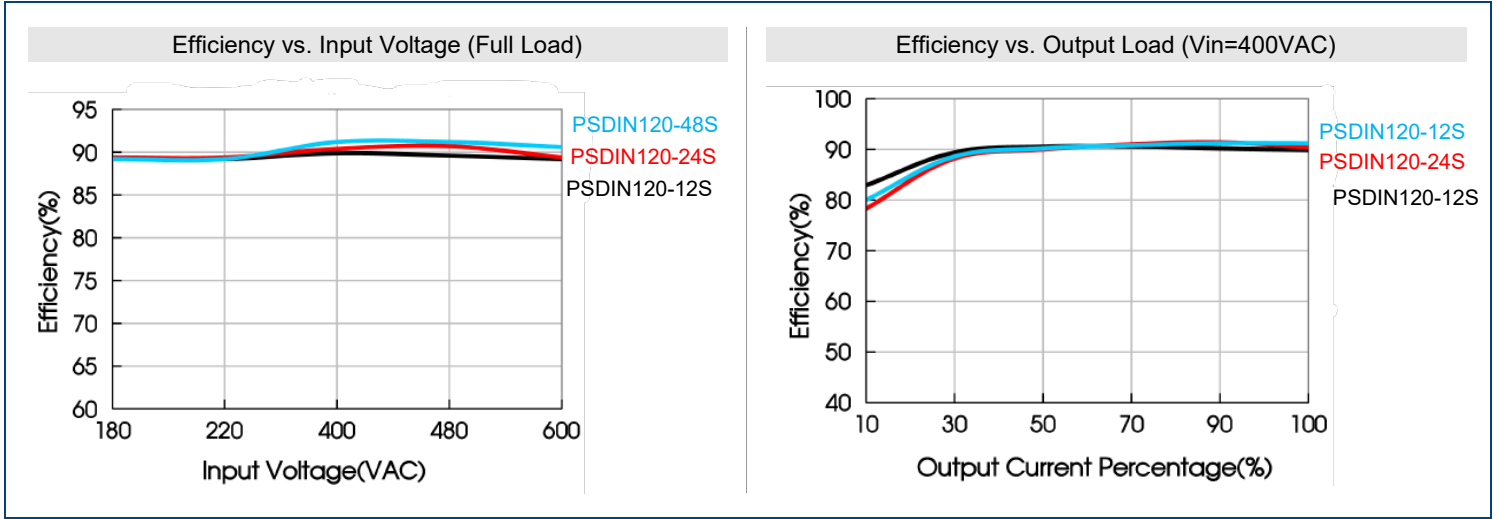
1. The actual adjustment range may extend outside the values stated, care should be exercised to ensure that the output voltage and power levels remain within the published maximum values.
2. The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor. Contact factory for more information.
3. The 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, contact factory for more details.
6. Out case needs to be connected to PE of system when the terminal equipment is in operation.
7. 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.*

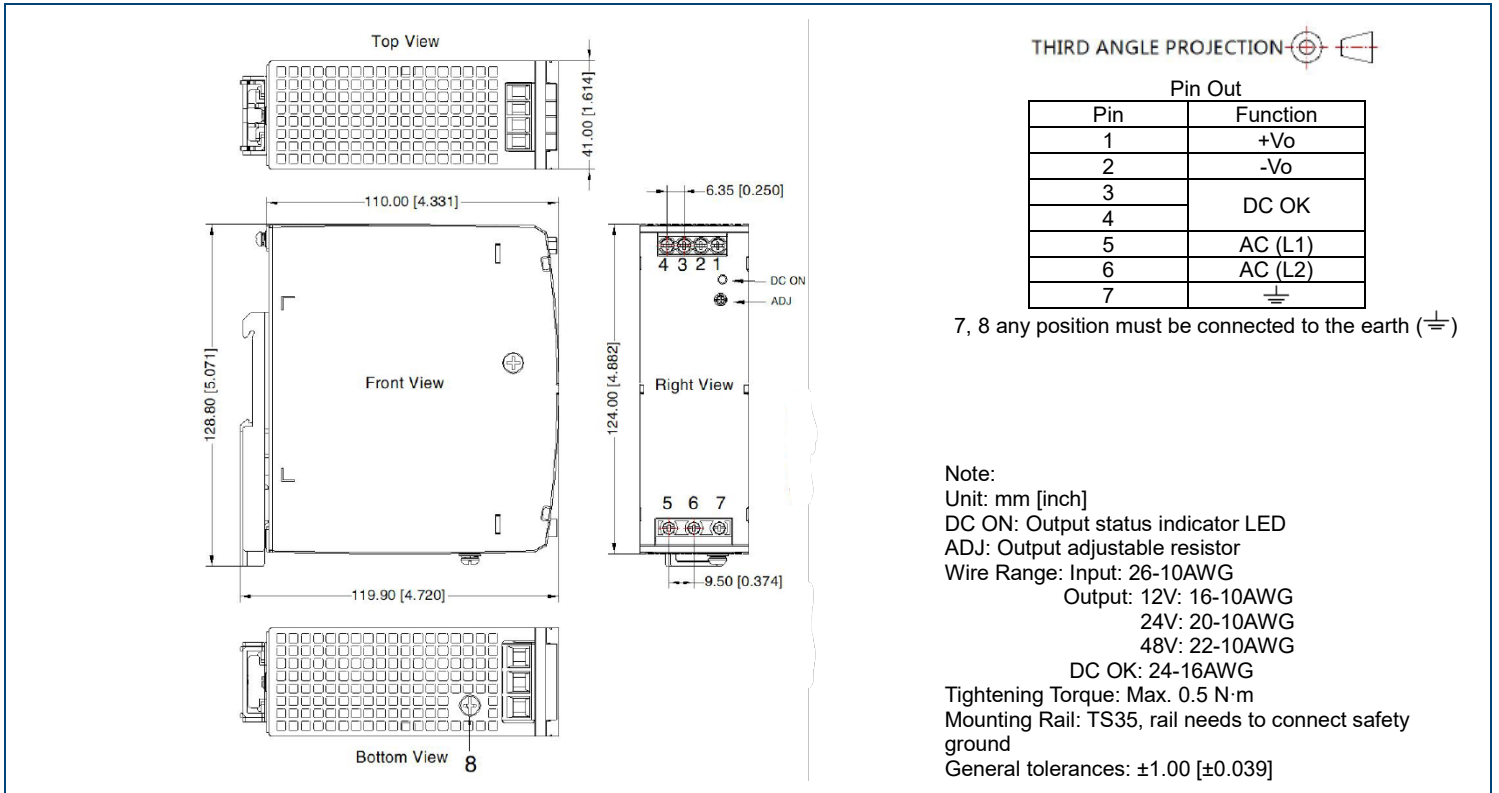
CHARACTERISTIC CURVES



EFFICIENCY GRAPHS



MECHANICAL DRAWINGS



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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