DIP Package (A1 Suffix)

Size: 3.43 x 2.05 x 1.16in (87 x 52 x 29.5mm)

Chassis Mounting (A2 Suffix)

Size: 5.32 x 2.76 x 1.49in (135 x 70 x 37.9mm)

DIN Rail Mounting (A4 Suffix)

Size: 5.39 x 2.76 x 1.67in (137 x 70 x 42.4mm)

UL62368-1 EN62368-1 CB Report RoHS

OPTIONS

- Package Type
  -DIP
  -Chassis Mount
  -DIN Rail

FEATURES

- Wide Input Voltage Range: 85~264VAC (100~370VDC)
- High I/O Isolation Test Voltage up to 4000VAC
- High Reliability, High Power Density & High Efficiency
- Regulated Output
- Low Output Ripple & Noise
- Short Circuit, Over Current Protection, and Over Voltage Protection
- Plastic Case Meets UL94V-0 Flammability
- RoHS Compliant
- DIP, Chassis Mount, or DIN-Rail Mount Available
- EMI Performance meets CISPR32 / EN55032 Class B
- Meets IEC/UL62368-1 Safety Approval & EN62368-1

APPLICATIONS

- Industrial
- Instrumentation
- Communication
- Civil Applications

DESCRIPTION

The PSLEA60 series of AC/DC converters offers up to 60 watts of output power in a DIP, chassis mount, or DIN rail mount package. This series consists of single output models with a wide input voltage range of 85~264VAC (100~370VDC). Each model in the PSLEA60 series features high power density, high efficiency, regulated output, low ripple and noise, and protection against short circuit, over current, and over voltage conditions. This series has IEC/UL62368-1 and EN62368-1 safety standards and is RoHS compliant.

MODEL SELECTION TABLE

Model Number[1]	Input Voltage Range	Output Voltage	Output Current		Output Power	Maximum Capacitive Load	Efficiency
			Min Load	Max Load			
PSLEA60-05Sx	85~264VAC (100~370VDC)	5V	0%	10000mA	50W	20000μF	84%
PSLEA60-12Sx		12V	0%	5000mA	60W	4000μF	87%
PSLEA60-15Sx		15V	0%	4000mA		3000μF	88%
PSLEA60-24Sx		24V	0%	2500mA		1800μF	89%
PSLEA60-48Sx		48V	0%	1250mA		470μF	90%

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		85		264	VAC
	DC Input		100		370	VDC
Input Frequency			47		63	Hz
Input Current	115VAC				1.8	A
	230VAC				1.0	
Inrush Current	115VAC			45		A
	230VAC			90		
Built-In Fuse				3.15A/250A, slow-blow		
Hot Plug				Unavailable		
Leakage Current	240VAC/50Hz			0.25mA RMS Max.		
OUTPUT SPECIFICATIONS						
Output Voltage				See Table		
Voltage Accuracy				±2		%
Line Regulation	Full Load			±0.5		%
Load Regulation	0%-100% Load			±1		%
Output Power				See Table		
Output Current				See Table		
Minimum Load			0			%
Ripple & Noise[2]	20MHz bandwidth, peak-peak value				120	mV
Hold-Up Time	115VAC Input			8		ms
	230VAC Input			65		
Temperature Coefficient				±0.02		%/°C
Stand-By Power Consumption	230VAC, normal temperature				0.5	W
PROTECTION						
Short Circuit Protection				Hiccup, Continuous, Self-Recovery		
Over Current Protection	Self-Recovery			≥110		%Io
Over Voltage Protection	Output Voltage Clamp or Hiccup	5V Output		≤9		V
		12V Output		≤16		
		15V Output		≤25		
		24V Output		≤35		
		48V Output		≤60		
ENVIRONMENTAL SPECIFICATIONS						
Operating Temperature			-40		+70	°C
Storage Temperature			-40		+85	°C
Storage Humidity					95	%RH
Soldering Temperature	Wave-Soldering			260±5°C; time: 5-10s		
	Manual-Welding			360±10°C; time: 3-5s		
Power Derating	-40°C to -25°C	85-220VAC Input	4.00			%/°C
	40°C to 70°C	5V Output	1.83			
	50°C to 70°C	12V, 15V, 24V, 48V Output	2.75			
	85VAC - 100VAC		0.8			%/VAC
MTBF	MIL-HDBK-217F @25°C		300,000			Hours
GENERAL SPECIFICATIONS						
Typ. Efficiency	230VAC			See Table		
Isolation Voltage	Input-Output, Electric Strength Test for 1min (leakage current <5mA)		4000			VAC
PHYSICAL SPECIFICATIONS						
Weight	DIP (A1 Suffix)			7.41oz (210g)		
	Chassis Mounting (A2 Suffix)			10.23oz (290g)		
	DIN Rail Mounting (A4 Suffix)			12.70oz (360g)		
Dimensions (L x W x H)	DIP Mounting (A1 Suffix)			3.43 x 2.05 x 1.16in (87 x 52 x 29.5mm)		
	Chassis Mounting (A2 Suffix)			5.32 x 2.76 x 1.49in (135 x 70 x 37.9mm)		
	DIN Rail Mounting (A4 Suffix)			5.39 x 2.76 x 1.67in (137 x 70 x 42.40mm)		
Case Material	Black Plastic, Flame-Retardant and Heat-Resistant			UL94-V0		
Cooling Method				Free Air Convection		

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
SAFETY CHARACTERISTICS							
Safety Standard		IEC/UL62368-1 Safety Approval & EN62368-1 (Report) [3]					
Safety Class							Class II
Emissions		CE	CISPR32/EN55032				Class B
		RE	CISPR32/EN55032				Class B
Immunity	ESD	IEC/EN61000-4-2	Contact ±6kV/Air ±8kV				Perf. Criteria B
	RS	IEC/EN61000-4-3	10V/m				Perf. Criteria A
	EFT	IEC/EN61000-4-4	±4kV				Perf. Criteria B
	Surge	IEC/EN61000-4-5	Line to Line ±1kV				Perf. Criteria B
		IEC/EN61000-4-5	Line to Line ±2kV/Line to Ground ±4KV[4]				Perf. Criteria B
	CS	IEC/EN61000-4-6	10Vr.m.s				Perf. Criteria A
	Voltage Dips, Short Interruptions & Voltage Variation	IEC/EN6000-4-11	0%, 70%				Perf. Criteria B

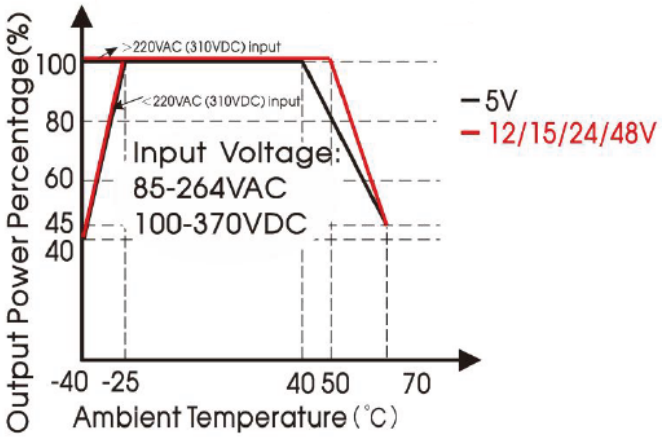
NOTES

1. "X" in model number represents case type. "X" can either be "A1" for DIP, "A2" for chassis mount, or "A4" for DIN rail mount.
2. Parallel cable method is used for ripple and noise test. Contact factory for specific information.
3. This product is Listed to applicable standards and requirements by UL.
4. See 'Design Notes-EMC Compliance Recommended Circuit' for recommended circuit.
5. If product is not operated within the required load range, the product performance cannot be guaranteed to comply with all parameters in the data sheet.
6. Customization is available. Please contact factory for more information.
7. Products classified according to ISO14001 and related environmental laws and regulations and should be handled by qualified units.

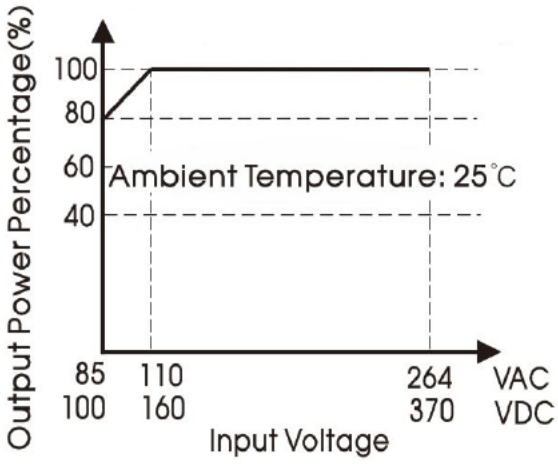
**Due to advances in technology, specifications subject to change without notice.*

DERATING CURVES

Temperature Derating Curve



Input Voltage Derating Curve

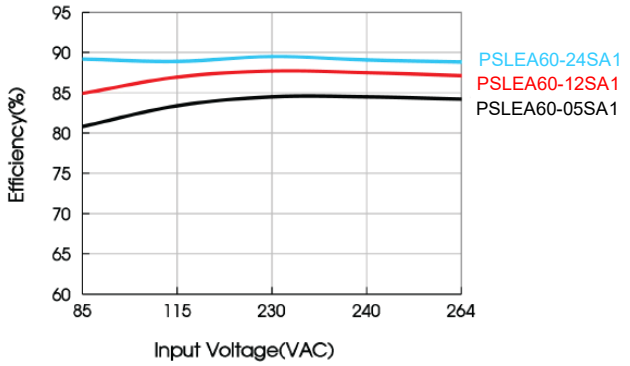


Note:

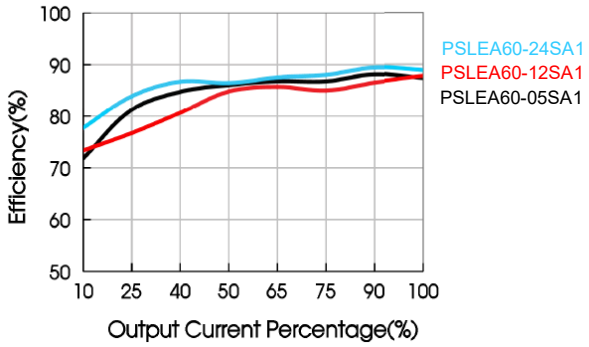
1. With AC input between 85-110VAC and a DC input between 100-160VDC, the output power must be derated per temperature derating curves.
2. This product is suitable for use in natural air cooling environments, if in a closed environment, contact factory.

EFFICIENCY CURVES

Efficiency vs. Input Voltage (Full Load)

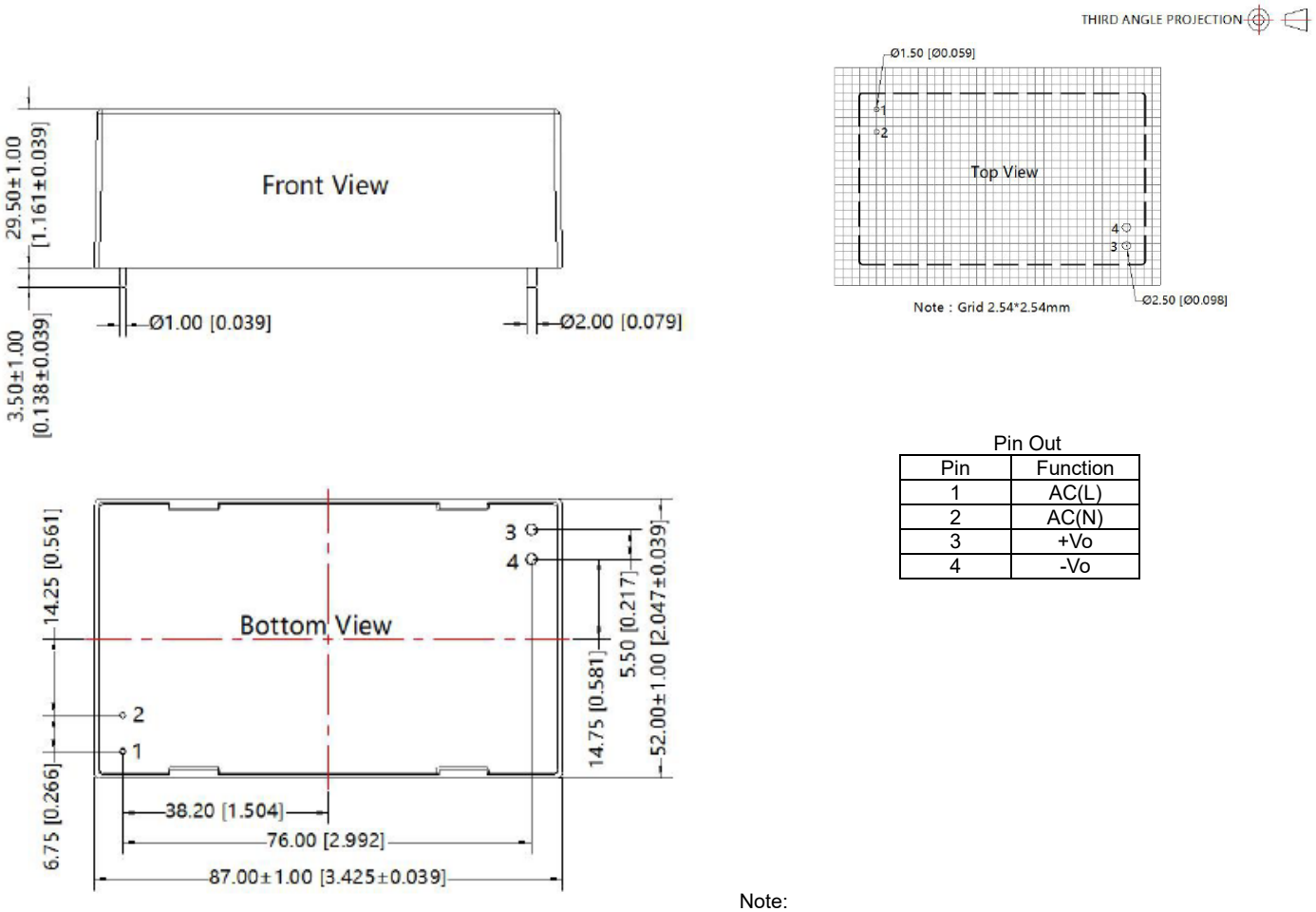


Efficiency vs. Output Load (Vin=230VAC)



MECHANICAL DRAWINGS

DIP Mount (A1 Suffix)

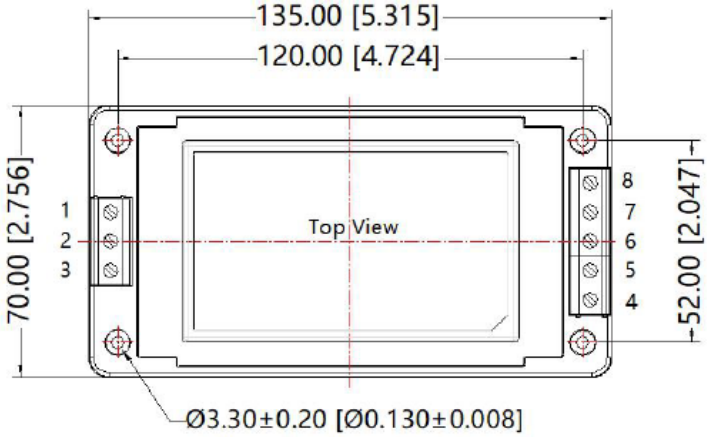


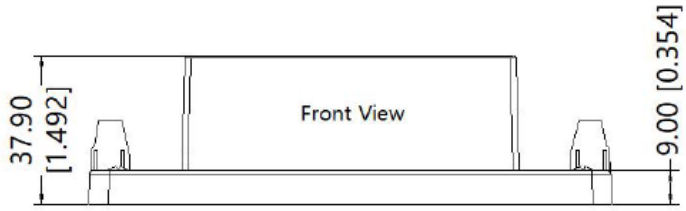
Pin Out

Pin	Function
1	AC(L)
2	AC(N)
3	+Vo
4	-Vo

Note:
Unit: mm [inch]
Pin diameter tolerances: ±0.10 [±0.004]
General Tolerances: ±0.50 [±0.020]

Chassis Mount (A2 Suffix)





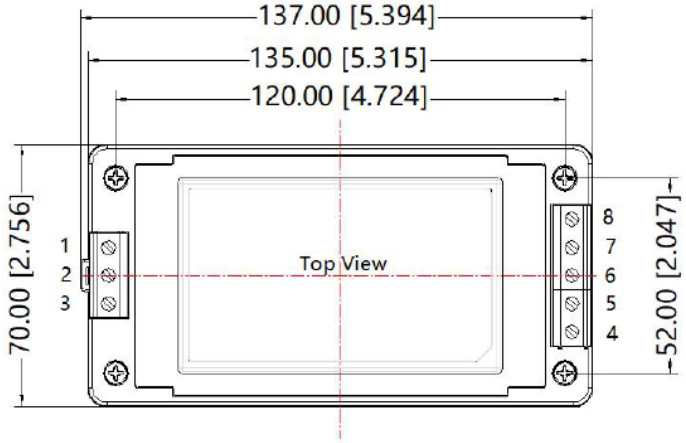
THIRD ANGLE PROJECTION

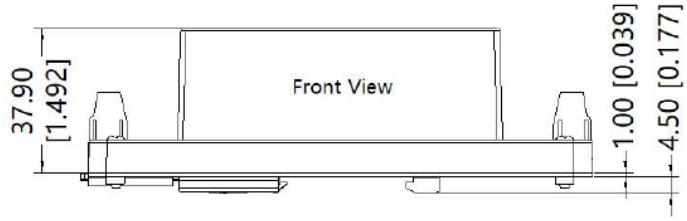
Pin Out

Pin	Function
1	AC(L)
2	NC
3	AC(N)
4	+Vo
5	-Vo
6	NC
7	NC
8	NC

Note:
Unit: mm [inch]
Wire range: 24-12 AWG
Tightening Torque: Max 0.4 N·m
General Tolerances: ±1.00 [±0.040]

DIN Rail Mount (A4 Suffix)





THIRD ANGLE PROJECTION

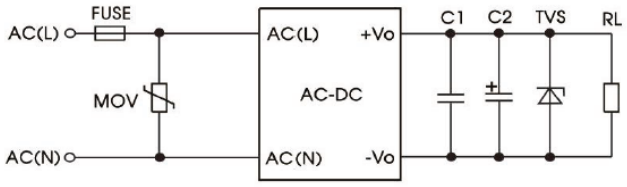
Pin Out

Pin	Function
1	AC (L)
2	NC
3	AC (N)
4	+Vo
5	-Vo
6	NC
7	NC
8	NC

Note:
Unit: mm [inch]
Wire range: 24-12AWG
Tightening Torque: Max 0.4 N·m
Installed on DIN Rail TS35
General Tolerances: ±1.00 [±0.040]

TERMINAL BLOCK OPTIONS

Typical Application Circuit

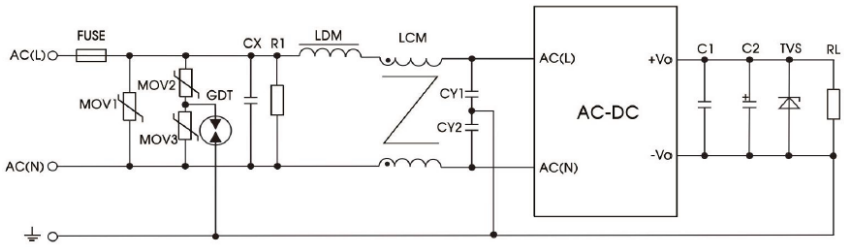


Typical Circuit Diagram

Model	C1 (μF)	C2(μF)	FUSE	MOV	TVS
PSLEA60-05SA1	1	680	3.15A/250V, slow-blow	S10K300	SMBJ7.0A
PSLEA60-12SA1		330			SMBJ20A
PSLEA60-15SA1		330			SMBJ20A
PSLEA60-24SA1		200			SMBJ30A
PSLEA60-48SA1		100			SMBJ64A

Output Filter Components: We recommend using an electrolytic capacitor with high frequency, and low ESR rating for C2 (refer to datasheet). Choose a capacitor voltage rating with at least 20% margin (not exceeding 80%). C1 is a ceramic capacitor used for filtering high-frequency noise and TVS is a recommended suppressor diode to protect the application in case of a converter failure.

EMC Compliance Recommended Circuit



EMC application circuit with higher requirements

Components	Recommend Parameter
MOV1	S20K300
MOV2/MOV3	S10K300
CX	0.22μF/275VAC
CY1, CY2	1nF/400VAC
R1	1MΩ/2W
LDM	4.7uH
LCM	2mH
GDT	EM3600XS
	3.15A/250V, Slow-Blow, Required

MODEL NUMBER SETUP

PSLEA	60	-	03	S	A1
Series Name	Output Power		Output Voltage	Output Quantity	Package Type
	60: 60 Watts		**05:** 5V **12:** 12V **15:** 15V **24:** 24V **48:** 48V	**S:** Single	**A1:** DIP Mount **A2:** Chassis Mount **A4:** DIN Rail

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.

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