60W, AC/DC Power Converter

SAP60H



Introduction

SAP60H series are compact size AC/DC power converters, featuring universal input voltage range, low stand by power consumption, high efficiency. Designed for high reliability industrial applications, these converters are encapsulated to protect from dust and moisture. They are certified to IEC/EN/UL62368-1, EN60335-1, EN61558-1 and EMC performance meets CISPR32, EN55032 Class B without external components, ideally suitable for industrial, and critical commercial applications.

Features

- → Rated power: 60W
- → Max Universal input: 85~305VAC, 47~63Hz
- → Regulated single output
- → Isolation voltage 4200VAC
- → Typical efficiency 85 … 92%
- → Energy saving, standby power only less than 0.1W Typ.
- → Operating temperature range: -40~+85°C
- → RoHS Compliance
- → Over voltage, over current and short circuit protection
- → No external components required for operating
- → *Meet IEC/EN/UL62368 OVC III, IEC EN 60335, IEC EN 61558, UKCA, FCC etc.
- → 3 year warranty

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Part numbers

Model Number	Input Voltage (VAC)	Output Voltage (VDC)	Output Current [mA] Max	Efficiency [%] Typ*.	Capacitive Load [uF] Max.
SAP60H050	85~305VAC 100~430VDC	5	10.000	89	20.000
SAP60H120		12	5.000	92	5.000
SAP60H150		15	4.000	92	3.000
SAP60H240		24	2.500	91	1.800
SAP60H480		48	1.250	91	470
SAP60H-555		55.5	1.090	91	470

* measured at 230VAC input Voltage

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Electrical characteristics

Unless otherwise indicated, specifications are measured at TA=25°C, humidity <75%, nominal input voltage and rated output load.

Parameter	Condition	Min.	Type	Max.	Unit	Note
Input Voltage Range	AC in DC in	85 100	- -	305 430	VAC VDC	
Input Frequency		47	-	63	Hz	
Nominal Input Voltage		100	-	277	VAC	
Input current	115VAC 230VAC	- -	- -	1.8 1.0	A	
Inrush current Cold start	115VAC 230VAC	- -	40 60	- -	A	
Leakage current	277VAC, 50Hz	-	-	0.1	mA RMS	
Output voltage accuracy		-	±2	-	%	
Line regulation	Full load	-	±1	-	%	
Load regulation	I_{OUT}=0%~100% of I_{OUT}, rated	-	±1.5	-	%	
Ripple and noise	20MHz band-width	-	80	150	mV	
Temperature coefficiency		-	±0.02	-	%/ °C	
Standby power consumption		-	0.1	-	W	
Hold up time Full load	115VAC 230VAC	-	8 60	-	mS	
Over voltage protection Hiccup or clamping by Zener diode	Vout= 5V Vout= 12V Vout=15V Vout=24V Vout= 48V	-	-	6.3 16 25 35 60	VDC	

	Vout= 55.5V			70		
Over current protection	Automatic recovery	140	-	-	% Iout	
Short circuit protection		hiccup mode, automatic recovery				
Build in fuse		3.15A, 300V, slow blow,				
Minimum load		No minimum load is required				

* Ripple and noise measured at 20MHz of bandwidth by using a 12” twisted pair-wire terminated with a 1Uf & 47uF parallel capacitor.

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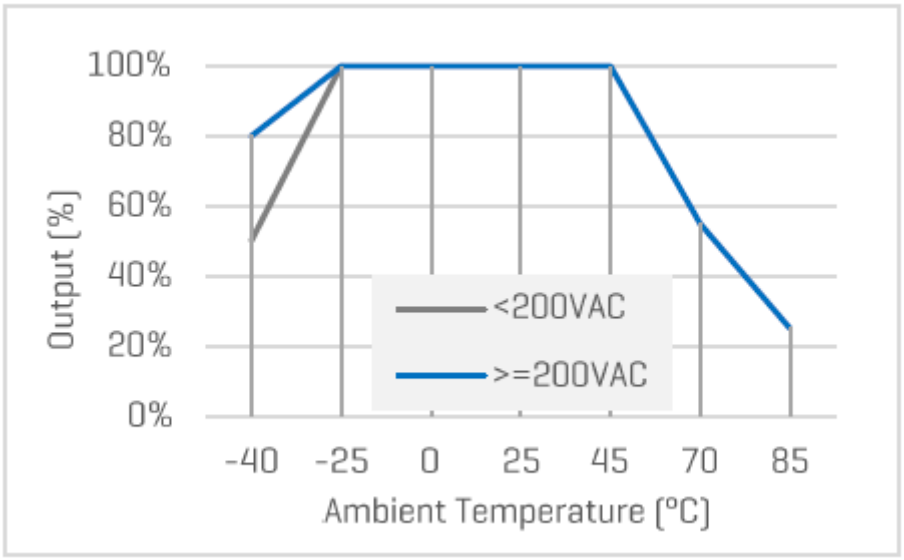
General Specifications

Parameters	Condition	Min.	Typ.	Max.	Unit
Isolation voltage Tested for 1 minute	I/P to O/P	4200	-	-	VAC
Isolation resistance 500VDC, 25°C, 70%RH	I/P to O/P	100	-	-	M Ohm
Switching frequency		-	65	-	KHz
Operating temperature range	See "Derating Curve"	-40	-	85	°C
Storage temperature		-40	-	105	°C
Storage humidity		10	-	95	%RH
Operating altitude	See "Derating Curve	-	-	5000	m
Soldering temperature	5 seconds	-	260	-	°C
Case material		Black plastic UL94-V0			
Cooling method		Free air convection			
Vibration		10Hz to 55Hz, 5G, 30 minutes along X, Y and Z axis			
Overvoltage category		OVC III			
Safety Class		Class II			
MTBF	MIL-HDBK-217F	> 1,000,000 Hours, 25°C			
Design based on standards		RoHS & REACH directives, IEC/EN/UL 62368, OVC III, FCC, UKCA, IEC EN 60335, IEC EN 61558			
Safety Approvals		IEC/EN/UL 62368, OVC III, FCC, UKCA, IEC EN 60335, IEC EN 61558			
EMC standards	ESD Radiated EFT, Burst Surge CS DIP	CISPR32, EN55032 Class B with "NO External Circuit" IEC/EN61000-4-2, Contact ±6kV, Air ±8kV, Criteria B IEC/EN61000-4-3, 10V/m, Criteria A IEC/EN61000-4-4, ±2kV, Criteria B IEC/EN61000-4-5, Line to Line ±2kV, Criteria B IEC/EN61000-4-6, 10Vrms, Criteria IEC/EN61000-4-11, 0%, 70%, Criteria B			
Size, and Weight		70x48x27mm, 180g			

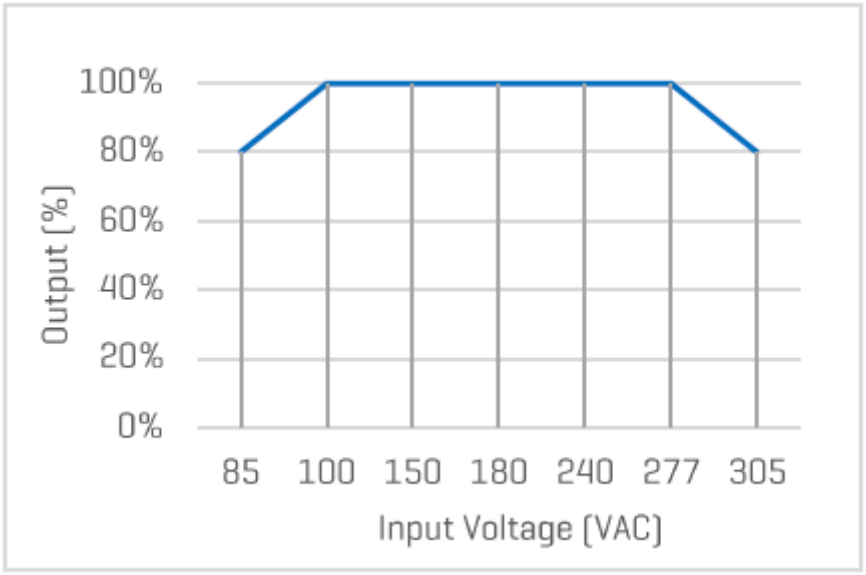
Characteristics Curves

Derating Curve

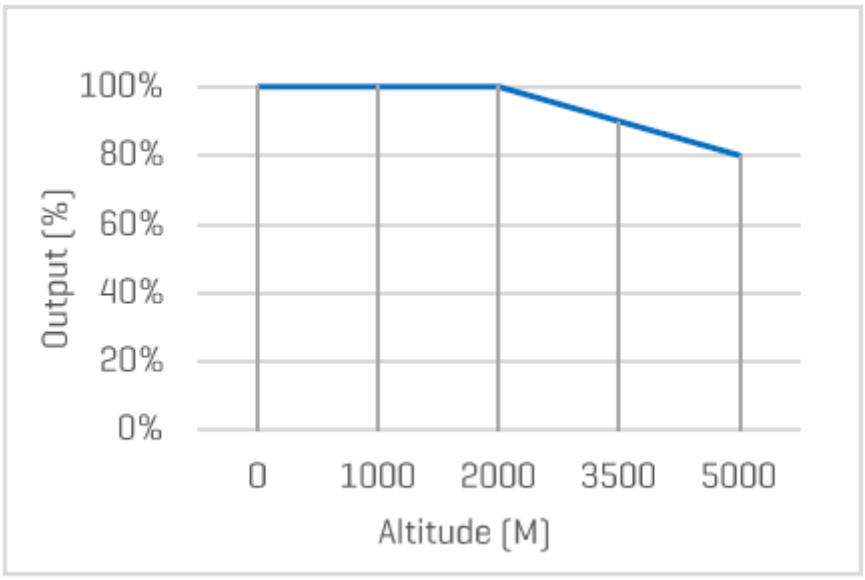
Output vs Ambient Temperature



Output vs Input Voltage

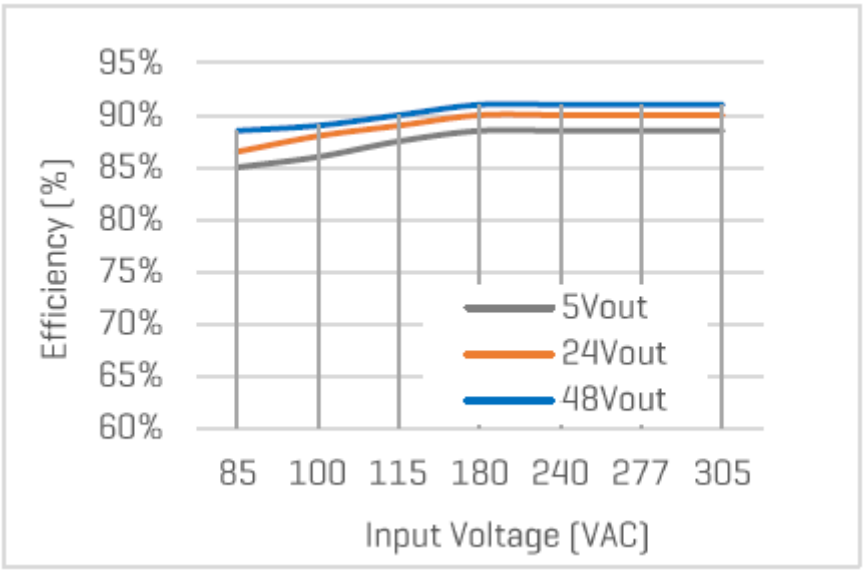


Output vs Altitude

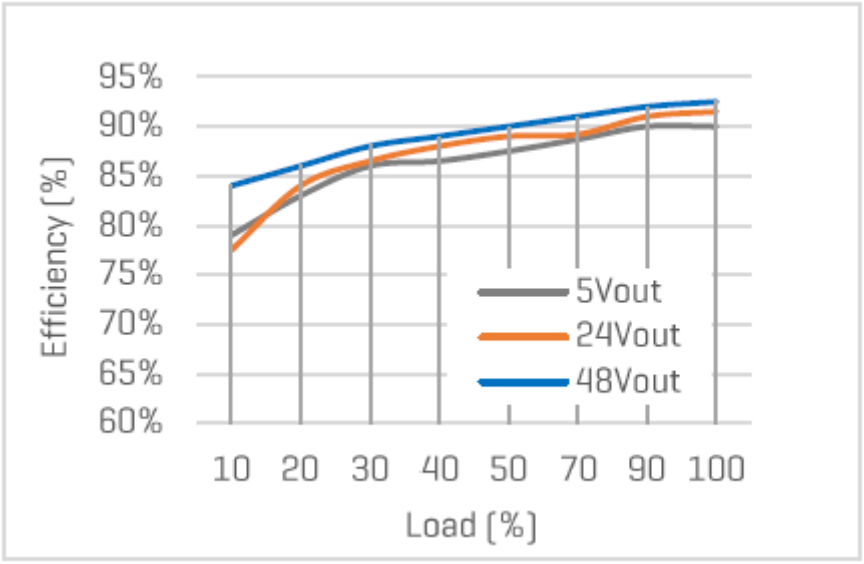


Efficiency Curves

Efficiency vs Input Voltage



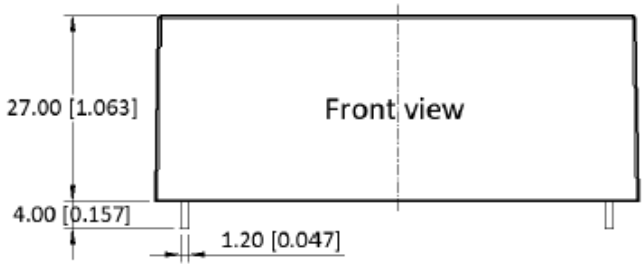
Efficiency vs Load

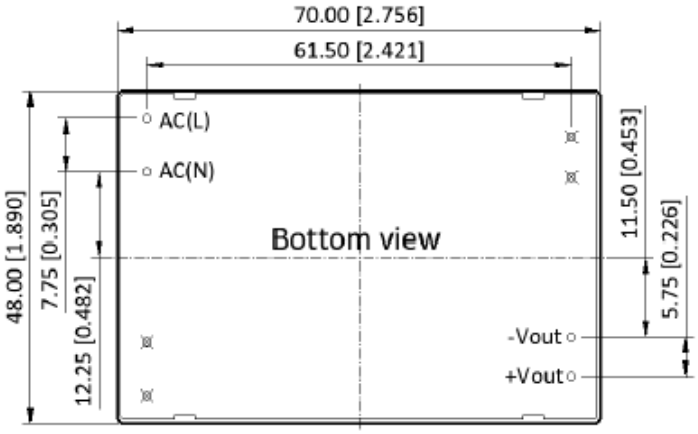


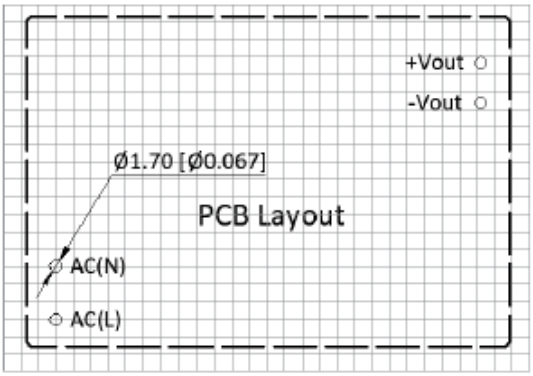
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Mechanical Specifications







Pin Definition

Pin #	Single Out
1	AC (L)
2	AC (N)
3	$+V_{OUT}$
4	$-V_{OUT}$

*** Unless otherwise specified unit: mm [inch]**

*** General tolerance: ±1.00 [±0.040]**

*** Pin thickness: ±0.15 [±0.006]**

*** Pin distance: ±0.50 [±0.020]**

*** Footprint grid 2.54 x 2.54 mm**

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Ordering information

Ordering can be done via www.summit-electronics.com or via info@summit-electronics.com. Please contact us for more information. Customisation of the product is available on request.

Technical support

For all product questions please contact us via info@summit-electronics.com

Document revision

Rev	Date	Changes
2026v0.1	26-01-2026	First issue of document