

15W, AC/DC Power Converter

SAP15H

SUMMIT
ELECTRONICS



Introduction

SAP15H 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, OVC III, EN60335-1, EN61558-1, FCC, UKCA and EMC performance meets CISPR32, EN55032 Class B without support from any external components, ideally suitable for industrial, and critical commercial applications.

Features

- Rated power: 15W Max
- Universal input: 85~305VAC, 47~63Hz
- Regulated single output
- Isolation voltage 4000VAC
- Typical efficiency 81 ... 87%
- Energy saving, standby power only less than 0.1W
- Operating temperature range: -40~+85°C
- RoHS compliance
- No external components required for operating
- Over voltage, over current and short circuit protection
- Certified to IEC/EN/UL62368-1, OVC III, EN60335-1, EN61558-1, FCC, UKCA, CISPR32, EN55032 Class B with NO externals
- 3 year warranty

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Part numbers

Model Number	Input Voltage (VAC)	Output Voltage (VDC)	Output Current [mA] Rated	Output Current [mA] Max.	Efficiency [%] Typ.	Capacitive Load [uF] Max.
SAP15H033	85~305VAC 100~430VDC	3.3	4000	4500	81	8000
SAP15H050		5	3000	4000	85	8000
SAP15H090		9	1670	2200	85	5400
SAP15H120		12	1250	1670	86	4000
SAP15H150		15	1000	1330	87	3000
SAP15H240		24	625	830	87	1000

* Only typical models are listed, other models may be available, upon request.

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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	85	-	305	VAC	
	DC in	100	-	430	VDC	
Input Frequency		47	-	63	Hz	
Nominal Input Voltage		100	-	277	VAC	
Input current	115VAC	-	-	0.18	A	
	230VAC	-	-	0.12	A	
Inrush current Cold start	115VAC	-	35	-	A	
	230VAC	-	70	-	A	
Leakage current	230VAC, 50Hz	-	-	0.6	mA RMS	
Output voltage accuracy		-	±3	-	%	
Line regulation		-	±0.5	-	%	
Load regulation I _{OUT} =0%~100% of I _{OUT} , rated		-	±1.0	-	%	
Ripple and noise 20MHz band-width, peak to peak		-	150	200	mV	
Temperature coefficient		-	±0.03	-	%/°C	
Standby power consumption		-	0.1	-	W	
Hold up time Full load	115VAC	-	10	-	mS	
	230VAC	-	50	-	mS	
Over current protection	Automatic recovery	110	-	-	% I _{OUT}	

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Over voltage protection Hiccup or clamping by zener diode	$V_{OUT}=3.3, 5V$			7.5	VDC	
	$V_{OUT}=9, 12V$	-	-	15		
	$V_{OUT}=15V$			20		
	$V_{OUT}=24V$			30		
Short circuit protection		Continuous, hiccup mode, automatic recovery				
Minimum load		No minimum load is required				
Built in fuse		3.15A, 300V slow blow				

* Ripple and noise measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 1uF ceramic capacitor and a 10uF electrolytic capacitor in parallel.

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General Specifications

Parameters	Condition	Min.	Typ.	Max.	Unit
Isolation voltage Tested for 1 minute	I/P to O/P	4000	-	-	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
Maximum case temperature		-	-	95	°C
Soldering temperature		-	260	-	°C
Case material		Black plastic UL94-V0			
Cooling method		Free air convection			
Class II power		Yes, no FG			
Vibration		10Hz to 55Hz, 5G, 30 minutes along X, Y and Z axis			
MTBF	MIL-HDBK-217F	> 1,000,000 Hours, 25°C			
Design based on standards		RoHS & REACH directives, IEC/EN/UL 62368-1, OVC III, EN 60335-1, EN 61558-1, UKCA			
Safety certifications		IEC/EN/UL 62368-1, EN 60335-1, EN 61558-1, FCC, UKCA			
EMC	CE ESD RS EFT Surge	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			

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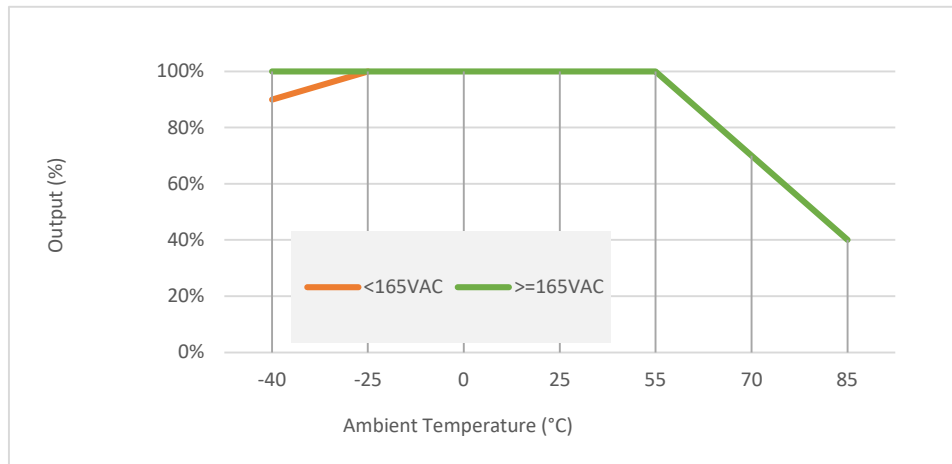


	CS	IEC/EN61000-4-6, 10Vrms, Criteria A
	DIP	IEC/EN61000-4-11, 0%, 70%, Criteria B
Size, and Weight		52.4x27.2x24mm, 55g
Packing		200pcs/Carton, size: 335x345x210mm, 12.5Kg G.W.

Characteristics Curves

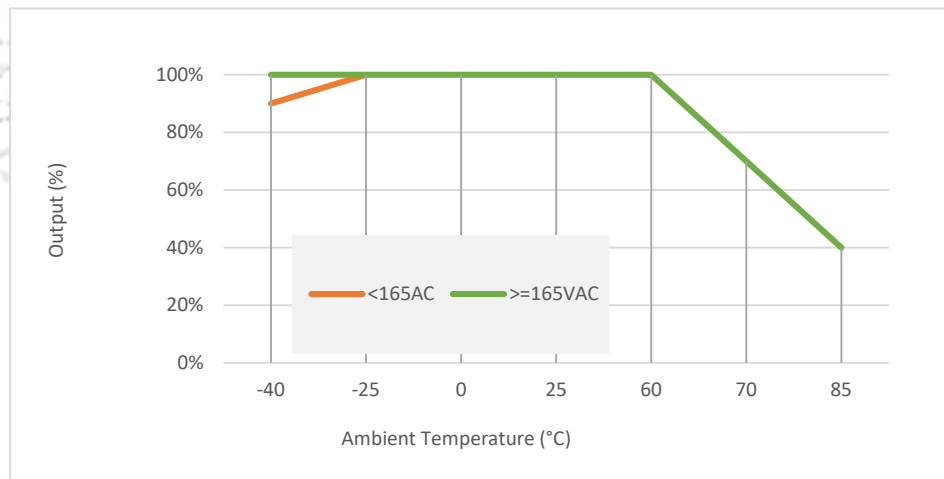
Derating Curve

Output vs Ambient Temperature



$V_{OUT}=3.3 \dots 9V$

Output vs Input Voltage



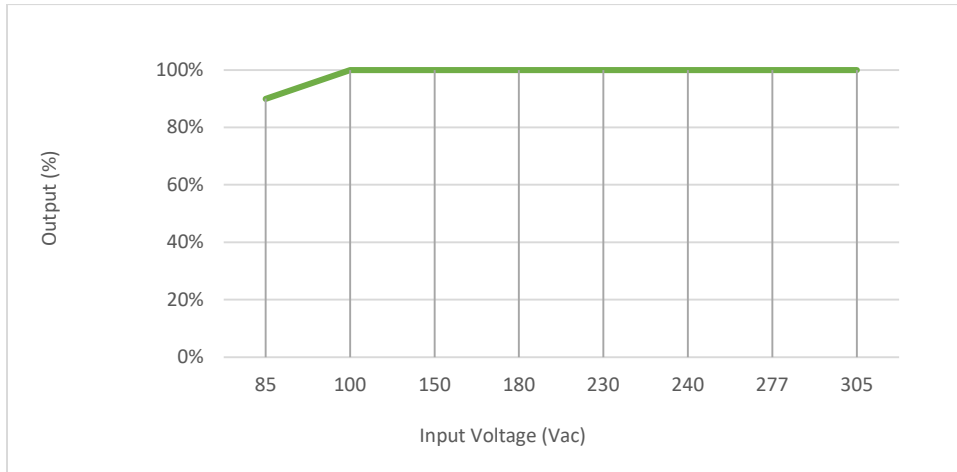
$V_{OUT}=12 \dots 24V$

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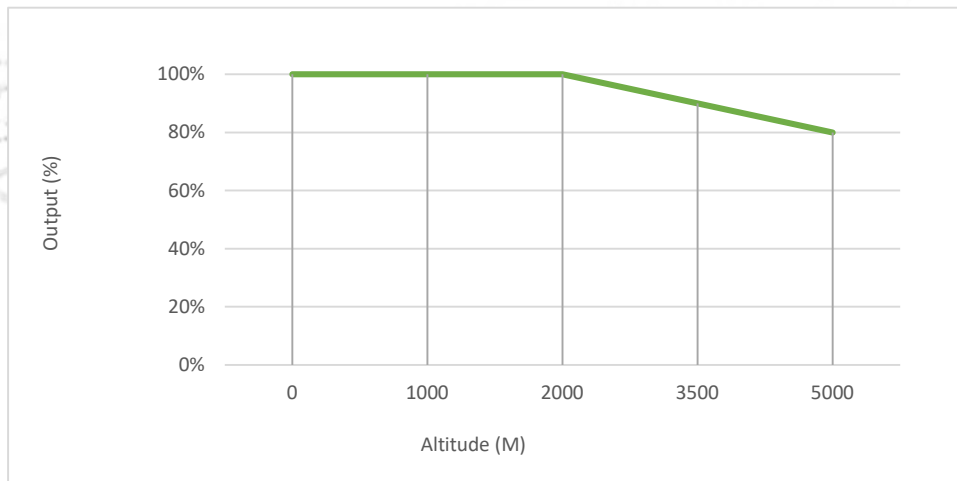
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Output vs Input Voltage



Output vs Altitude



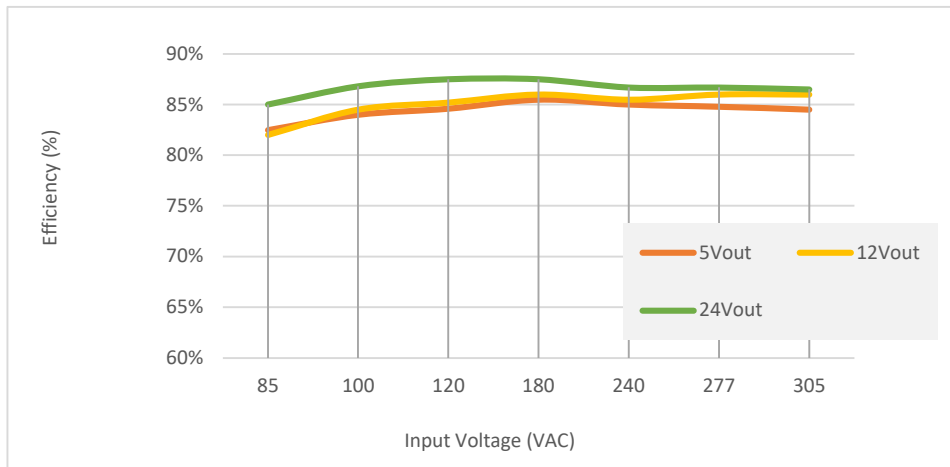
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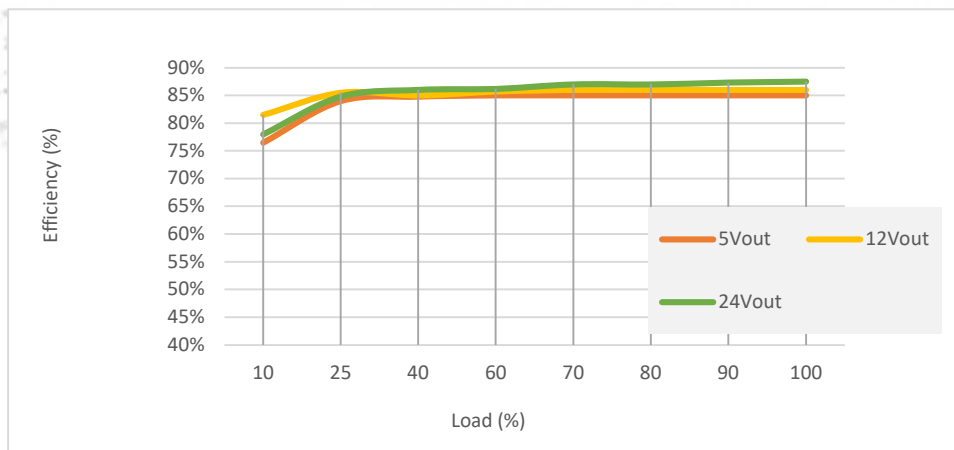


Efficiency Curves

Efficiency vs Input Voltage



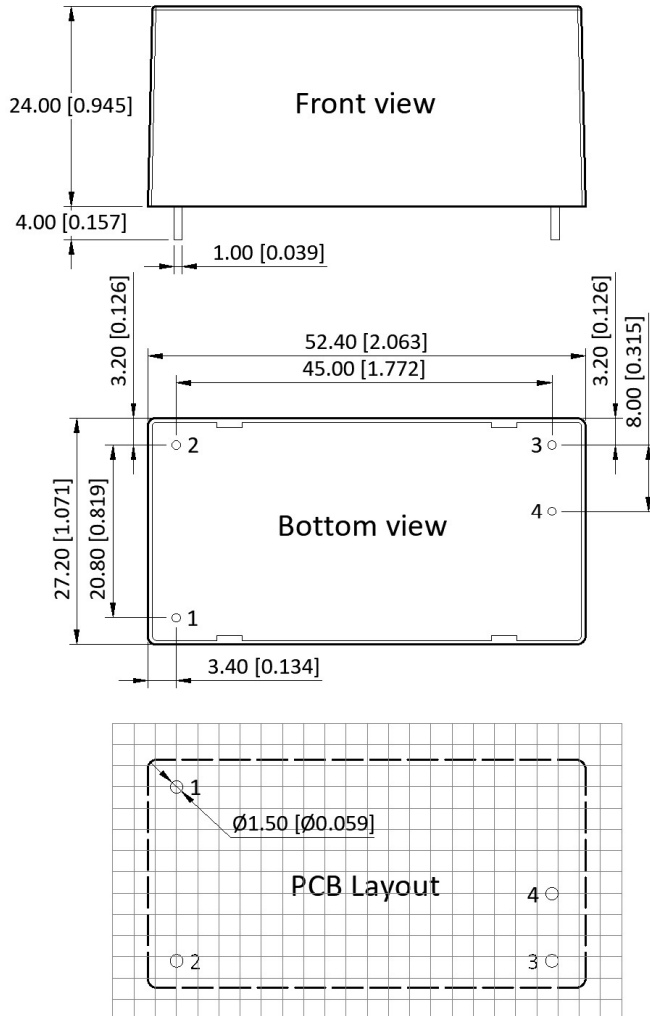
Efficiency vs Load



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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
2025v0.1	26-08-2025	First issue of document