

PMR30H Series

30W, Encapsulated DIP Package AC/DC Power Converters



Features

- Rated power: 30W Max
- Universal input: 85~305VAC, 47~63Hz
- Regulated single output
- Isolation voltage 4200VAC
- Typical efficiency 85 ... 90%
- Energy saving, standby power only less than 0.1W
- Operating temperature range: -40~+85°C
- RoHS compliance
- Compact DIP package
- Over voltage, over current and short circuit protection
- Meet CISPR32, EN55032 Class B without external component
- Meet to IEC/EN/UL 62368 OVC III, and UKCA, EN 60335, EN 61558, FCC etc.
- 3 year warranty



* UL certification is pending

Overview

PMR30H 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 designed to meet IEC/EN/UL62368-1, EN60335, EN61558 and EMC performance meets CISPR32, EN55032 Class B without external components, ideally suitable for industrial, and critical commercial applications.

Model Numbers

Model Number	Input Voltage [VAC]	Output Voltage [VDC]	Output Current [mA] Max.	Efficiency [%] Typ.	Capacitive Load [uF] Max.
PMR30H-033	85~305VAC 100~430VDC	3.3	6000	85	6600
PMR30H-050		5.0	6000	86	6600
PMR30H-090		9.0	3400	88	4400
PMR30H-120		12.0	2500	90	4400
PMR30H-150		15.0	2000	90	3300
PMR30H-240		24.0	1300	88	1000
PMR30H-480		48.0	625	90	470

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

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Electrical Specifications

Unless otherwise indicated, specifications are measured at $T_A=25^{\circ}\text{C}$, humidity<75%, nominal input voltage and rated output load.

Parameters	Condition	Min.	Typ.	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 230VAC	-	-	0.75 0.50	A	
Inrush current	115VAC	-	20	-	A	
Cold start	230VAC	-	50	-	A	
Leakage current	277VAC, 50Hz	-	-	0.1	mA RMS	
Output voltage accuracy	$V_{OUT}=3.3\text{V}$ others	-	± 3 ± 2	-	%	
Line regulation	Full load	-	± 0.5	-	%	
Load regulation	$V_{OUT}=3.3\text{V}$ $V_{OUT}=5\text{V}$ others	-	± 2.0 ± 1.5 ± 1.0	-	%	
Ripple and noise	$V_{OUT}=24, 48\text{V}$	-	-	150	mV	
	20MHz bandwidth, peak to peak others	-	-	100	mV	
Temperature coefficient		-	± 0.02	-	%/ $^{\circ}\text{C}$	
Standby power consumption	$V_{OUT}=24, 48.0\text{V}$ Others	-	0.15 0.10	0.2 0.12	W	
Hold up time	115VAC 230VAC	-	10 50	-	mS	
Over voltage protection	$V_{OUT}=3.3\text{V}$ $V_{OUT}=5, 9, 12\text{V}$ $V_{OUT}=15\text{V}$ $V_{OUT}=24\text{V}$ $V_{OUT}=48\text{V}$ Hiccup or clamping by zener diode	-	-	6.3 16 25 35 60	VDC	
Over current protection	Automatic recovery	110	-	-	% I_{OUT}	
Short circuit protection		Continuous, hiccup mode, automatic recovery				
Minimum load		No minimum load is required				
Built in fuse		2A, 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.

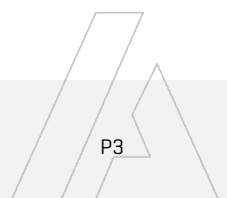
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General Specifications

Parameters	Condition	Min.	Typ.	Max.	Unit	Note
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	-	85	°C	
Storage humidity		10	-	95	%RH	
Maximum case temperature		-	-	95	°C	
Soldering temperature	Wave Manual	-	260 360	-	°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				
Class II power		Yes, no FG				
MTBF	MIL-HDBK-217F	> 1,500,000 Hours, 25°C				
Design based on standards		RoHS5 compliant, REACH 241				
Safety certifications		IEC/EN/UL 62368-1 OVC III, EN 60335, EN 61558, UKCA, FCC				
EMC		CISPR32, EN55032 Class B with NO external circuit IEC/EN61000-4-2, 3, 4, 5, 6, 8, 11				
Size, and Weight		69.5x39.0x24mm, 100g				

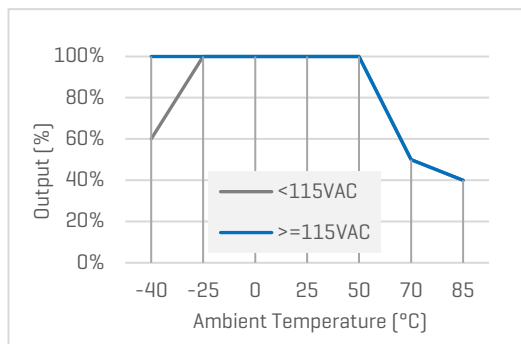


Characteristic Curves

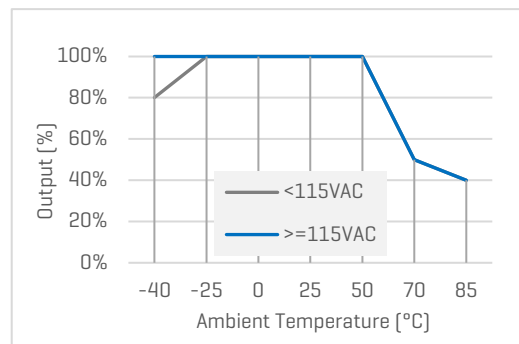
Derating Curves

Output vs Ambient Temperature

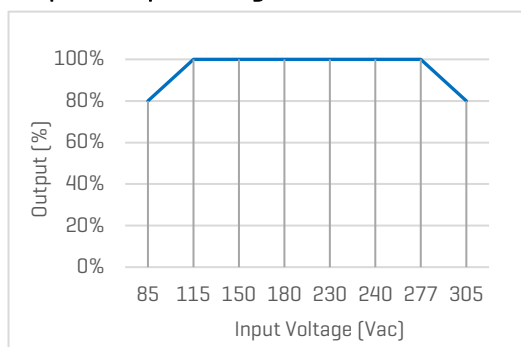
$V_{OUT}=5V$



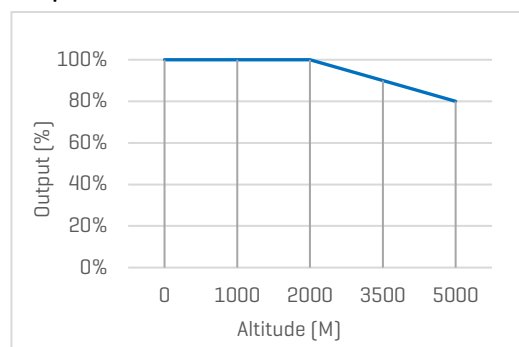
$V_{OUT}=others$



Output vs Input Voltage

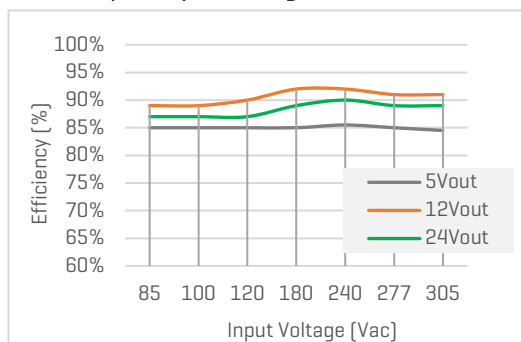


Output vs Altitude

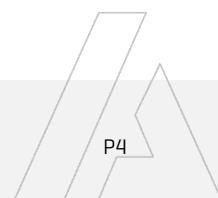
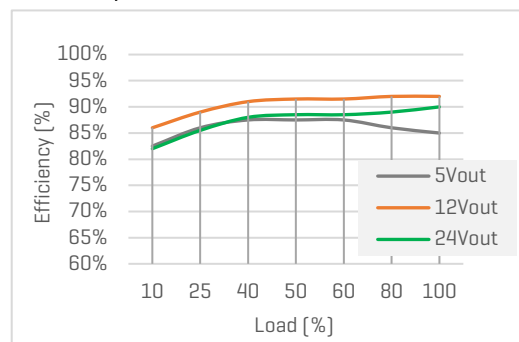


Efficiency Curves

Efficiency vs Input Voltage



Efficiency vs Load

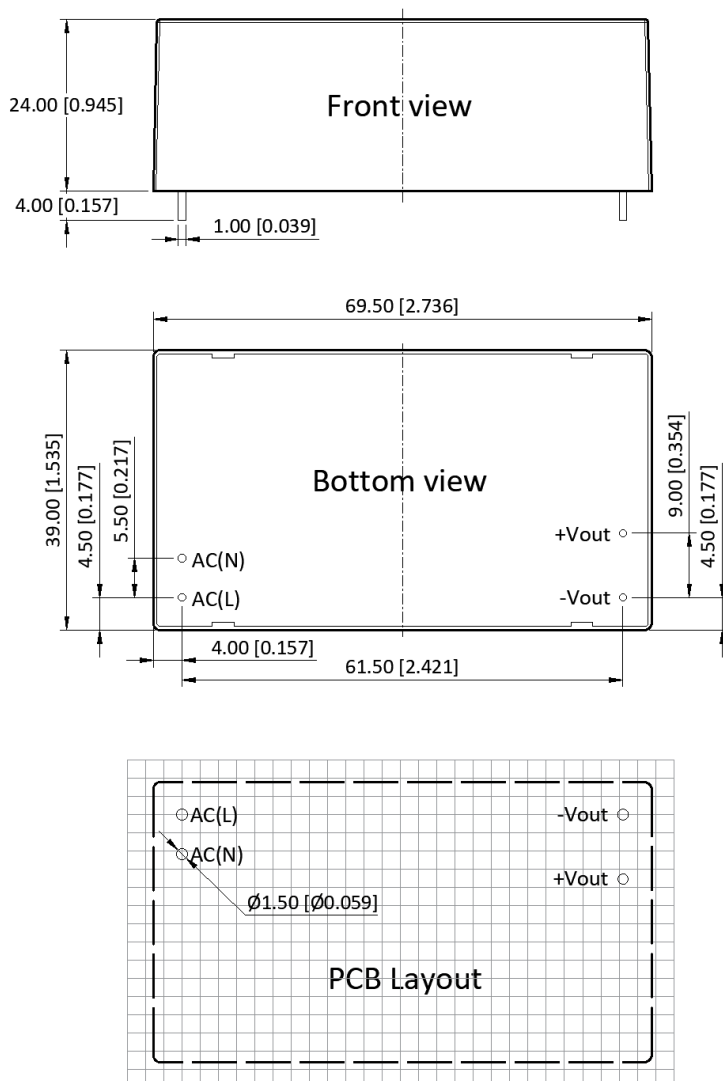


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Mechanical Specifications



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