PMR40H Series

40W, Encapsulated DIP Package AC/DC Power Converters

Features

- Rated power: 40W Max
- Universal input: 85~305VAC, 47~63Hz
- Regulated single output
- Isolation voltage 4200VAC
- Typical efficiency 86 ... 90%
- Energy saving, standby power only less than 0.3W
- 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 IEC/EN/UL62368 OVC III, IEC EN 60335, IEC EN 61558, UKCA, FCC etc.
- 5 year warranty

* Certification is pending

Overview

PMR40H 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, 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.
PMR40H-050	85~305VAC 100~430VDC	5	7000	86	6600
PMR40H-120		12	3330	89	4400
PMR40H-150		15	2666	90	3300
PMR40H-240		24	1670	89	1000
PMR40H-480		48	833	90	470

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

Electrical Specifications

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

Parameters	Condition	Min.	Typ.	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	-	-	1.0 0.6	A	
Inrush current Cold start	115VAC 230VAC	-	30 60	-	A	
Leakage current	277VAC, 50Hz	-	-	0.1	mA RMS	
Output voltage accuracy		-	±2	-	%	
Line regulation	Full load	-	±0.5	-	%	
Load regulation I_{OUT}=0%~100% of $I_{OUT, rated}$	V_{OUT}=5.0V Others	-	±2.0 ±1.0	-	%	
Ripple and noise 20MHz bandwidth, peak to peak		-	100	150	mV	
Temperature coefficiency		-	±0.02	-	%/°C	
Standby power consumption	230VAC	-	0.3	0.55	W	
Hold up time Full load	115VAC 230VAC	-	8 50	-	mS	
Over voltage protection Hiccup or clamping by Zener diode	V_{OUT}=5V V_{OUT}=12V V_{OUT}=15V V_{OUT}=24V V_{OUT}=48V	-	-	6.3 16 25 35 60	VDC	
Over current protection	Automatic recovery	130	-	-	% I_{OUT}	
Short circuit protection		Continuous, 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 ceramic capacitor and a 10uF electrolytic capacitor in parallel.

General Specifications

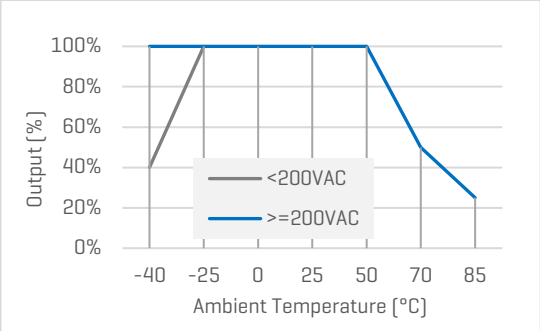
Parameters	Condition	Min.	Typ.	Max.	Unit	Note
Isolation voltage Tested for 1 minute	I/P to O/P	4200	-	-	VAC	
Isolation resistance 500VDC, 25°C, 70%RH	I/P to O/P	100	-	-	M Ohm	
Switching frequency		-	65	-	KHz	
Operating temperature range	See "Derating Curve"	-40	-	85	°C	
Storage temperature		-40	-	85	°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	> 1,000,000 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 certifications**		IEC/EN/UL 62368, OVC III, FCC, UKCA, IEC EN 60335, IEC EN 61558				
EMC	CE ESD RS EFT 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 A IEC/EN61000-4-11, 0%, 70%, Criteria B				
Size, and Weight		69.5x39.0x24mm, 100g				

* Certification is pending

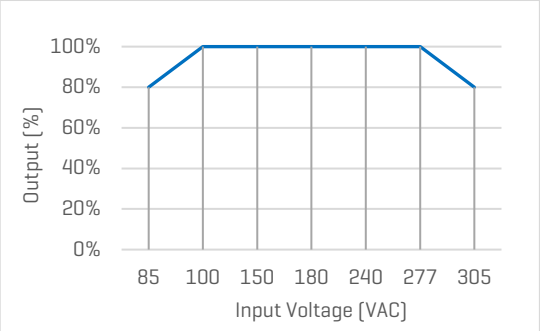
Characteristic Curves

Derating Curves

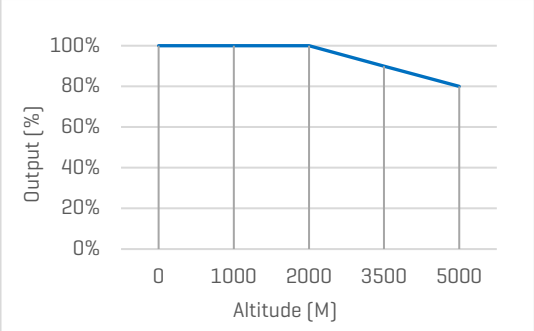
Output vs Ambient Temperature



Output vs Input Voltage

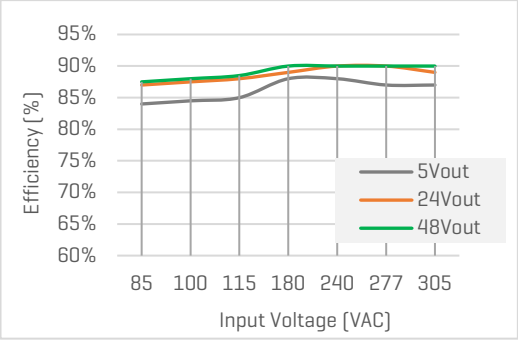


Output vs Altitude

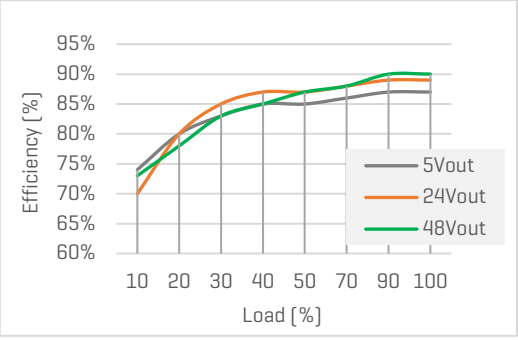


Efficiency Curves

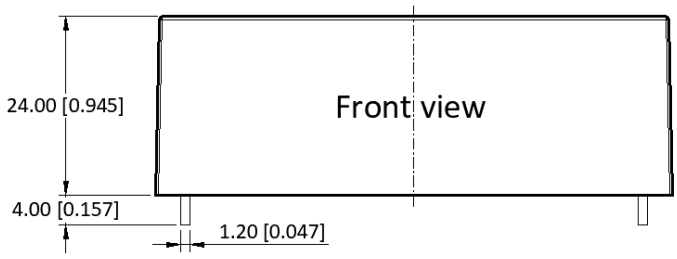
Efficiency vs Input Voltage

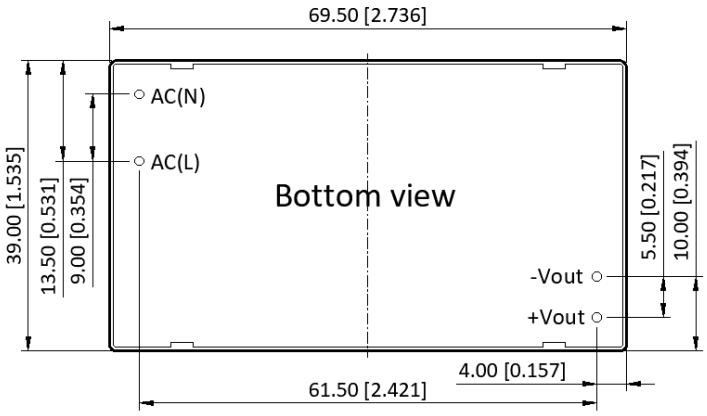


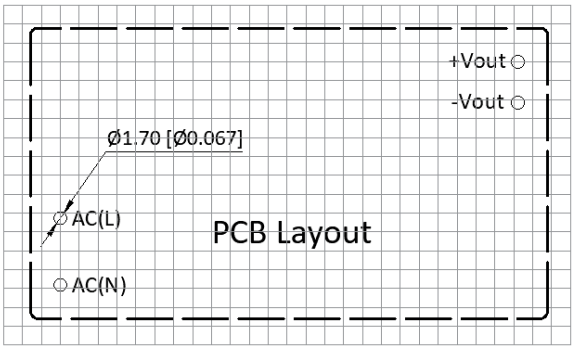
Efficiency vs Load



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