PMR10H Series

10W, Encapsulated DIP Package AC/DC Power Converters

Features

- Rated power: 10W Max
- Universal input: 85~305VAC 47~63Hz
- Regulated single output
- Isolation voltage 4000VAC
- Typical efficiency 78 ... 85%
- Energy saving, standby power only about 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/EN62368-1, OVC II, EN60335-1, EN61558-1, UKCA, CISPR32, EN55032 Class B with NO external circuits
- 3 year warranty

Overview

PMR10H 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/EN62368-1, EN60335-1, EN61558-1, UKCA and EMC performance meets CISPR32, EN55032 Class B without support from any external components, ideally suitable for industrial, and critical commercial applications.

Model Numbers

Model Number	Input Voltage [VAC]	Output Voltage [VDC]	Output Current [mA] Max.	Ripple & Noise [mVp-p] Max.	Efficiency [%] Typ.	Capacitive Load [uF] Max.
PMR10H-033	85~305VAC 100~430VDC	3.3	2500	200	78	6600
PMR10H-050		5	2000	200	82	5000
PMR10H-090		9	1111	200	84	3000
PMR10H-120		12	833	200	85	2000
PMR10H-150		15	666	200	85	1500
PMR10H-240		24	416	200	85	680

* 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	-	-	0.18 0.12	A	
Inrush current Cold start	115VAC 230VAC	-	35 70	-	A	
Leakage current	230VAC, 50Hz	-	-	0.6	mA RMS	
Output voltage accuracy		-	±3	-	%	
Line regulation Full load		-	±0.5	-	%	
Load regulation I_{OUT}=0%~100% of $I_{OUT, rated}$		-	±1.0	-	%	
Ripple and noise 20MHz bandwidth, peak to peak		-	150	200	mV	
Temperature coefficiency		-	±0.03	-	%/°C	
Standby power consumption		-	0.1	-	W	
Hold up time Full load	115VAC 230VAC	-	10 50	-	mS	
Over load protection		115	-	190	% $I_{OUT, rated}$	
Over voltage protection	V_{OUT}=3.3, 5V V_{OUT}=9, 12V V_{OUT}=15V V_{OUT}=24V	-	-	8.5 20 24 34	VDC	
Short circuit protection		Hiccup mode, automatic recovery				
Internal fuse		2A, 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 0.1uF & 47uF parallel capacitor.

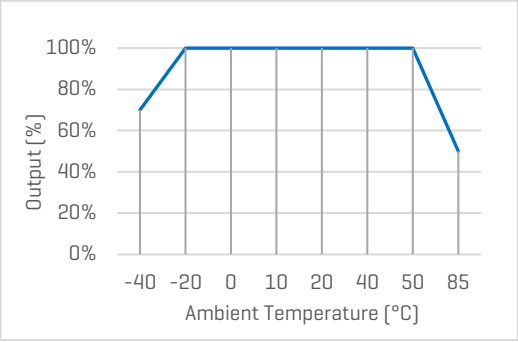
General Specifications

Parameters	Condition	Min.	Typ.	Max.	Unit	Note
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	5 seconds	-	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 II, EN 60335-1, EN 61558-1, UKCA				
Safety certifications		IEC/EN/UL 62368-1, EN 60335-1, EN 61558-1, UKCA				
EMC	CE ESD RS EFT Surge CS	CISPR32, EN55032 Class B with "NO External Circuit" IEC/EN61000-4-2, Contact ±8kV, Air ±15kV, 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				
Size, and Weight	Default Package	45.7x25.4x21.5mm, 37g				
Packing		350pcs/carton, size: 460x350x285mm, 14Kg G.W.				

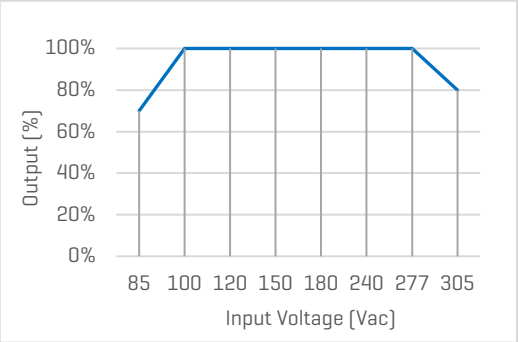
Characteristic Curves

Derating Curves

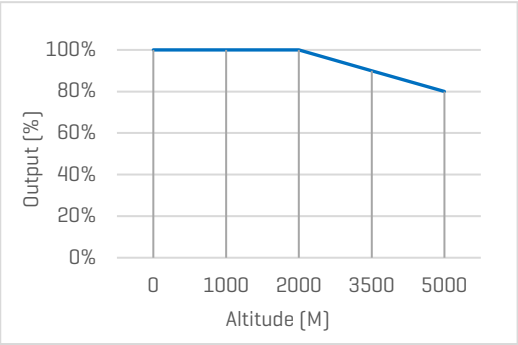
Output vs Ambient Temperature



Output vs Input Voltage



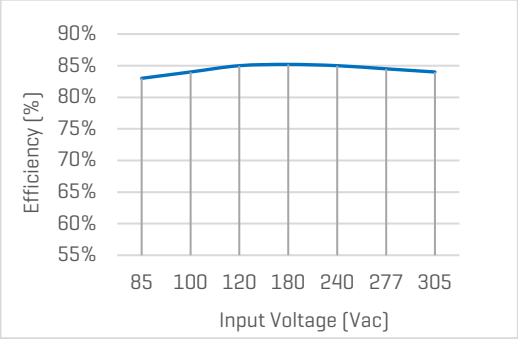
Output vs Altitude



Efficiency Curves

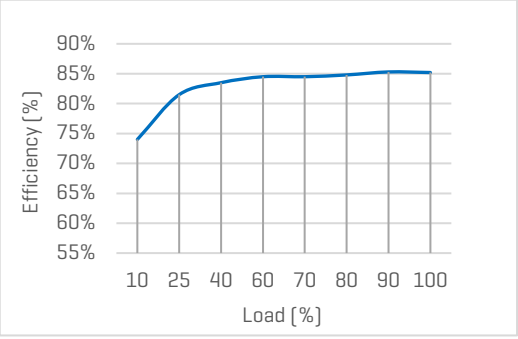
Efficiency vs Input Voltage

PMR10H-120, Full load

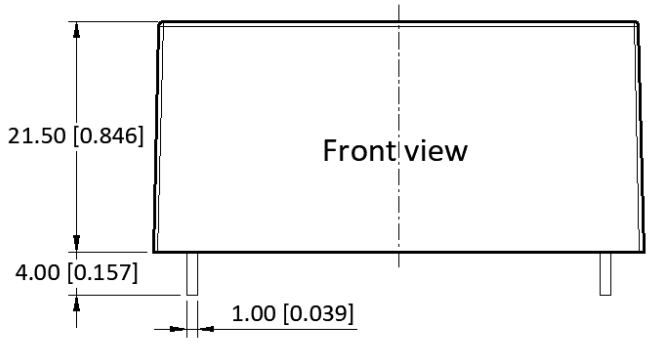


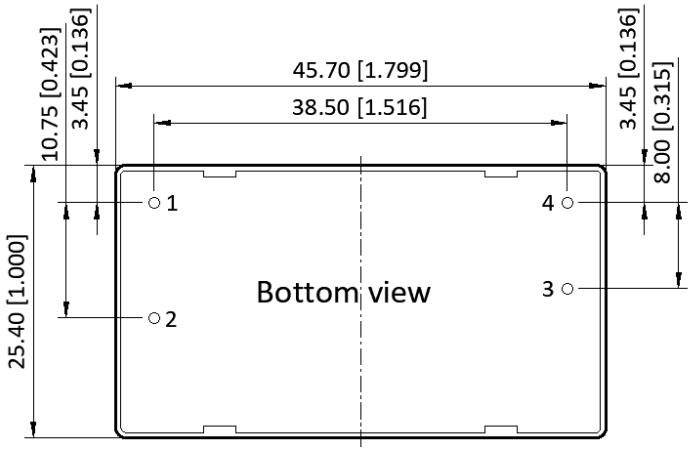
Efficiency vs Load

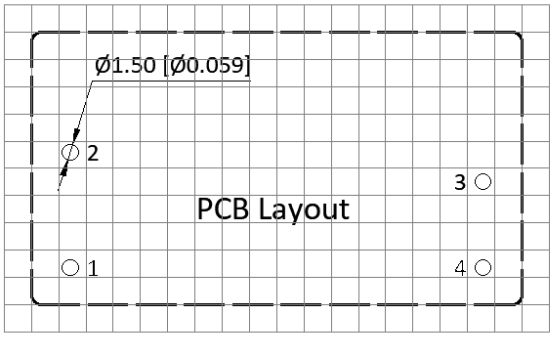
PMR10H-120, 230VAC



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