



# PMR05HW Series

5W, Encapsulated, AC/DC Converters

**WinkEE**

## Features

- ▶ Rated power: 5W Max
- ▶ Universal input: 85~305Vac 47~63Hz
- ▶ Regulated single output
- ▶ Isolation voltage 4000VAC
- ▶ Typical efficiency 74 ... 81%
- ▶ 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
- ▶ Meet UL/EN/IEC 62368-1, OVC II, EN60335-1, EN61558-1, UKCA, EN55032 Class B
- ▶ 5 year warranty



**RoHS** **CE** **CB**

## Overview

PMR05HW 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 meet IEC/EN/UL62368-1, 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 <sup>[1]</sup>	Input Voltage [VAC]	Output Voltage [VDC]	Output Current [mA] Max.	Efficiency [%] Typ.	Capacitive Load [uF] Max.
PMR05HW-033	85~305VAC 100~430VDC	3.3	1250	74	4000
PMR05HW-050		5	1000	78	3000
PMR05HW-090		9	555	79	1200
PMR05HW-120		12	416	80	1200
PMR05HW-150		15	333	80	680
PMR05HW-240		24	208	81	220

Note <sup>[1]</sup>: Default package has terminals, add suffix "ST" to the part number for optional package with no terminals but stripped and tinned cable ends, e.g. PMR05HW-120ST

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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	Conditions	Min.	Typ.	Max.	Unit
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	-	-	0.13	
	230VAC	-	-	0.07	A
Inrush current Cold start	115VAC	-	35	-	
	230VAC	-	70	-	A
Leakage current	230VAC, 50Hz	-	0.25	0.6	mA RMS
Output voltage accuracy		-	$\pm 3$	-	%
Line regulation Full load		-	$\pm 0.5$	-	%
Load regulation $I_{OUT}=0\% \sim 100\% \text{ of } I_{OUT, \text{rated}}$		-	$\pm 1.0$	-	%
Ripple and noise [2] 20MHz bandwidth, peak to peak		-	150	200	mV
Temperature coefficient		-	$\pm 0.03$	-	$^\circ\text{C}$
Standby power consumption		-	0.10	-	W
Hold up time Full load	115VAC	-	10	-	
	230VAC	-	50	-	ms
Over load protection		115	-	190	$\% I_{OUT, \text{rated}}$
Over voltage protection $V_{OUT}=3.3, 5V$ $V_{OUT}=9, 12V$ $V_{OUT}=15V$ $V_{OUT}=24V$		-	-	8.5	
		-	-	20	
		-	-	24	VDC
		-	-	34	
Short circuit protection		Hiccup mode, automatic recovery			
Internal fuse		2A, 300V, slow blow			
Minimum load		No minimum load is required			

Note [2]: Ripple and noise measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.

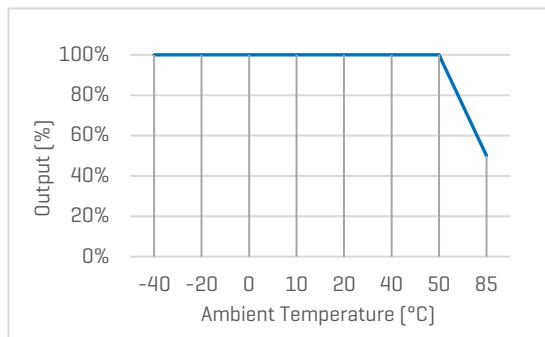
5W, Encapsulated, AC/DC Converters

### General Specifications

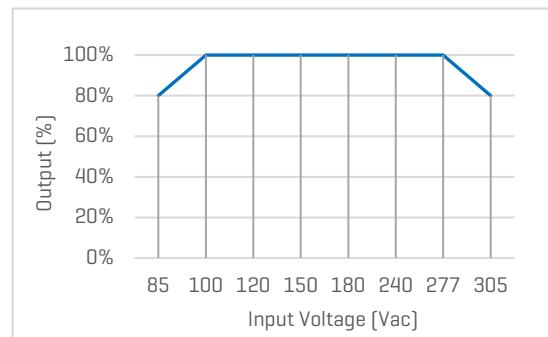
Parameters	Conditions	Min.	Typ.	Max.	Unit
<b>Isolation voltage</b> Tested for 1 minute	I/P to O/P	4000	-	-	VAC
<b>Isolation resistance</b> 500VDC, 25°C, 70%RH	I/P to O/P	100	-	-	M Ohm
<b>Switching frequency</b>		-	65	-	KHz
<b>Operating temperature range</b>	See "Derating Curve"	-40	-	85	°C
<b>Storage temperature</b>		-40	-	105	°C
<b>Storage humidity</b>		10	-	95	%RH
<b>Maximum case temperature</b>		5	-	95	°C
<b>Case material</b>		Black plastic UL94-VO			
<b>Cooling method</b>		Free air convection			
<b>Vibration</b>		10Hz to 55Hz, 5G, 30 minutes along X, Y and Z axis			
<b>MTBF</b>	MIL-HDBK-217F	> 1,000,000 Hours, 25°C			
<b>Safety class</b>		Class II			
<b>Safety approvals</b>		UL/EN/IEC 62368-1, UKCA, EN 60335-1, EN 61558-1			
<b>EMC standards</b>	CISPR32, EN55032	Class B with "NO External Circuit"			
ESD	IEC/EN61000-4-2	Contact ±8kV, Air ±15kV, perf. Criteria B			
Radiated immunity	IEC/EN61000-4-3	10V/m, perf. Criteria A			
EFT	IEC/EN61000-4-4	±2kV, perf. Criteria B			
Surge	IEC/EN61000-4-5	Line to Line ±2kV, perf. Criteria B			
Conducted immunity	IEC/EN61000-4-6	10Vrms, perf. Criteria A			
<b>Size, and Weight</b>		45.7x25.4x21.5mm, 40g			
<b>Packing</b>		350pcs/carton, size: 460x350x285mm, 14Kg G.W.			

### Characteristic Curves

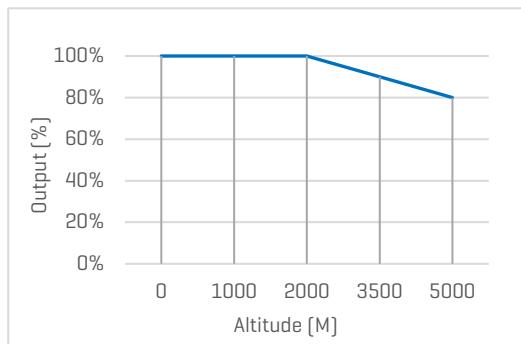
Output vs Ambient Temperature



Output vs Input Voltage

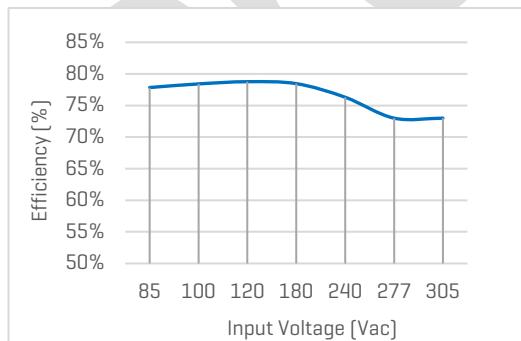


Output vs Altitude



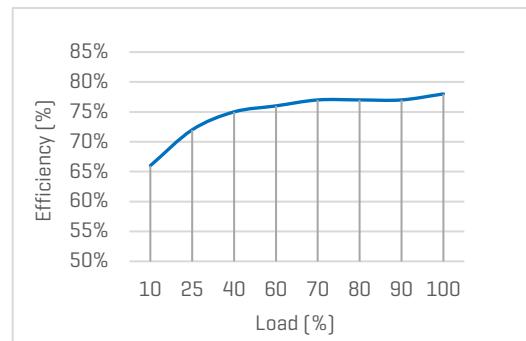
Efficiency vs Input Voltage

PMR05HW-050, Full load



Efficiency vs Load

PMR05HW-050, 230VAC

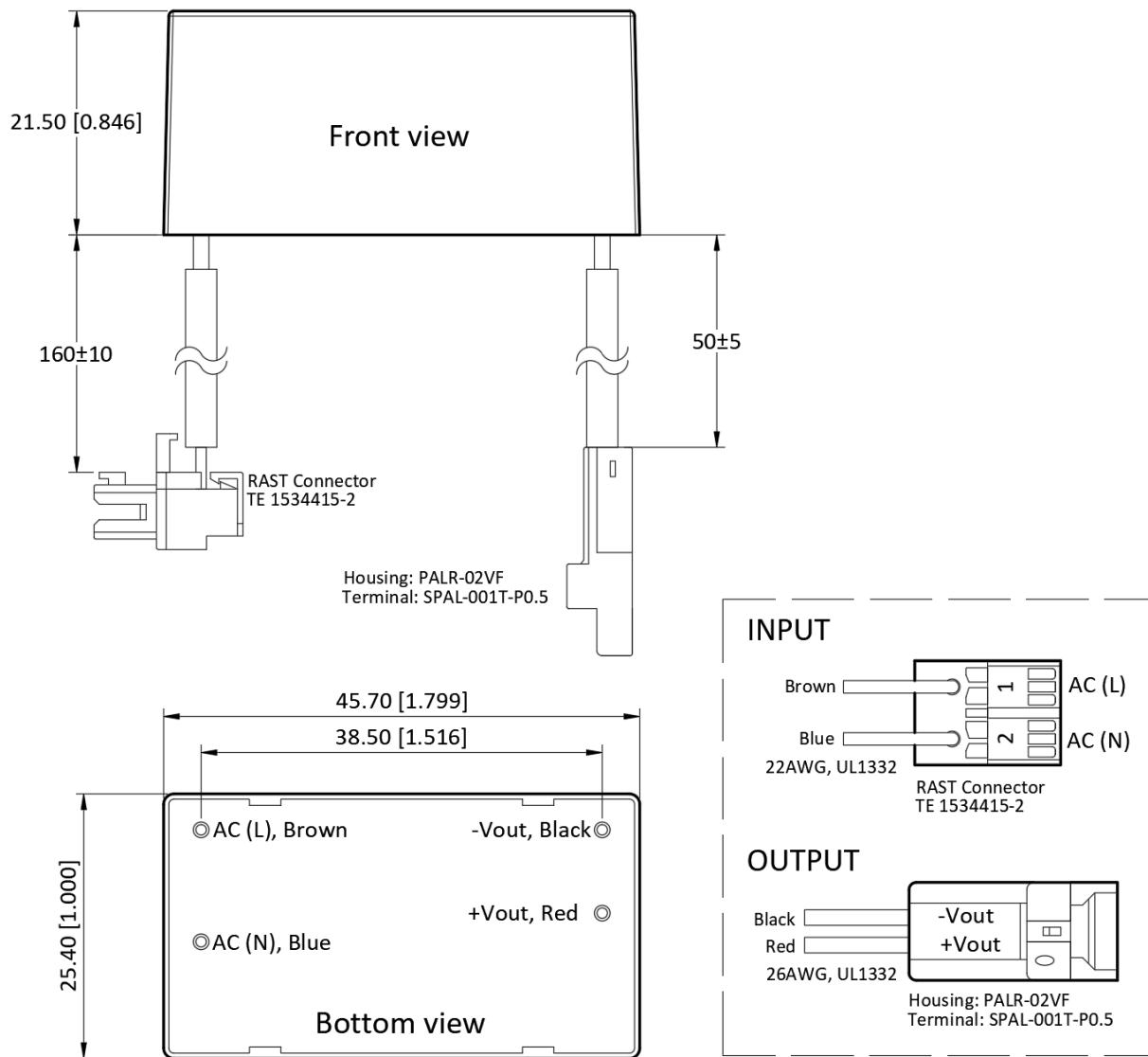


## Mechanical Specifications

### Default Package

\* Unless otherwise specified unit: mm [inch]

\* General tolerance:  $\pm 1.00$  [ $\pm 0.040$ ]





### Mechanical Specifications

#### Optional package - suffix "ST"

\* Unless otherwise specified unit: mm [inch]

\* General tolerance:  $\pm 1.00$  [ $\pm 0.040$ ]

