

PM900 SERIES

Single and dual output

Recommended for new design-ins

- High performance
- 65% efficiency
- Pi input filter
- No derating
- Short circuit protection
- Meets VDE0871 level B



2 YEAR WARRANTY

The PM900 Series of 5 and 6 Watt DC/DC converters is a broad line of high performance modules with many important features and specifications as standard. All models contain Pi-type input filters to minimize reflected ripple current. They are packaged in low profile 2.0 x 2.0 x 0.4 inch cases with standard and two alternate pin-outs designed for direct PC card mounting. The units also feature output current limiting, short circuit protection and input/output isolation of 500VDC. Other

pertinent specifications include: an efficiency of 65%; line regulation of $\pm 0.02\%$; load regulation of $\pm 0.04\%$ for single output models and $\pm 0.05\%$ for dual output models; low ripple and noise (10mV pk-pk for single output models and 6mV pk-pk for dual output models); and an output voltage accuracy of $\pm 1.0\%$. PM900 Series DC/DC converter are intended for a wide variety of general industrial applications, especially where low noise performance is needed.

SPECIFICATION

ALL SPECIFICATIONS ARE TYPICAL AT NOMINAL INPUT, FULL LOAD AND 25°C UNLESS OTHERWISE STATED

OUTPUT SPECIFICATIONS			
Voltage accuracy			$\pm 1.0\%$, max.
Line regulation	NL to FL		$\pm 0.02\%$
Load regulation	FL-NL, Single outputs FL-NL, Dual outputs		$\pm 0.04\%$ $\pm 0.05\%$
Cross regulation (Voltage balance)	Dual outputs		$\pm 0.5\%$, max
Ripple and noise 20MHz BW	Single output	10mV pk-pk, typical, 50mV pk-pk, max.	
	Dual output	6mV pk-pk, typical, 35mV pk-pk, max.	
Transient recovery time to 0.1% of final value	NL-FL, all outputs	10 μ s	
	FL-NL, single output	200 μ s	
	FL-NL, Dual output	20 μ s	
Temperature coefficient	Single output Dual output		$\pm 0.02\%/^{\circ}\text{C}$ $\pm 0.01\%/^{\circ}\text{C}$
Current limit			130% to 180% Iout
Short circuit protection	See Note 4		Thermal limit
INPUT SPECIFICATIONS			
Input voltage range		See table on facing page	
Input filter	See Note 3		Pi network

ELECTROMAGNETIC COMPATIBILITY SPECIFICATIONS			
Conducted noise	EN55022, EN55011, FCC		Level B
GENERAL SPECIFICATIONS			
Efficiency	Single output Dual output		61%, min. 62%, min.
Isolation voltage			500VDC, min.
Switching frequency	Fixed		20kHz, min.
Case material			Non-conductive black plastic
Weight			57g (2oz)
MTBF			680,000 hours
ENVIRONMENTAL SPECIFICATIONS			
Thermal performance	Operating ambient	-25°C to $+71^{\circ}\text{C}$	
	Non-operating amb.	-40°C to $+125^{\circ}\text{C}$	
	Case	$+95^{\circ}\text{C}$, max	
	Derating Cooling	None required Free-air convection	
Relative humidity	Non-condensing		20% to 95% RH
Altitude	Operating		10,000 feet max.
	Non operating		40,000 feet max.
Vibration			2.4G rms (approx.) 5Hz to 500Hz

5 to 6 Watt Nominal input DC/DC converters

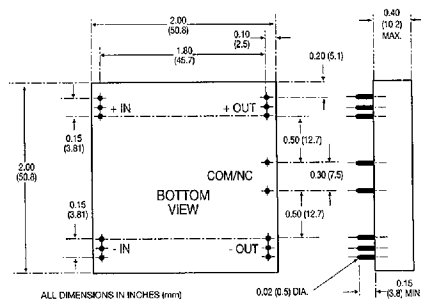
INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		REFLECTED RIPPLE CURRENT (1)	REGULATION		ALT PIN-OUT (2)	MODEL NUMBER
			NO LOAD	FULL LOAD		LINE	LOAD		
5VDC	5VDC	1000mA	125mA	1.54A	54mA	±0.02%	±0.04%	B	PM901
5VDC	12VDC	470mA	140mA	1.73A	61mA	±0.02%	±0.04%	A, B	PM903
5VDC	15VDC	400mA	150mA	1.84A	64mA	±0.02%	±0.04%	B	PM904(5)
5VDC	±12VDC	±230mA	130mA	1.65A	58mA	±0.02%	±0.05%		PM951
5VDC	±15VDC	±190mA	135mA	1.7A	60mA	±0.02%	±0.05%	A	PM952
12VDC	5VDC	1000mA	50mA	0.64A	22mA	±0.02%	±0.04%		PM911
12VDC	±12VDC	±230mA	55mA	0.69A	24mA	±0.02%	±0.05%	A, B	PM961(5)
12VDC	±15VDC	±190mA	55mA	0.71A	25mA	±0.02%	±0.05%		PM962
24VDC	5VDC	1000mA	25mA	0.32A	22mA	±0.02%	±0.04%	A, B	PM921
24VDC	±12VDC	±230mA	25mA	0.34A	24mA	±0.02%	±0.05%	A, B	PM971
48VDC	5VDC	1000mA	13mA	0.16A	22mA	±0.02%	±0.04%	A, B	PM941(5)
48VDC	±12VDC	±230mA	14mA	0.17A	24mA	±0.02%	±0.05%	A, B	PM991(5)

Notes

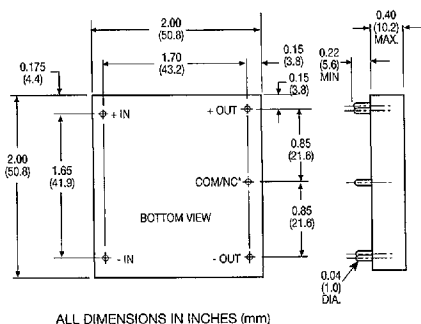
- Figures are peak-to-peak.
- Alternate pin-out versions, if available are designated by the suffixes shown. For example, model PM901 is available in two alternate pin-out versions, e.g. PM901A and PM901B. See case drawings below.
- Fixed frequency design provides for easier input filtering and better noise performance.
- Short circuit protection is achieved using a thermal limit at 130°C, max. An extended short circuit of >8 hours will affect the units reliability.
- Standard pin configuration not available.

INPUT VOLTAGE	60% FL	80% FL	100% FL
5V	4.4 to 6.5V	4.5 to 6.0V	4.65 to 5.5V
12V	10.56 to 15.6V	10.8 to 14.4V	11.16 to 13.2V
24V	21.12 to 31.2V	21.6 to 28.8V	22.32 to 26.4V
48V	42.24 to 62.4V	43.2 to 57.6V	44.64 to 52.8V

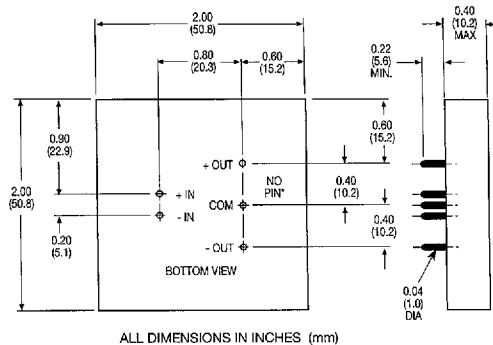
Alternate Pin Configuration - Suffix A



Alternate Pin Configuration-Suffix B



CASE G
Standard Pin Configuration



* On single output models this pin is either not present or should not be connected.