

## PM900 SERIES

Single and dual output



[ 2 YEAR WARRANTY ]

- Extremely tight line and load regulation
- Short circuit protection
- Pi input filter
- Low ripple output current
- Conducted noise EN55022, EN55011 level B
- Linear topology for high output accuracy and regulation

The PM900 Series of 5 and 6 Watt DC/DC converters are a broad line of high performance modules with many important features and specifications as standard. All models contain Pi-type input filters to minimise 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 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 converters are intended for a wide variety of general industrial applications, especially where low noise performance is required.

## SPECIFICATION

All specifications are typical at nominal input, full load at 25°C unless otherwise stated

OUTPUT SPECIFICATIONS		
Voltage accuracy		$\pm 1.0\%$ , max.
Line regulation	NL to FL	$\pm 0.02\%$
Load regulation	FL to NL, Single outputs FL to NL, Dual outputs	$\pm 0.04\%$ $\pm 0.05\%$
Cross regulation	Dual outputs (Voltage balance)	$\pm 0.5\%$ , max
Ripple and noise 20MHz BW	Single output Dual output	10mV pk-pk, typical, 65mV pk-pk, max. 6mV pk-pk, typical, 35mV pk-pk, max.
Transient recovery time to 0.1% of final value	NL to FL, all outputs FL to NL, single output FL to NL, dual output	10 $\mu$ s 200 $\mu$ s 20 $\mu$ s
Temperature coefficient	Single output Dual output	$\pm 0.02\%/^{\circ}\text{C}$ $\pm 0.01\%/^{\circ}\text{C}$
Current limit		130% to 180% I <sub>out</sub>
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

EMC CHARACTERISTICS		
Conducted emissions	EN55022, EN55011, FCC 15	Level B
GENERAL SPECIFICATIONS		
Efficiency	Single output Dual output	61%, min. 62%, min.
Isolation voltage		500VDC, min.
Switching frequency	Fixed	20kHz, min.
Case material	UL94V-0	Non-conductive black plastic
Weight		57g (2oz)
MTBF		680,000 hours
ENVIRONMENTAL SPECIFICATIONS		
Thermal performance	Operating ambient Non-operating amb. Case Derating Cooling	-25°C to +71°C -40°C to +125°C +95°C, max None required Free-air convection cooled
Relative humidity	Non-condensing	20% to 95% RH
Altitude	Operating Non operating	10,000 feet max. 40,000 feet max.
Vibration	5Hz to 500Hz	2.4G rms (approx.)

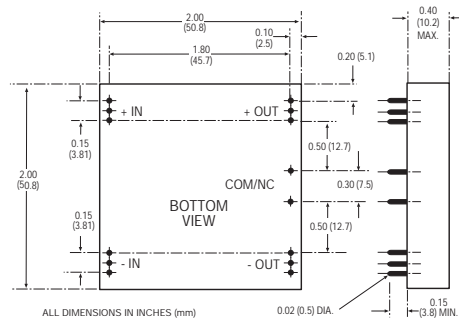
# 5 to 6 Watt Nominal input DC/DC converters

INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		REFLECTED RIPPLE CURRENT <sup>(1)</sup>	REGULATION		ALT. PIN-OUT <sup>(2)</sup>	MODEL NUMBER
			NO LOAD	FULL LOAD		LINE	LOAD		
5VDC	5VDC	1000mA	125mA	1.54A	54mA	±0.02%	±0.04%	A, B	PM901
5VDC	12VDC	470mA	140mA	1.73A	61mA	±0.02%	±0.04%		PM903
5VDC	15VDC	400mA	150mA	1.84A	64mA	±0.02%	±0.04%		PM904
5VDC	±12VDC	±230mA	130mA	1.65A	58mA	±0.02%	±0.05%	A	PM951
5VDC	±15VDC	±190mA	135mA	1.7A	60mA	±0.02%	±0.05%	B	PM952
12VDC	5VDC	1000mA	50mA	0.64A	22mA	±0.02%	±0.04%		PM911
12VDC	12VDC	470mA	60mA	0.72A	26mA	±0.02%	±0.04%		PM913
12VDC	±12VDC	±230mA	55mA	0.69A	24mA	±0.02%	±0.05%		PM961
12VDC	±15VDC	±190mA	55mA	0.71A	25mA	±0.02%	±0.05%	B	PM962
24VDC	5VDC	1000mA	25mA	0.32A	22mA	±0.02%	±0.04%		PM921
24VDC	12VDC	470mA	30mA	0.36A	25mA	±0.02%	±0.04%		PM923
24VDC	15VDC	400mA	30mA	0.38A	27mA	±0.02%	±0.04%		PM924
24VDC	±12VDC	±230mA	25mA	0.34A	24mA	±0.02%	±0.05%	A	PM971
24VDC	±15VDC	±190mA	30mA	0.35A	25mA	±0.02%	±0.05%	B	PM972
48VDC	5VDC	1000mA	13mA	0.16A	22mA	±0.02%	±0.04%		PM941
48VDC	±12VDC	±230mA	14mA	0.17A	24mA	±0.02%	±0.05%		PM991

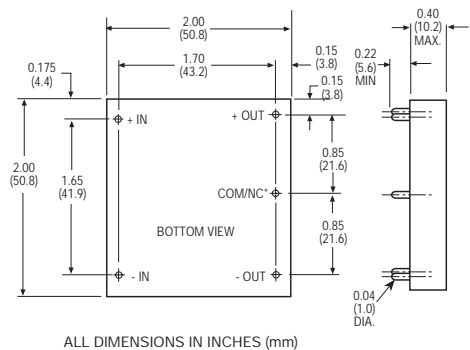
## Notes

- 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, i.e. 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.

### Alternate Pin Configuration - Suffix A

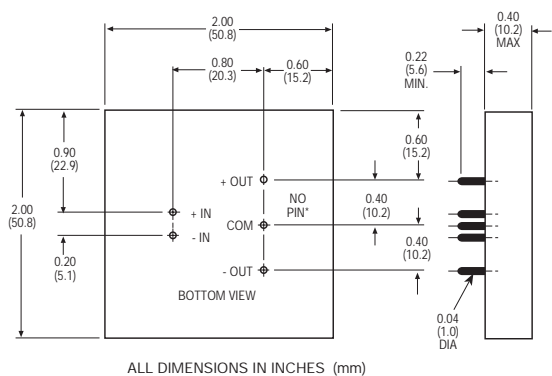


### Alternate Pin Configuration-Suffix B



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

### CASE G Standard Pin Configuration



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