PM500 and VM500 SERIES

Single, dual and triple output

Recommended for new design-ins



- **OVP on 5V outputs**
- **Split bobbin wound**
- **PCB mounting**
- **UL and CSA approved**
- **115, 220 and 240VAC input**
- **Short circuit protection**
- **The VM500 Series has EN60950 approval**

These encapsulated, PC-mountable linear power modules feature 23 single output, 14 dual output and 13 triple output models for a wide variety of printed circuit board applications. The 5V output of all models have overvoltage crowbar protection as a standard feature. For maximum safety, all power transformers are split bobbin wound, rather than layer wound, to give total isolation with low coupling capacitance between primary and secondary. Conservative design and rating of these modules results in reliable operation and long life. Standard input voltage is 115VAC; other optional inputs are 220 and 240VAC. Most models are available in standard and alternate pin configurations for second sourcing applications. This series includes 5 sub-miniature modules for lower power applications where minimum circuit board space is available.

[2 YEAR WARRANTY]

CE (LVD) **VM500 Series only**

SPECIFICATION

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

OUTPUT SPECIFICATIONS		
Voltage accuracy		±1.0% max.
Voltage adjustability	PM529 and PM563 only	Yes
Line regulation		See table
Load regulation		See table
Temperature coefficient		±0.02%/°C
Overvoltage protection	See table on facing page for relevant models	6.2V typical
Output power limit	Typical	130% to 200% FL
Short circuit protection	Switch off/on	100% to 200% FL
INPUT SPECIFICATIONS		
Input voltage range		See tables below
Input frequency range	PM500, See Note 3 VM500	47Hz to 400Hz 47Hz to 63Hz
Safety ground leakage current		Less than 3.5mA @ 50Hz

GENERAL SPECIFICATIONS		
Efficiency		40% typical
Isolation voltage	PM series, no suffix PM series, suffix D PM series, suffix K VM534D	700VAC 2500VAC 2500VAC 3000VAC
Switching frequency		Linear
Approvals and standards	Safety VM534D Safety PM5xx	IEC950 CSA22.2-143/-154, UL478
Case material		Non-conductive black plastic
Weight	Case A Case B1 (incl. VM534D) Case B2 Case B3 Case H	181g (6.4oz) 340g (12oz) 408g (14.4oz) 635g (22.4oz) 227g (8oz)
MTBF	See Note 4	710,000 hours
ENVIRONMENTAL SPECIFICATIONS		
Thermal performance	Operating amb. Non-operating amb. Derating, 50°C to 71°C Cooling	–25°C to +71°C –25°C to +85°C 2.5%/°C Free-air convection
Relative Humidity	Non-condensing	20% to 95% RH
Vibration		Encapsulated

PM500 INPUT VOLTAGE	SUFFIX
115±10VAC	(NONE)
220±20VAC	D
240±20VAC	K

VM534D INPUT VOLTAGE	SUFFIX
200 to 233VAC	D

1 to 10.5 Watt
AC/DC encapsulated modules

OUTPUT VOLTAGE	OUTPUT CURRENT	OVP	REGULATION		RIPPLE AND NOISE	CASE	AVAILABLE MODELS		
			LINE	LOAD			110VAC	220VAC	240VAC
SINGLE OUTPUT									
5VDC	250mA	Yes	±0.02%	±0.04%	1mV rms	B1		PM533D	
5VDC	500mA	Yes	±0.02%	±0.04%	1mV rms	B1	PM534	PM534D	PM534K
5VDC	500mA	Yes	±0.02%	±0.04%	2.8mV rms	B1		VM534D	
5VDC	1000mA	Yes	±0.02%	±0.04%	1mV rms	B2	PM542	PM542D	PM542K
5VDC	2000mA	Yes	±0.02%	±0.05%	1mV rms	B3	PM545	PM545D	PM545K
12VDC	240mA	No	±0.02%	±0.02%	0.5mV rms	B2	PM515	PM515D	
12VDC	400mA	No	±0.02%	±0.02%	1mV rms	B3		PM516D	
12VDC	600mA	No	±0.02%	±0.02%	1mV rms	B3		PM517D	
24VDC	100mA	No	±0.02%	±0.02%	0.5mV rms	B2		PM566D	
24VDC	200mA	No	±0.02%	±0.02%	0.5mV rms	B3		PM567D	
24VDC	400mA	No	±0.02%	±0.02%	1mV rms	B3		PM568D	
SUB MINIATURE SINGLE OUTPUT SERIES (1)									
5VDC	250mA	No	±0.05%	±0.05%	0.5mV rms	H	PM529	PM529D	PM529K
12VDC	100mA	No	±0.02%	±0.02%	0.5mV rms	A	PM563	PM563D	
DUAL OUTPUT									
±12VDC	±120mA	No	±0.02%	±0.02%	0.5mV rms	B1	PM536	PM536D	
±12VDC	±240mA	No	±0.02%	±0.02%	0.5mV rms	B2		PM537D	
±12VDC	±400mA	No	±0.02%	±0.02%	0.5mV rms	B3	PM597	PM597D	PM597K
±15VDC	±25mA	No	±0.20%	±0.20%	2mV rms	B1	PM538		
±15VDC	±100mA	No	±0.02%	±0.02%	0.5mV rms	B1	PM505	PM505D	
±15VDC	±200mA	No	±0.02%	±0.02%	0.5mV rms	B2	PM565	PM565D	
±15VDC	±350mA	No	±0.02%	±0.02%	1mV rms	B3	PM501	PM501D	PM501K
TRIPLE OUTPUT (2)									
5V/±12VDC	300/±180mA	No	±0.02%	±.05%/±.02%	0.5mV rms	B2	PM595S	PM595DS	
5V/±12VDC	500/±120mA	No	±0.02%	±.05%/±.02%	0.5mV rms	B2		PM591D	
5V/±12VDC	1000/±150mA	Yes	±0.02%	±.01%/±.02%	1.0/0.5mV rms	B3	PM592	PM592D	
5V/±15VDC	300/±150mA	Yes	±0.05%	±.10%/±.05%	0.5mV rms	B2	PM594	PM594DS	
5V/±15VDC	500/±100mA	Yes	±0.05%	±.10%/±.05%	0.5mV rms	B2	PM590	PM590D	PM590K
5V/±15VDC	1000/±150mA	Yes	±0.02%	±.01%/±.02%	1.0/0.5mV rms	B3	PM593	PM593D	PM593K

Notes

1 Trim connection on all sub-miniature series modules provides a means of externally adjusting a units output voltage precisely to its labelled value. To raise the output voltage, connect a resistance (20kΩ, min.) between the trim terminal and the positive (+) output terminal. To lower the output voltage, connect a resistance (20kΩ, min.) between the trim terminal and the negative (–) output terminal.

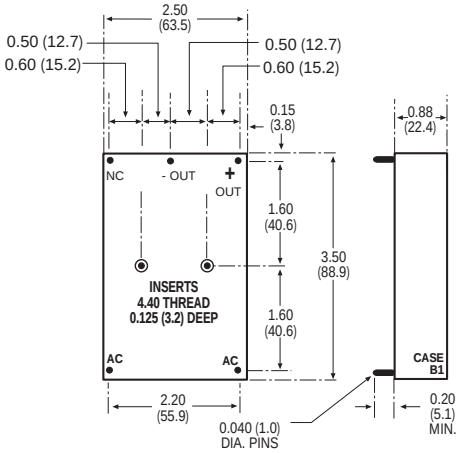
2 Triple output models only: on standard pin-out models the 5V output common is isolated from the ±12VDC or ±15VDC common.

3 Some units should be derated for operation at 400Hz. Please contact the factory for details.

4 M.T.B.F. figures are based on actual product performance. Consult factory for details.

5 All models are only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.

VM534D



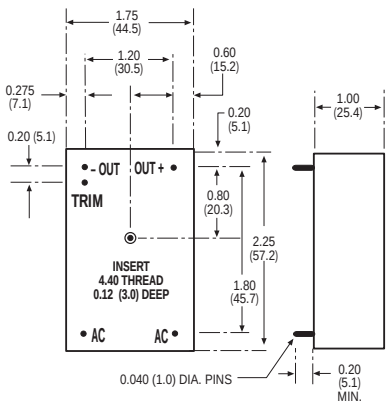
SINGLE OUTPUT MODEL

ALL DIMENSIONS IN INCHES (mm)

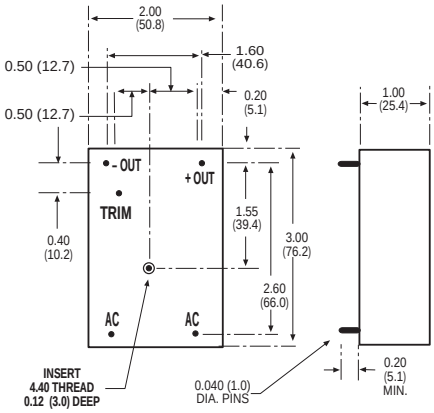
1 to 10.5 Watt
AC/DC encapsulated modules

Single output PM500 series

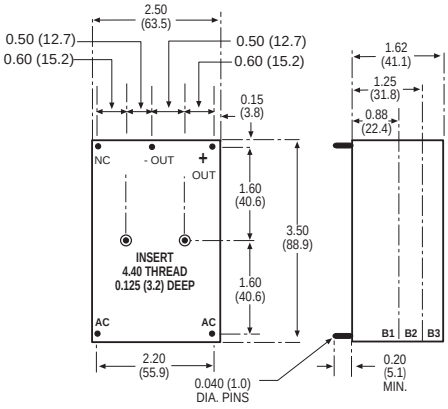
CASE A



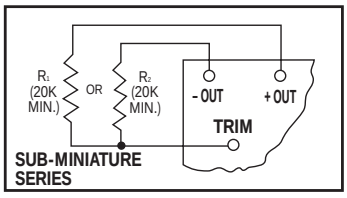
CASE H



CASE B

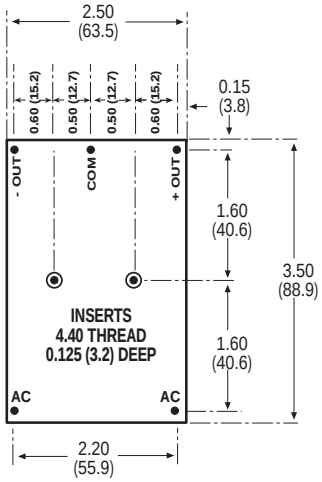


ALL DIMENSIONS IN INCHES (mm)

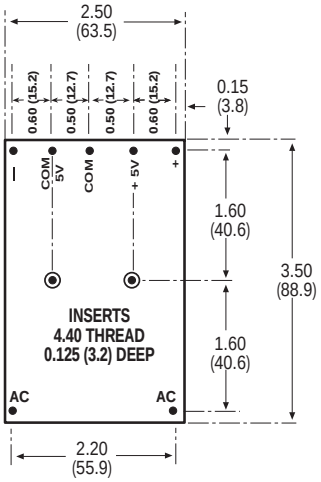


Dual and triple output PM500 series

CASE B
DUAL OUTPUT MODELS

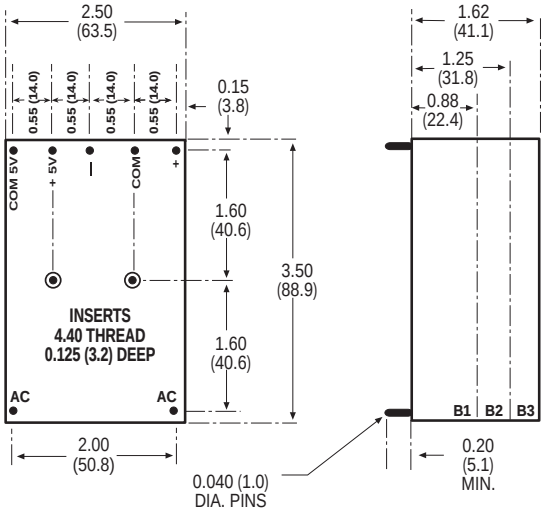


CASE B
TRIPLE OUTPUT MODELS
STANDARD PINOUT



CASE B
TRIPLE OUTPUT MODELS
ALTERNATE PINOUT SUFFIX '-S'

SIDE VIEW



ALL DIMENSIONS IN INCHES (mm)

International Safety Standard Approvals

IEC950 Certificate No. IDP080 (VM534D only)

UL478 Reg. File No. E131987

CSA22.2-143 and -154 Reg. File No. LR59996