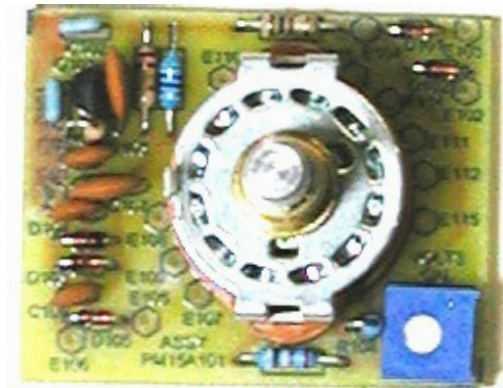


# PM-15A-1 Volt-Amp Panel Meter



## PM-15A-1 Volt-amp Panel Meter

Printed circuit board mounted on three position rotary switch provides voltage divider, voltage calibration, current measurement (with external 0.001  $\Omega$  shunt) and DCDC converter that provides the power/measurement isolation required by the DPM, Digital Panel Meter.



Application in AP-10A-1 Portable Power Unit.

### Disclaimer:

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# PM-15A-1 Volt-Amp Panel Meter

## Applications:

- Ideal for monitoring voltage and current in low voltage distribution systems
- Two voltage inputs and one current shunt input
- Measures Battery voltage, Buss voltage and Buss Current in battery powered systems
- Operates from internal DCDC converter that is powered from the system voltage source
- Has C-source DC power inputs (two diode isolated inputs)

## Physical Characteristics:

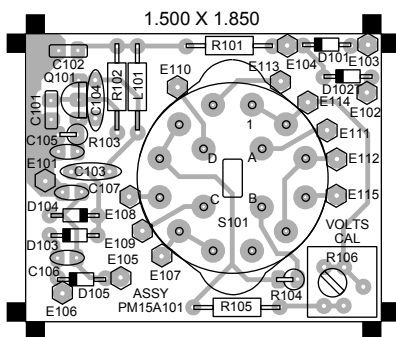
<b>Size</b>	1.850" x 1.500" x 0.725" (to panel)
<b>Material</b>	FR-4 through hole printed wiring board
<b>Mounting</b>	Board solders to PCB pins on rotary switch

## Electrical Characteristics:

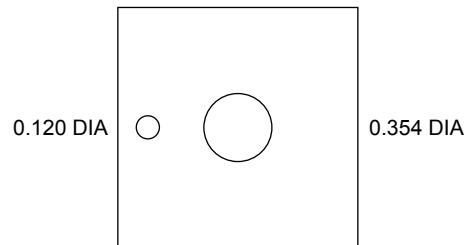
Parameter	Conditions	Value	Notes
DC Operating Voltage	Either input E102 or E103	8 to 19 VDC	
C-Source Output	E104	25 mA Maximum	
Input Current	Into either E102 or E103 with no load on E104	Input Voltage = 13.25 VDC Load Current = 1.0 mA	< 5 mA
Converter Frequency	Nominal		1 MHz
Converter Output	Input Voltage = 9.0 to 16 VDC	Load Current = 1.0 mA	9.0 ± 0.5 VDC
Input to Output DC Isolation	Between DPM Power and Measurement Inputs	< 50 VDC between inputs	> 1000 MΩ
Measurement Inputs	Switch selected	Current Inputs	1
		Voltage Inputs	2
Current measurement	Accuracy using DPM Calibration control	With external 0.001 Ω, ± 5% shunt	± 0.25%
Voltage measurement	Accuracy using R106, Volts Cal	With external 9.53 KΩ ± 1% isolation	± 0.25%
	Input resistance		1.020 MΩ



FRONT VIEW ROTATION IS CW



0.472 HOLE CENTERS



1.250X1.250  
0.188 (3/16) 6061 T6 AL

# PM-15A-1 Volt-Amp Panel Meter

## PM-15A-1 List of Material

Qty	Designator	Value/Type	Description	Part Number	Supplier <sup>(1)</sup>
2	C101,C102	0.1 $\mu$ F, 50V	MLC ceramic	581-SR205E104MAR	
2	C103,C104	470 pF, 50V	COG Disk Ceramic	140-50S5-471J-RC	
3	C105,106,107	0.01 $\mu$ F, 50V	Z5U Disk Ceramic	140-50Z2-103M-RC	
4	D101,102,103,104	1N4454	Si Sw diode	512-1N4454	
1	D105	1N5239B	9.1 V, 0.5 W Zener	512-1N5239B	
1	L101	47 $\mu$ H	Axial Molded	542-78F470-RC	
1	M1	PM128	3 1/2 Digit LCD DPM	6929-ME	3
1	Q101	2N4401	NPN Small Signal	512-2N4401TA	
1	R101	100 $\Omega$ , 5%, 1/4 W	Carbon film	291-100-RC	
1	R102	220 k $\Omega$ , 5%, 1/4 W	Carbon film	291-220K-RC	
1	R103	1 k $\Omega$ , 5%, 1/4 W	Carbon film	291-1K-RC	
1	R104	1.0 M $\Omega$ , 1%, 1/4 W	Metal film	271-1M-RC	
1	R105	9.09 k $\Omega$ , 1%, 1/4 W	Metal film	271-9.09K-RC	
1	R106	2 k $\Omega$ , 5%, Trimmer	Top Adjust	652-3386P-1-202LF	
1	S101	3 Pos, 4 Pole	Rotary	105-SR2512F-43NS	
1		PWB	FR-4, Thru Hole	PM15A121	2
1		Switch Spacer Plate	0.188" Aluminum	PM15A140	

### Notes:

1. Supplier is Mouser Electronics (<http://www.mouser.com>) unless otherwise specified.
2. BWC items shop built - details available at <http://www.bwcelectronics.com>
3. Marlin P. Jones & Assoc. inc. (<http://www.mpja.com>)

