

**PM10-12S DC-DC Converters**

The PM10 is a DC-DC converter which provides a regulated output at power levels up to 10 watts. It accepts a wide range DC input and provides a fully isolated, regulated output. In operation, either (or neither) input pin, as well as either (or neither) output pin can be grounded. PM10 units provide full output power for ambient temperatures up to 70°C, with linear derating from 70°C to zero power at 105°C. In forced air applications, full output power can be maintained as long as the chassis temperature, as measured in the center of the unit's label, is maintained at less than or equal to 100°C.

Note : For safety agency approval of the end use equipment to safety standards (such as UL 1950 3<sup>rd</sup> Edition, CAN/CSA C22.2 No. 950-95, DIN VDE 0805 and EN 60950), the output of the converter is ELV if the input to the converter is ELV; the output of the converter is SELV only if its input is SELV. The input and output are to be both floating or both grounded. The converter is to be protected by the specified fuse, provided in the ungrounded leg.

**Specifications:**

PM10-12S SERIES					
ITEMS	MODEL	PM10-12S03	PM10-12S05	PM10-12S12	PM10-12S15
Nominal Output Voltage	V	3.3	5	12	15
Voltage Accuracy	-	± 1%			
Output Current (Power) @ 70°C	A/W	2.55 (8.4)	2.00 (10.0)	0.83 (10.0)	.67 (10.0)
Operating Temperature Range	-	-25°C to + 105°C. Derate linearly above + 70°C to 0 watts at 105°C			
Output Voltage Adjustment Range	V	Output is Fixed, or not adjustable			
Output Ripple (20MHz BW)	MV	20mV RMS / 75 mVp-p		25mV RMS / 100 mVp-p	
Line Regulation	mV	6.6	10	24	30
Load Regulation (10% - 100%)	mV	33	50	120	150
Temperature Coefficient	-	± .01% / °C			
Overshoot	-	No overshoot at turn on, turn off, power failure or removal of a short circuit			
Input Voltage Range	-	9 – 18 Vdc			
Efficiency (Typical)	%	74	76		
No Load Input Power	W	0.4			
Conducted EMI	-	EN55022 Level B, FCC Level B, ANSI 63.12-1987 with external filter			
Short Circuit Protection	-	Continuous			
Max Load Capacitance*	-	750uF	470uF	68uF	68uF
Overvoltage Clamp Point (fixed)	V	4.7 max.	6.5 max.	14 max.	17.5 max.
Isolation (Input to Output)	-	500Vac, 700Vdc, 10MΩ			
Regulatory Agency Compliance**	-	ETSI-300, Bellcore TR-TSY-001003, UL1950 3 <sup>rd</sup> Edition, CAN/CSA C22.2 No. 950-95, EN 60950, VDE 0805			
Mounting & Connections	-	0.040" diameter, 0.22" long solderable pins			
Cover	-	0.032" anodized aluminum			
Size (W.H.D.)	in	1.0" x 2.0" x 0.335"			
Storage Temperature	-	-40°C to + 105°C			
Cooling	-	Convection cooling allows full o/p rating.			
Vibration	-	2.5G RMS, 10Hz – 50 Hz, random vibration, 10 minutes per axis			
Relative Humidity	-	5% - 95%, non-condensing			
Altitude	-	10,000 feet max. operating / 45,000 feet max. storage			
Fungus Proofing	-	Units are inherently fungus inert			
Thermal Cycling	-	1 hour @ -25°C ramped to 1 hour @ +25°C ramped to 1 hour @ +100°C, 10 cycles ramp = 5°C / minute			
Warranty	-	2 year warranty includes parts and labor			

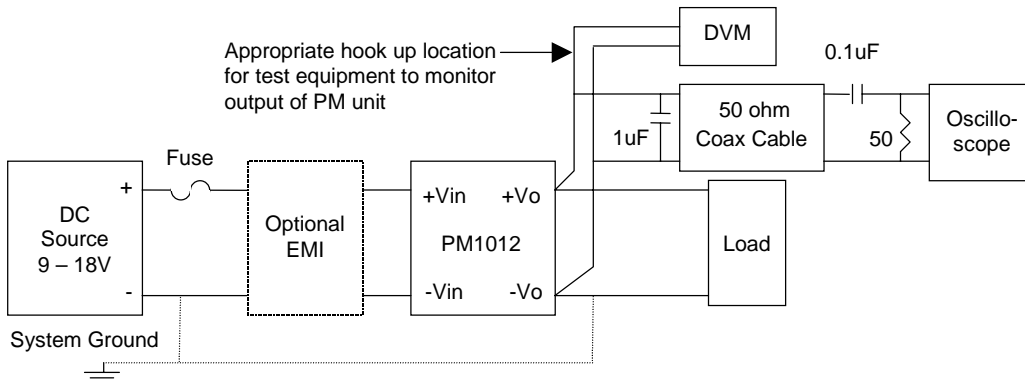
\*To Avoid current limit circuit activation into a capacitive load with no series impedance. Assumes full constant DC load parallel with capacitance at minimum input line voltage.

\*\*Regulatory Agency compliance testing is in process. Check individual unit's label for appropriate agency logos.

Note: Regulation values pertain to operation with output currents above 10% of rated load current.

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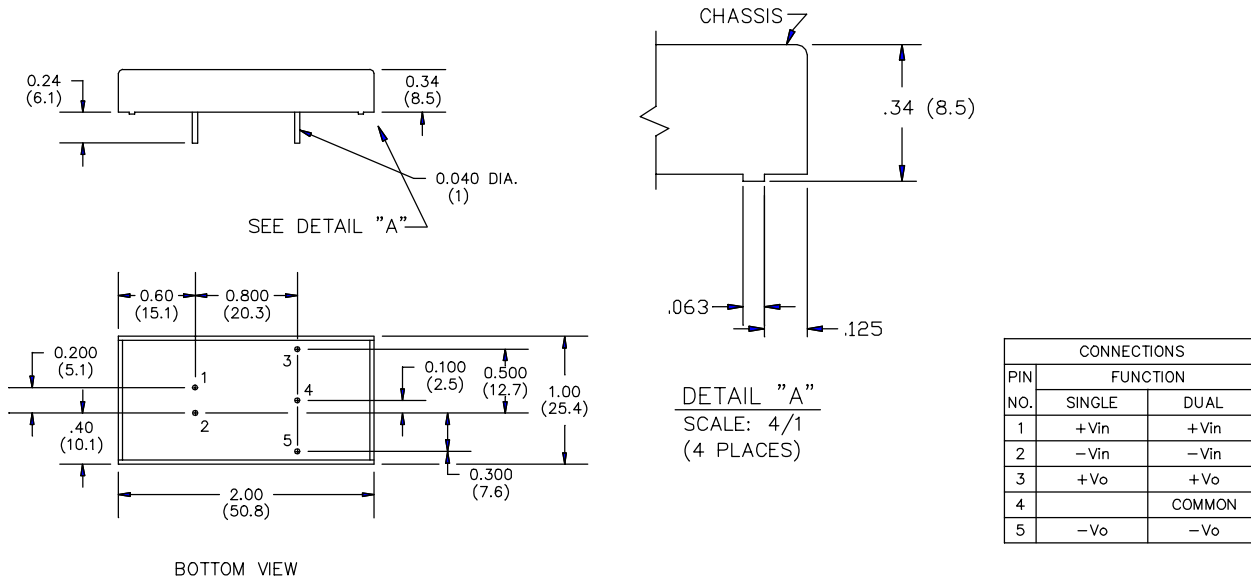
## Recommended Circuit Hook up:



1. Input can have -Vin, +Vin or neither terminal grounded. Input ground connection should be placed as close to PM unit input as possible.
2. Output can have -Vo, +Vo or neither terminal grounded. Output ground connection should be placed as close to PM unit input as possible.
3. Recommended input fusing: 2A (Buss PCB2, or equivalent)  
Input fuse must be connected in series with the ungrounded input lead.

## Mechanical Information:

PM10 units are designed for installation on printed wiring boards. The metal chassis has 0.015" taps built in to provide clearance between the pins and the PC board to allow for wave soldering. During wave soldering, the top surface of the board to which the PM unit is mounted (measured 1/2" from the edge of the PM unit) should be maintained at a temperature of no more than 180°C for no more than 30 seconds. The chassis of the PM unit is electrically isolated from both the input and output circuitry and should be left floating in a typical installation.



## Total Output Power vs Ambient Operating Temperature

