



Low Profile DC-DC Converters

- ◆ Industry Standard Footprints
- ◆ Less than .35" Profile
- ◆ Wide Input Range 2:1
- ◆ Agency Approved
- ◆ 12V, 24V and 48V Inputs
- ◆ 2 year Warranty

PM Features and Benefits

Feature	Benefit
◆ Meets UL, CSA, EN, CE, ETSI standards	◆ Easier system approvals
◆ 100% SMT Technology	◆ High Reliability
◆ Fast delivery for production quantities	◆ Reduced Inventory

Specifications

MODELS		PM10	PM20	PM30
ITEMS				
DC Input	VDC	12V: 9-18V, 24V: 18-36V, 48V: 36-75V		
Input Line Transients (100ms max)	-	12V input: 25V, 24V input models 50V 48V input: 100V ETSI Standard ETS 300132 (100V 10 joules)		
No Load Input Power	-	0.4W		
Inrush Current Limiting	-	ETSI-300-132 (<50A peak)		
EMI (24V&48V I/P models) (1)	-	EN55022 B, FCC B, ANSI 63.12-1987		
Output Voltage Accuracy	-	Single output: $\pm 1\%$, Dual output: $\pm 1.5\%$		
Output Voltage Adj. Range (Trim)	-	None	Output 1: $\pm 10\%$	
Line Regulation (typical)	-	0.2%		Main 0.2%, Aux 3%
Load Regulation (typical) (2)	-	Single / main output: 1.0%, Dual: 2%, PM30xxT aux outputs: 8%		
Minimum Loading	-	A minimum load of 0.1A is required on outputs 2 and 3 in order for the converter to turn-on. Regulation values pertain to operation with output currents above 10% of rated load current on main output and above 25% of rated current on auxiliary outputs.		
Ripple and Noise (Peak to peak)	-	3V & 5V Outputs: 75mV, 12V & 15V Outputs: 100mV(3)		
Overvoltage Protection	-	Output is clamped at factory set level		
Short Circuit Protection	-	Main output: Continuous, Aux outputs: 30ms max		
Cooling	-	Convection		
Operating Temp. Range	-	-40°C to +70°C	-40°C to +60°C	-40°C to +50°C
Temperature Coefficient	-	Outputs 1 & 2: $\pm 0.015\%/^{\circ}\text{C}$, PM30xxT aux outputs: $\pm 0.03\%/^{\circ}\text{C}$		
Humidity (non condensing)	-	5% to 95% RH		
Isolation Resistance	Ohm	10M		
Isolation Voltage (Input to output)	-	12V & 24V input models: 700VDC, 48V input: 1500VDC		
Vibration and Shock	-	2.5G, 10-50Hz, 10 minutes per axis		
Remote On / Off	-	None	Low = OFF	
Safety Agency Approval	-	UL, CSA, EN60950 and CE Mark		
Size (L x W x H)	in	2x1x0.33	2x1.6x0.33	3x2.5x0.33
Warranty	-	Two Years		

Note: See Installation Manual for full details, test methods of parameters & app. notes
(1) With external filter

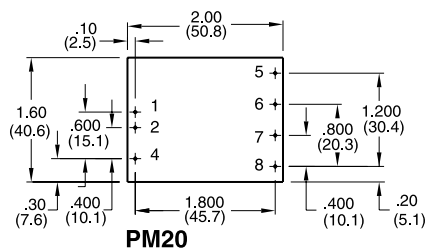
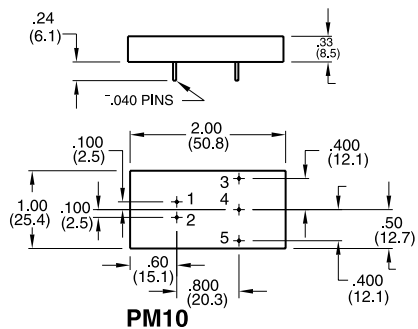
(2) For a 25 to 100% load change, >5W load on output 1 for PM30xxT
(3) 120mV pk pk on outputs 2 & 3 of triple output PM30

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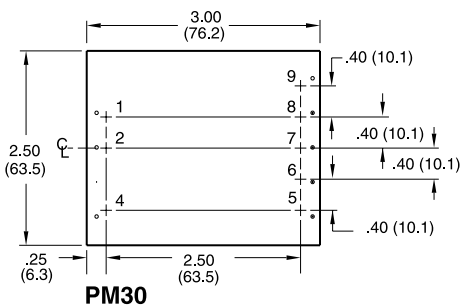
Model Selector

	Output Voltage	Output Current (A)	Output Power (W)	12V Input	24V Input	48V Input
Single Outputs						
	3.3	2.55	8.4	PM10-12S03	PM10-24S03	PM10-48S03
	3.3	5.0	16.5	PM20-12S03	PM20-24S03	PM20-48S03
	3.3	7.5	24.75	PM30-12S03	PM30-24S03	PM30-48S03
	5.0	2.0	10.0	PM10-12S05	PM10-24S05	PM10-48S05
	5.0	4.0	20.0	PM20-12S05	PM20-24S05	PM20-48S05
	5.0	6.0	30.0	PM30-12S05	PM30-24S05	PM30-48S05
	12.0	0.83	10.0	PM10-12S12	PM10-24S12	PM10-48S12
	12.0	1.67	20.0	PM20-12S12	PM20-24S12	PM20-48S12
	12.0	2.5	30.0	PM30-12S12	PM30-24S12	PM30-48S12
	15.0	0.67	10.0	PM10-12S15	PM10-24S15	PM10-48S15
	15.0	1.33	20.0	PM20-12S15	PM20-24S15	PM20-48S15
	15.0	2.0	30.0	PM30-12S15	PM30-24S15	PM30-48S15
Dual Outputs						
	±12.0	0.42	10.0	PM10-12D12	PM10-24D12	PM10-48D12
	±12.0	0.83	20.0	PM20-12D12	PM20-24D12	PM20-48D12
	±12.0	1.25	30.0	PM30-12D12	PM30-24D12	PM30-48D12
	±15.0	0.33	10.0	PM10-12D15	PM10-24D15	PM10-48D15
	±15.0	0.67	20.0	PM20-12D15	PM20-24D15	PM20-48D15
	±15.0	1.00	30.0	PM30-12D15	PM30-24D15	PM30-48D15
Triple Outputs						
	+3.3, ±12.0	7.0, ±1.0	30.0	PM30-12T03-12	PM30-24T03-12	PM30-48T03-12
	+5.0, ±12.0	5.0, ±1.0	30.0	PM30-12T05-12	PM30-24T05-12	PM30-48T05-12

Outline Drawing



NOTE: DIMENSIONS ARE IN INCHES EXCEPT DIMENSIONS () ARE IN MM.



PM Pin Assignments

Pin	PM10		PM20		PM30		
	Single	Dual	Single	Dual	Single	Dual	Triple
1	(+)Vin	(+)Vin	(+)Vin	(+)Vin	(-)Vin	(-)Vin	(-)Vin
2	(-)Vin	(-)Vin	(-)Vin	(-)Vin	(+)Vin	(+)Vin	(+)Vin
3	(+)Vout	(+)Vout	n/c	n/c	n/c	n/c	n/c
4	n/c	Com	on/off	on/off	on/off	on/off	on/off
5	(-)Vout	(-)Vout	n/c	(+)Vout	Trim	Trim	Trim
6			(+)Vout	Com	(+)Vout	(+)Vout	+5 or +3.3 Vout
7			(-)Vout	(-)Vout	(-)Vout	Com	Com
8			Trim	Trim	n/c	n/c	(+)12 Vout
9			n/c	(-)Vout	(-)12 Vout		

Other Lambda DC-DC Products

X	10~20W, 24 & 48V input DC-DC converters
SX	Surface Mount 20W, 24 & 48 input DC-DC converters
PV	1.5~3W, Single Inline Package 5V, 12V, 24V & 48V input
PC	1.5~6W, 5V, 12V, 24V & 48V input DC-DC converters

For Additional Information, please visit
www.lambdapower.com/products/pm-series.htm