



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 |
| <ul style="list-style-type: none"> ◆ Meets UL, CSA, EN, CE, ETSI standards ◆ 100% SMT Technology ◆ Fast delivery for production quantities | <ul style="list-style-type: none"> ◆ Easier system approvals ◆ High Reliability ◆ Reduced Inventory |

| Specifications | | PM10 | PM20 | PM30 |
|-------------------------------------|--------|--|----------------------|-------------------|
| ITEMS | MODELS | | | |
| 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

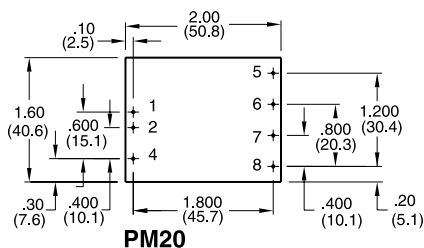
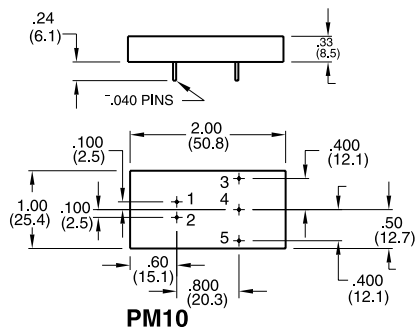
(2) For a 25 to 100% load change, >5W load on output 1 for PM30xxT
(3) 120mV pk pk on outputs 2 & 3 of triple output PM30

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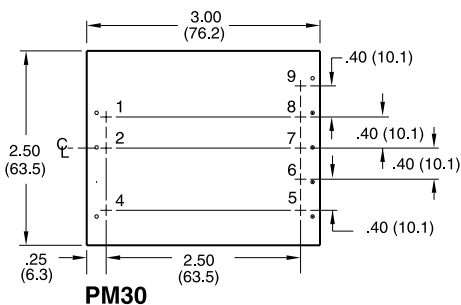
Model Selector

| | 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