

PBM300 Series



- Worldwide Medical Approvals
- Single and Quad Outputs
- Small Size - Only 7.50 x 4.50 x 1.75"
- Power Fail Detect, Remote On/Off, Remote Sense
- High Reliability - More Than 300k Hours MTBF
- 150 Watt Convection-Cooled Rating

Specification

Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• 4.7 A rms at 115 VAC, 2.3 A rms for 230 VAC
Inrush Current	• 30 A at 115 VAC, 60 A at 230 VAC cold start 25 °C
Power Factor	• 0.98 typical
Earth Leakage Current	• 100 µA max at 115 VAC/60 Hz 165 µA max at 230 VAC/50 Hz
Input Protection	• Both line and neutral fused

Output

Output Voltage	• See table
Output Voltage Trim	• ±5% for outputs 1 and 2
Initial Set Accuracy	• ±2%
Minimum Load	• See table and note 5
Start Up Delay	• 2 s typical
Start Up Rise Time	• 18 ms typical
Hold Up Time	• 12 ms minimum at full load and 110 VAC
Drift	• ±0.2%
Line Regulation	• ±0.2% max
Load Regulation	• See note 6
Transient Response	• 4% max. deviation, recovery to within 1% in 500 µs for a 25% load change
Ripple & Noise	• 2% max pk-pk
Overvoltage Protection	• 115-140% Vnom output 1 only, recycle input to reset
Overtemperature Protection	• Shutdown at 95 °C (singles) or 105 °C (multi outputs) with auto recovery, measured internally
Overload Protection	• 120-130% typical, auto recovery
Short Circuit Protection	• Trip and restart (Hiccup mode)
Temperature Coefficient	• 0.04% /°C
Remote Sense	• Compensates for up to 0.5 V drop
Remote On/Off	• On = Logic low or open circuit Off = Logic high

General

Efficiency	• Up to 70%
Isolation	• 4000 VAC Input to Output 1500 VAC Input to Ground 500 VAC Output to Ground
Switching Frequency	• 70 kHz ± 10 kHz
Power Density	• 5.08 W/In ³
Power Fail Detect	• On = TTL logic high Off = TTL logic low
MTBF	• 300 kHrs per MIL-HDBK-217F at 25 °C

Environmental

Operating Temperature	• 0 °C to +70 °C, derate linearly from 100% power at 50 °C to 50% power at 70 °C
Cooling	• 'C' versions have internal fan, 'B' versions are derated with convection cooling. See note 4
Operating Humidity	• up to 95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C
Operating Altitude	• 2500 m
Shock	• Half sine pulse. acceleration 50 G, duration 11 ms, 3 shocks in each direction, unpackaged, non-operating
Vibration	• Sinusoidal 10-50 Hz, amplitude 0.15mm, 30min/axis, unpackaged, non-operating

EMC & Safety

Emissions	• EN55011 and FCC Class B conducted and radiated
Harmonic Currents	• EN61000-3-2
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 3 Perf Criteria A
Radiated Immunity	• EN61000-4-3, level 3 Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria A
Surge	• EN61000-4-5, level 3 Perf Criteria A
Conducted Immunity	• EN61000-4-6, 3 V Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, >95% 5000 ms, Perf Criteria A, A, B
Safety Approvals	• EN60601-1, UL60601-1, CSA22.2 No. 601-1 per cUL, CE Mark

Models and Ratings

Output 1				Output 2 ⁽²⁾				Output 3 ⁽²⁾			Output 4 ⁽²⁾			Output Power ⁽⁴⁾	Model Number ⁽¹⁾
Vnom ⁽³⁾	Imin	Imax	Regulation ⁽⁶⁾	Vnom ⁽³⁾	Imin	Imax	Regulation ⁽⁶⁾	Vnom	Imax	Regulation ⁽⁶⁾	Vnom	Imax	Regulation ⁽⁶⁾		
3.3 V	3.0 A	60.0 A	3%											200 W	PBM300PS03
5.1 V	3.0 A	60.0 A	2%											300 W	PBM300PS05
12.0 V	1.2 A	25.0 A	2%											300 W	PBM300PS12
15.0 V	1.0 A	20.0 A	2%											300 W	PBM300PS15
24.0 V	0.6 A	12.5 A	2%											300 W	PBM300PS24
30.0 V	0.5 A	10.0 A	2%											300 W	PBM300PS30
48.0 V	0.5 A	6.3 A	2%											300 W	PBM300PS48
3.3 V	3.0 A	35.0 A	3%	5.1 V	2.0 A	22.0 A	2%	12.0 V	4.0 A	4%	12.0 V	4.0 A	4%	250 W	PBM300PQ01
5.1 V	2.0 A	35.0 A	2%	12.0 V	1.0 A	10.0 A	2%	12.0 V	4.0 A	4%	5.1 V	4.0 A	4%	300 W	PBM300PQ02
5.1 V	2.0 A	35.0 A	2%	15.0 V	0.8 A	8.0 A	2%	15.0 V	4.0 A	4%	24.0 V	2.5 A	4%	300 W	PBM300PQ03
5.1 V	2.0 A	35.0 A	2%	12.0 V	1.0 A	10.0 A	2%	12.0 V	4.0 A	4%	12.0 V	4.0 A	4%	300 W	PBM300PQ04
5.1 V	2.0 A	35.0 A	2%	12.0 V	1.0 A	10.0 A	2%	12.0 V	4.0 A	4%	24.0 V	2.5 A	4%	300 W	PBM300PQ05
5.1 V	2.0 A	35.0 A	2%	12.0 V	1.0 A	10.0 A	2%	12.0 V	4.0 A	4%	15.0 V	4.0 A	4%	300 W	PBM300PQ06
5.1 V	2.0 A	35.0 A	2%	24.0 V	0.5 A	5.0 A	2%	12.0 V	4.0 A	4%	12.0 V	4.0 A	4%	300 W	PBM300PQ07
5.1 V	2.0 A	35.0 A	2%	24.0 V	0.5 A	5.0 A	2%	5.1 V	4.0 A	4%	15.0 V	4.0 A	4%	300 W	PBM300PQ08
5.1 V	2.0 A	35.0 A	2%	12.0 V	1.0 A	10.0 A	2%	5.1 V	4.0 A	4%	24.0 V	2.5 A	4%	300 W	PBM300PQ09
24.0 V	0.5 A	6.3 A	2%	12.0 V	1.0 A	10.0 A	2%	5.1 V	4.0 A	4%	12.0 V	4.0 A	4%	300 W	PBM300PQ10
24.0 V	0.5 A	6.3 A	2%	12.0 V	1.0 A	10.0 A	2%	5.1 V	4.0 A	4%	24.0 V	2.5 A	4%	300 W	PBM300PQ11
24.0 V	0.5 A	6.3 A	2%	12.0 V	1.0 A	10.0 A	2%	12.0 V	4.0 A	4%	12.0 V	4.0 A	4%	300 W	PBM300PQ12
24.0 V	0.5 A	6.3 A	2%	24.0 V	0.5 A	5.0 A	2%	5.1 V	4.0 A	4%	15.0 V	4.0 A	4%	300 W	PBM300PQ13
24.0 V	0.5 A	6.3 A	2%	24.0 V	0.5 A	5.0 A	2%	12.0 V	4.0 A	4%	12.0 V	4.0 A	4%	300 W	PBM300PQ14

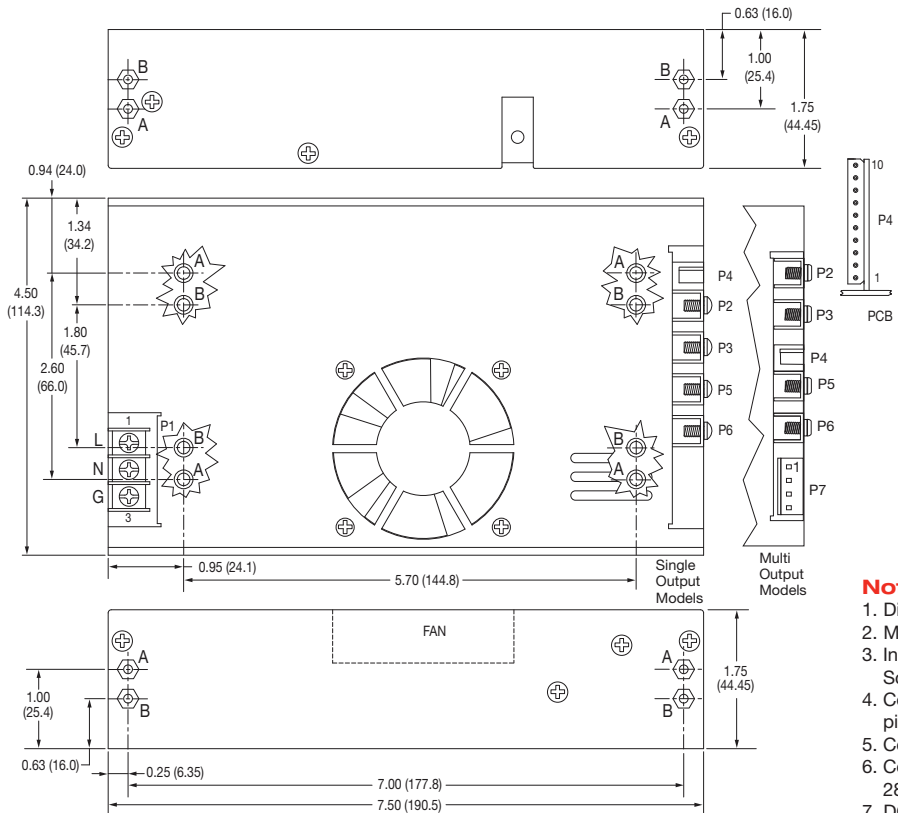
Notes

1. Add suffix 'B' for U-bracket format or suffix 'C' for cover and fan.
2. All auxiliary outputs are floating and can be connected externally for either positive or negative output.
3. Output 1 & 2 can be adjusted within ±5% of their nominal voltage.
4. 300 watts for 'C' version with cover and fan assembly or 150 watts for 'B' version with convection cooling (maximum current of output 1 & 2 derated by 50%). 300 watts for 'B' version with 35 CFM forced air provided by user.

- PBM300US03 is rated 200W with 35 CFM forced air cooling or 100W convection cooled. PBM300PQ01 is rated 250W with 35 CFM forced air cooling or 125 W with convection cooling.
5. Zero minimum load for outputs 3 & 4. Single output models may be operated at no-load, but voltage total regulation increases to 10%.
 6. Total regulation includes initial tolerance, line regulation and load regulation.

Mechanical Details

Weight: Singles 2.64 lb (1.20 kg) approx. Multis 2.73 lb (1.24kg) approx.



Conn	Pin	Model Number(s)	
		USXX	UQXX
P1	1	Line	Line
	2	Neutral	Neutral
	3	Ground	Ground
P2	1	OP1	OP1
P3	1	OP1	OP1 Return
P4	1	Signal Ground	Signal Ground
	2	+sense	+sense OP1
	3	-sense	-sense OP1
	4	PFD	PFD
	5	Remote On/Off	Remote On/Off
	6	N.C.	N.C.
	7	N.C.	+sense OP2
	8	N.C.	-sense OP2
	9	0V (fan)	0V (fan)
	10	12V (fan)	12V (fan)
P5	1	OP1 Return	OP2
P6	1	OP1 Return	OP2 Return
P7	1	n/a	OP3
	2	n/a	OP3 Return
	3	n/a	OP4
	4	n/a	OP4 Return

Notes

1. Dimensions shown in inches (mm). Tolerance 0.02 (0.5) max.
2. Mounting Holes A: #6-32 Mounting Screw, B: M3 x 0.5
3. Input connector P1 is Dinkle P/N DT-35-B01W-03. Screws are M3 x 0.5 on 0.375" centres.
4. Connector P4 mates with Molex housing 50-37-5103 and pins 5263.
5. Connectors P2, P3, P5 and P6: M3x0.5 screw connections.
6. Connector P7 mates with Molex housing 09-50-3041 and 2878 series crimp terminals.
7. DC fan on P4 is rated at 12V/0.1A.

