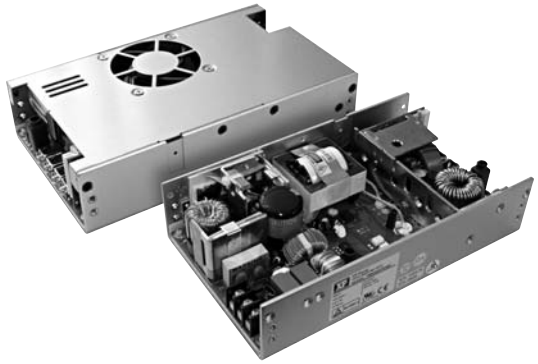
300 Watts

PBM300 Series



- Worldwide Medical Approvals
- Single, Dual, Triple and Quad Outputs
- Power Fail Detect
- Remote On/Off
- U Channel and Enclosed Versions
- 150 Watt Convection-cooled Rating
- 3 Year Warranty

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 220 µA max at 230 VAC/50 Hz
Input Protection	• Internal F6.3 A/250 V in line and neutral lines

Output

Output Voltage	• See table
Output Voltage Trim	• ±5% for outputs 1 & 2
Initial Set Accuracy	• ±2%
Minimum Load	• See table and note 5
Start Up Delay	• 2 s max
Start Up Rise Time	• 18 ms typical
Hold Up Time	• 12 ms min 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, 20 MHz bandwidth, with a 22 µF electrolytic & a 0.47 µF tantalum capacitor
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	• 110-150% 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	• 80% maximum
Isolation	• 4000 VAC Input to Output 1500 VAC Input to Ground 500 VAC Output to Ground
Switching Frequency	• 70 kHz ±10 kHz
Signals	• Power fail detect, remote on/off
Power Density	• 5.08 W/In^3
Power Fail Detect	• AC OK = TTL logic high AC not OK = TTL logic low
MTBF	• 300 kHrs to MIL-HDBK-217F at +25 °C, GB

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 or require 35 CFM (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, 11 ms duration, 3 shocks in each direction, unpackaged, non-operating
Vibration	• Sinusoidal 10-50 Hz, amplitude 0.15 mm, 30 min/axis, unpackaged, non-operating

EMC & Safety

Emissions	• EN55011 and FCC Class B conducted & radiated
Harmonic Currents	• EN61000-3-2, Class A
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

Models and Ratings

PBM300 XP

Output Power[4]	Output 1				Output 2 [2]				Output 3 [2]			Output 4 [2]			Model Number[1]
	Vnom[3]	Imin[5]	Imax	Reg[6]	Vnom[3]	Imin	Imax	Reg[6]	Vnom	Imax	Reg[6]	Vnom	Imax	Reg[6]	
200 W	3.3 V	3.0 A	60.0 A	3%											PBM300PS03-C†^
300 W	5.1 V	3.0 A	60.0 A	2%											PBM300PS05-C†^
300 W	12.0 V	1.2 A	25.0 A	2%											PBM300PS12-C†^
300 W	15.0 V	1.0 A	20.0 A	2%											PBM300PS15-C†^
300 W	24.0 V	0.6 A	12.5 A	2%											PBM300PS24-C†^
300 W	30.0 V	0.5 A	10.0 A	2%											PBM300PS30-C
300 W	48.0 V	0.5 A	6.3 A	2%											PBM300PS48-C†^
250 W	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%	PBM300PQ01-C†^
300 W	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%	PBM300PQ02-C†^
300 W	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%	PBM300PQ03-C†^
300 W	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%	PBM300PQ04-C
300 W	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%	PBM300PQ05-C
300 W	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%	PBM300PQ06-C
300 W	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%	PBM300PQ07-C†^
300 W	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%	PBM300PQ08-C
300 W	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%	PBM300PQ09-C
300 W	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%	PBM300PQ10-C
300 W	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%	PBM300PQ11-C
300 W	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%	PBM300PQ12-C
300 W	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%	PBM300PQ13-C
300 W	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%	PBM300PQ14-C

Notes

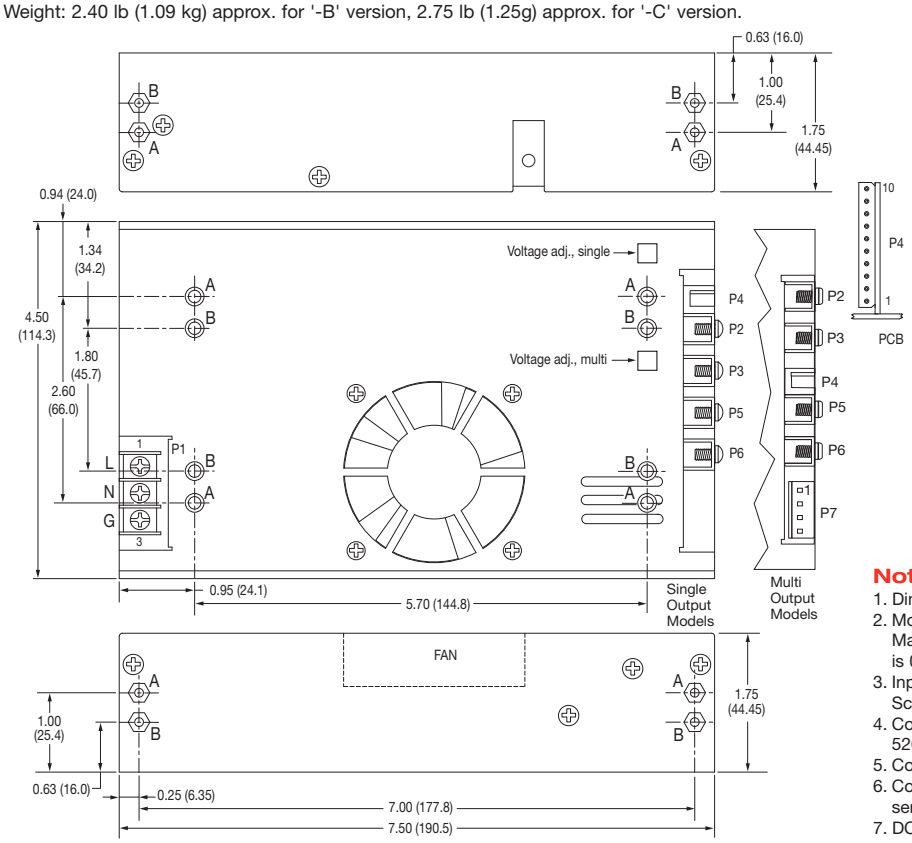
1. *For U-bracket format replace suffix '-C' with suffix '-B'.*
2. *All auxiliary outputs are floating and can be connected externally for either positive or negative output.*
3. *Output 1 & 2 can be adjusted within ±5% of their nominal voltage.*
4. *300 W for 'C' version with cover and fan assembly. 150 watts for 'B' version with convection cooling (maximum current of output 1 & 2 derated by 50%). 300 W for 'B' version with 35 CFM forced air provided by user. PBM300PS03 is rated 200 W with 35 CFM forced air cooling or 100 W convection-cooled. PBM300PQ01 is rated 250 W with 35 CFM forced air cooling or 125 W with convection cooling.*
5. *Zero minimum load for outputs 3 & 4. 10% minimum load required on output 1 for all outputs to meet regulation.*
6. *Total regulation includes initial tolerance, line regulation and load regulation.*

† Available from Farnell. See pages 266-269.

^ Available from Newark. See pages 270-272.

Mechanical Details

Weight: 2.40 lb (1.09 kg) approx. for '-B' version, 2.75 lb (1.25g) approx. for '-C' version.



Conn	Pin	Model Number(s) PSXX	Model Number(s) PQXX
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, Maximum mounting screw length from surface of chassis is 0.14 inch (3.5 mm)
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 & pins 5263.
5. Connectors P2. P3, P5 & P6: M3x0.5 screw connections.
6. Connector P7 mates with Molex housing 09-50-3041 & 2878 series crimp terminals.
7. DC fan on P4 is rated at 12 V/0.1 A.