

AC-DC Medical

25 Watts PBM25 Series



THE XPERTS IN POWER

- Small Size 2.50" x 4.25" x 0.96"
- Low Leakage Current
- Medical Safety Agency Approvals
- Both Line and Neutral Fused
- Meets Class B, EN55011 Conducted
- Fixed Switching Frequency

Specification

Input

- **Input Voltage** • 85-264 VAC
- **Input Frequency** • 47-63 Hz
- **Input Current** • 0.7 A (rms) at 115 VAC, 0.4 A (rms) at 230 VAC
- **Inrush Current** • 10 A max at 115 VAC, 25 A max at 230 VAC
- **Earth Leakage Current** • 90 μ A max at 115 VAC 60 Hz, 150 μ A max at 230 VAC 50 Hz

Output

- **Output Voltage** • 5.1 to 28 VDC, See Table
- **Output Power** • 25/28 Watts, See Table
- **Minimum Load** • No minimum for single outputs models, See Table for multi outputs models
- **Start Up Delay** • 3 s max
- **Start Up Rise Time** • 12 ms
- **Hold up Time** • 10 ms minimum at 110 VAC
- **Initial Set Accuracy** • $\pm 1\%$
- **Line Regulation** • $\pm 0.5\%$ max at full load
- **Total Regulation** • See Table
- **Transient Response** • 4% max deviation, 500 μ s recovery time for a 25% load change
- **Ripple & Noise** • $\pm 1\%$ max pk-pk (See Note 1)
- **Overvoltage Protection** • Provided on output 1 only; set at 112-132% of its nominal output voltage
- **Overcurrent Protection** • 125-200% with auto recovery
- **Short Circuit Protection** • Trip & restart with auto recovery
- **Temperature Coefficient** • $\pm 0.04\%/^{\circ}\text{C}$

General

- **Efficiency** • 68% minimum for 5 V & multi output models, 70% minimum all others
- **Isolation** • 4000 VAC Input to Output, 1500 VAC Input to Ground, 500 VAC Output to Ground
- **Switching Frequency** • 42 KHz ± 5 KHz
- **MTBF** • 500,000 hrs per min MIL-HDBK-217F
- **Size** • 4.25 x 2.50 x 0.96", 107.95 x 63.50 x 24.38 mm
- **Weight** • Single output models 163 g, Multi output models 175 g

Environmental

- **Operating Temperature** • 0 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$, derate linearly from 100% load at +50 $^{\circ}\text{C}$ to 50% load at +70 $^{\circ}\text{C}$
- **Storage Temperature** • -40 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$
- **Cooling** • Convection cooled
- **Relative Humidity** • 5-95%, non-condensing
- **Operating Altitude** • 3000m
- **Shock** • 20 G in 3 directions, 3 times each
- **Vibration** • 0.15mm over 10-55Hz and 1 octave/min. 3 axes for 30 min

EMC & Safety

- **EMC** • EN55011 (CISPR11) Class B & FCC Class B conducted
- **ESD** • EN61000-4-2 Level 2 Perf Criteria A
- **Radiated Immunity** • EN61000-4-3 3 V/m Perf Criteria A
- **EFT/Burst** • EN61000-4-4 Level 3 Perf Criteria A
- **Surge** • EN61000-4-5 Level 3 Perf Criteria A
- **Safety Approvals** • UL2601-1, CSA C22.2 No 601.1, EN60601-1, IEC 601-1

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OUTPUT VOLTAGE & CURRENT RATINGS

PBM25

Output Power Maximum	Output 1				Output 2				Output 3				Model Number
	Vnom	Imin	Imax	Reg. ⁽²⁾	Vnom	Imin	Imax	Reg. ⁽²⁾	Vnom	Imin	Imax	Reg. ⁽²⁾	
28 W	5.1 V	0.0 A	5.5 A	2%									PBM25US05
28 W	12.0 V	0.0 A	2.3 A	1%									PBM25US12*
28 W	15.0 V	0.0 A	1.9 A	1%									PBM25US15*
28 W	24.0 V	0.0 A	1.2 A	1%									PBM25US24*
28 W	28.0 V	0.0 A	1.0 A	1%									PBM25US28*
25 W	5.1 V	0.4 A	2.5 A	3%	+12 V	0.2 A	1.5 A	5%					PBM25UD01*
25 W	5.1 V	0.4 A	2.5 A	3%	+24 V	0.1 A	0.8 A	5%					PBM25UD02*
25 W	5.1 V	0.4 A	2.5 A	3%	+12 V	0.2 A	1.5 A	5%	-12 V	0.05 A	0.2 A	4%	PBM25UT01*
25 W	5.1 V	0.4 A	2.5 A	3%	+15 V	0.1 A	1.0 A	5%	-15 V	0.05 A	0.2 A	4%	PBM25UT02*
25 W	5.1 V	0.4 A	2.5 A	3%	+24 V	0.1 A	0.8 A	5%	-12 V	0.05 A	0.2 A	4%	PBM25UT03*

Notes

1. Ripple and noise measured with 20 MHz bandwidth with 10 μ F electrolytic in parallel with 0.1 μ F ceramic.
 2. Regulation includes line and load regulation and set point accuracy. All multiple output models may be operated at no-load, but output regulation will increase to 10% on outputs V2 & V3.
- * Also available from Farnell InOne, see pages 350 & 351.

Mechanical Details - Single Output Models

0.144 (3.66 Dia. Mounting Hole (4 Places))

P1 AC Input

GND

P2 DC Output

Dimensions: 0.13 (3.18), 4.00 (101.60), 4.25 (107.95), 0.13 (3.18), 2.55 (57.15), 2.50 (63.5), 0.86 (21.84), 0.96 (24.38)

PIN CONNECTIONS	
Pin	Function
1	Return
2	Return
3	Output 1
4	Output 1

Notes:

1. Dimensions shown in inches (mm).
2. Tolerance 0.03 (0.76) maximum.
3. Input connector P1 mates with Molex housing 09-50-3031 and Molex 2878 series crimp terminal.
4. Output connector P2 mates with Molex housing 09-50-3041 and Molex 2878 series crimp terminal.
5. Weight 163 g.
6. Covers available, order part number PBM25 COVER*, or add suffix '-C' to have cover fitted (78.8 x 12.0 x 34.8 mm).
7. Mating connector kit available, order part number PBM25 CONKT-S*.

Mechanical Details - Multi Output Models

0.144 (3.66 Dia. Mounting Hole (4 Places))

P1 AC Input

GND

P2 DC Output

Dimensions: 0.13 (3.18), 4.00 (101.60), 4.25 (107.95), 0.13 (3.18), 2.55 (57.15), 2.50 (63.5), 0.86 (21.84), 0.96 (24.38)

PIN CONNECTIONS		
Pin	Dual Output	Triple Output
1	Output 2	Output 2
2	Output 1	Output 1
3	Output 1	Output 1
4	Common Return	Common Return
5	Common Return	Common Return
6	No Connection	Output 3

Notes:

1. Dimensions shown in inches (mm).
2. Tolerance 0.03 (0.76) maximum.
3. Input connector P1 mates with Molex housing 09-50-3031 and Molex 2878 series crimp terminal.
4. Output connector P2 mates with Molex housing 09-50-3061 and Molex 2878 series crimp terminal.
5. Weight 175 g.
6. Covers available, order part number PBM25 COVER*, or add suffix '-C' to have cover fitted (78.8 x 120.0 x 34.8 mm).
7. Mating connector kit available, order part number PBM25 CONKT-D/T*.

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