

# PCM SERIES

AC/DC Single & Multi Output: 50 ~ 120Watts



## Features

- 4000 VAC Isolation
- Low Leakage Current
- Single, Dual and Triple Outputs
- Worldwide Medical Approvals
- CCC Approved (PCM80)
- Both Line and Neutral Fused
- Non-standard Connectors Available

## Specification

### Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• PCM50: 1.35 A max PCM80: 1.30 A max PCM120: 1.60 A max
Inrush Current	• 30 A at 115 VAC or 60 A at 230 VAC at 25 °C cold start
Power Factor	• PCM50: 0.55 typical PCM80/120: 0.94 min
Earth Leakage Current	• 180 µA max at 132 VAC/60Hz 300 µA max at 264 VAC/50Hz

### Output

Output Voltage	• See tables
Minimum Load	• No minimum load required for single output models. See tables for multi output models
Start Up Delay	• 2 s max
Hold Up Time	• 10 ms min at low line
Line Regulation	• ±1% max at full load for ±10% change in input
Load Regulation	• ±5% max
Transient Response	• 5% max. deviation, 500 µs recovery time for a 50% load change
Ripple & Noise	• 2% pk-pk, 20MHz BW
Overvoltage Protection	• 112-132% with auto recovery on V1
Overcurrent Protection	• 110-200% with auto recovery on all outputs
Temperature Coefficient	• ±0.05% /°C

### General

Efficiency	• Single output models: 80% typical Multi output models: 75% typical
Isolation	• 4000 VAC Input to Output 1500 VAC Input to Ground 500 VAC Output to Ground
Switching Frequency	• PCM50: 64 kHz typical PCM80: 55 kHz typical PCM120: 120 kHz typical
MTBF	• 100 kHrs at full load and 25 °C ambient per MIL-HDBK-217F

### Environmental

Operating Temperature	• PCM50: 0 °C to +70 °C, derate from 100% load at 50 °C to 50% load at +70 °C PCM80: 0 °C to +70 °C, derate from 100% load at 40 °C to 50% load at +70 °C PCM120: 0 °C to +60 °C, derate from 100% load at 40 °C to 50% load at +60 °C
Storage Temperature	• PCM50/80: -40 °C to +80 °C PCM120: -20 °C to +85 °C

### EMC & Safety

Emissions	• EN55022, level B conducted EN55022, level B radiated
Harmonic Currents	• EN61000-3-2, class A
Voltage Flicker	• EN61000-3-3 amendments 1 & 2
ESD Immunity	• IEC61000-4-2, level 3 Perf Criteria B
Radiated Immunity	• IEC61000-4-3 10 V/m, level 3 Perf Criteria B
EFT/Burst	• IEC61000-4-4, level 3 Perf Criteria B
Surge	• IEC61000-4-5, level 3 Perf Criteria B
Conducted Immunity	• IEC61000-4-6 10 V/m, level 3 Perf Criteria B
Power Frequency Magnetic Fields	• IEC61000-4-8 10 A/m, Perf Criteria B
Dips & Interruptions	• IEC61000-4-11, 30% 500 ms, 60% 100 ms, 100% 5000 ms Perf Criteria A, A, C
Safety Approvals	• UL60601-1, CSA C22.2 No. 601.1 per cUL EN60601-1, CCC (PCM80)

## Models and Ratings

**PCM50 XP**

Maximum Output Power	Output Voltage				Output Current				Regulation <sup>(1)</sup>	Model Number
30 W	2.5 V				12.00 A				7%	PCM50US2V5†
40 W	3.3 V				8.00 A				5%	PCM50US3V3†
40 W	5.0 V				8.00 A				5%	PCM50US05†
42 W	7.0 V				6.00 A				5%	PCM50US07†
45 W	9.0 V				5.00 A				4%	PCM50US09†
45 W	12.0 V				3.75 A				3%	PCM50US12†
45 W	15.0 V				3.00 A				3%	PCM50US15†
50 W	18.0 V				2.77 A				3%	PCM50US18†
50 W	24.0 V				2.08 A				2%	PCM50US24†
50 W	28.0 V				1.78 A				2%	PCM50US28†
50 W	36.0 V				1.38 A				2%	PCM50US36†
50 W	48.0 V				1.04 A				2%	PCM50US48†

Output Power	Output 1				Output 2				Output 3				Model Number
	Vnom	Imin	Imax	Tol. <sup>(1)</sup>	Vnom	Imin <sup>(4, 5)</sup>	Imax	Tol. <sup>(1)</sup>	Vnom	Imin	Imax	Tol. <sup>(1)</sup>	
26.5 W	+3.3 V	1.0 A	5.0 A	7%	+5.0 V	0.4 A	2.0 A	5%					PCM50UD00†
42.0 W	+3.3 V	0.5 A	5.0 A	7%	+12.0 V	0.2 A	2.0 A	5%					PCM50UD01
42.0 W	+5.0 V	0.2 A	5.0 A	5%	-5.0 V	0.2 A	2.0 A	5%					PCM50UD02†
42.0 W	+5.0 V	0.5 A	5.0 A	5%	+12.0 V	0.2 A	2.0 A	5%					PCM50UD03
42.0 W	+5.0 V	0.5 A	5.0 A	5%	+15.0 V	0.2 A	1.5 A	6%					PCM50UD04
42.0 W	+5.0 V	0.5 A	5.0 A	5%	+24.0 V	0.1 A	1.0 A	5%					PCM50UD05
42.0 W	+5.0 V	0.5 A	5.0 A	5%	-24.0 V	0.1 A	1.0 A	5%					PCM50UD06†
42.0 W	+12.0 V	0.5 A	3.0 A	5%	-12.0 V	0.2 A	1.0 A	5%					PCM50UD07†
42.0 W	+15.0 V	0.5 A	2.0 A	5%	-15.0 V	0.2 A	1.0 A	5%					PCM50UD08†
42.0 W	+5.1 V	0.0 A	5.0 A	5%	+7.2 V	0.2 A	2.6 A	5%					PCM50UD10
42.0 W	+10.5 V	0.2 A	2.0 A	5%	-10.5 V	0.2 A	2.0 A	5%					PCM50UD11
42.0 W	+3.3 V	0.5 A	5.0 A	7%	+12.0 V	0.2 A	2.0 A	5%	-5.0 V	0.0 A	0.8 A	5%	PCM50UT01†
42.0 W	+3.3 V	0.5 A	5.0 A	7%	+12.0 V	0.2 A	2.0 A	5%	-12.0 V	0.0 A	0.8 A	5%	PCM50UT02†
42.0 W	+5.0 V	0.5 A	5.0 A	5%	+12.0 V	0.2 A	2.0 A	5%	-5.0 V	0.0 A	0.8 A	5%	PCM50UT03†
42.0 W	+5.0 V	0.5 A	5.0 A	5%	+12.0 V	0.2 A	2.0 A	5%	-12.0 V	0.0 A	0.8 A	5%	PCM50UT04†
42.0 W	+5.0 V	0.5 A	5.0 A	5%	+15.0 V	0.2 A	2.0 A	6%	-15.0 V	0.0 A	0.8 A	5%	PCM50UT05†
42.0 W	+5.0 V	0.5 A	5.0 A	5%	+24.0 V	0.1 A	1.0 A	5%	-12.0 V	0.0 A	0.8 A	5%	PCM50UT06†
42.0 W	+5.0 V	0.5 A	5.0 A	5%	+24.0 V	0.1 A	1.0 A	5%	-24.0 V	0.0 A	0.5 A	5%	PCM50UT07†

### Notes

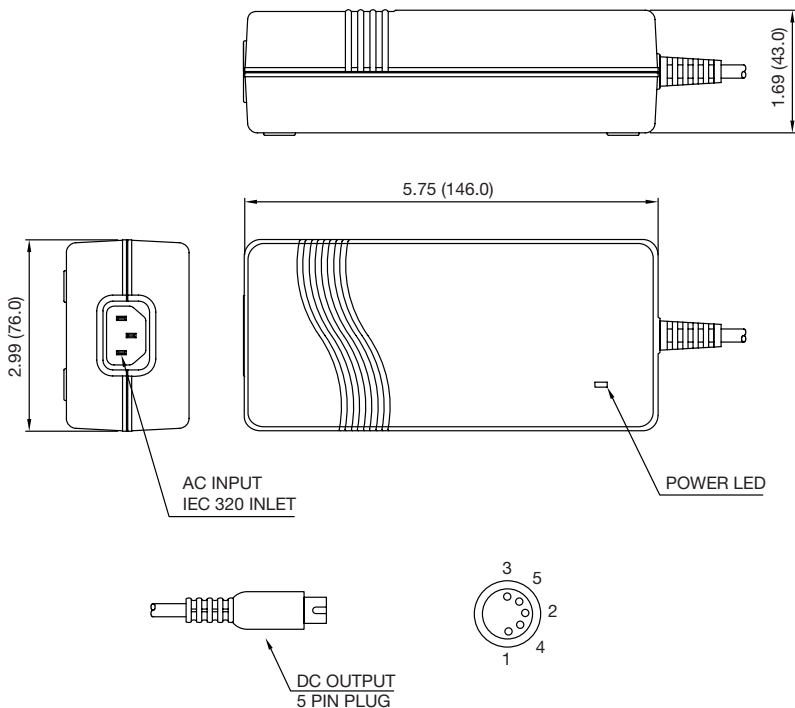
1. Regulation includes initial set tolerance, line regulation and load regulation.

## Mechanical Details

All dimensions are in inches (mm)

Weight: 0.88-1.21 lb (400-550 g) approx.

Tolerance: 0.04 (1.0) maximum



PIN CONNECTIONS			
Pin	Single	Dual	Triple
1	Common	Common	Common
2	Common	Common	Common
3	Output	Output 1	Output 1
4	Common	Common	Output 3
5	Output	Output 2	Output 2

### Notes:

1. Cable length is 48.0" (1.22m) approx.
2. For mating connector, use standard 5 pin din 180° socket.
3. Optional output connectors available, contact sales office.
4. Multi output models include a ferrite bead on the output connector.

## Models and Ratings

**PCM80 XP**

Output Power	Output 1				Output 2				Output 3				Model Number
	Vnom	Imin	I <sub>max</sub>	Tol. <sup>(1)</sup>	Vnom	Imin <sup>(4, 5)</sup>	I <sub>max</sub>	Tol. <sup>(1)</sup>	Vnom	Imin	I <sub>max</sub>	Tol. <sup>(1)</sup>	
50.0 W	3.3 V	0.0 A	15.1 A	7%									PCM80PS3V3†
65.0 W	5.0 V	0.0 A	13.0 A	5%									PCM80PS05†*
70.0 W	7.0 V	0.0 A	10.0 A	5%									PCM80PS07†
75.0 W	9.0 V	0.0 A	8.3 A	5%									PCM80PS09†*
75.0 W	10.0 V	0.0 A	7.5 A	5%									PCM80PS10
80.0 W	12.0 V	0.0 A	6.7 A	5%									PCM80PS12†*
80.0 W	13.5 V	0.0 A	5.9 A	5%									PCM80PS13V5†
80.0 W	15.0 V	0.0 A	5.3 A	5%									PCM80PS15†*
80.0 W	16.0 V	0.0 A	5.0 A	5%									PCM80PS16
80.0 W	17.5 V	0.0 A	4.6 A	5%									PCM80PS17V5
80.0 W	18.0 V	0.0 A	4.4 A	5%									PCM80PS18†*
80.0 W	24.0 V	0.0 A	3.3 A	5%									PCM80PS24†*
80.0 W	27.0 V	0.0 A	3.0 A	5%									PCM80PS27†*
80.0 W	30.0 V	0.0 A	2.7 A	5%									PCM80PS30
80.0 W	36.0 V	0.0 A	2.2 A	3%									PCM80PS36
80.0 W	48.0 V	0.0 A	1.7 A	3%									PCM80PS48†*
38.0 W	3.3 V	0.5 A	7.0 A	5%	5.0 V	0.3 A	3.0 A	5%					PCM80PD00
53.0 W	3.3 V	0.5 A	7.0 A	5%	12.0 V	0.2 A	2.5 A	5%					PCM80PD01
60.0 W	5.0 V	0.5 A	7.0 A	5%	12.0 V	0.2 A	2.5 A	5%					PCM80PD02
60.0 W	5.0 V	0.5 A	7.0 A	5%	15.0 V	0.2 A	2.0 A	5%					PCM80PD03
60.0 W	5.0 V	0.5 A	7.0 A	5%	24.0 V	0.2 A	2.0 A	5%					PCM80PD04
60.0 W	5.0 V	0.5 A	7.0 A	5%	-24.0 V	0.2 A	2.0 A	5%					PCM80PD05
65.0 W	12.0 V	0.5 A	5.0 A	5%	-12.0 V	0.1 A	0.8 A	5%					PCM80PD06
65.0 W	15.0 V	0.5 A	4.0 A	5%	-15.0 V	0.1 A	0.8 A	5%					PCM80PD07
65.0 W	24.0 V	0.5 A	2.1 A	5%	-24.0 V	0.1 A	0.8 A	5%					PCM80PD08
51.0 W	3.3 V	0.5 A	7.0 A	5%	12.0 V	0.2 A	2.0 A	5%	-5.0 V	0.1 A	0.8 A	5%	PCM80PT01†
60.0 W	5.0 V	0.5 A	6.0 A	5%	12.0 V	0.2 A	2.5 A	5%	-5.0 V	0.1 A	0.5 A	5%	PCM80PT03†
60.0 W	5.0 V	0.5 A	6.0 A	5%	12.0 V	0.2 A	2.1 A	5%	-12.0 V	0.1 A	0.5 A	5%	PCM80PT04†*
65.0 W	5.0 V	0.5 A	6.0 A	5%	15.0 V	0.2 A	2.1 A	5%	-15.0 V	0.1 A	0.5 A	5%	PCM80PT05†*
60.0 W	5.0 V	0.5 A	6.0 A	5%	24.0 V	0.1 A	1.2 A	5%	-12.0 V	0.1 A	0.5 A	5%	PCM80PT06
65.0 W	5.0 V	0.5 A	7.0 A	5%	24.0 V	0.2 A	2.0 A	5%	-24.0 V	0.1 A	0.5 A	5%	PCM80PT07

### Notes

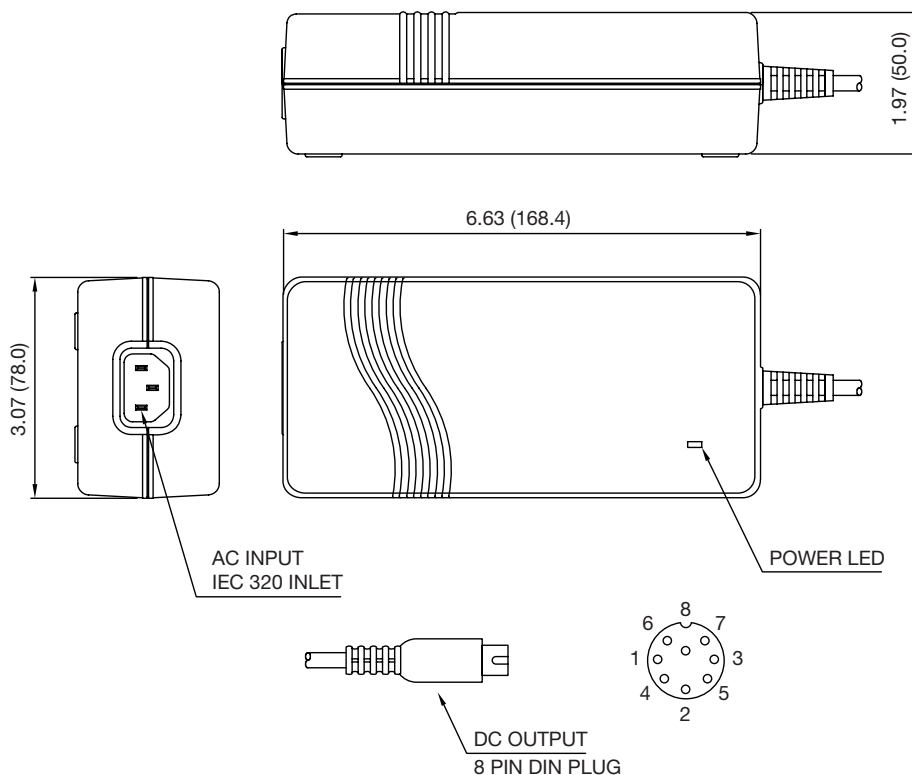
1. Regulation includes initial set tolerance, line regulation and load regulation.

## Mechanical Details

All dimensions are in inches (mm)

Weight: 1.76-1.98 lb (800-900 g) approx.

Tolerance: 0.04 (1.0) maximum



PIN CONNECTIONS			
Pin	Single	Dual	Triple
1	Common	Common	Common
2	Common	Output 2	Output 3
3	Output 1	Output 1	Output 1
4	Common	Output 2	Output 2
5	Output 1	Output 1	Output 2
6	Common	Common	Common
7	Output 1	Output 1	Output 1
8	Output 1	Common	Output 3
Shell	Ground	Ground	Ground

### Notes:

1. Cable length is 48.0" (1.22m) approx.
2. Optional output connectors available, contact sales office.
3. Multi output models include a ferrite bead on the output connector.

## Models and Ratings

**PCM120 XP**

Maximum Output Power	Output Voltage	Output Current	Peak Current <sup>(1)</sup>	Model Number
108 W	12.0 V	9.00 A	15.00 A	PCM120PS12†*
113 W	15.0 V	7.50 A	10.00 A	PCM120PS15†*
120 W	18.0 V	6.50 A	9.00 A	PCM120PS18†*
120 W	24.0 V	5.00 A	7.00 A	PCM120PS24†*
120 W	48.0 V	2.50 A	4.00 A	PCM120PS48†*

### Notes

1. Peak current is 5 seconds maximum duration with a 10% duty cycle.

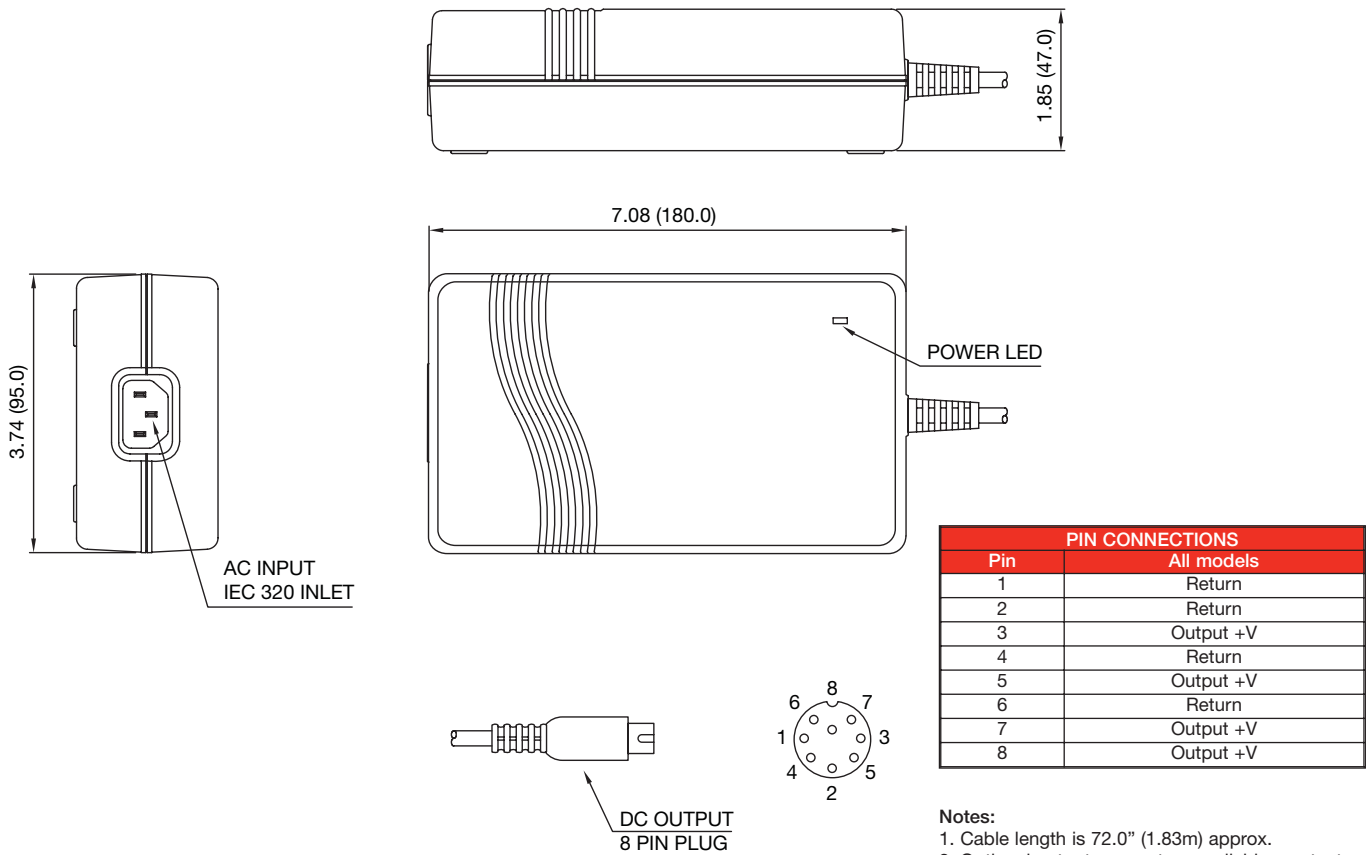
\*Available from Newark InOne. See page 238

## Mechanical Details

All dimensions are in inches (mm)

Weight: 1.90 lb (860 g) approx.

Tolerance: 0.04 (1.0) maximum



## Derating Curve

