

DESCRIPTION

The PM800 series of AC-DC switching power supplies in a package of 5 x 8.25 x 1.6 inches are capable of delivering 800 watts of continuous power. The units are constructed on a printed circuit board with an enclosure for mechanical support and heat sinking. They are designed for medical applications including those needing BF rated insulation and/or an operation altitude up to 5000 meters.

FEATURES

- BF Class insulation
- Operation altitude up to 5000 meters
- Less than 500 μ A leakage current
- Meet EN55011 /55032 Class B
- Power Factor 0.98 typical
- Short-circuit protection (Latch)
- Power Fail Detect (PFD) signal
- PS ON - TTL low to turn on output
- High Efficiency 92% typical
- Power consumption in standby mode less than 1W at standby power 5 V /100 mA
- PMBus interface (optional)
- Current share with OR-ing FET (optional)

INPUT SPECIFICATIONS

Input voltage:	80-264 VAC
Power derating:	Derate linearly from 100% at 90 VAC to 90% at 85 Vac and 80% at 80 VAC
Input frequency:	47-63 Hz; 400Hz @ 115VAC
Input current:	7.8 A (rms) for 115 VAC 4.1 A (rms) for 230 VAC
Earth leakage current:	500 μ A max. @ 264 VAC, 63 Hz
Touch current:	100 μ A max. @ 264 VAC, 63 Hz

OUTPUT SPECIFICATIONS

Output voltage/current:	See rating chart.
Total output power:	See rating chart.
Ripple and noise:	1% peak to peak maximum
Remote sense	Compensation for cable losses up to 0.5 V
Oversvoltage protection:	Set at 112-140% of its nominal output voltage
Overcurrent protection:	Output protected to short circuit conditions
Temperature coefficient:	All outputs \pm 0.04%/°C maximum
Transient response:	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 μ s after a 25% step load change
Standby power:	5 V at 2.0 A maximum

ENVIRONMENTAL SPECIFICATIONS

Operating temperature:	-20°C to +70°C
Storage temperature:	-40°C to +85°C
Relative humidity:	5% to 95% non-condensing
Temperature derating:	Derate from 100% at +50°C linearly to 50% at +70°C, applicable to convection and forced-air cooling conditions

PM800 SERIES



CE
RoHS

SAFETY STANDARD APPROVALS

UL/CSA/TUV 60601-1
UL/CSA/TUV 62368-1
(certifications to be applied for in Q4 2024)

GENERAL SPECIFICATIONS

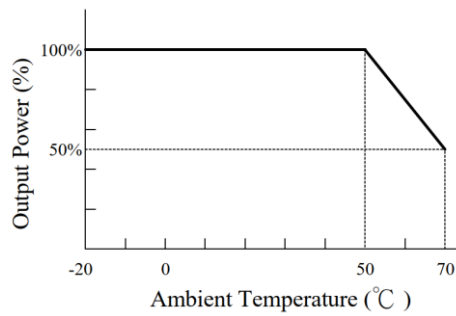
Switching frequency:	50 KHz (typical)
Efficiency:	90% minimum on all models
Turn on delay time	3 s maximum at 100 VAC
Hold-up time:	20 ms minimum at 110 VAC
Line regulation:	\pm 0.5% maximum at full load
Inrush current:	25 A @ 115 VAC or 50 A @ 230 VAC, at 25°C cold start
Withstand voltage:	4000 VAC from input to output (2MOPP) 1500 VAC from input to ground (1 MOPP) 1500 VAC from output to ground
MTBF:	100,000 hours at full load at 25°C ambient, calculated per MIL-HDBK-217F
EMC Performance	
EN55011/EN55032:	Class B conducted, class B radiated
EN61000-3-2:	Harmonic distortion, class A and D
EN61000-3-3:	Line flicker
EN60601-1-2, EN55035	
EN61000-4-2:	ESD, \pm 15 KV air and \pm 8 KV contact
EN61000-4-3:	Radiated immunity, 9-28 V/m
EN61000-4-4:	Fast transient/burst, \pm 2 KV
EN61000-4-5:	Surge, \pm 1 KV diff., \pm 2 KV com
EN61000-4-6:	Conducted immunity, 10 Vrms
EN61000-4-8:	Magnetic field immunity, 30 A/m
EN61000-4-11:	Voltage dip immunity, 30% reduction for 500 ms, 100% reduction for 10 ms

INTERFACE SIGNALS

PFD: TTL logic high for normal operation and TTL logic low upon loss of input power. This signal appears at least 1ms prior to V1 output dropping 5% below its nominal value. This signal also provides a minimum delay of 100 ms after V1 is within regulation.

PS ON: TTL low to turn on output

OUTPUT POWER DERATING CURVE



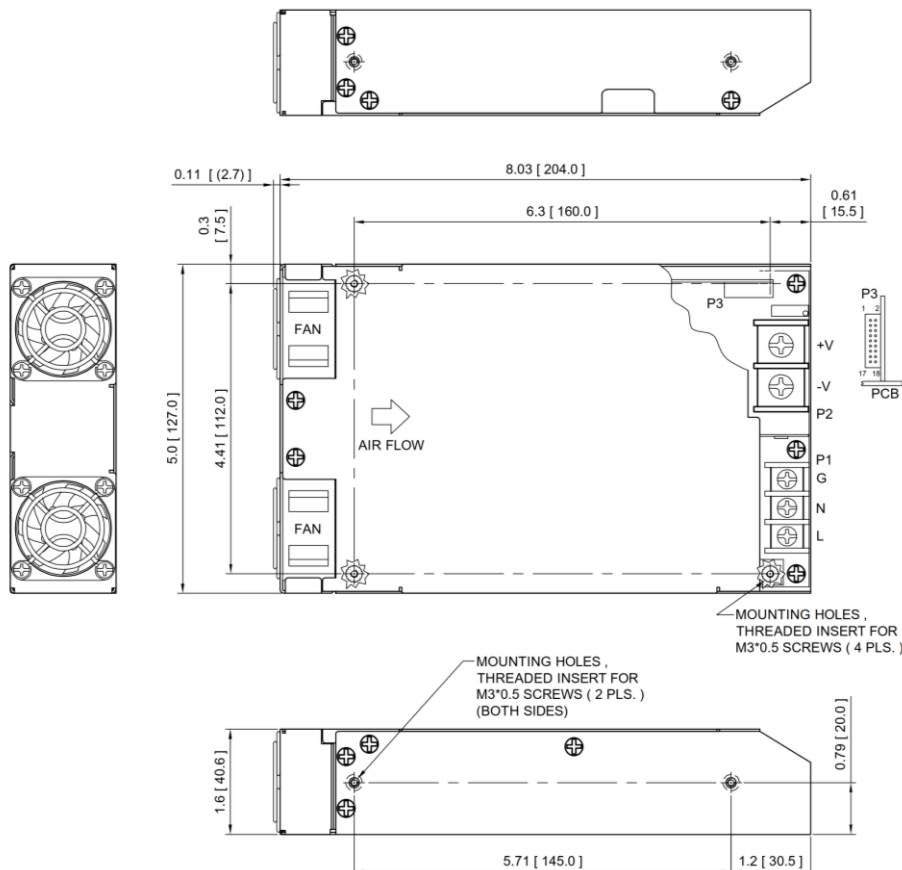
OUTPUT VOLTAGE/CURRENT RATING CHART

Model ⁽¹⁾	Output							Efficiency (typical) 115/230 Vac	
	Class I	V1	Min. Current	Max. Current	Peak Current ⁽²⁾	Tol.	Ripple & Noise ⁽³⁾		Max. /Peak Power ⁽²⁾
PM800-12C		12 V	0 A	66.67 A	83.34 A	±2%	120 mV	800 W /1000 W	90 /92%
PM800-13C		15 V	0 A	53.34 A	66.67 A	±2%	150 mV	800 W /1000 W	90 /92%
PM800-14C		24 V	0 A	33.34 A	41.67 A	±2%	240 mV	800 W /1000 W	91 /93%
PM800-16C		30 V	0 A	26.67 A	33.34 A	±2%	300 mV	800 W /1000 W	91 /93%
PM800-17C		36 V	0 A	22.23 A	27.78 A	±2%	360 mV	800 W /1000 W	92 /94%
PM800-18C		48 V	0 A	16.67 A	20.84 A	±2%	480 mV	800 W /1000 W	92 /94%
PM800-19C		54 V	0 A	14.82 A	18.52 A	±2%	480 mV	800 W /1000 W	92 /94%

NOTES:

1. Add suffix "-P" with PMBus interface function, e.g. PM800-14C-P. Add suffix "-C" with current share function, e.g. PM800-14C-C. Add suffix "-CP" with PMBus interface and current share function, e.g. PM800-14C-CP. PMBus function is described in detail on this web site: <https://www.protek.com.tw/en/PMBus.html>.
2. Peak output current with 10% duty cycle for less than 10 seconds, for an average power less than 800W.
3. Ripple and noise is maximum peak-to-peak voltage value measured at output within 20 MHz bandwidth, at rated line voltage and output load ranges, and with a 10 µF tantalum capacitor in parallel with a 0.1 µF ceramic capacitor across the output.

MECHANICAL SPECIFICATIONS



NOTES:

1. Dimensions shown in inches [mm]
2. Tolerance 0.02 [0.5] maximum
3. Input connector P1 is Dinkle terminal P/N DT-65-C01W-3 with nickel plated M4 screws.
4. Output connector P2 is Dinkle 0166-8002C with nickel plated M5 screw.
5. Signal port and Auxiliary DC output connector P3 is Molex P/N 51110-1851 (with locking ramp).
6. Weight: 1.5 Kgs (3.31 lbs.) approx.
7. Maximum penetration depth of fixing screws is 4 mm from the outer surface of chassis.
8. SCL and SDA are interface signals for PMBus.
9. Current_Share_V is interface signal for current sharing.
10. PDB_FAIL, A0, A1, PS_ALERT and PSKILL are interface signals for redundancy applications.

PIN CHART

Connector	P1			P2	
PIN NO.	1	2	3	1	2
Polarity	Live	Neutral	Ground	V1 Return	+V1

Connector	P3					
PIN NO.	1	2	3	4	5	6
Polarity	+5V Standby	+5V Standby	Common Return	Common Return	SCL	SDA

Connector	P3					
PIN NO.	7	8	9	10	11	12
Polarity	Common Return	+5V Standby	PFD	PS ON	Current_Share_V	PDB_FAIL

Connector	P3					
PIN NO.	13	14	15	16	17	18
Polarity	+V1 Sense	-V1 Sense	A0	A1	PS_ALERT	PSKILL

I2C Slave Address PIN CHART

Address	A0	A1
PM1	0	0
PM2	0	1
PM3	1	0
PM4	1	1

PMBus Command Map

Command Code	Command Name	Page		Transaction Type		Data Format (data bytes)	Instruction
		0(12V)	1(5VSB)	Write data	Read data		
00h	PAGE	V	V	Write Byte	Read Byte	Unsigned Integer (1)	Provide the ability to configure, control and monitor multiple phases on one PMBus unit
01h	OPERATION	V		Write Byte	Read Byte	N/A (1)	Turn unit on or off in conjunction with the input from the control pin
02h	ON_OFF_CONFIG	V		N/A	Read Byte	N/A (1)	Configure the combination of CONTROL pin input and serial bus commands needed to turn the unit on and off
03h	CLEAR_FAULTS	V	V	Send Byte	N/A	N/A (0)	Clear any fault bits that have been set
15h	STORE_USER_ALL	V		Send Byte	N/A	N/A (0)	
19h	CAPABILITY	V		N/A	Read Byte	N/A (1)	Determine some key capabilities of a PMBus device
1Bh	SMBALERT_MASK			N/A	N/A	N/A (2)	
20h	VOUT_MODE	V	V	N/A	Read Byte	N/A (1)	Whether the device uses the Linear, VID or Direct modes for output voltage related commands
21h	VOUT_COMMAND	V		Write Byte	Read Byte	N/A (2)	Vout command sends discreet value to change or trim output voltage
24h	VOUT_MAX	V		N/A	Read Word	N/A (2)	Sets the maximum adjustable output voltage limit.
35h	VIN_ON	V		N/A	Read Word	N/A (2)	90 Vac
36h	VIN_OFF	V		N/A	Read Word	N/A (2)	80 Vac
3Ah	FAN_CONFIG_1_2	V		Write Byte	Read Byte	N/A (1)	Configure up to two fans associated with one PMBus device
3Bh	FAN_COMMAND_1	V		Write Word	Read Word	Unsigned Integer (2)	Adjust the operation of up to four fans contained in the PMBus device or in the host system
3Ch	FAN_COMMAND_2	V		Write Word	Read Word	Unsigned Integer (2)	Adjust the operation of up to four fans contained in the PMBus device or in the host system
40h	VOUT_OV_FAULT_LIMIT	V		N/A	Read Word	Linear (2)	Set the value of the output voltage at the sense or output pins that causes an output voltage high warning
42h	VOUT_OV_WARN_LIMIT	V		N/A	Read Word	Linear (2)	Sets Over-voltage Warning threshold. (120% to 130% of VOUT)
43h	VOUT_UV_WARN_LIMIT	V		N/A	Read Word	Linear (2)	Sets Under-voltage Warning threshold. (80% to 90% of VOUT)
44h	VOUT_UV_FAULT_LIMIT	V		N/A	Read Word	Linear (2)	Sets Under-voltage Fault threshold. (60% to 80% of VOUT)
46h	IOUT_OC_FAULT_LIMIT	V	V	N/A	Read Word	Linear (2)	Set the value of the output current, in amperes, that causes the overcurrent detector to indicate an overcurrent fault condition

Command Code	Command Name	Page		Transaction Type		Data Format (data byte)	Instruction
		0(12V)	1(5VSB)	Write data	Read data		
47h	IOUT_OC_FAULT_RESPONSE	V		N/A	Read Byte	N/A (1)	OCP ride through, If OCP persists.
4Ah	IOUT_OC_WARN_LIMIT	V		N/A	Read Word	Linear (2)	Set the Over Warning threshold in Amps. (105% to 120% of Max Load)
4Fh	OT_FAULT_LIMIT	V		N/A	Read Word	Linear (2)	Set the temperature, in degrees Celsius, of the unit at which it should indicate on Overtemperature Fault (Default: 120°C)
51h	OT_WARN_LIMIT	V		N/A	Read Word	Linear (2)	Set the temperature, in degrees Celsius, of the unit at which it should indicate an Undertemperature Warning alarm (115°C)
59h	VIN_UV_FAULT_LIMIT	V		N/A	Read Word	Linear (2)	(80Vac)
6Ah	POUT_OP_WARN_LIMIT	V		N/A	Read Word	Linear (2)	1000W
78h	STATUS_BYTE	V	V	N/A	Read Byte	NA (1)	Return one byte of information with a summary of the unit's fault condition
79h	STATUS_WORD	V	V	N/A	Read Word	NA (2)	Return two bytes of information with a summary of the unit's fault condition
7Ah	STATUS_VOUT	V	V	N/A	Read Byte	NA (1)	Return one data byte with contents: Output Overvoltage Fault, Warning, Undervoltage Warning, Fault TON_MAX_FAULT, TOFF_MAX_WARNING, VOUT Tracking Error
7Bh	STATUS_IOUT	V	V	N/A	Read Byte	NA (1)	Return one data byte with contents as follows: Output Overcurrent Fault, Output Overcurrent And Low Voltage Fault, Output Overcurrent Warning, Output Undercurrent Fault, Current Share Fault, In Power Limiting Mode, Output Overpower Fault, Output Overpower Warning
7Ch	STATUS_INPUT	V		N/A	Read Byte	NA (1)	Return one data byte with contents as follows: Input Overvoltage Fault, Input Overvoltage Warning, Input Undervoltage Warning, Input Undervoltage Fault, Unit Off For Insufficient Input Voltage, Input Overcurrent Fault, Input Overcurrent Warning, Input Overpower Warning
7Dh	STATUS_TEMPERATURE	V		N/A	Read Byte	NA (1)	Return one data byte with contents as follows: Overtemperature Fault, Overtemperature Warning, Undertemperature Warning, Undertemperature Fault
7Eh	STATUS_CML	V		N/A	Read Byte	NA (1)	Return one data byte with contents as follows: Invalid Or Unsupported Command Received, Invalid Or Unsupported Date Received, Packet Error Check Failed, Memory Fault Detected, Processor Fault Detected, A communication fault other than the ones listed in this table has occurred, Other Memory Or Logic Fault has occurred
7Fh	STATUS_OTHER	V		N/A	Read Byte	NA (1)	Return one data byte with contents as follows: Input Fuse Or Circuit Breaker Fault, Input OR-ing Device Fault, Output OR-ing Device Fault
80h	STATUS_MFR_SPECIFIC	V		N/A	Read Byte	NA (1)	Return one data byte with contents Manufacturer Defined

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Command Code	Command Name	Page		Transaction Type		Data Format (data byte)	Instruction
		0(12V)	1(5VSB)	Write data	Read data		
81h	STATUS_FANS_1_2	V		N/A	Read Byte	NA (1)	Return on the status of any fans installed in position 1 or position 2
88h	READ_VIN	V		NA	Read Word	Linear (2)	Return the input voltage in volts
8Bh	READ_VOUT	V	V	NA	Read Word	Linear (2)	Return the actual, measured (not commanded) output voltage in the same format as set by the VOUT_MODE command
8Ch	READ_IOUT	V	V	NA	Read Word	Linear (2)	Return the measured output current in amperes
8Dh	READ_TEMPERATURE_1	V		NA	Read Word	Linear (2)	Return the temperature in degree Celsius
8Eh	READ_TEMPERATURE_2	V		NA	Read Word	Linear (2)	Return the temperature in degree Celsius
8Fh	READ_TEMPERATURE_3	V		NA	Read Word	Linear (2)	Return the temperature in degree Celsius
90h	READ_FAN_SPEED_1	V		NA	Read Word	Linear (2)	Fan speed
91h	READ_FAN_SPEED_2	V		NA	Read Word	Linear (2)	Fan speed
96h	READ_POUT	V		NA	Read Word	Linear (2)	Return the output power, in watts, of the PMBus device
98h	PMBUS_REVISION	V		NA	Read Byte	ASCII (Varies)	Store or read the revision of the PMBus to which the device is compliant
99h	MFR_ID	V		Block Write	Block Read	ASCII (Varies)	Abbrev or symbol of manufacturers name. ("PROTEK")
9Ah	MFR_MODEL	V		Block Write	Block Read	ASCII (Varies)	Manufacturers Model number, ASCII format "PM800-1XC"
9Bh	MFR_REVISION	V		Block Write	Block Read	ASCII (Varies)	Manufacturers, revision number, ASCII format "00"
9Ch	MFR_LOCATION	V		Block Write	Block Read	ASCII (Varies)	Manufacturers facility, ASCII format : "China"
9Dh	MFR_Data	V		Block Write	Block Read	ASCII (Varies)	Manufacturers Date, ASCII format structure : "YYWW"
9Eh	MFR_SERIAL	V		Block Write	Block Read	ASCII (Varies)	Unit serial number, ASCII format "FXXXXXXX"
A0h	MFR_VIN_MIN	V		NA	Read Word	Linear (2)	Set or retrieve the minimum rated value, in volts, of the input voltage (Default: 80V)
A1h	MFR_VIN_MAX	V		NA	Read Word	Linear (2)	Set or retrieve the maximum rated value, in volts, of the input voltage (Default: 275V)
A2h	MFR_IIN_MAX	V		NA	Read Word	Linear (2)	Maximum Input Current (9.36A)
A3h	MFR_PIN_MAX	V		NA	Read Word	Linear (2)	Maximum Input Power (1200W)
A4h	MFR_VOUT_MIN	V		NA	Read Word	Linear (2)	Set or retrieve the minimum rated value, in volts, to which the output voltage may be set
A5h	MFR_VOUT_MAX	V		NA	Read Word	Linear (2)	Set or retrieve the maximum rated value, in volts, to which the output voltage may be set
A6h	MFR_IOUT_MAX	V		NA	Read Word	Linear (2)	Set or retrieve the maximum rated value, in amperes, to which the output may be loaded
A7h	MFR_POUT_MAX	V		NA	Read Word	Linear (2)	Set or retrieve the maximum rated output power, in watts, that the unit is rated to supply (Default: 800W)
A8h	MFR_TAMBIENT_MAX	V		NA	Read Word	Linear (2)	Set or retrieve the maximum rated ambient temperature, in degrees Celsius, in which the unit may be operated (Default: 70°C)

A9h	MFR_TAMBIENT_MIN	V		NA	Read Word	Linear (2)	Set or retrieve the minimum rated ambient temperature, in degrees Celsius, in which the unit may be operated (Default: -20°C)
AAh	MFR_EFFICIENCY_LL	V		NA	Block Read	Linear (14)	(115, 240, 89), (115, 400, 91), (115, 800, 90)
ABh	MFR_EFFICIENCY_HL	V		NA	Block Read	Linear (14)	(230, 240, 90), (230, 400, 92), (230, 800, 91)
B0h	USER_DATA_00	V		Block Write	Block Read	N/A (2)	
DFh	REMOTE ON LEVEL SELECT	V		Write Word	N/A	N/A (2)	After unlock, write 0x0000 for low level effective, write 0x0001 for high level effective, Default: low level effective
E0h	FW_PRI_VERSION	V		NA	Block Read	ASCII (8)	
E1h	FW_SEC_VERSION	V		NA	Block Read	ASCII (8)	
F1h	ISP_UNLOCK_CODE	V		Write Word	Block Read	ASCII (4)	
F2h	ISP_CTRL_CMD	V		Write Byte	Read Byte	N/A (1)	
F3h	ISP_CONFIG_STATUS	V		NA	Read Word	N/A (2)	
F4h	ISP_FLASH_ADDR	V		Write Word	Block Read	Raw Hex (4)	
F5h	ISP_FLASH_DATA	V		Write Word	Block Read	Raw Hex (16)	

FRU (EEPROM) Data

OFFSET		DEFINITION	SPEC VALUE	
(DEC)	(HEX)	(REMARKS)	(DEC)	(HEX)
COMMON HEADER, 8 BYTES				
0	00	FORMAT VERSION NUMBER (Common Header) 7:4 - Reserved, write as 0000b 3:0 – Format Version Number = 1h for this specification	1	01
1	01	INTERNAL USE AREA OFFSET	28	1B
2	02	CHASSIS INFO AREA OFFSET	1	01
3	03	BOARD INFO AREA OFFSET	0	00
4	04	PRODUCT INFOR AREA OFFSET	5	05
5	05	MULTI RECORD AREA OFFSET	13	0D
6	06	PAD (reserved) Default value is 0.	0	00
7	07	ZERO CHECK SUM (256 – (Sum of bytes 0 to 6))	XXX	XX
CHASSIS INFO AREA (32 BYTES)				
This area will be filled by the Mfg. Diag. or by the OS if used				
8	08	FORMAT VERSION NUMBER 7:4 - Reserved, write as 0000b 3:0 – Format Version Number = 1h for this specification	1	01
9	09	CHASSIS INFO AREA LENGTH in multiple of 8 bytes	4	04
10	0A	CHASSIS TYPE (Default value is 0.)	0	00
11	0B	CHASSIS PART NUMBER Type/Length CAh (if used) Type = "ASCII+LATIN1" = (11)b Length = 10 Bytes = (001010)b	202	CA
12	0C	CHASSIS PART NUMBER BYTES (Default value is 0.)	0	00
13	0D		0	00
14	0E		0	00
15	0F		0	00
16	10		0	00
17	11		0	00
18	12		0	00
19	13		0	00
20	14		0	00

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21	15		0	0
22	16	CHASSIS SERIAL NUMBER Type/Length CFH (if used) Type = "ASCII+LATIN1" = (11)b Length = 15 Bytes = (001111)b	207	CF
23	17	CHASSIS SERIAL NUMBER BYTES , Default value is 0.	0	00
24	18		0	00
25	19		0	00
26	1A		0	00
27	1B		0	00
28	1C		0	00
29	1D		0	00
30	1E		0	00
31	1F		0	00
32	20		0	00
33	21		0	00
34	22		0	00
35	23		0	00
36	24		0	00
37	25		0	00
38	26	End Tag (0C1h if used)	193	C1
39	27	CHKSUM (Zero CHKSUM if used)	161	A1
40	28	FORMAT VERSION NUMBER (Product Info Area) 7:4 - Reserved, write as 0000b 3:0 - Format Version Number = 1h for this specification	1	01
41	29	PRODUCT INFO AREA LENGTH (In multiples of 8 bytes)	8	08
42	2A	Language (English)	25	19
43	2B	MANUFACTURER'S NAME TYPE / LENGTH (0C5H) Type "ASCII+LATIN1" 5 Bytes.	199	C7
44	2C	MANUFACTURER'S NAME 5 byte sequence "P" "R" "O" "T" "E" "K"		
45	2D		80	50
46	2E		82	52
47	2F		79	4F
48	30		84	54
49	31		69	45
50	32		75	4B
51	33	PRODUCT NAME Type/Length (CFH) Type = "ASCII+LATIN1" = (11)b Length = 15 Bytes = (001100)b	207	CF
52	34	Product Name (15 Byte sequence) "P" "M" "8" "O" "O" "_" "*" "*" "C"		
53	35		80	50
54	36		77	4D
55	37		56	38
56	38		48	30
57	39		48	30
58	3A		45	2D
59	3B		49	31
60	3C		50	32
61	3D		67	43
62	3E		32	20
63	3F		32	20
64	40		32	20
65	41		32	20
66	42		32	20

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OFFSET		DEFINITION (REMARKS)	SPEC VALUE	
(DEC)	(HEX)		(DEC)	(HEX)
PRODUCT INFORMATION AREA, 56 BYTES				
67	43	PRODUCT NAME Type/Length (CFH) Type = "ASCII+LATIN1" = (11)b Length = 15 Bytes = (001100)b	207	CF
		Product PART/MODEL NUMBER BYTES		
68	44	"g"	57	39
69	45	"O"	79	4F
70	46	"C"	67	43
71	47	"8"	56	38
72	48	"0"	48	30
73	49	"0"	48	30
74	4A	"*"	42	2A
75	4B	"*"	42	2A
76	4C	"*"	42	2A
77	4D	"*"	42	2A
78	4E	"*"	42	2A
79	4F	"*"	42	2A
80	50	"*"	42	2A
81	51	"*"	42	2A
82	52	"*"	32	20
			32	20
83	53	PRODUCT VERSION NUMBER Type/Length (C2h) Type = "ASCII+LATIN1" = (11)b Length = 2 Bytes = (000010)b	194	C2
		PRODUCT VERSION NUMBER BYTES		
84	54	"A"	65	41
85	55	"A"	66	41
86	56	PRODUCT SERIAL NUMBER Type/Length Type = "ASCII+LATIN1" = (11)b Length = 13 Bytes = (001101)b	205	CD
		PRODUCT SERIAL NUMBER BYTES Model ID =		
87	57	" "	32	20
88	58	" "	32	20
89	59	" "	32	20
90	5A	" "	32	20
		MANUFACTURING YEAR AND WEEK CODE Values for these registers shall be dynamically assigned in factory	XX	XX
91	5B		XX	XX
92	5C		XX	XX
		Unique Serial Number Values for these registers shall be dynamically assigned in factory	XX	XX
93	5D		XX	XX
94	5E		XX	XX
95	5F		XX	XX
96	60		XX	XX
		MODEL REVISION		
97	61	"A"	65	41
98	62	"A"	65	41
		MANUFACTURING LOCATION "P" In Decimal = 080 In Hex = 50H	80	50
99	63			
100	64	End Tag	193	C1
101	65	PAD (reserved), Default value is 0.	0	00
102	66		0	00
103	67	ZERO CHECK SUM (256 – (Sum of bytes 40 to 102)) Zero Check Sum : Should follow check sum calculation as per IPMI v1.1 specs	193	C1

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OFFSET		DEFINITION (REMARKS)	SPEC VALUE	
(DEC)	(HEX)		(DEC)	(HEX)
Multi Record Area, 88 Bytes				
Power Supply Record Header				
104	68	Record type = 00 for Power supply	0	00
105	69	End of List /Record Format Version Number	2	02
106	6A	Record Length of Power Supply Record	24	18
107	6B	Record CHECKSUM of Power Supply Record (Zero CHECKSUM) (256-(sum of bytes 109 to 132))	XXX	XX
108	6C	Header CHECKSUM of Power Supply Record Header (Zero CHECKSUM) ((256-(sum of bytes 104 to 107))	XXX	XX
Power Supply Record				
Overall Capacity of the Power Supply, 800W = 0320H, 2 Bytes Sequence				
109	6D	In Decimal = 032, 003	32	20
110	6E	In Hex = 20H, 03H	3	03
Peak VA, 1300VA = 046AH, 2 Bytes Sequence				
111	6F	In Decimal = 106, 004	106	6A
112	70	In Hex = 6A 04	4	04
Inrush Current, 50A = 32H				
113	71	In Decimal = 050, In Hex = 32H	50	32
Inrush Interval, 10ms				
114	72	In Decimal = 010, In Hex = 0AH	10	0A
Low End Input Voltage Range 1(10mV), (90V / 10mV) 9000 = 2328H, 2 Bytes Sequence				
115	73	In Decimal = 040, 035	40	28
116	74	In Hex = 28H, 23H	35	23
High End Input Voltage Range 1(10mV), (264V / 10mV) 26400 = 6720H, 2 Bytes Sequence				
117	75	In Decimal = 032, 103	32	20
118	76	In Hex = 20H, 67H	103	67
Low End Input Voltage Range 2(10mV)				
119	77	Not Applicable	0	00
120	78	(Autoswitch)	0	00
High End Input Voltage Range 2(10mV)				
120	79	Not Applicable	0	00
122	7A	(Autoswitch)	0	00
123	7B	Low End Input Frequency Range, 47Hz = 2FH	47	2F
124	7C	Low End Input Frequency Range, 63Hz = 3FH	63	3F
125	7D	AC Dropout Tolerance in ms, 10mS=0AH	10	0A
126	7E	Binary Flags, 1 indicates function supported and a 0 indicates function not supported. Bits 7-6: RESERVED, WRITE AS 000B Bit5: PMBus Capable or not BIT=1 Bit4: Tachometer Pulses Per Rotation / Predictive Fail Polarity BIT = 0 Bit3: Hot Swap / Redundancy Support BIT = 0 Bit2: Auto switch Support BIT = 1 Bit1: Power Factor Correction Support BIT = 1 Bit0: Predictive Fail Support BIT = 0	38	26
Peak Wattage Capacity				
1000W = 3E8H				
Bits 11-0: Peak Capacity in Watts 1000 = 3E8H				
2 Bytes sequence:				
127	7F	In Decimal: 008, 062	08	E8
128	80	In Hex: E8H, 03H	62	03

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PM800 MEDICAL & ITE SERIES

OFFSET		DEFINITION (REMARKS)	SPEC VALUE	
(DEC)	(HEX)		(DEC)	(HEX)
129	81	Combined Wattage , Not Applicable Byte 1: 000 = 00H Bits 7-4: 0000B Bits 3-0: 0000B Byte 2 and Byte 3: 00H, 00H 3 Bytes sequence: In Decimal: 000, 000, 000 In Hex: 00H, 00H, 00H	0	00
130	82		0	00
131	83		0	00
132	84	Predictive Fail Tachometer Lower Threshold , Not Applicable Predictive Failure is not Supported	0	00
12V DC OUTPUT RECORD HEADER				
133	85		32	20
134	86		32	20
135	87		32	20
136	88		XXX	XX
137	89		XXX	XX
138	8A		32	20
139	8B		32	20
140	8C		32	20
141	8D		32	20
142	8E		32	20
143	8F		32	20
144	90		32	20
145	91		0	00
146	92		0	00
147	93		0	00
148	94		0	00
149	95		32	20
150	96		32	20
5VSB OUTPUT RECORD HEADER				
151	97	Record type = 01 for DC Output Record	1	01
152	98	End of List /Record Format Version Number for 5VSB Output Record	2	02
153	99	Record Length of 5VSB Output Record	13	0D
154	9A	Record CHECKSUM of 5VSB Output Record (Zero CHECKSUM) (256-(sum of bytes 156 to 168))	XXX	XX
155	9B	Header CHECKSUM of 5VSB DC Output Record Header (Zero CHECKSUM) (256-(sum of bytes 151 to 154))	XXX	XX
5VSB OUTPUT RECORD				
156	9C	Output Information , 002 = 02H Bit 7: Standby Information =1B Bits 6-4: Reserved, Write as 000B Bits 3-0: Output Number 2 = 010B	130	82
157	9D	Nominal Voltage (10mV) , (5V / 10mV), 5000 = 01F4h, 2 Bytes sequence In Decimal: 244, 001 In Hex: F4H, 01h	74	4A
158	9E		1	01
159	9F	Maximum Negative Voltage Deviation (10mV) , (4.75/10mV) 475 = 01DBh, 2 Bytes sequence In Decimal: 219, 001 In Hex: DBH, 01h	219	DB
160	A0		1	01

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OFFSET		DEFINITION (REMARKS)	SPEC VALUE	
(DEC)	(HEX)		(DEC)	(HEX)
161	A1	Maximum Positive Voltage Deviation (10mV) , (5.25/10mV) 525 = 020Dh, 2 Bytes sequence In Decimal: 013, 002 In Hex: 5AH, 02H	13	0D
162	A2		2	02
163	A3	Ripple and Noise pk-pk (mV) , 50 = 0032H, 2 Bytes sequence In Decimal: 050, 000 In Hex: 32H, 01H	50	32
164	A4		0	00
165	A5	Minimum Current Draw (10mA) , (0.0A / 10mA) 0 = 0000H, 2 Bytes sequence In Decimal: 000, 000 In Hex: 00H, 00H	0	00
166	A6		0	00
167	A7	Maximum Current Draw (10mA) , (0.0A / 10mA) 200 = 00C8H, 2 Bytes sequence In Decimal: 200, 000 In Hex: C8H, 00H	200	C8
168	A8		0	00
OEM RECORD HEADER				
169	A9	Record type = C0H for OEM Record	192	C0
170	AA	End of List /Record Format Version Number for 5 Vsb output Record	130	82
171	AB	Record Length of OEM Record	42	2A
172	AC	Record CHECKSUM of OEM Record (Zero CHECKSUM) (256-(sum of bytes 174 to 215))	0	00
173	AD	Header CHECKSUM of OEM Record Header (Zero CHECKSUM) (256-(sum of bytes 169 to 172))	148	94
OEM RECORD				
174	AE	Manufacturer ID (3 bytes, Default is 0)	42	2A
175	AF		0	00
176	B0		148	94
177	B1	RESERVED	0	00
178	B2	RESERVED	0	00
179	B3	RESERVED	0	00
180	B4	RESERVED	0	00
181	B5	RESERVED	0	00
182	B6	RESERVED	0	00
183	B7	RESERVED	0	00
184	B8	RESERVED	0	00
185	B9	RESERVED	0	00
186	BA	RESERVED	0	00
187	BB	PAD (reserved), Default value is 0.	0	00
188	BC		0	00
189	BD		0	00
190	BE		0	00
191	BF		0	00
192	C0		0	00
193	C1		0	00
194	C2		0	00
195	C3		0	00
196	C4		0	00
197	C5		0	00
198	C6		0	00
199	C7		0	00
200	C8		0	00
201	C9		0	00
202	CA	0	00	

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PM800 MEDICAL & ITE SERIES

OFFSET		DEFINITION	SPEC VALUE		
(DEC)	(HEX)	(REMARKS)	(DEC)	(HEX)	
203	CB	PAD (reserved), Default value is 0.	0	00	
204	CC		0	00	
205	CD		0	00	
206	CE		0	00	
207	CF		0	00	
208	D0		0	00	
209	D1		0	00	
210	D2		0	00	
211	D3		0	00	
212	D4		0	00	
213	D5		0	00	
214	D6		0	00	
215	D7		0	00	
216	D8		FORMAT VERSION NUMBER Bits 7-4: Reserved, Write as 0000b Bits 3-0: Format Version Number = 1h for this specification	0	00
217	D9		INTERNAL USE AREA LENGTH in multiple of 8 bytes	0	00
218	DA		0	00	
219	DB		0	00	
220	DC		0	00	
221	DD		0	00	
222	DE		0	00	
223	DF		0	00	
224	E0		0	00	
225	E1		0	00	
226	E2		0	00	
227	E3		0	00	
228	E4		0	00	
229	E5		0	00	
230	E6		0	00	
231	E7		0	00	
232	E8		0	00	
233	E9		0	00	
234	EA		0	00	
235	EB		0	00	
236	EC		0	00	
237	ED		0	00	
238	EE		0	00	
239	EF		0	00	
240	F0		0	00	
241	F1		0	00	
242	F2		0	00	
243	F3		0	00	
244	F4		0	00	
245	F5		0	00	
246	F6		0	00	
247	F7		0	00	
248	F8		0	00	
249	F9		0	00	
250	FA		0	00	
251	FB		0	00	
252	FC		0	00	
253	FD		0	00	
254	FE		0	00	
255	FF	Zero CHECKSUM (256-(sum of bytes 216 to 254))	250	FA	