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 µA 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 µA max. @ 264 VAC, 63 Hz
Touch current:	100 µA 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
Overvoltage protection:	Set at 112-140% of its nominal output voltage
Overcurrent protection:	Output protected to short circuit conditions
Temperature coefficient:	All outputs ±0.04% /℃ maximum
Transient response:	Maximum excursion of 4% or better on all models, recovering to 1% of final value within 500 us after a 25% step load change
Standby power:	5 V at 2.0 A maximum

ENVIRONMENTAL SPECIFICATIONS

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

PM800 SERIES

CE

RoHS

SAFETY STANDARD APPROVALS

UL/CSA/TUV 60601-1
UL/CSA 62368-1
(certifications to be applied for in Q1 2026)

GENERAL SPECIFICATIONS

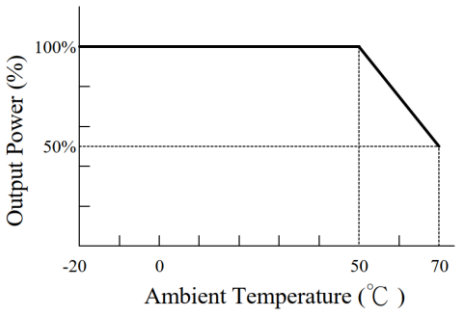
Switching frequency:	50 KHz (typical)
Efficiency:	90% minimum on all models
Turn on delay time	3 s maximum at 100 VAC
Hold-up time:	20 ms minimum at 110 VAC
Line regulation:	±0.5% maximum at full load
Inrush current:	25 A @ 115 VAC or 50 A @ 230 VAC, at 25℃ cold start
Withstand voltage:	4000 VAC from 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℃ 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, ±15 KV air and ±8 KV contact
EN61000-4-3:	Radiated immunity, 9-28 V/m
EN61000-4-4:	Fast transient/burst, ±2 KV
EN61000-4-5:	Surge, ±1 KV diff., ±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



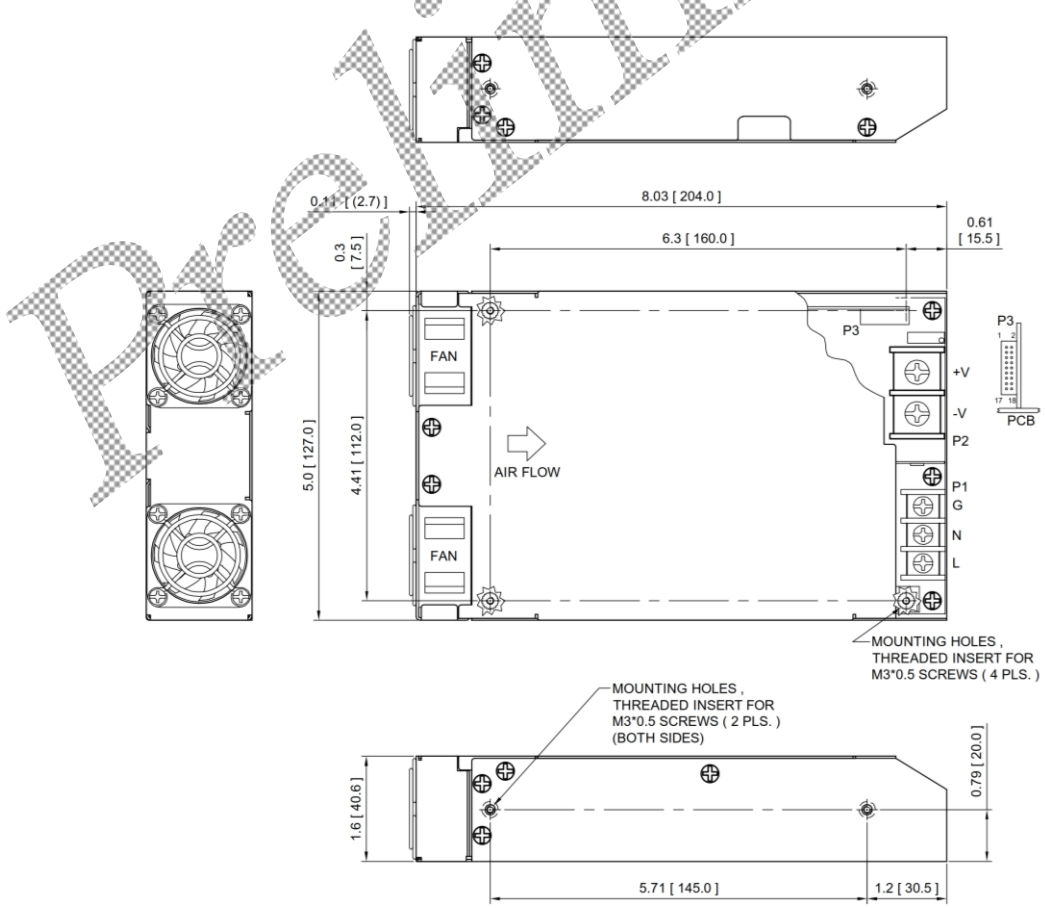
OUTPUT VOLTAGE/CURRENT RATING CHART

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