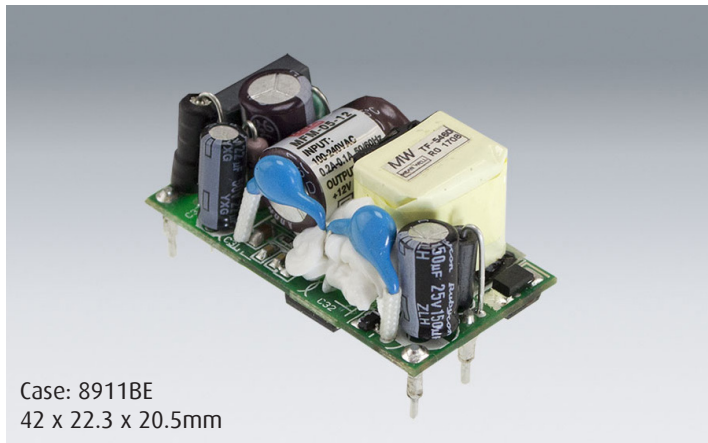


# MFM-05 Series

## 5W Highly Reliable Green Medical Power Supply



Case: 8911BE  
42 x 22.3 x 20.5mm

### Features

- 1.65" x 0.88" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/EN60601-1
- Suitable for BF application with appropriate system consideration
- No load power consumption <0.075W
- Extremely low leakage current
- Wide operating temperature range -40 ~ +85°C
- EMI class B for class II configuration
- Protections: Short Circuit / Over Load/ Over voltage / Over Temperature
- No minimum load required
- Typical lifetime >52K hours
- 3 years warranty



### Specification

INPUT	Voltage	80 ~ 264VAC				
	Frequency	47 ~ 440 Hz				
	AC Current	0.2A/115VAC; 0.1A/230VAC				
	Inrush Current (Typ.)	Cold start 25A/115VAC 45A/230VAC				
	Leakage Current	Touch current <80µA/264VAC				
OUTPUT	MODEL No.	MFM-05-3.3	MFM-05-5	MFM-05-12	MFM-05-15	MFM-05-24
	DC Voltage	3.3V	5V	12V	15V	24V
	Rated Current	1.25A	1A	0.42A	0.33A	0.23A
	Current Range	0 ~ 1.25A	0 ~ 1A	0 ~ 0.42A	0 ~ 0.33A	0 ~ 0.23A
	Peak Current	1.38A	1.1A	0.46A	0.36A	0.25A
	Rated Power	4.1W	5W	5W	5W	5.5W
	Peak Load (10 secs.)	4.6W	5.5W	5.5W	5.4W	6W
	R&N	100mVp-p	100mVp-p	150mVp-p	150mVp-p	180mVp-p
	Efficiency	74%	80%	80%	81%	82%
	Voltage Tolerance	±2.5%	±2.5%	±2.5%	±2.5%	±2.5%
	Line Regulation	±0.3%	±0.3%	±0.3%	±0.3%	±0.3%
	Load Regulation	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	Setup Rise Time	1000ms, 30ms/230VAC 1000ms, 30ms/115VAC at full load				
	Hold Up Time	40ms/230VAC 12ms/115VAC at full load				
	PROTECTION	Overload	110 ~ 180% rated output power Protection type: Hiccup mode, recovers automatically after fault condition is removed			
Over Voltage		3.8 ~ 5V	5.75 ~ 6.8V	13.8 ~ 16.2V	17.3 ~ 20.3V	27.6 ~ 32.4V
Over Temperature		Protection Type: Shut down o/p voltage, recover automatically after temperature goes down				
Working Temperature		-40 ~ +85°C (Please refer to 'Derating Curve' section)				
ENVIRONMENT	Working Humidity	20 ~ 90% RH non-condensing				
	Storage Temp., Humidity	-40 ~ +100°C, 10 ~ 95% RH non-condensing				
	Temp Coefficient	±0.03%/°C (0 ~ 60°C)				
	Soldering Temperature	260°C ±5°C/10sec. max				
	Vibration	10 ~ 500Hz, 5G 10 min./1cycle, period for 60 min. each along X, Y, Z axes				
	Operating Altitude	5000 meters				
SAFETY & EMC	Safety Standards	IEC60601-1, EN60601-1, UL ANSI/AAMI ES60601-1(3.1 version), CAN/CSA-C22 3rd Edition approved ; Design refer to EN60335-1				
	Isolation Level	Primary-Secondary 2 x MOPP				
	Withstand Voltage	I/P-O/P:4KVAC				
	Isolation Resistance	I/P-O/P:100M Ohms / 500VDC / 25°C/ 70% RH				
	EMC Emission	Compliance to 55011 (CISPR11) Class B, EN61000-3-2,-3 Class A				
OTHERS	EMC Immunity	Compliance to EN55024, EN60601-1-2, EN61204-3, EN61000-4-2,3,4,5,6,8,11, Level 3, 1KV/Line-Line				
	M.T.B.F.	1799.5Khrs min. MIL-HDBK-217F (25°C)				
	Packing	0.018Kg; 270pcs/5.8Kg/0.97CUFT				

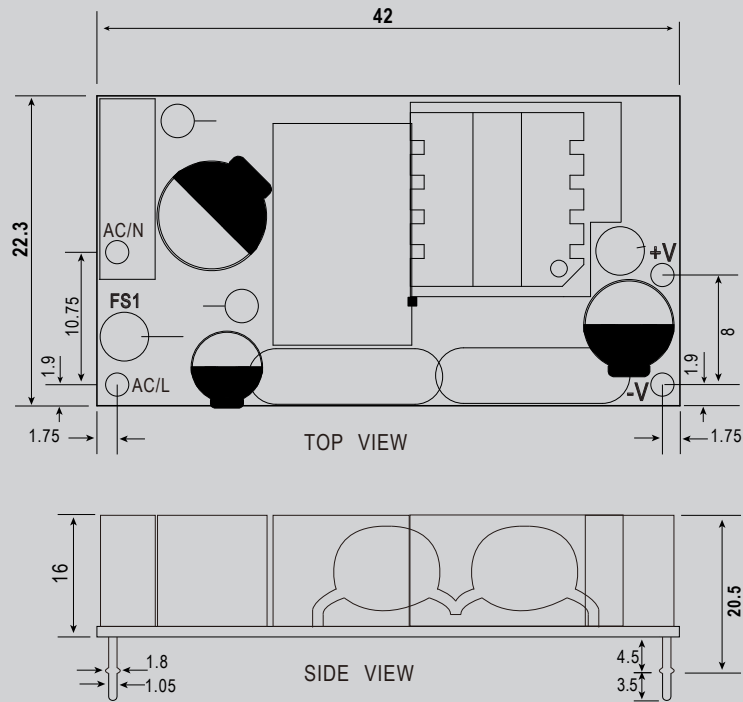
1. All parameters NOT specially mentioned are measured at 347VAC input, rated load and 25°C of ambient temperature.
2. No minimum load required.
3. 33% duty cycle maximum within every 30 seconds. Average output power should not exceed the output power.
4. Ripple and Noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with 0.1µf & 2.2µf parallel capacitor.
5. Derating may be needed under low input voltages. Please check the static characteristics for more details.
6. Tolerance: includes set up tolerance, line regulation and load regulation.
7. Touch current was measured from primary input to DC output.
8. The ambient temperature derating of 2.5°C/1000m is needed for operating altitude greater than 2000m (6500ft)
9. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.

# MFM-05 Series

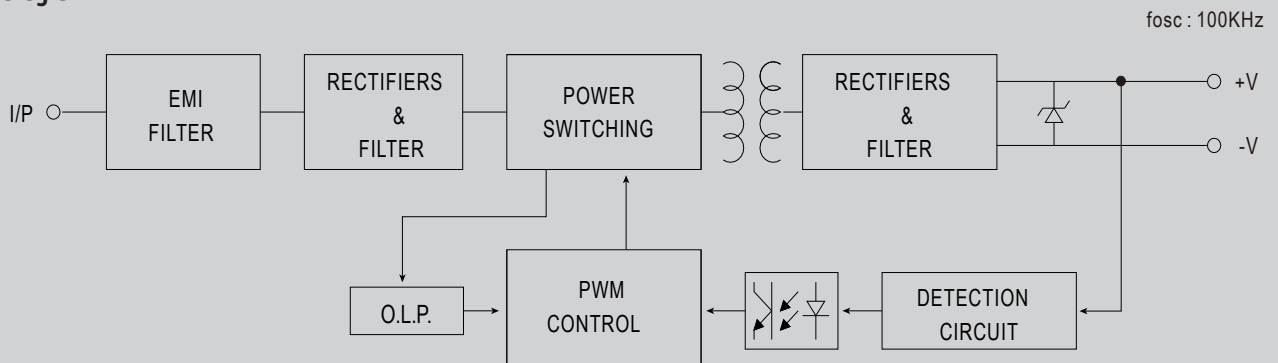
5W Highly Reliable Green Medical Power Supply



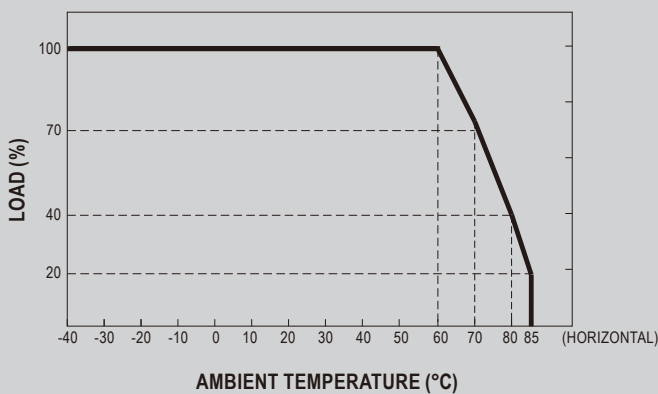
## Mechanical Diagram



## Block Diagram



## Derating Curve



## Output Derating VS Input Voltage

