



5W AC-DC PCB-Mount Green Power Module

IRM-05 series



■ Features

- 1.8"x1"compact size
- Universal input 85~305VAC
- No load power consumption<0.1W
- EMI Class B without additional components
- Wide operating temp. range -30~70°C
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Isolation Class II
- Pass LPS
- 3 years warranty

■ Applications

- Industrial electrical equipment
- Mechanical equipment
- Factory automation equipment
- Hand-held electronic device

■ GTIN CODE

MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

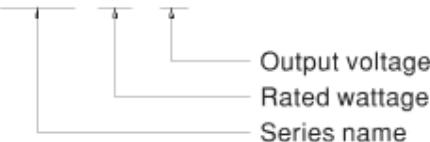
■ Description

IRM-05 is a 5W miniature (45.7*25.4*21.5mm) AC-DC module-type power supply, ready to be soldered onto the PCB boards of various kinds of electronic instruments or industrial automation equipments. This product allows the universal input voltage range of 85~305VAC. The 94V-0 flame retardant plastic case and potted with silicone enhance the heat dissipation and meet the anti-vibration demand up to 5G; moreover, it provides the fundamental resistance to dust and moisture.

With the high efficiency up to 77% and the extremely low no-load power consumption below 0.1W, IRM-05 series fulfills the worldwide regulation for the low power consumption requirement for electronics. The entire series is a Class II design (no FG pin), incorporating the built-in EMI filtering components, enabling the compliance with BS EN/EN55032 Class B; the supreme EMC features keep the end electronic units from electromagnetic interference.

■ Model Encoding

IRM - 05 - 5





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SPECIFICATION

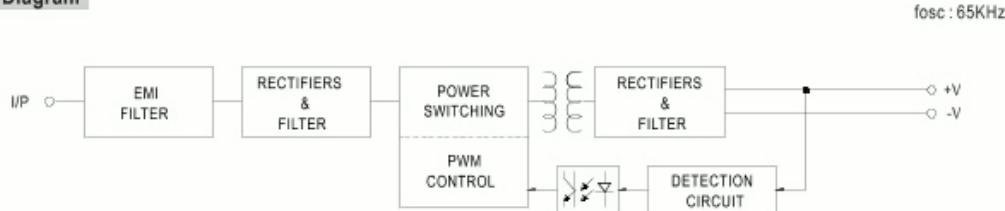
MODEL	IRM-05-3.3	IRM-05-5	IRM-05-12	IRM-05-15	IRM-05-24		
OUTPUT	DC VOLTAGE	3.3V	5V	12V	15V		
	RATED CURRENT	1.25A	1A	0.42A	0.33A		
	CURRENT RANGE	0 ~ 1.25A	0 ~ 1A	0 ~ 0.42A	0 ~ 0.33A		
	RATED POWER	4.125W	5W	5.04W	4.95W		
	RIPPLE & NOISE (max.) Note.2	200mVp-p	200mVp-p	200mVp-p	200mVp-p		
	VOLTAGE TOLERANCE Note.3	±2.5%	±2.5%	±2.5%	±2.5%		
	LINE REGULATION	±0.3%	±0.3%	±0.3%	±0.3%		
	LOAD REGULATION	±0.5%	±0.5%	±0.5%	±0.5%		
INPUT	SETUP, RISE TIME Note.4	600ms, 30ms at full load					
	HOLD UP TIME (Typ.)	80ms/230VAC	15ms/115VAC at full load				
PROTECTION	VOLTAGE RANGE	85 ~ 305VAC	120 ~ 430VDC				
	FREQUENCY RANGE	47 ~ 440Hz					
	EFFICIENCY (Typ.)	68%	71%	75%	75%		
	AC CURRENT (Typ.)	0.12A/115VAC	0.08A/230VAC	0.06A/277VAC			
	INRUSH CURRENT (Typ.)	COLD START 20A/115VAC		40A/230VAC			
ENVIRONMENT	LEAKAGE CURRENT	<0.25mA/277VAC					
	OVERLOAD	115% ~ 260% rated output power					
		Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	OVER VOLTAGE	3.8 ~ 4.95V	5.75 ~ 6.75V	13.8 ~ 16.2V	17.25 ~ 20.25V		
		Protection type : Shut off o/p voltage, clamping by zener diode					
SAFETY & EMC (Note.6)	WORKING TEMP.	-30 ~ +70°C (Refer to "Derating Curve")					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)					
	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, period for 60min. each along X, Y, Z axes					
	SOLDERING TEMPERATURE	Wave soldering: 265°C, 5s (max.); Manual soldering: 390°C, 3s (max.)					
	OPERATING ALTITUDE Note.5	2000 meters					
EMC	SAFETY STANDARDS	IEC62368-1, UL62368-1, TUV BS EN/EN62368-1, EAC TP TC 004, BSMI CNS14336-1 approved					
	WITHSTAND VOLTAGE	IIP-O/P:3kVAC					
	ISOLATION RESISTANCE	IIP-O/P:100M Ohms / 500VDC / 25°C / 70% RH					
	EMC EMISSION	Parameter	Standard	Test Level / Note			
		Conducted	BS EN/EN55032(CISPR32), CNS13438	Class B			
		Radiated	BS EN/EN55032(CISPR32), CNS13438	Class B			
		Harmonic Current (Note 5)	BS EN/EN61000-3-2	Class A			
		Voltage Flicker	BS EN/EN61000-3-3	-----			
	EMC IMMUNITY	BS EN/EN55035, BS EN/EN61000-6-2					
		Parameter	Standard	Test Level / Note			
		ESD	BS EN/EN61000-4-2	Level 3, 8KV air, Level 2, 4KV contact, criteria A			
		Radiated Susceptibility	BS EN/EN61000-4-3	Level 3, criteria A			
		EFT/Burst	BS EN/EN61000-4-4	Level 3, criteria A			
		Surge	BS EN/EN61000-4-5	Level 3, 1KV/L-N, criteria A			
		Conducted	BS EN/EN61000-4-6	Level 3, criteria A			
		Magnetic Field	BS EN/EN61000-4-8	Level 4, criteria A			
		Voltage Dips and interruptions	BS EN/EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods			
OTHERS	MTBF	9083.9K hrs min. Telcordia SR-332 (Bellcore) ; 1495.8K hrs min. MIL-HDBK-217F (25°C)					
	DIMENSION	45.7*25.4*21.5 mm (L*W*H)					
	PACKING	0.033Kg;270pcs/ 9.8Kg/0.94CUFT					
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time. 5. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft). 6. The power supply is considered as an independent unit ,but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com) * Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx						



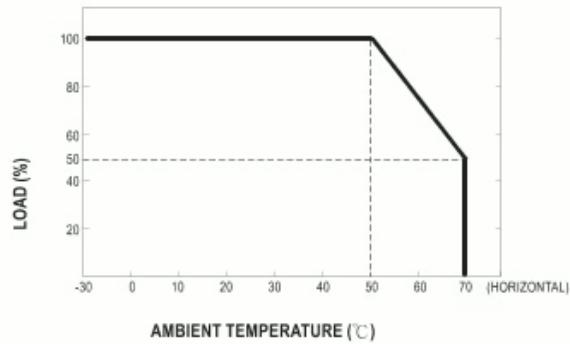
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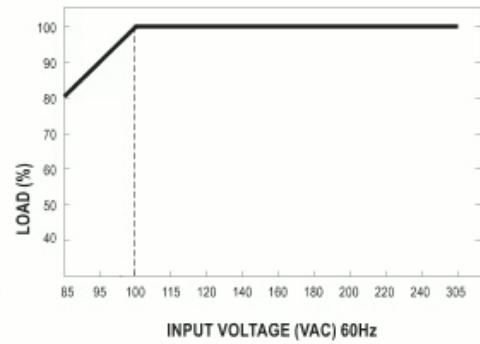
■ Block Diagram



■ Derating Curve

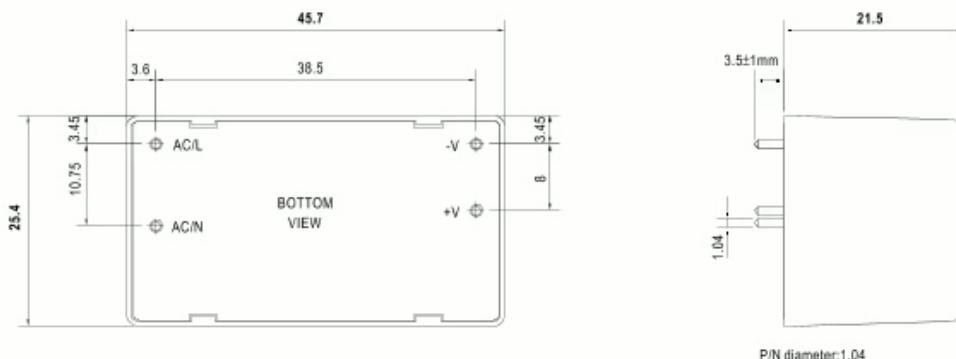


■ Output Derating VS Input Voltage



■ Mechanical Specification

Case No.222A Unit:(mm)



■ Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>