



10W AC-DC PCB-Mount Green Power Module

IRM-10 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

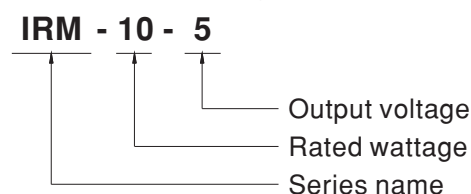
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

## ■ Description

IRM-10 is a 10W 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 82% and the extremely low no-load power consumption below 0.1W, IRM-10 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



**SPECIFICATION**

MODEL		IRM-10-3.3	IRM-10-5	IRM-10-12	IRM-10-15	IRM-10-24		
OUTPUT	DC VOLTAGE	3.3V	5V	12V	15V	24V		
	RATED CURRENT	2.5A	2A	0.85A	0.67A	0.42A		
	CURRENT RANGE	0 ~ 2.5A	0 ~ 2A	0 ~ 0.85A	0 ~ 0.67A	0 ~ 0.42A		
	RATED POWER	8.25W	10W	10.2W	10.05W	10.08W		
	RIPPLE & NOISE (max.) Note.2	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p		
	VOLTAGE TOLERANCE Note.3	±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 Note.4	600ms, 30ms at full load						
HOLD UP TIME (Typ.)	30ms/230VAC	8ms/115VAC at full load						
INPUT	VOLTAGE RANGE	85 ~ 305VAC	120 ~ 430VDC					
	FREQUENCY RANGE	47 ~ 440Hz						
	EFFICIENCY (Typ.)	74%	77%	82%	82%	82%		
	AC CURRENT (Typ.)	0.25A/115VAC	0.15A/230VAC	0.125A/277VAC				
	INRUSH CURRENT (Typ.)	COLD START 20A/115VAC		40A/230VAC				
	LEAKAGE CURRENT	< 0.25mA/277VAC						
PROTECTION	OVERLOAD	115%~190% 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	27.6 ~ 32.4V		
ENVIRONMENT	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						
SAFETY & EMC (Note.6)	SAFETY STANDARDS	IEC62368-1, UL62368-1, TUV BS EN/EN62368-1, EAC TP TC 004, BSMI CNS14336-1 approved						
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC						
	ISOLATION RESISTANCE	I/P-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		
	EMC IMMUNITY	Parameter	BS EN/EN55035, BS EN/EN61000-6-2					
			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/Burest			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	9094.9K 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	<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF &amp; 47 μF parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>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.</p> <p>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).</p> <p>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 <a href="https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf">https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf</a>)</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p>							

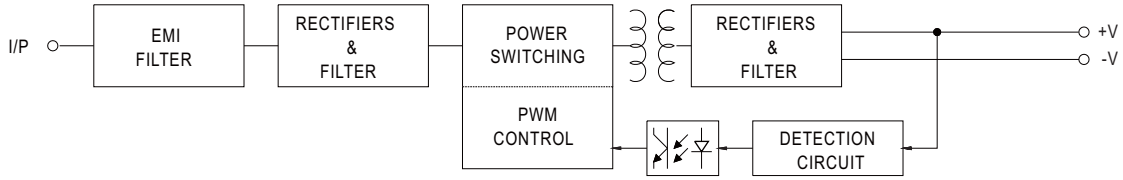


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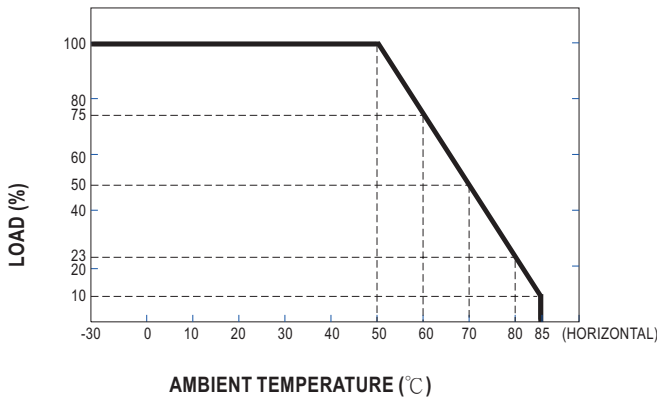
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## Block Diagram

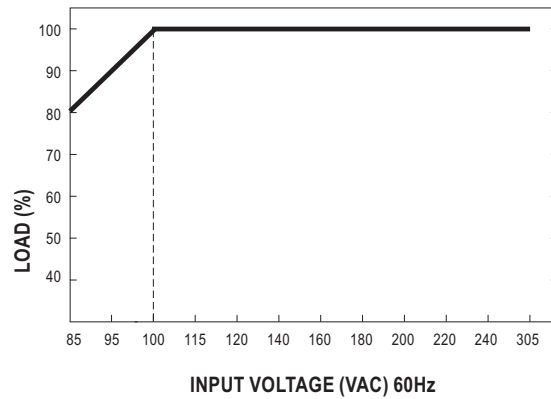
fosc : 65KHz



## Derating Curve



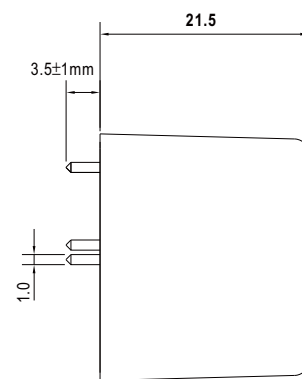
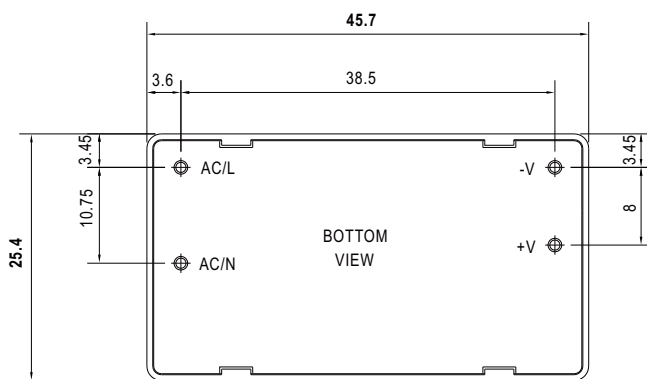
## Output Derating VS Input Voltage



## Mechanical Specification

(Unit:mm[inch], Tolerance:±0.5[±0.02])

Case No.222A



P/N diameter:1.0

## Installation Manual

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