



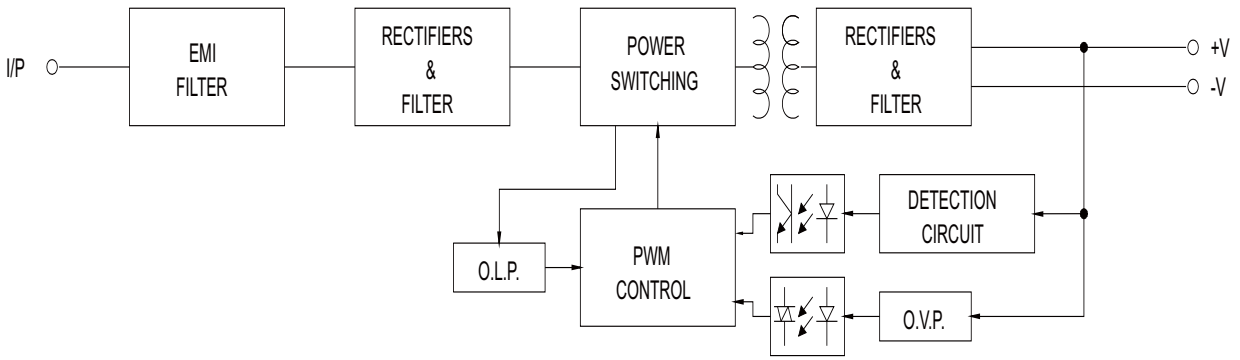
# THE DATASHEET OF HDR-60-12



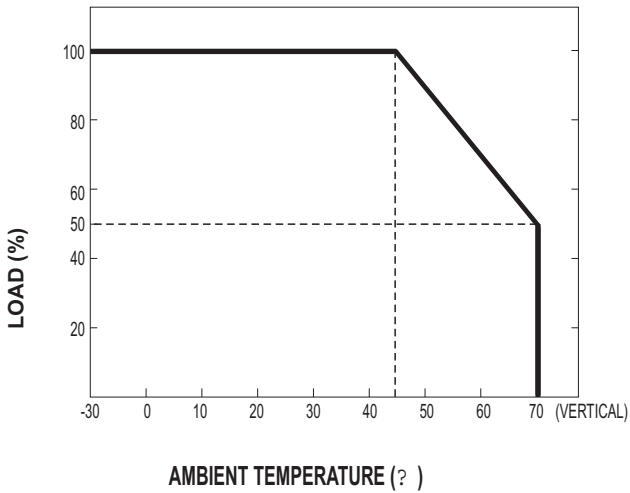
**SPECIFICATION**

MODEL	HDR-60-5	HDR-60-12	HDR-60-15	HDR-60-24	HDR-60-48		
OUTPUT	DC VOLTAGE	5V	12V	15V	24V	48V	
	RATED CURRENT	6.5A	4.5A	4A	2.5A	1.25A	
	CURRENT RANGE	0 ~ 6.5A	0 ~ 4.5A	0 ~ 4A	0 ~ 2.5A	0 ~ 1.25A	
	RATED POWER	32.5W	54W	60W	60W	60W	
	RIPPLE & NOISE (max.) Note.2	80mVp-p	120mVp-p	120mVp-p	150mVp-p	240mVp-p	
	VOLTAGE ADJ. RANGE	5.0 ~ 5.5V	10.8 ~ 13.8V	13.5 ~ 18V	21.6 ~ 29V	43.2 ~ 55.2V	
	VOLTAGE TOLERANCE Note.3	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	LINE REGULATION	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	LOAD REGULATION	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	SETUP, RISE TIME	500ms, 50ms/230VAC      500ms, 50ms/115VAC at full load					
HOLD UP TIME (Typ.)	30ms/230VAC      12ms/115VAC at full load						
INPUT	VOLTAGE RANGE	85 ~ 264VAC (277VAC operational)      120 ~ 370VDC (390VDC operational)					
	FREQUENCY RANGE	47 ~ 63Hz					
	EFFICIENCY (Typ.)	85%	88%	89%	90%	91%	
	AC CURRENT (Typ.)	1.2A/115VAC      0.8A/230VAC					
	INRUSH CURRENT (Typ.)	COLD START 30A/115VAC      60A/230VAC					
PROTECTION	OVERLOAD	105 ~ 160% rated output power Hiccup mode when output voltage <50%, recovers automatically after fault condition is removed Constant current limiting within 50% ~ 100% rated output voltage, recovers automatically after fault condition is removed					
	OVER VOLTAGE	5.75 ~ 6.75V	14.2 ~ 16.2V	18.8 ~ 22.5V	30 ~ 36V	56.5 ~ 64.8V	
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 non-condensing					
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C) RH non-condensing					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6					
	OPERATING ALTITUDE	2000 meters					
	OVER VOLTAGE CATEGORY	III ; According to EN61558, EN50178, EN60664-1, EN62477-1 ; altitude up to 2000 meters					
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL62368-1, UL508, TUV BS EN/EN61558-2-16, BS EN/EN61558-1, IEC62368-1, EAC TP TC 004, BSMI CNS15598-1, BIS IS13252(Part1): 2010/IEC 60950-1:2005(NOTE 6) approved; Design refer to BS EN/EN62368-1					
	WITHSTAND VOLTAGE	I/P-O/P:4KVAC					
	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), CNS15936			Class B	
		Radiated	BS EN/EN55032(CISPR32), CNS15936			Class B	
		Harmonic Current	BS EN/EN61000-3-2			Class A	
		Voltage Flicker	BS EN/EN61000-3-3			-----	
	EMC IMMUNITY	BS EN/EN55035, BS EN/EN61000-6-2, BS EN/EN61204-3					
		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/Burest		BS EN/EN61000-4-4			Level 3, criteria A		
Surge		BS EN/EN61000-4-5			Level 4, 2KV/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	3524.8K hrs min. Telcordia SR-332 (Bellcore) ; 927.6K hrs min. MIL-HDBK-217F (25°C)					
	DIMENSION	52.5*90*54.5mm (W*H*D)					
	PACKING	190g;60pcs/13Kg/0.91CUFT					
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 μ F &amp; 47 μ F parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets 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>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. Some model may not have the BIS logo, please contact your MEAN WELL sales for more information.</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>						

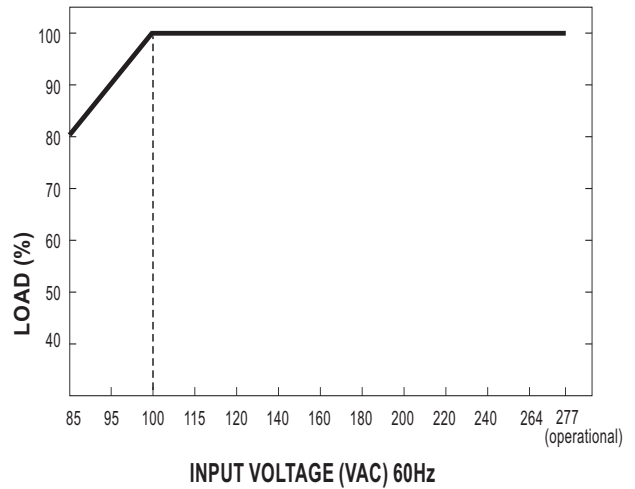
■ Block Diagram



■ Derating Curve



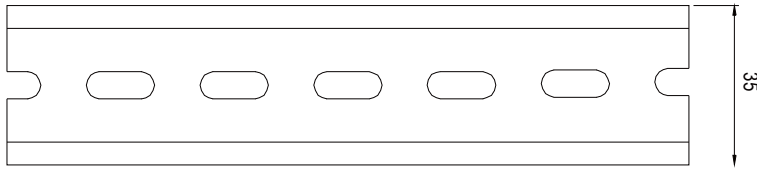
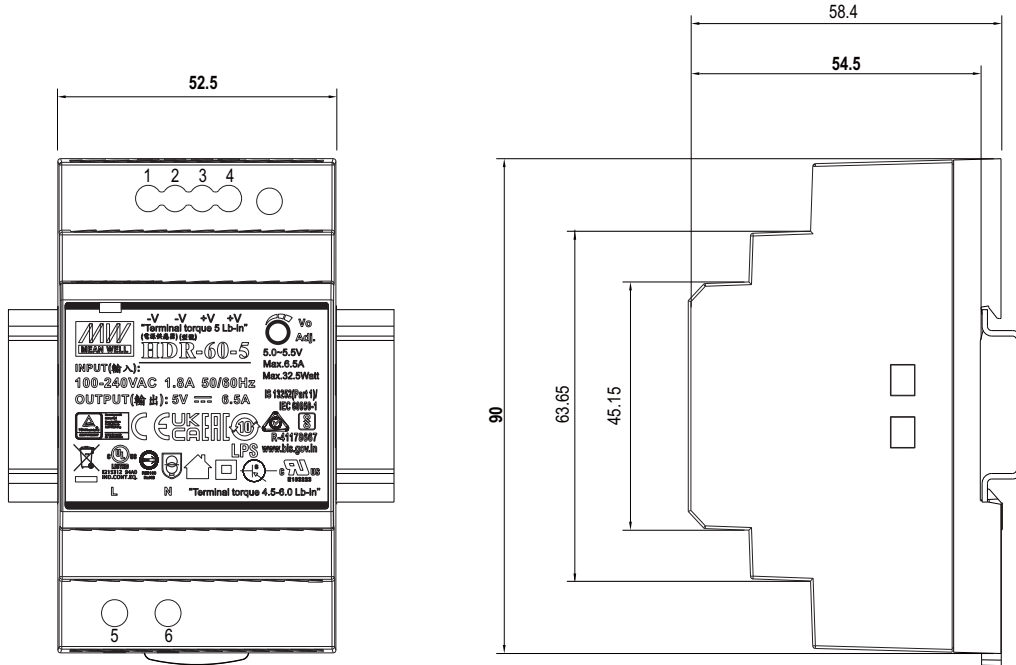
■ Output Derating VS Input Voltage



■ Mechanical Specification

(Unit: mm , tolerance  $\pm 0.5\text{mm}$ )

Case No.HDR-60



ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15

Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1,2	-V	5	AC/L
3,4	+V	6	AC/N

■ Installation Manual

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

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- [View HDR-60-12 on WIN SOURCE](#)
- [Mean Well Enterprises Co., Ltd. Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

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