

EverSale HLG-240H-C2100B

Mean Well HLG-240H-C2100B LED Driver User Manual

Brand: EverSale
Model: HLG-240H-C2100B

1. PRODUCT OVERVIEW

The Mean Well HLG-240H-C2100B is a single output switching LED power supply designed for various lighting applications. It provides a stable and efficient power source for LED systems.



Figure 1.1: Front view of the HLG-240H-C2100B LED Driver, showing input and output terminals, model number, and specifications printed on the casing.

2. FEATURES AND APPLICATIONS

This LED driver boasts a range of features ensuring reliable and efficient performance, suitable for diverse applications.

- Constant current design
- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High efficiency up to 94%
- Protection: Short circuit / Over voltage / Over temperature
- Cooling by free air convection

- IP67 / IP65 design for indoor or outdoor installations
- 7 years warranty

Typical Applications:

- LED street lighting
- LED fishing lamp
- LED harbor lighting
- LED building architectural lighting
- LED greenhouse lighting
- LED bay lighting



Figure 2.1: Diagram illustrating the key features and typical applications of the HLG-240H-C series LED power supply.

3. PRODUCT DESCRIPTION AND MODEL ENCODING

The HLG-240H-C series is a 250W LED AC/DC power supply featuring constant current output design with high output voltage. It accepts a wide range 90~305VAC input and is equipped with active PFC function. The series comprises various models with rated current ranging between 700mA and 2100mA. The HLG-240H-C series can operate between -40°C and +70°C under free air convection, making it suitable for indoor or outdoor use.

Model Encoding:

- **HLG-240H-C1050A:** Standard model, IP65 rated. Constant current level can be adjusted through internal potentiometer.

- **HLG-240H-C1050B:** Standard model, IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistance.
- **HLG-240H-C1050D:** Option, IP67 rated. Smart timer dimming function. Contact MEAN WELL for details.

		250W Single Output LED Power Supply		HLG-240H-C series		
SPECIFICATION						
MODEL		HLG-240H-C700	HLG-240H-C1050	HLG-240H-C1400	HLG-240H-C1750	HLG-240H-C2100
OUTPUT	RATED CURRENT	700mA	1050mA	1400mA	1750mA	2100mA
	CURRENT ACCURACY	±5%				
	CONSTANT CURRENT REGION Note 2	178 ~ 357V	119 ~ 238V	89 ~ 179V	71 ~ 143V	59 ~ 119V
	RATED POWER	249.9W	249.9W	250.6W	250.25W	249.9W
	RIPPLE & NOISE (max.) Note 2	2Vp-p	1.5Vp-p	1Vp-p	1Vp-p	1Vp-p
	CURRENT ADJ. RANGE	Can be adjusted by internal potentiometer (A type only)				
	LINE REGULATION	350 ~ 700mA	525 ~ 1050mA	700 ~ 1400mA	875 ~ 1750mA	1050 ~ 2100mA
		±1%	±1%	±1%	±1%	±1%
	SETUP, RISE TIME	1000ms, 80ms/115VAC 500ms, 80ms/230VAC at full load				
	HOLD UP TIME (Typ.)	14ms at full load 230VAC/115VAC				
INPUT	VOLTAGE RANGE Note 4	90 ~ 305VAC	127 ~ 431VDC			
	FREQUENCY RANGE	47 ~ 63Hz				
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.95/230VAC, PF>0.92/277VAC at full load (Please refer to "Power Factor Characteristic" curve)				
	TOTAL HARMONIC DISTORTION	THD<20% when output loading ≥50% at 115VAC/230VAC input and output loading ≥75% at 277VAC input				
	EFFICIENCY (Typ.)	93.5%	93.5%	94%	94%	93.5%
	AC CURRENT (Typ.)	2.5A/115VAC	1.3A/230VAC	1.1A/277VAC		
	INRUSH CURRENT (Typ.)	COLD START 75A (when τ=700ms measured at 50% load) at 230VAC				
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	2 units (circuit breaker of type B) / 3 units (circuit breaker of type C) at 230VAC				
	LEAKAGE CURRENT	<0.75mA/277VAC				
	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed				
PROTECTION	OVER VOLTAGE	375 ~ 410V	250 ~ 275V	188 ~ 206V	150 ~ 165V	125 ~ 137V
		Protection type : Shut down and latch off o/p voltage, re-power on to recover				
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down				
ENVIRONMENT	WORKING TEMP.	-40 ~ +70°C (Refer to "Derating Curve")				
	WORKING HUMIDITY	20 ~ 95% RH non-condensing				
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH				
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)				
SAFETY & EMC	VIBRATION	10 ~ 500Hz, 5G 12min./cycle, period for 72min. each along X, Y, Z axes				
	SAFETY STANDARDS Note 5	UL8750 (type "HL"), CSA C22.2 No. 250.12-13, ENEC EN61347-1, EN61347-2-13, EN62384 independent, IP65 or IP67 approved				
	WITHSTAND VOLTAGE	I/P-Q/P: 3.75KVAC	I/P-FG: 2KVAC	O/P-FG: 1.5KVAC		
	ISOLATION RESISTANCE	I/P-Q/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC / 25°C / 70% RH				
	EMC EMISSION	Compliance to EN55015, EN61000-3-2 Class C (≥50% load); EN61000-3-3				
OTHERS	EMC IMMUNITY	Compliance to EN61000-4-2, 3.4, 5.6, 8.11, EN61547, light industry level (surge L/N-FG: 4KV), criteria B				
	MTBF	180K hrs min. MIL-HDBK-217F (25°C)				
	DIMENSION	244.2"68"38.8mm (L"W"H)				
	PACKING	1.3Kg; 12pcs/16.6Kg/0.84CUFT				
	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 0.1μf parallel capacitor. 3. Please refer to "DRIVING METHODS OF LED MODULE". 4. Derating may be needed under low input voltages. Please check the static characteristics for more details. 5. Safety and EMC design refer to EN60598-1, subject 8750(UL), CNS15233, GB7000.1, FCC part18. 6. 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. 7. Refer to warranty statement. 8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains.				

File Name: HLG-240H-C SPEC 2019-10

Figure 3.1: Detailed description of the HLG-240H-C series and explanation of the model encoding system.

4. SPECIFICATIONS

Below are the detailed technical specifications for the HLG-240H-C series, including electrical characteristics, environmental conditions, and safety standards.

Category	Specification	Value (HLG-240H-C2100)
Rated Current	2.1 Amps	2100mA
Rated Power	249.9W	249.9W
Output Voltage	119V	59 ~ 119V
Input Voltage Range	100-240VAC (3.0A), 277VAC (1.1A)	90 ~ 305VAC
Frequency Range	47 ~ 63 Hz	47 ~ 63 Hz
Efficiency	Up to 93.5%	93.5%
Protection	Short Circuit, Over Voltage, Over Temperature	Yes

Category	Specification	Value (HLG-240H-C2100)
Operating Temp.	-40 ~ +70°C	-40 ~ +70°C
Humidity	20 ~ 95% RH non-condensing	20 ~ 95% RH
Safety Standards	UL8750, CSA C22.2 No. 250.13, ENEC EN61347-1, EN61347-2-13, EN62384	Compliant
IP Rating	IP67	IP67
Dimensions	9.61 x 2.68 x 1.53 inches	244.2 x 68 x 38.8 mm
Weight	2.87 Pounds	1.3 kg

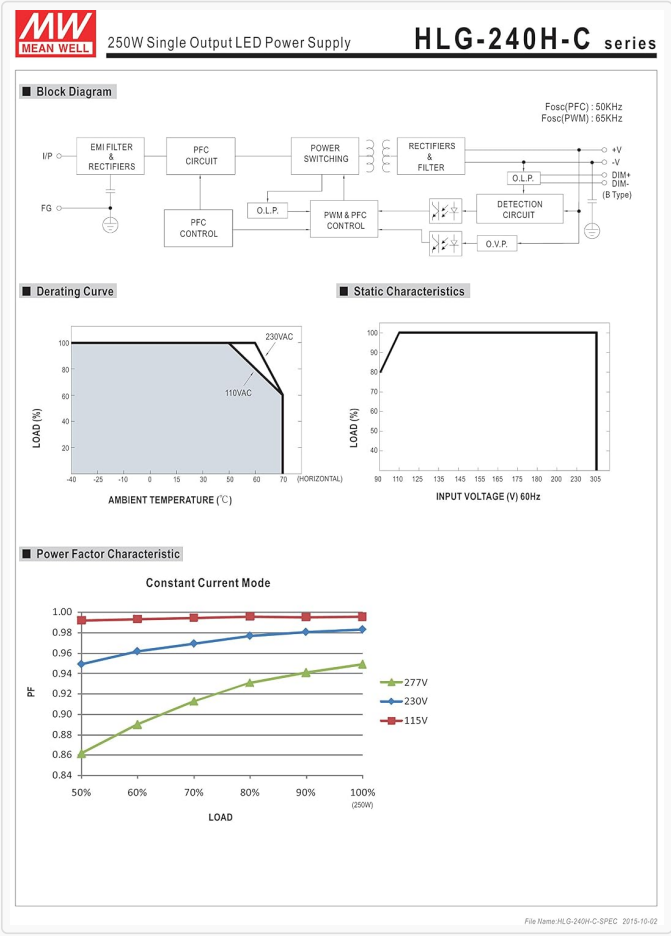


Figure 4.1: Comprehensive table detailing the electrical, environmental, and safety specifications for various models within the HLG-240H-C series.

5. TECHNICAL DIAGRAMS AND CHARACTERISTICS

This section provides block diagrams, performance curves, and efficiency data to help understand the internal workings and operational characteristics of the LED driver.

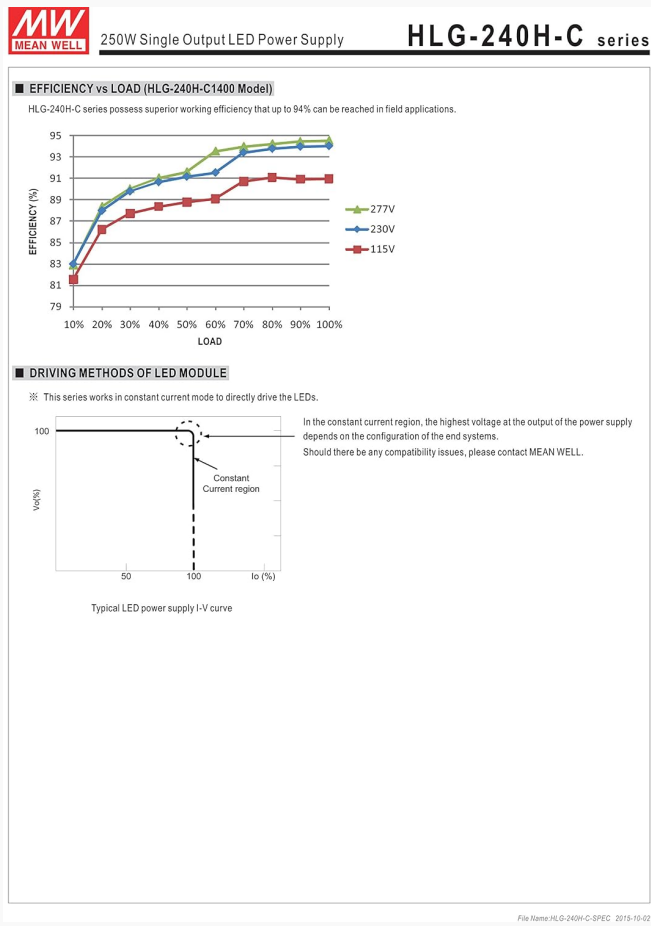


Figure 5.1: Includes the block diagram, derating curve, static characteristics, and power factor characteristic graphs for the HLG-240H-C series.

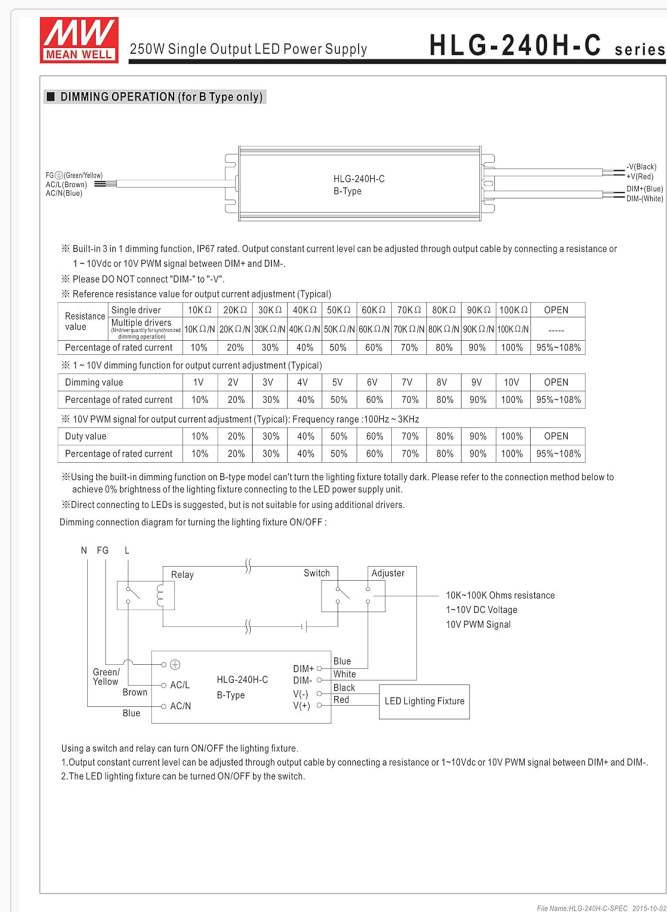


Figure 5.2: Graphs showing efficiency versus load and typical LED power supply I-V curve, illustrating driving methods for LED modules.

6. DIMMING OPERATION (B TYPE ONLY)

For models with 'B' type designation, the LED driver supports dimming functionality. This section details the dimming methods and connections.

The built-in 3-in-1 dimming function (1-10Vdc, 10V PWM signal, or resistance) allows for flexible control of the output current. Ensure to connect DIM+ and DIM- terminals for dimming operation.

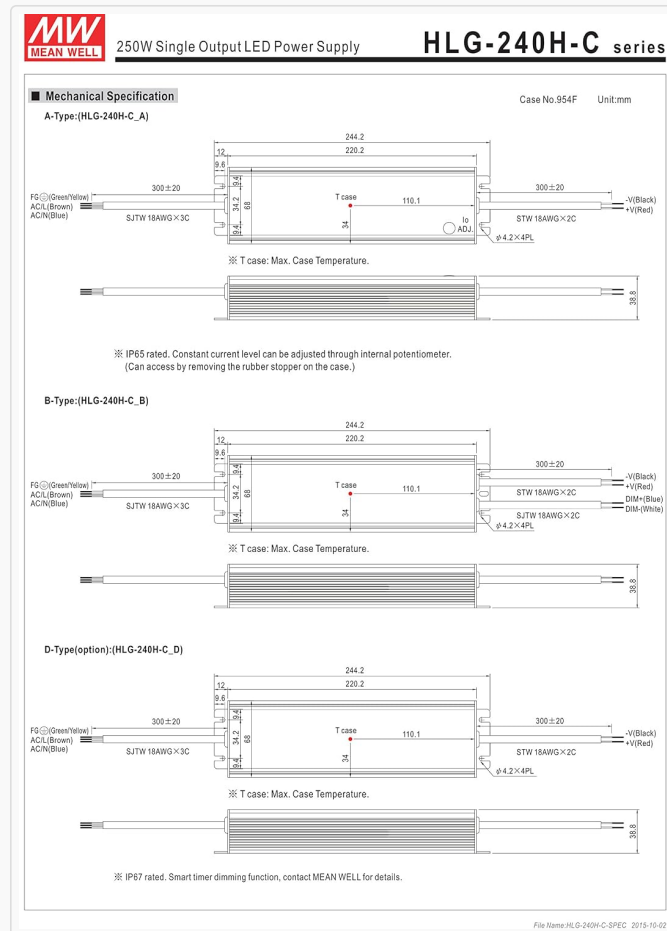


Figure 6.1: Diagram illustrating the dimming operation for the 'B' type HLG-240H-C models, including connection schemes and dimming value tables.

7. SETUP AND INSTALLATION

Proper installation is crucial for the safe and efficient operation of the LED driver. This section outlines mechanical specifications and connection guidelines.

The HLG-240H-C series is designed for easy installation. Refer to the mechanical specifications for dimensions and mounting options. Ensure all connections are secure and follow local electrical codes.

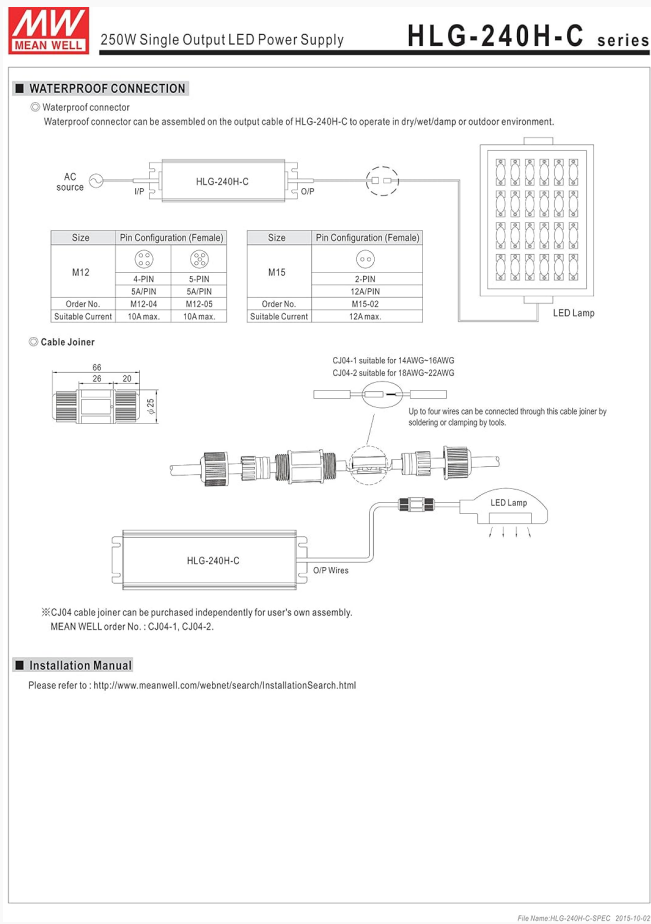


Figure 7.1: Diagrams showing mechanical specifications for A, B, and D type models, and details on waterproof connection options including cable joiners.

For detailed installation instructions, please refer to the official Mean Well installation manual available at [Mean Well Installation Manuals](#)

8. OPERATING INSTRUCTIONS

Once installed, ensure the input voltage is within the specified range (90~305VAC). The driver will automatically adjust to provide the constant current output. For 'B' type models, use the dimming control as described in Section 6 to adjust LED brightness.

The unit operates efficiently through free air convection, so ensure adequate ventilation around the driver to prevent overheating.

9. MAINTENANCE

The HLG-240H-C series LED driver is designed for long-term, maintenance-free operation. Its IP67 rating provides protection against dust and water ingress, making it suitable for harsh environments.

- **Cleaning:** Periodically inspect the unit for any accumulation of dust or debris, especially around cooling fins. Clean gently with a soft, dry cloth if necessary. Do not use liquid cleaners.
- **Inspection:** Regularly check all cable connections for tightness and signs of wear or damage.
- **Environment:** Ensure the operating environment remains within the specified temperature and humidity ranges.

10. TROUBLESHOOTING

If you encounter issues with your LED driver, consider the following common troubleshooting steps:

- **No Output Power:**
 - Verify the input AC power supply is connected and active.
 - Check all wiring connections for proper polarity and secure contact.
 - Ensure the input voltage is within the specified range (90~305VAC).
 - Check for any tripped circuit breakers or blown fuses in the power line.
- **LEDs Flickering or Dim:**
 - Confirm the LED load is within the driver's rated power and current range.
 - For 'B' type models, check the dimming control signal and connections.
 - Ensure adequate ventilation to prevent overheating, which can cause thermal shutdown.
- **Overheating:**
 - Ensure the driver is installed in an area with sufficient airflow.
 - Verify the ambient temperature is within the specified operating range (-40°C to +70°C).
 - Reduce the load if the driver is consistently running at its maximum capacity in high ambient temperatures.

If problems persist after performing these checks, contact qualified technical support.

11. WARRANTY AND SUPPORT

The Mean Well HLG-240H-C series LED driver comes with a **7-year warranty**, reflecting the manufacturer's confidence in its quality and durability. This warranty covers defects in materials and workmanship under normal use.

For technical support, warranty claims, or further inquiries, please contact your point of purchase or the manufacturer, MEAN WELL, directly. Refer to the official Mean Well website for contact information and detailed warranty terms.

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