

EverSale HLG-100H-48A

EverSale Mean Well HLG-100H-48A 100W LED Power Supply Instruction Manual

Model: HLG-100H-48A | Brand: EverSale (Mean Well)

1. INTRODUCTION

This manual provides detailed instructions for the safe and efficient installation, operation, and maintenance of the EverSale Mean Well HLG-100H-48A 100W LED Power Supply. This unit is designed for various LED lighting applications, offering both constant current and constant voltage modes, and is suitable for both indoor and outdoor environments.

2. IMPORTANT SAFETY INSTRUCTIONS

Please read and understand all safety instructions before installing or operating the HLG-100H-48A power supply. Failure to follow these instructions may result in electric shock, fire, or other hazards.

- Installation should be performed by a qualified electrician in accordance with all national and local electrical codes.
- Disconnect all power to the unit before installation, maintenance, or any wiring changes.
- Ensure proper grounding of the unit to prevent electric shock.
- Do not operate the unit in environments exceeding its specified temperature range or humidity levels.
- Avoid exposing the unit to direct water spray or immersion unless specifically designed for such conditions (IP67 rated for this model).
- Do not open the casing of the power supply; there are no user-serviceable parts inside.
- Ensure adequate ventilation around the unit for proper heat dissipation.

3. PRODUCT OVERVIEW AND FEATURES

The HLG-100H-48A is a high-performance 100-watt Class I LED power supply from Mean Well, known for its robust design and reliability. It features an aluminum-encased design, making it suitable for demanding indoor and outdoor applications.

Key Features:

- 100 Watt Class I LED Power Supply
- Universal AC Input: 90 ~ 305Vac (Full range)
- Output Voltage: 48VDC
- Constant Current Region: 2A @ 24-48V
- Adjustable Voltage & Current Output with on-board potentiometers (A-type and Blank type)
- Built-in active Power Factor Correction (PFC) function
- High efficiency up to 93%
- Protections: Short circuit, Over current, Over voltage, Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP67 rated for indoor or outdoor installations, suitable for dry/wet/damp locations
- 3-in-1 dimming function (1~10Vdc, PWM signal or resistance) for B-type models
- Compliance with worldwide safety regulations for lighting
- 5-year warranty



Figure 1: A front-angle view of the EverSale Mean Well HLG-100H-48A 100W LED Power Supply, showcasing its aluminum casing, input/output cables, and product labeling with model number and specifications.

4. INSTALLATION AND WIRING

Proper installation is crucial for the safe and optimal performance of the HLG-100H-48A. Ensure all connections are secure and comply with local electrical codes.

4.1 Mounting

The HLG-100H-48A is designed for various mounting applications, including rack mount. Ensure the mounting location allows for adequate free air convection cooling. Avoid enclosing the unit in a sealed space without

proper ventilation.

4.2 Electrical Connections

Refer to the diagrams below for correct input (AC) and output (DC) wiring. Always ensure power is disconnected before making any connections.

Input Wiring:

- **FG (Green/Yellow):** Ground connection
- **AC/L (Brown):** Live AC input
- **AC/N (Blue):** Neutral AC input

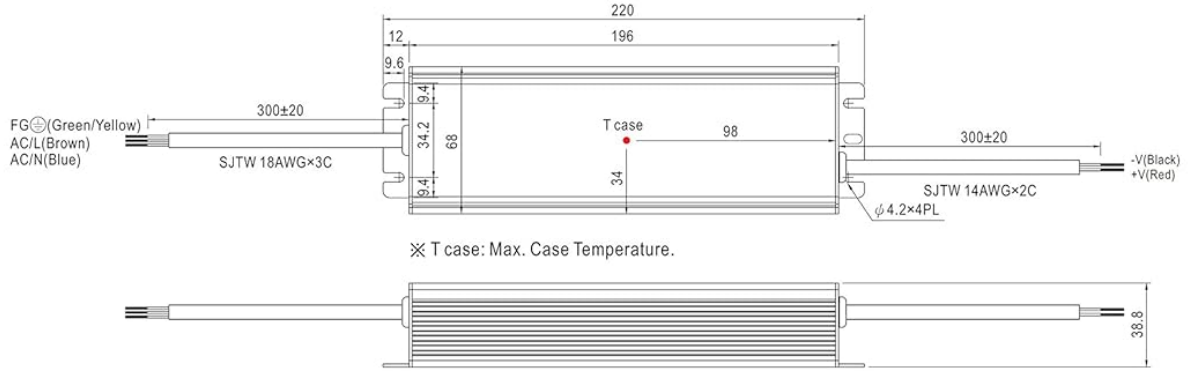
Output Wiring:

- **+V (Red):** Positive DC output to LED fixture
- **-V (Black):** Negative DC output to LED fixture

Mechanical Specification

Case No.994A Unit:mm

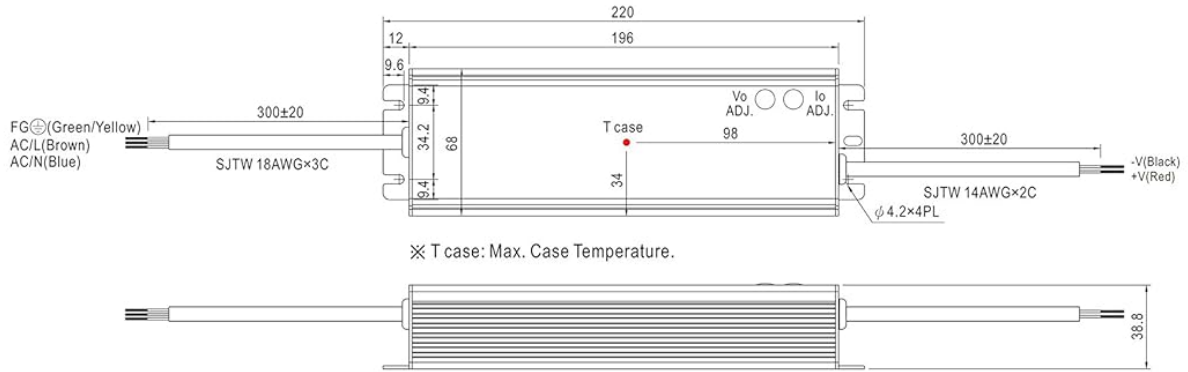
Blank:(HLG-100H)



※ T case: Max. Case Temperature.

※IP67 rated. Cable for I/O connection.

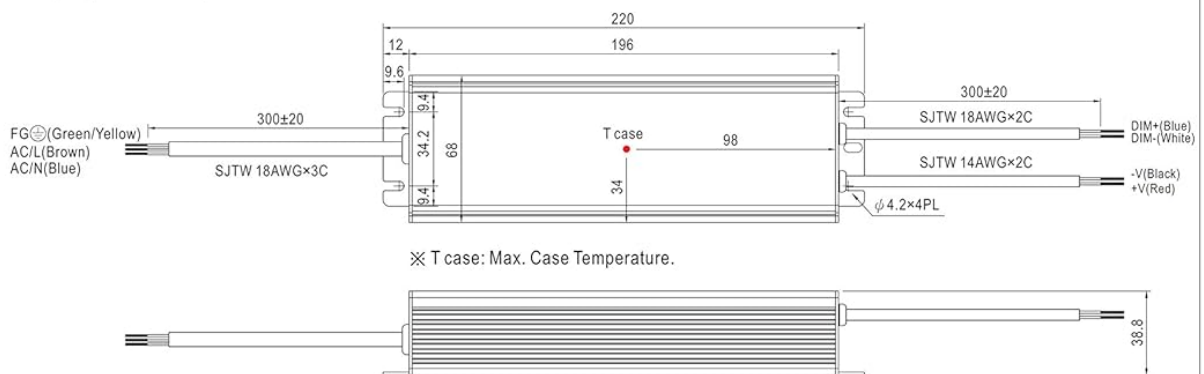
A Type:(HLG-100H-A)



※ T case: Max. Case Temperature.

※ IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.
(Can access by removing the rubber stopper on the case.)

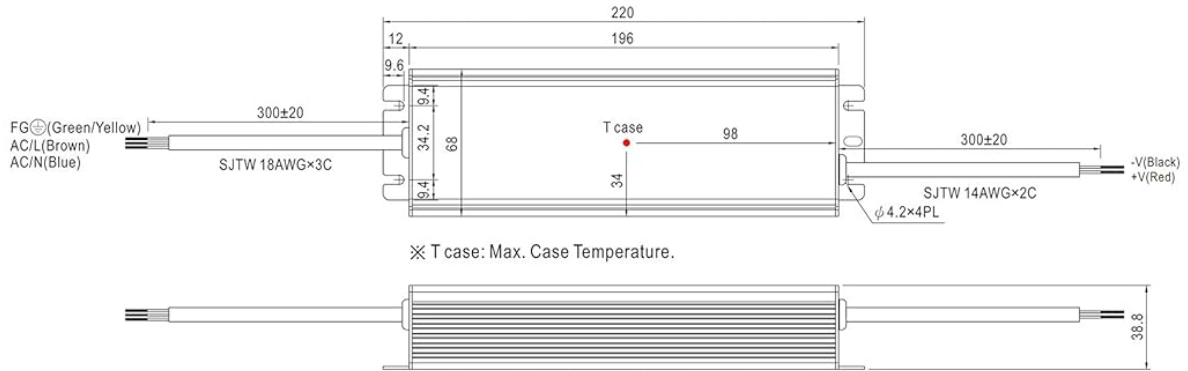
B Type:(HLG-100H-B)



※ T case: Max. Case Temperature.

Figure 2: Technical drawing showing the mechanical dimensions of the HLG-100H power supply, along with wiring diagrams for the Blank and A-Type models, indicating input/output connections and the location of voltage and current adjustment potentiometers.

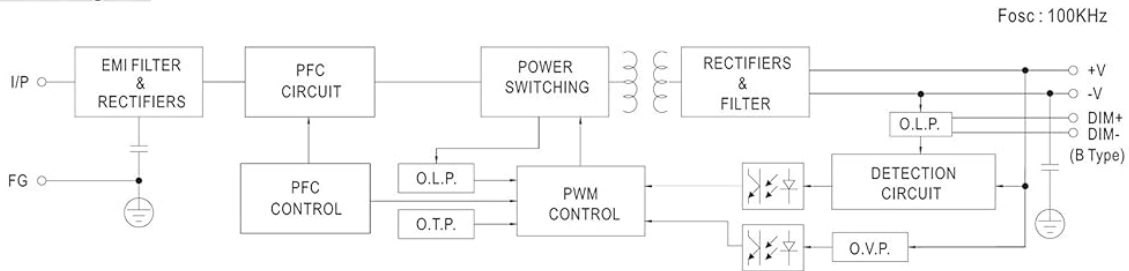
D Type(option):(HLG-100H-D)



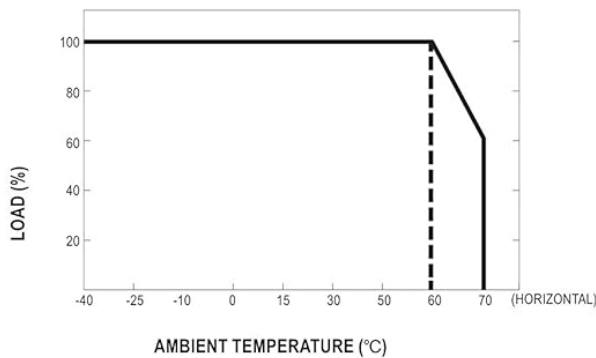
※ T case: Max. Case Temperature.

※ IP67 rated. Timer dimming function, contact MEAN WELL for details.

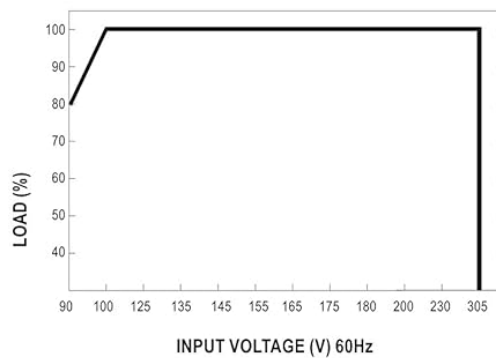
■ Block Diagram



■ Derating Curve



■ Static Characteristics



File Name:HLG-100H-SPEC 2015-07-23

Figure 3: Technical drawing for the HLG-100H D-Type model, including its dimensions. This image also features a block diagram of the power supply's internal components, a derating curve showing load versus ambient temperature, and static characteristics illustrating load versus input voltage.

4.3 Output Adjustment (A-type and Blank type)

For HLG-100H-48A and Blank type models, the output voltage (Vo ADJ.) and constant current (Io ADJ.) can be adjusted via internal potentiometers. These are typically accessed by removing a rubber stopper on the casing.

Exercise caution when making adjustments while the unit is powered.

4.4 Waterproof Connection

For installations in wet, damp, or outdoor environments, it is essential to use appropriate waterproof connectors and cable joiners to maintain the IP67 rating of the power supply. Refer to the diagram below for recommended connection methods.

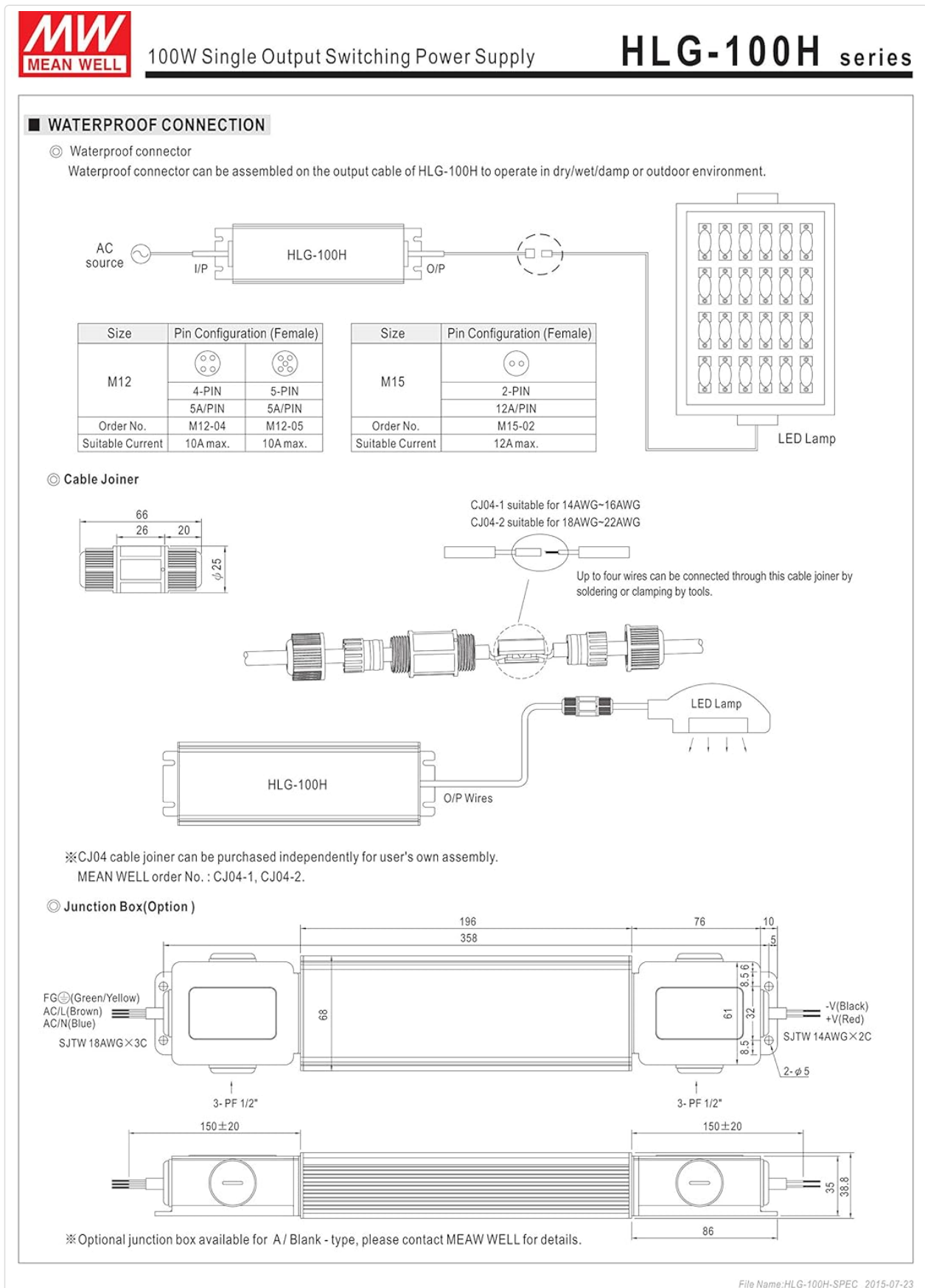


Figure 4: Diagrams illustrating waterproof connection methods for the HLG-100H, including M12 and M15 pin configurations,

cable joiner specifications (CJ04-1, CJ04-2), and an optional junction box for secure outdoor installations.

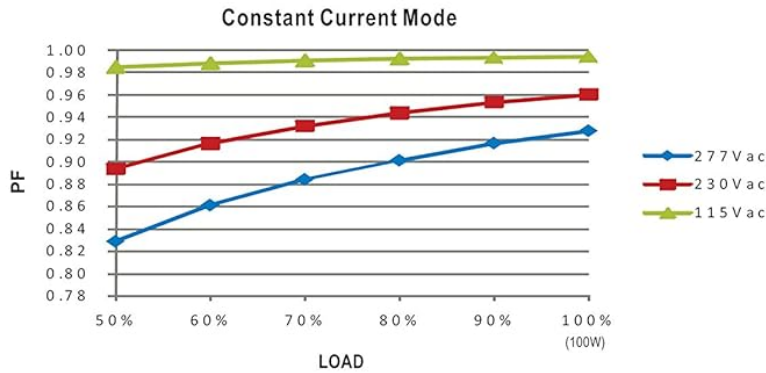
5. OPERATING INSTRUCTIONS

The HLG-100H-48A is designed for straightforward operation once properly installed.

5.1 Constant Voltage (CV) and Constant Current (CC) Modes

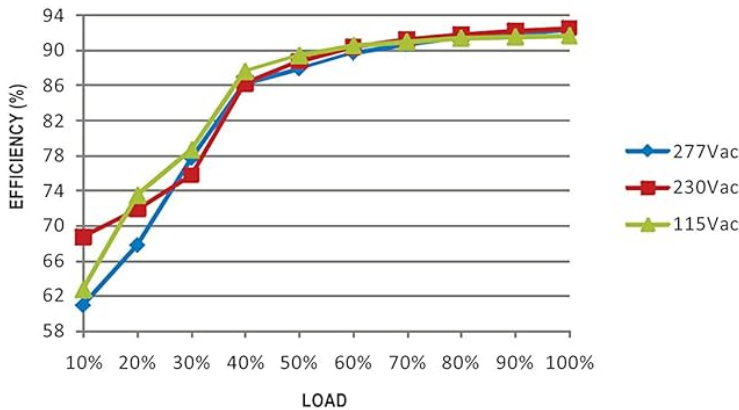
The power supply operates in both constant voltage and constant current modes, automatically switching between them depending on the load characteristics of the connected LED fixture. The typical LED power supply I-V curve illustrates these operating regions.

Power Factor Characteristic



EFFICIENCY vs LOAD (48V Model)

HLG-100H series possess superior working efficiency that up to 93% can be reached in field applications.

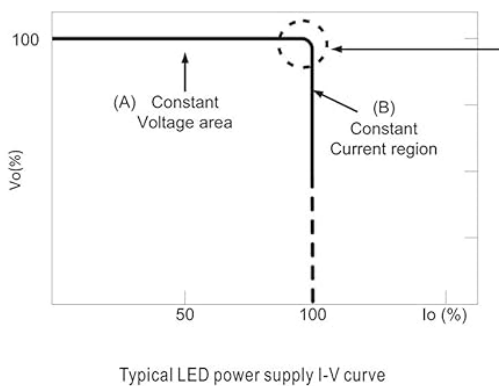


DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B)).



In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.
Should there be any compatibility issues, please contact MEAN WELL.

Figure 5: Graphs illustrating the power factor characteristic in constant current mode, efficiency versus load at different input voltages (115Vac, 230Vac, 277Vac), and a typical LED power supply I-V curve showing constant voltage and constant current regions.

5.2 Dimming Operation (B-type only)

For HLG-100H-48B models, a built-in 3-in-1 dimming function is available, allowing for flexible control of LED brightness. This function supports:

- **1-10Vdc Dimming:** Connect a 1-10Vdc signal to the DIM+ and DIM- terminals.
- **PWM Signal Dimming:** Connect a PWM signal (frequency 100Hz-3KHz) to the DIM+ and DIM- terminals.
- **Resistance Dimming:** Connect a variable resistor between DIM+ and DIM- terminals.

Refer to the diagram below for specific wiring and resistance values for output current adjustment.

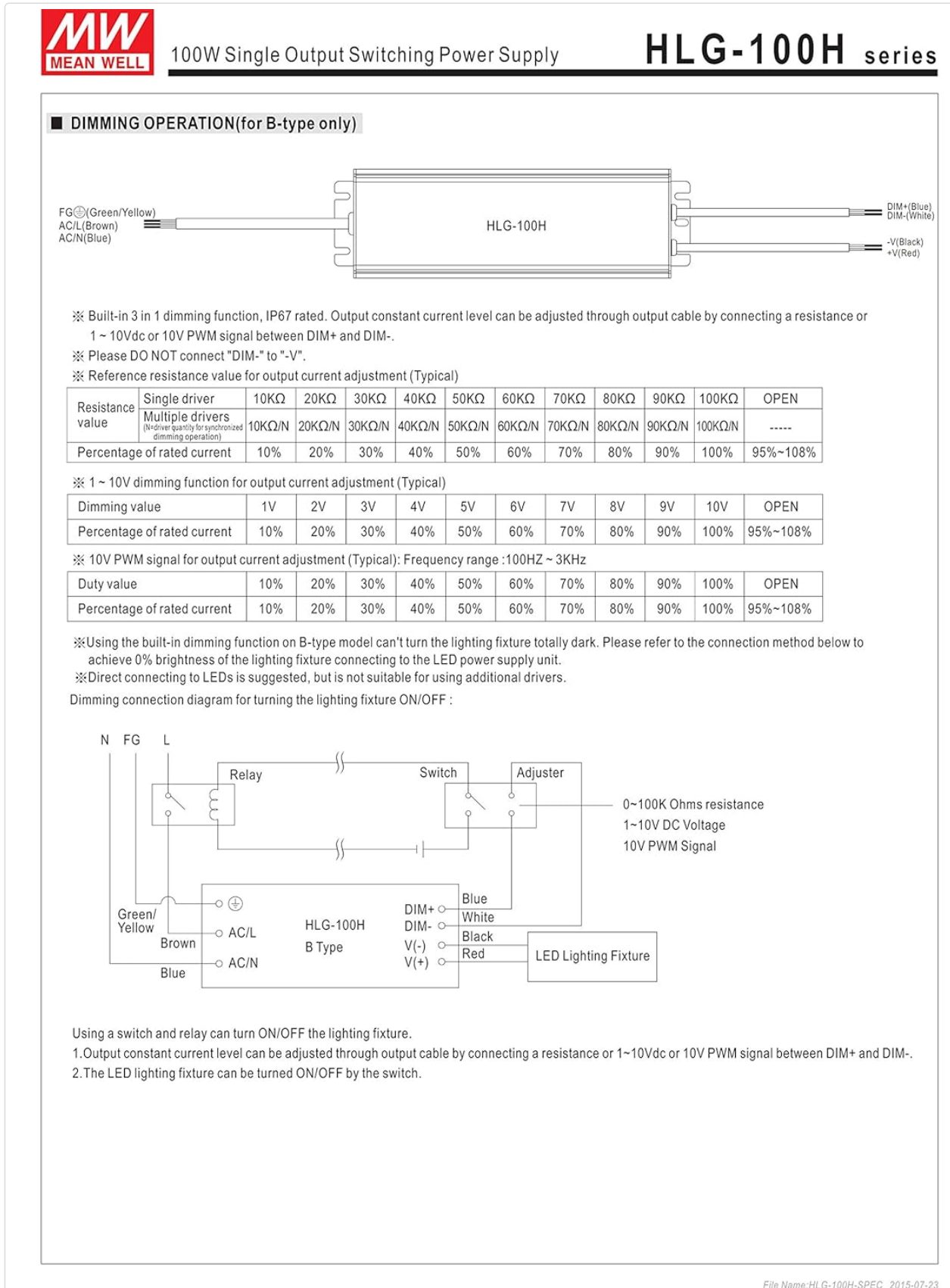


Figure 6: Diagram detailing the dimming functionality for the HLG-100H B-Type model, including wiring for 1-10Vdc, PWM signal, and resistance dimming, along with a table of resistance values for output current adjustment.

6. MAINTENANCE AND CARE

The HLG-100H-48A is designed for reliable operation with minimal maintenance. To ensure its longevity and optimal performance, consider the following:

- **Cleaning:** Periodically clean the exterior of the unit to prevent dust and debris buildup, which can hinder heat dissipation. Use a soft, dry cloth. Do not use harsh chemicals or abrasive cleaners.
- **Inspection:** Regularly inspect all wiring connections for tightness and signs of wear or damage. Ensure cables are not pinched or stressed.
- **Ventilation:** Verify that the ventilation openings are clear and unobstructed to allow for proper airflow and cooling.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges.

7. TROUBLESHOOTING GUIDE

If the HLG-100H-48A is not functioning as expected, consult the following troubleshooting steps before contacting support:

- **No Output Power:**
 - Check if the AC input power is connected and active.
 - Verify all input and output wiring connections are correct and secure.
 - Check for tripped circuit breakers or blown fuses in the input circuit.
- **Incorrect Output Voltage/Current:**
 - Ensure the load (LED fixture) is compatible with the power supply's specifications.
 - If applicable (A-type/Blank type), check the settings of the Vo ADJ. and Io ADJ. potentiometers.
 - For B-type models, verify the dimming signal or resistance is correctly applied and within the specified range.
- **Flickering or Unstable Output:**
 - Check for loose connections or damaged wiring.
 - Ensure the load is stable and not drawing excessive current.
 - Verify the input AC voltage is stable and within the specified range.
- **Overheating:**
 - Ensure adequate ventilation and airflow around the unit.
 - Verify the ambient temperature is within the operating limits.
 - Check if the load is exceeding the power supply's maximum output.

If the issue persists after performing these checks, please contact customer support.

8. TECHNICAL SPECIFICATIONS

The following table provides detailed technical specifications for the HLG-100H series LED power supplies, including electrical characteristics, protection features, and environmental ratings.



■ Features :

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High efficiency up to 93%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- Class 2 power unit
- Type HL LED Driver for use in Class I , Division 2 hazardous location luminaires
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- Suitable for LED lighting and street lighting applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 7 years warranty (Note.10)



HLG-100H-20 [A] Blank : IP67 rated. Cable for I/O connection.
 A : IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.
 B : IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistance.
 D (option, safety pending) : IP67 rated. Timer dimming function, contact MEAN WELL for details.

SPECIFICATION

MODEL	HLG-100H-20	HLG-100H-24	HLG-100H-30	HLG-100H-36	HLG-100H-42	HLG-100H-48	HLG-100H-54	
OUTPUT	DC VOLTAGE	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V
	RATED CURRENT	4.8A	4A	3.2A	2.65A	2.28A	2A	1.77A
	RATED POWER	96W	96W	96W	95.4W	95.76W	96W	95.58W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE Note.6	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	38 ~ 46V	43 ~ 53V	49 ~ 58V
	CURRENT ADJ. RANGE	Can be adjusted by internal potentiometer A type only						
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
INPUT	SETUP, RISE TIME Note.8	1200ms,50ms/115VAC		500ms,50ms/230VAC at full load ; B type 1200ms,200ms/115VAC		500ms,200ms/230VAC at 95% load		
	HOLD UP TIME (Typ.)	16ms at full load		230VAC /115VAC				
	VOLTAGE RANGE Note.5	90 ~ 305VAC		127 ~ 431VDC				
	FREQUENCY RANGE	47 ~ 63Hz						
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.95/230VAC, PF>0.93/277VAC at full load (Please refer to "Power Factor Characteristic" curve)						
	TOTAL HARMONIC DISTORTION	THD< 20% when output loading≥60% at 115VAC/230VAC input and output loading≥75% at 277VAC input						
	EFFICIENCY (Typ.)	93%	93%	93%	93%	93%	93%	93%
	AC CURRENT (Typ.)	1.2A / 115VAC	0.55A / 230VAC	0.5A / 277VAC				
	INRUSH CURRENT (Typ.)	COLD START 60A(twidth=415µs measured at 50% Ipeak) at 230VAC						
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	4 units (circuit breaker of type B) / 8 units (circuit breaker of type C) at 230VAC						
LEAKAGE CURRENT	<0.75mA / 277VAC							
PROTECTION	OVER CURRENT	95 ~ 106% Protection type : Constant current limiting, recovers automatically after fault condition is removed						
	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed						
	OVER VOLTAGE	23 ~ 27V	28 ~ 34V	34 ~ 38V	41 ~ 46V	47 ~ 53V	54 ~ 63V	59 ~ 65V
	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./1cycle, period for 72min. each along X, Y, Z axes						
	SAFETY STANDARDS Note.7	UL8750(type"HL"), CSA C22.2 No. 250.0-08, EN61347-1, EN61347-2-13 independent IP65 or IP67, J61347-1, J61347-2-13 approved ; design refer to UL60950-1, TUV EN60950-1						
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC		I/P-FG:2KVAC		O/P-FG:1.5KVAC		
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH						
	EMC EMISSION	Compliance to EN55015, EN55022 (CISPR22) Class B, EN61000-3-2 Class C (≥60% load) ; EN61000-3-3						
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level (surge 4KV), criteria A						
OTHERS	MTBF	192.2Khrs min. MIL-HDBK-217F (25°C)						
	DIMENSION	220*68*38.8mm (L*W*H)						
	PACKING	1.12Kg; 12pcs/14.4Kg/0.74CUFT						

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 & 47µf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Please refer to "DRIVING METHODS OF LED MODULE".
5. Derating may be needed under low input voltages. Please check the static characteristics for more details.
6. A type only.
7. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.
8. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.
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.
10. Refer to warranty statement.

Figure 7: A detailed table outlining the electrical, environmental, and safety specifications for the HLG-100H series LED power supplies, including input/output characteristics, protection features, and compliance standards.

Key Specifications for HLG-100H-48A:

- **Input Voltage:** 90 ~ 305Vac
- **Output Voltage:** 48VDC
- **Rated Current:** 2.1A
- **Rated Power:** 100.8W
- **Efficiency:** Up to 93%
- **Dimensions:** 8.66 x 2.68 x 1.53 inches (220 x 68 x 38.8 mm)
- **Weight:** 2.47 Pounds (1.12 kg)
- **Operating Temperature:** -40°C to +70°C (refer to derating curve)
- **Protection:** Short Circuit, Overload, Over Voltage, Over Temperature
- **Safety Standards:** UL, cUL, TUV, CB, CE, EN, EAC, CCC
- **IP Rating:** IP67

9. WARRANTY AND SUPPORT

9.1 Warranty Information

The EverSale Mean Well HLG-100H-48A LED Power Supply comes with a 5-year warranty from the date of purchase. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims. The warranty does not cover damage caused by improper installation, misuse, unauthorized modifications, or natural disasters.

9.2 Customer Support

For technical assistance, troubleshooting, or to initiate a warranty claim, please contact EverSale customer support through their official website or the retailer from whom the product was purchased. Provide your product model number (HLG-100H-48A) and a detailed description of the issue to expedite service.