

Yisung ELG-300-24A

Yisung ELG-300-24A 300W 24V LED Power Supply User Manual

Model: ELG-300-24A

1. INTRODUCTION

The ELG-300 series is a 300W LED driver designed for constant voltage and constant current mode applications. This model, the ELG-300-24A, operates from 100-305VAC input and provides a 24V DC output at 12.5A. Its high efficiency, up to 94%, combined with a fanless design, allows for operation in ambient temperatures ranging from -40°C to +85°C (case temperature) under free air convection. The robust metal housing and IP67 ingress protection rating make this series suitable for both indoor and outdoor installations, providing reliable performance in various environments.

2. SAFETY INFORMATION

Please read and understand all instructions before installation and operation. Failure to follow these instructions may result in electric shock, fire, or other hazards.

- **Qualified Personnel:** Installation and servicing should only be performed by qualified electricians.
- **Power Disconnection:** Always disconnect power at the circuit breaker before installing or servicing the unit.
- **Proper Grounding:** Ensure the unit is properly grounded according to local electrical codes.
- **Ventilation:** Although fanless, ensure adequate air circulation around the unit to prevent overheating.
- **Environmental Conditions:** Do not exceed the specified operating temperature range or expose the unit to corrosive environments.
- **Wiring:** Use appropriate gauge wiring for input and output connections to handle the specified current.

3. FEATURES

- ELG-300-24A: 24V DC, 12.5A, 300W Adjustable LED Driver
- Constant Voltage + Constant Current mode output
- Protection functions: Over Current Protection (OCP), Short Circuit Protection (SCP), Over Voltage Protection (OVP),

Over Temperature Protection (OTP)

- IP67 rating for indoor or outdoor installations, providing protection against dust and water immersion.
- Output adjustable via built-in potentiometer
- Typical lifetime: >50,000 hours

4. APPLICATIONS

The ELG-300-24A LED driver is suitable for a wide range of LED lighting applications, including:

- LED stage lighting
- LED strip lighting
- LED bay lighting
- LED flood lighting
- DMX control systems

5. PRODUCT OVERVIEW

The ELG-300-24A features a robust metal casing with clearly labeled input and output connections. The unit includes a potentiometer for output adjustment.

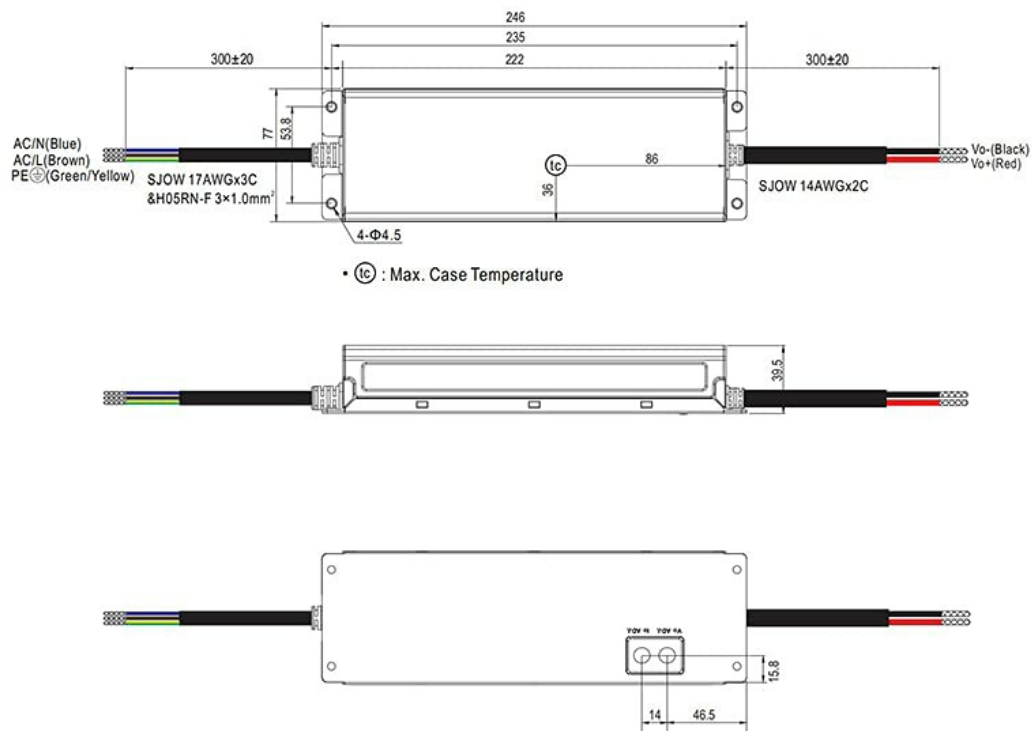


Figure 5.1: Front view of the ELG-300-24A LED Power Supply, showing input (ACN, ACL, PE) and output (Vo+, Vo-) terminals, along with model number and specifications label.



MECHANICAL SPECIFICATION

CASE NO.: 266A Unit:mm



INSTALLATION MANUAL

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

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Figure 5.2: Mechanical specifications and wiring diagram for the ELG-300 series, illustrating dimensions and cable connections for AC input (ACN, ACL, PE) and DC output (Vo+, Vo-).

6. SETUP AND INSTALLATION

6.1 Wiring Instructions

1. **Input Connection (AC):** Connect the AC input wires to the designated terminals. The blue wire (ACN) is for Neutral, the brown wire (ACL) is for Line, and the green/yellow wire (PE) is for Protective Earth. Ensure all connections are secure and properly insulated.
2. **Output Connection (DC):** Connect the DC output wires to your LED load. The black wire (Vo-) is for the negative terminal, and the red wire (Vo+) is for the positive terminal. Observe correct polarity to prevent damage to the LED luminaires.
3. **Cable Specifications:** The input cable is SJOW 17AWG x 3C, and the output cable is SJOW 14AWG x 2C. Ensure these cables are not damaged and are suitable for your installation environment.

6.2 Mounting

The ELG-300-24A is designed for versatile mounting due to its IP67 rating. It can be installed in both indoor and outdoor locations. Refer to Figure 5.2 for mechanical dimensions and mounting hole locations. Ensure the mounting surface is stable and can support the unit's weight (approximately 3.74 pounds).

6.3 Output Adjustment

The ELG-300-24A features a built-in potentiometer for adjusting the output voltage and current. This allows for fine-tuning the power supply to match specific LED load requirements. Use a suitable tool to carefully adjust the potentiometer. Refer to the product label (Figure 5.1) for the exact location of the adjustment screw.

7. OPERATING INSTRUCTIONS

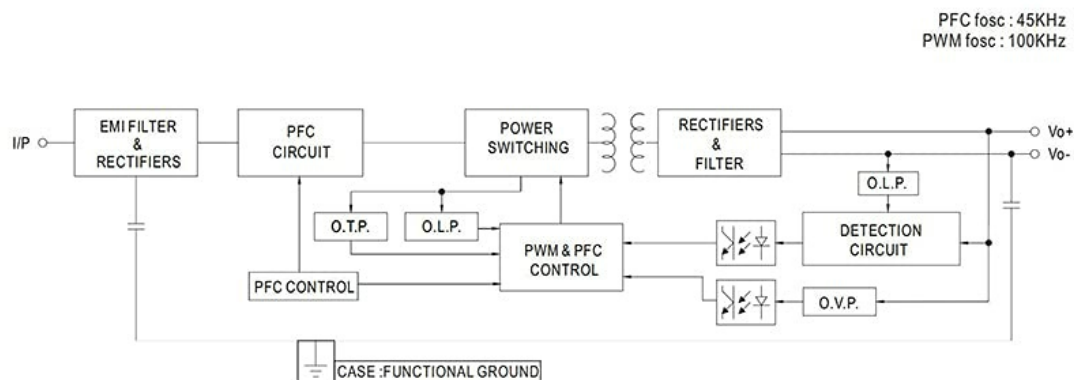
7.1 Powering On/Off

Once all connections are securely made and verified, apply AC power to the input terminals. The LED driver will power on and provide regulated DC output. To power off, disconnect the AC input power.

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

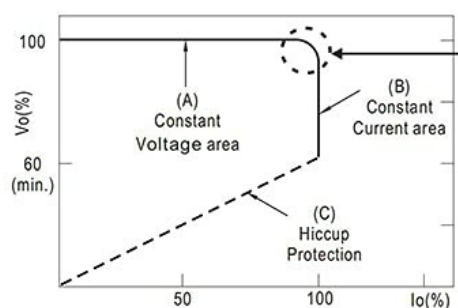
The ELG-300-24A operates in both Constant Voltage (CV) and Constant Current (CC) modes. The mode of operation depends on the load connected and the output adjustment settings.

■ Block Diagram



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.



Typical output current normalized by rated current (%)

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 7.1: Block Diagram of the ELG-300 series and a graph illustrating the Constant Voltage (A) and Constant Current (B) operating regions, along with Hiccup Protection (C).

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems. For compatibility issues, consult the manufacturer.

8. MAINTENANCE

The ELG-300-24A LED driver is designed for long-term, reliable operation with minimal maintenance. Due to its IP67 rating, it is protected against dust and water ingress.

- **Cleaning:** Periodically inspect the unit for any accumulation of dust or debris, especially around cooling surfaces. Clean with a soft, dry cloth. Do not use liquid cleaners.
- **Cable Inspection:** Regularly check input and output cables for any signs of wear, damage, or loose connections. Replace damaged cables immediately.
- **Environmental Check:** Ensure the operating environment remains within specified temperature and humidity limits.

9. TROUBLESHOOTING

If you encounter issues with your ELG-300-24A LED power supply, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
No output voltage/LEDs not lighting	No AC input power Loose wiring connections Overload protection (OCP) activated Short circuit in output Over temperature protection (OTP) activated	Check AC power source and circuit breaker. Verify all input and output wiring connections. Reduce load or check for short circuits in the LED system. Inspect output wiring for short circuits. Ensure adequate ventilation; allow unit to cool down.
Flickering or unstable output	Input voltage fluctuations Incorrect load matching Faulty LED load	Ensure stable AC input voltage within specified range. Verify the LED load is compatible with the driver's CV/CC characteristics. Test with a known good LED load.
Unit is hot to the touch	Insufficient ventilation Overload condition High ambient temperature	Ensure proper airflow around the unit. Reduce the connected load. Verify ambient temperature is within operating limits.

If the problem persists after following these steps, contact customer support.

10. SPECIFICATIONS

Detailed specifications for the ELG-300-24A LED Power Supply are provided below:



300W Constant Voltage + Constant Current LED Driver

ELG-300

SPECIFICATION

MODEL	ELG-300-12A	ELG-300-24A
OUTPUT	DC VOLTAGE	12V
	CONSTANT CURRENT REGION ^{Note.2}	10 ~ 12V
	RATED CURRENT	14.4 ~ 24V
	200VAC ~ 305VAC	22A
	100VAC ~ 180VAC	12.5A
	RATED POWER	10.63A
	200VAC ~ 305VAC	264W
	100VAC ~ 180VAC	224.4W
	RIPPLE & NOISE (max.) ^{Note.3}	300W
		255W
INPUT	VOLTAGE ADJ. RANGE	150mVp-p
	VOLTAGE ADJ. RANGE	11.2 ~ 12.8V
	CURRENT ADJ. RANGE	22.4 ~ 25.6V
	VOLTAGE TOLERANCE ^{Note.4}	6.25 ~ 12.5A
	LINE REGULATION	±3.0%
	LOAD REGULATION	±0.5%
	SETUP, RISE TIME ^{Note.6}	±0.5%
	HOLD UP TIME (Typ.)	±1.0%
		500ms, 100ms/230VAC, 500ms, 100ms/115VAC
		10ms/ 230VAC 10ms/ 115VAC
PROTECTION	VOLTAGE RANGE ^{Note.5}	100 ~ 305VAC 142 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)
	FREQUENCY RANGE	47 ~ 63Hz
	POWER FACTOR	PF ≥ 0.95/115VAC, PF ≥ 0.93/230VAC, PF ≥ 0.90/277VAC@full load
	TOTAL HARMONIC DISTORTION	THD < 10% (@load ≥ 50%/115VAC, 230VAC; @load ≥ 75%/277VAC)
	EFFICIENCY (Typ.)	91%
	AC CURRENT	94%
	INRUSH CURRENT(Typ.)	3A / 115VAC 1.6A / 230VAC 1.3A/277VAC
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	COLD START 45A(twidth=1200μs measured at 50% Ipeak) at 230VAC; Per NEMA410
	LEAKAGE CURRENT	2 units (circuit breaker of type B) / 4 units (circuit breaker of type C) at 230VAC
		<0.75mA / 277VAC
ENVIRONMENT	OVER CURRENT	95 ~ 108%
	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed
	OVER VOLTAGE	13.5 ~ 17V
	OVER TEMPERATURE	27 ~ 34V
		Shut down output voltage, re-power on to recover
SAFETY & EMC	WORKING TEMP.	Tcase=-40 ~ +85°C (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)
	MAX. CASE TEMP.	Tcase=+85°C
	WORKING HUMIDITY	20 ~ 95% RH non-condensing
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 60°C)
OTHERS	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes
	SAFETY STANDARDS	UL8750(type"HL")(Except for 12V), CSA C22.2 No. 250.13-12; ENEC EN61347-1, EN61347-2-13 independent, EN62384; EAC TP TC 004; GB19510.1, GB19510.14; KC61347-1, KC61347-2-13; IP67 approved
	WITHSTAND VOLTAGE	I/P-O/P: 3.75KVAC I/P-FG: 2.0KVAC 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, EN61000-3-2 Class C (@load ≥ 50%); EN61000-3-3; KN15
NOTE	EMC IMMUNITY	Compliance to EN61000-4-2, 3.4, 5.6, 8.11; EN61547, light industry level (surge immunity Line-Earth 6KV, Line-Line 4KV), KN61547
	MTBF	609K hrs min. Telcordia SR-332 (Bellcore); 191Khrs min. MIL-HDBK-217F (25°C)
	DIMENSION	246*77*39.5mm (L*W*H)
	PACKING	1.45 Kg; 9pcs / 13.5Kg / 0.76CUFT

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Figure 10.1: Comprehensive specifications table for the ELG-300-24A, including input, output, protection, and environmental data.

Parameter	Value
Model Number	ELG-300-24A
Output Voltage	24V DC
Output Current	12.5A
Output Power	300W
Input Voltage Range	100-305VAC
Efficiency	Up to 94%
IP Rating	IP67 (Waterproof)
Protection Functions	OCP, SCP, OVP, OTP
Operating Temperature	-40°C to +85°C (case temperature)
Dimensions (L x W x H)	9.69 x 3.03 x 1.56 inches (246 x 77 x 39.5 mm)
Item Weight	3.74 pounds (1.7 kg)
Lifetime	>50,000 hours
Power Source	Corded Electric
Current Rating	12.5 Amps
UPC	770523581453

11. WARRANTY

This product comes with a **5-year warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by improper installation, misuse, accidents, unauthorized repairs, or modifications. Please retain your proof of purchase for warranty claims.

12. CUSTOMER SUPPORT

For technical assistance, troubleshooting not covered in this manual, or warranty inquiries, please contact your retailer or the manufacturer directly. Have your product model number (ELG-300-24A) and proof of purchase ready when contacting support.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question