



User Manuel

Stereo Photometric Light Driver

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1 GENERAL INFORMATION



1.1 Disclaimer

This manual has been prepared to ensure the correct and safe use of the Stereo Photometric Driver developed by Prion Endüstriyel Aydınlatma. All information contained herein is accurate as of the date of publication, but is subject to change due to ongoing technical developments.

Prion Endüstriyel Aydınlatma shall not be held liable for any direct or indirect damage, loss, or malfunction resulting from improper use of this product. The user is fully responsible for ensuring proper installation and operation according to the technical specifications and intended use.

Installation, wiring, and operation must only be performed by authorized personnel. Any damage caused by improper handling, incorrect connections, or unauthorized modifications will void the warranty.



1.2 Forbidden use

The Stereo Photometric Driver must not be used in any of the following ways:

- In environments where malfunction may result in personal injury, death, or major property damage (e.g., life-support systems, nuclear facilities, safety-critical applications).
- If disassembled, modified, or tampered with in any way.
- Beyond its specified voltage, temperature, or environmental limits.
- In explosive or highly flammable areas without proper certification.
- In any system without prior compatibility validation.
- When subjected to excessive mechanical stress, shock, or electromagnetic interference.

Any prohibited use will void the warranty. Prion Endüstriyel Aydınlatma accepts no responsibility for any consequences arising from such misuse.



2 WARRANTY

2.1 Warranty

Prion Endüstriyel Aydınlatma warrants that the Stereo Photometric Driver is free from material and manufacturing defects under normal use for a period of 12 months from the date of purchase.

The warranty does not cover damages caused by:

- Incorrect installation or use
- Unauthorized repairs or modifications
- Operation beyond specified conditions
- Accidents, negligence, or misuse
- Acts of nature or force majeure

Products must be returned with proof of purchase for warranty claims. Prion Endüstriyel Aydınlatma reserves the right to repair, replace, or refund at its sole discretion.

This limited warranty is non-transferable and excludes all other implied warranties including merchantability or fitness for a particular purpose.

3 INTRODUCTION

3.1 Manual and conventions

Thank you for choosing the Stereo Photometric Driver by Prion Endüstriyel Aydınlatma. This device is designed to provide synchronized, precise lighting control for advanced imaging systems such as structured light, photometric stereo, and depth mapping.

This manual outlines safety instructions, installation guidelines, and operational specifications. Please read it thoroughly before using the device to ensure optimal results and long-term reliability.

For additional assistance, contact our technical support team.

3.2 Storage Conditions

To ensure long-term reliability and performance, store the driver in appropriate environmental conditions:

- Temperature: -10°C to +60°C
- Humidity: 0%–85% RH, non-condensing
- Keep away from direct sunlight, corrosive materials, and dust
- Store in original packaging or anti-static containers
- Avoid physical shock, vibrations, or compression
- Do not store near strong magnetic or electromagnetic fields

Inspect the device before installation if it has been stored for a long period.

3.4 Cleaning and maintenance

Proper cleaning and maintenance ensure continued, safe operation:

Cleaning:

- Disconnect power before cleaning
- Use a soft dry cloth or slightly damp cloth with isopropyl alcohol
- Avoid excessive moisture and never allow liquids inside the device
- Do not use abrasive chemicals or pressurized air
- Maintenance:
- Regularly inspect connections and housing for signs of wear, corrosion, or damage
- Ensure all fasteners and connectors remain secure
- For malfunction or unusual behavior, contact authorized service. Do not open the device

4 GETTING STARTED

4.1 Overview

The Stereo Photometric Driver is a precision-engineered device that controls the lighting sequence and timing of a multi-angle LED lighting system used in stereo photometric imaging applications. It is optimized for industrial machine vision, defect detection, and 3D surface reconstruction tasks.

Key features include:

- Multiple channel output for synchronized LED control
- Programmable lighting sequences (e.g., phase shifting, frame-by-frame triggering)
- Compatibility with external trigger systems (e.g., cameras, PLCs)
- Adjustable intensity and pulse duration per channel
- Compact DIN rail or panel mount design

4.2 Accessories

To ensure optimal use of the driver, the following accessories may be required:

- Power Supply Unit (PSU): Suitable for the required voltage and current.
- Signal Cables: For connection to external controllers or cameras.
- Trigger Cable: For synchronization with imaging systems.
- Mounting Kit: DIN rail or panel adapters, as needed.
- Communication Adapter (optional): USB or RS485 interface for software configuration.

5 TECHNICAL SPECIFICATIONS

Parameter	Specification
Input Voltage	12–24 VDC $\pm 10\%$
Number of Channels	4 (configurable)
Output Current per Channel	Up to 2A (per channel)
Output Type	PWM or constant current
Trigger Input	Opto-isolated digital input, 5–24V
Communication	USB, RS485 (optional)
Pulse Width Control	1–9999 μs , adjustable
Operating Temperature	0°C to +50°C
Storage Temperature	-10°C to +60°C
Humidity	0–85% RH, non-condensing
Housing Material	Anodized aluminum
Mounting	DIN rail or panel mount
Protection Features	Overvoltage, overcurrent, thermal shutdown
Weight	Approx. 250 g

5.1 Physically Specification





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