



User Manuel

Continuous Led Driver

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1 GENERAL INFORMATION

1.1 Disclaimer



This document is provided for informational purposes only and is subject to change without notice. Prion Industrial Lighting makes no warranties, express or implied, regarding the accuracy, completeness, or suitability of the information contained herein. The user assumes full responsibility for the proper use, installation, and operation of the product. Prion shall not be held liable for any damages, direct or indirect, arising from the use of this product or the information provided in this datasheet. It is the user's responsibility to ensure that the product is suitable for the intended application and complies with all applicable laws, regulations, and standards.



1.2 Forbidden use

The Prion Continuous LED Driver is specifically engineered for use in industrial automation and machine vision lighting systems. It is not intended for use outside of these clearly defined applications. Any utilization beyond the scope of the product's intended design is strictly forbidden and may result in equipment damage, personal injury, or violation of regulations.

Prohibited uses include, but are not limited to:

- Operation in environments with explosive gases, flammable dust, or high levels of moisture or corrosive substances
- Use as a general-purpose illumination device for residential, commercial, or outdoor lighting
- Integration into life-support, life-saving, or safety-critical systems where product failure could lead to injury or loss of life
- Use in medical, military, or aerospace applications without prior written consent from Prion
- Modification, tampering, reverse-engineering, or repair of the product by any individual or party not authorized by Prion
- Usage outside the specified electrical, thermal, and environmental limits provided in this datasheet

Failure to adhere to these restrictions will void all warranties and may result in malfunction or hazardous conditions. Prion assumes no liability for damages resulting from unauthorized or improper use of this product.



2 WARRANTY

Prion warrants that the Continuous LED Driver is free from defects in materials and workmanship under normal use for a period of 24 months from the date of shipment. During the warranty period, Prion will, at its sole discretion, repair or replace any product found to be defective, provided it has been used in accordance with the guidelines and limitations outlined in this datasheet.

This warranty does not cover:

- Damage resulting from misuse, improper installation, or unauthorized modifications
- Operation outside of specified environmental or electrical conditions
- Physical damage caused by mechanical stress, corrosion, or exposure to liquids
- Normal wear and tear or cosmetic defects that do not affect performance

To make a warranty claim, the customer must contact Prion support and provide proof of purchase and a detailed description of the issue. The customer is responsible for shipping the defective item to Prion. Repaired or replacement units will be returned free of charge.

This warranty is limited and does not extend to any consequential or incidental damages. No other warranties, express or implied, including merchantability or fitness for a particular purpose, are provided unless required by applicable law.

3 INTRODUCTION

3.1 Manual and conventions

This datasheet and the user manual are intended to provide all necessary information for the proper handling, installation, and operation of the Prion Continuous LED Driver. Please read the user manual carefully before connecting or powering the device. Failure to follow the provided guidelines may result in malfunction or damage.

Throughout the documentation, the following conventions and symbols are used:

- ⚠ Warning: Indicates potential risk of injury or equipment damage if not followed.
- ⓘ Note: Provides helpful or additional information for proper operation.
- ✓ Recommendation: Suggests best practices or optional steps for optimal performance.
- ✗ Prohibited Action: Denotes actions or conditions that are not allowed.

All specifications, connector definitions, pinouts, and installation instructions should be followed precisely. Diagrams and wiring examples are illustrative and may differ slightly depending on model version.

For the latest manual and technical resources, please refer to the official Prion website or contact technical support.

3.2 Storage Conditions

To ensure optimal performance and longevity of the Prion Continuous LED Driver, the following storage conditions must be observed:

- Temperature Range: -20°C to $+60^{\circ}\text{C}$
- Relative Humidity: 10% to 80% (non-condensing)
- Environment: Clean, dry, and dust-free area
- Protection: Store in original anti-static packaging to prevent electrostatic discharge (ESD) damage
- Avoid: Direct sunlight, vibration, corrosive gases, and exposure to liquids

Failure to comply with these storage guidelines may lead to degradation in performance or permanent damage to the product.

3.4 Cleaning and maintenance

The Prion Continuous LED Driver is designed to operate with minimal maintenance under normal industrial conditions. However, periodic inspection and proper cleaning can help ensure long-term reliability.

Cleaning Guidelines:

- Disconnect all power sources before cleaning.
- Use a dry, lint-free cloth or an antistatic wipe to remove dust from the housing.
- If necessary, lightly dampen the cloth with isopropyl alcohol. Do not use water, solvents, or abrasive cleaners.
- Avoid direct contact with electrical connectors or exposed circuitry.

Maintenance Recommendations:

- Inspect the unit periodically for signs of mechanical damage, corrosion, or loose connections.
- Ensure that all cables and connectors are securely attached and free from wear.
- Do not attempt to open, modify, or repair the unit. Any unauthorized service will void the warranty.

If the device exhibits abnormal behavior or visible damage, discontinue use immediately and contact Prion technical support for assistance.

4 GETTING STARTED

4.1 Overview

The Prion Continuous LED Driver is a high-performance current control solution designed specifically for industrial machine vision lighting applications. Engineered for reliability and precision, it provides stable, flicker-free illumination for continuous lighting environments, ensuring optimal image quality in high-speed inspection and automation systems.

With support for a wide range of input voltages and output current configurations, this driver is compatible with various LED light types including ring lights, bar lights, coaxial lights, and backlights. Its compact design, robust protection features, and easy integration make it ideal for demanding factory environments.

Key features include:

- Stable constant current output for continuous LED operation
- Adjustable output via onboard or remote control (optional)
- Overvoltage, overcurrent, and thermal protection
- Industrial-grade connectors for reliable operation
- Designed for 24/7 use in machine vision systems

The Prion Continuous LED Driver delivers consistent power and reliability, helping to maximize the performance and longevity of your vision lighting systems.

4.2 Accessories

Accessories

The following accessories are optionally available or included with the Prion Continuous LED Driver to ensure easy integration and optimal performance:

- Power Cable – Industrial-grade power input cable with secure connector
- LED Output Cable – Compatible output cable for direct connection to vision lights
- DIN Rail Mounting Kit – For convenient and secure installation in control cabinets
- Adjustment Tool – For manual tuning of output current (if applicable)
- User Manual – Printed or digital guide for installation and operation
- Optional Communication Cable – For models supporting external control (e.g., analog or digital input)

Please refer to your order confirmation or contact Prion for a full list of compatible and available accessories.

5 TECHNICAL SPECIFICATIONS

Parameter	Specification
Input Voltage	24 VDC $\pm 10\%$
Output Current	Adjustable, 0–1000 mA (model dependent)
Output Voltage Range	Up to 48 VDC (depending on load)
Operating Mode	Continuous (Constant Current)
Control Interface	Manual potentiometer / Analog input (0–10V) / Digital enable
Power Efficiency	> 90%
Ripple and Noise	< 5% (typical)
Cooling Method	Passive (natural convection)
Operating Temperature	0°C to +50°C
Storage Temperature	–20°C to +60°C
Mounting	DIN rail or panel mount





Contact Us



+90 (216) 519 08 54



Dumlupınar Mahalesi, Pelin Sok. No:51 D16 Kadıköy /
İstanbul



info@prionaydinlatma.com.tr



www.prionaydinlatma.com