Datasheet

Zirqle LED Engine UV-A 365nm Protected (24 Volt, 108 LEDs, 2835, IP64)

LE-24-365-108X2835PZQ

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Zirqle B.V.
Hastelweg 260B
5652 CN Eindhoven
Nederland

KvK-nummer: 56409583
BTW-nummer: NL852111551B01
IBAN: NL39 ABNA 044 350 8496
BIC/SWIFT code: ABNANL2A

Email: info@zirqle.nl
Website: www.zirqle.nl
Tel.: +31 (0)40 - 243 08 80

Product description

The **Zirqle LED Engine UV 365 nm (Protected, 24 V)** is a **semi-finished aluminum PCB module**, designed for engineers and OEMs who need **high-intensity UV-A output** for demanding industrial, medical, forensic, or R&D applications. Delivered as a **light-emitting core**, it provides full freedom in housing, optics, and thermal design.

Equipped with 108 × 2835 SMD LEDs, an **industrial silicone coating for IP64 protection**, and an integrated NTC sensor, the module ensures stable and long-term performance. When paired with the MaNima Pollux Industrial System, it becomes a **complete UV-A solution**, supporting pulsed operation, thermal monitoring, and advanced automation integration.

Key Specifications

Property	Value / Description
Type	LED Engine – semi-finished PCB module
LEDs	108 × 2835 SMD LEDs
PCB base	Aluminum
PCB protection	Industrial silicone coating (IP64)
Dimensions	200 × 20 × 3 mm (slightly thicker for higher output)
Supply	24 V DC / ~30 W
Wavelength	365 nm UV-A
Irradiance (5 cm)	**~650 W/m²**
PPFD (5 cm)	Not applicable (outside PAR range)
Illuminance (5 cm)	Not applicable (UV not visible to human eye)
Beam angle	120°
Thermal monitoring	Integrated NTC sensor (5 kΩ, β = 3950)

Applications

- **High-speed UV curing** – rapid polymerization of inks, resins, adhesives, and coatings, ideal for high-throughput industrial processes.
- **Strong fluorescence excitation** – enables forensic analysis, biological imaging, and high-contrast security marking detection.
- **Document & security verification** – exposes hidden inks, counterfeit features, and tamper-proof markings with superior contrast.
- **Inline industrial quality control** – supports detection of surface defects and impurities at higher production speeds.
- **Medical diagnostics & dermatology** – allows shorter exposure times for Wood's lamp techniques in skin condition detection.
- **Photocatalytic activation & sterilization** – accelerates photocatalytic processes and supports disinfection in surface, air, and water treatment.
- **Environmental & agricultural monitoring** – stronger fluorescence enables non-destructive analysis of crop health, water purity, and food safety.

- *R&D & spectroscopy – high-intensity UV-A reference source for calibration, device testing, and scientific research.*

Benefits for Engineers

- **Very high UV-A output** – ~650 W/m² at 5 cm for demanding applications
- **Semi-finished module** – perfect for OEM and R&D integration
- **Pollux compatibility** – enhanced control, pulsing, and thermal safety feedback
- **Design freedom** – customizable housing, optics, and cooling systems
- **Thermal reliability** – integrated NTC ensures safe and long-term use
- **Scalable system** – multiple modules can be combined for larger setups
- **Industrial durability** – IP64 silicone coating for robust environments

Integration with MaNima Pollux Industrial System

- Real-time NTC thermal feedback
- Pulse/strobe modes for **boosted UV-A efficiency**
- Overheating protection while ensuring maximum irradiance
- PLC/SCADA compatibility for industrial automation
- Open UDP API for advanced system integration

Technical specifications

General	
Brand	Zirqle
Application	Curing & Aging Machine Vision UV Inspection
LED type	2835
PCB color	White
Material	Aluminum
Dimensions	200 × 20 × 2 mm
Mounting	3M tape VHB4905
LEDs per piece	108.00

Lighting	
Wave length UV	365nm
Beam angle	120 °

Measurement results	
Peak wavelength (Object size: 1 piece)	369 nm

Peak irradiance
(Object size: 1 piece)

	24V
5cm	32.08 W/sqm
10cm	12.55 W/sqm
15cm	6.21 W/sqm
20cm	3.74 W/sqm
25cm	2.39 W/sqm
30cm	1.75 W/sqm

Total irradiance
(Object size: 1 piece)

	24V
5cm	422.7 W/sqm
10cm	175.8 W/sqm
15cm	87.05 W/sqm
20cm	52.53 W/sqm
25cm	34.47 W/sqm
30cm	24.5 W/sqm

• By combining Pulse Mode with Real-Time Monitoring, the efficiency of LED systems can be increased, resulting in higher output.
• We have the expertise and equipment to perform measurements tailored to the specific requirements of the application.

Electronics	
Working voltage	24V
Current per piece	1.25 A / piece
Power consumption per piece	30.00 W / piece
PCB material	Aluminium

Pinout	

Symbol	Function
V+	V+
GND	Ground
NTC	NTC sensor
NTC_GND	NTC ground

NTC parameters	Resistance: 5000 Ohm Beta value: 3950

Environmental

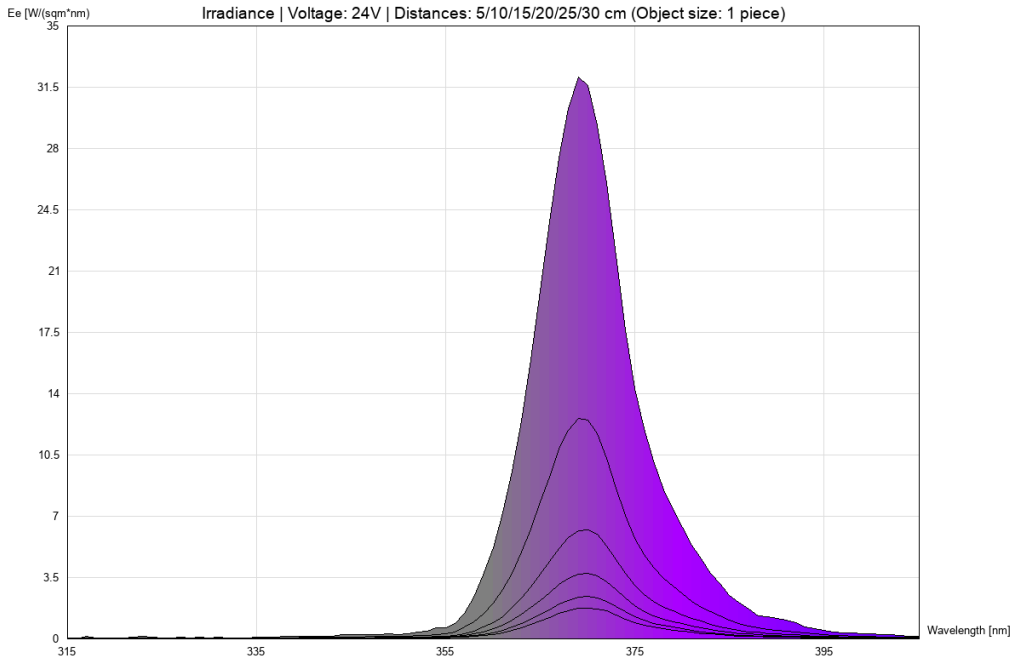
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - 315-405-uv-a (24V)



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