Datasheet

LuxaLight Pixel LED-strip TM1824 Digital RGB + Warm White High Power Protected 24 Volt, 84 LEDs, 5050, IP64)

LS24RGBWW84TM1824PLX

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

KvK-nummer: 57580561
BTW-nummer: NL852642209B01
IBAN: NL87 INGB 0007 8159 75
BIC/SWIFT code: INGBNL2A

Email: info@luxalight.eu
Website: www.luxalight.eu
Tel.: +31 (0)40 - 202 49 04

Product description

This **LuxaLight professional digital LED strip** is designed for applications where flexible, customized lighting is required, with a high level of control over each individual LED pixel. The strip consists of 14 segments, each equipped with 6 RGBW LEDs, and utilizes TM1824 ICs for advanced control and color management. The LED strip has an IP64 rating, meaning it is dust-tight and protected against water ingress and humid environments. Additionally, the IC High PWM rate allows for filming these pixels with cameras up to 33fps, ensuring smooth recording and accurate visual performance.

LED Strip Configuration

- **Number of segments:** 14
- **Number of LEDs per segment:** 6 RGBW LEDs
- **Total LEDs on the strip:** 84 RGBW LEDs (14 segments x 6 LEDs per segment)
- **Adhesive:** The strip is equipped with 4905 VHB (Very High Bond) tape, ensuring strong and durable adhesion to various surfaces.
- **PCB thickness:** The PCB has a thickness of 3 oz/ft², providing robust support and efficient heat dissipation.
- **IP64 Silicon Layer:** The strip is covered with a protective IP64-rated silicon layer, which enhances its durability and provides additional protection against dust and humid environments.

TM1824 IC

The LED strip uses the TM1824 IC for each LED segment. The TM1824 is an advanced controller that provides PWM dimming (pulse width modulation) for the RGBW LEDs. This allows for very smooth and precise color range and brightness control.

Key features of the TM1824 IC:

- **Pixel addressing:** Each segment can be controlled individually.
- **Color management:** Supports RGBW LEDs, ensuring optimized color rendering.
- **Communication:** The IC uses a serial data interface, where data is passed from the first to the last IC, enabling the integration of long chains of LED strips.
- **Stability and performance:** The IC is designed to operate with a wide voltage range, ensuring stability under various conditions.
- **High PWM rate:** The IC's high PWM rate allows for smooth pixel filming with cameras up to 33fps, providing clear and precise video recording of the LED strip.

Technical specifications

General	
Brand	LuxaLight
LEDs / meter	84
LEDs per pixel	6
LED type	5050
Length per reel	10 m
Length per segment	71.43 mm
LED strip width	12.00 mm
LED strip thickness	4.00 mm
PCB color	White
Mantle material	Silicon
Dimensions	10.000 × 12 × 4 mm
Mounting	3M tape VHB4905
Warranty	2 years
Lifetime	50000 hours
Lighting	
CRI	≥ 80
Luminous Flux	1395 lm
Luminous flux red	240 lm
Luminous flux green	348 lm
Luminous flux blue	222 lm
Luminous flux warm white	585 lm
Wave length Red	620~630 nm
Wave length Green	510~525 nm
Wave length Blue	455~470 nm
Beam angle	120 °
Electronics	
Working voltage	24V
Current / meter	0.72 A / meter
Power consumption per meter	17.20 W / meter
PCB material	Copper
Pinout	

Symbol	Function
V+	V+
GND	Ground
D1	Data in

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

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