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Colour
is our nature

# 100W DMX/RDM Full-Colour (RGBW) Dimmable LED Driver

## POWERdrive

POWERdrive's dynamic response can be tuned to fit any content - from exceptionally smooth fades in architecture to fast-paced video in entertainment. This constant current LED driver is DMX/RDM compatible, and allows you to create your colour or dynamic show without an external controller. Symbiosis ensures the LED driver works seamlessly together with LED modules, controls and intelligent luminaire elements.

## Product offering



### POWERdrive 1061/S

| | |
|---|---|
| Part number P/N | PW1061S1 |
| Product description | POWERdrive AC, 100W, DMX/RDM, 4 control channels, constant current, 4x 57V outputs, square metal |

## Programming tools

| | |
|---|---|
| Programming interface | TOOLbox pro (TLU20504) |
| Programming cable set | TOOLbox pro to LED driver, programming cable, 5pcs (TLC03051) |
| Programming software | FluxTool |

## Warranty

| | |
|---|---|
| Warranty period | General Terms and Conditions |

AcuityBrands.

## Order number configurator
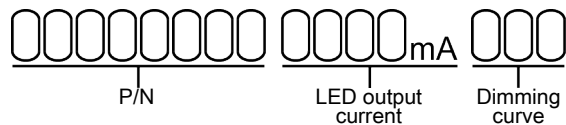


| P/N | LED driver part number. |
| --- | --- |
| LED output current | Enter value in 10mA increments, e.g. "0260", "1010", etc. |
| Dimming curve | "LOG" for logarithmic<br>"LIN" for linear<br>"SQU" for square |

## Input characteristics

| | |
| --- | --- |
| Nominal input voltage range AC | 120 - 250V (ENEC), 120 - 277V (UL) |
| Nominal input voltage range DC | 120 - 275V |
| Maximum input current | 1.05A @ 120V / 60Hz |
| Input frequency range | 50 - 60Hz |
| Efficiency at full load | 90% |
| Power factor at full load | >0.94 |
| THD at full load | <10% |
| Maximum inrush current | 35A 240µs @ 120V / 60Hz |
| Surge protection | 3kV differential mode (DM)<br>4kV common mode (CM) |
| Maximum standby power | <0.5W |

## Output characteristics

| | |
| --- | --- |
| Maximum LED output power | 100W |
| Number of LED outputs | 4 (UL Class 2) |
| Programmable LED output current range | 200 - 1050mA |
| LED output type | programmable in 10mA steps via DMX terminal and FluxTool |
| LED output current tolerance | +/- 5% at programmed LED output current |
| LED output voltage range | 2 - 57V |

## Control characteristics

| | |
|---|---|
| Control channels | 4 |
| Control protocol | DMX/RDM |
| Dimming range | 100% - 0.1% |
| Dimming curve options | Logarithmic (default)<br>Linear<br>Square |
| Dimming method | Hybrid HydraDrive |

Dimming curves
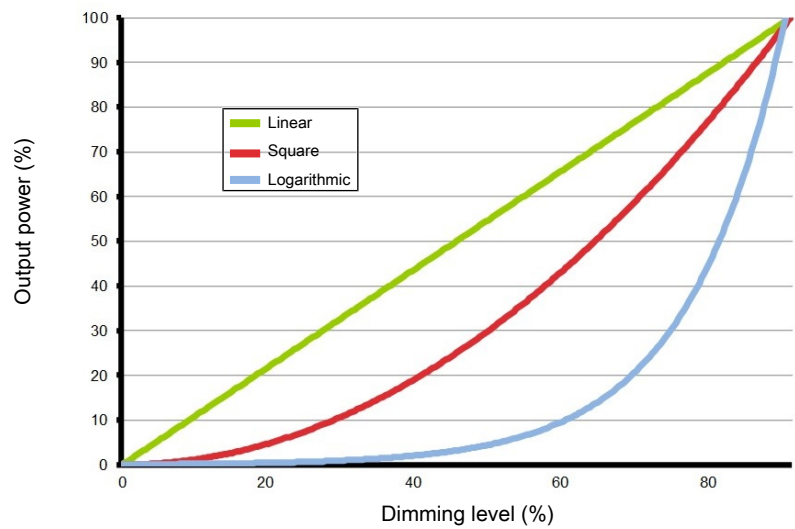


## Environmental conditions

| | |
|---|---|
| Operating ambient temperature (Ta) range | -40 ºC to +50 ºC |
| Maximum operating case temperature (Tc max) | 83 ºC |

## LED driver protection

| Thermal | The LED output current is decreased whenever the internal LED driver temperature exceeds factory preset temperature. The LED output current is increased again once the internal LED driver temperature drops below this internal temperature threshold. If the internal LED driver temperature continues to increase, despite a decrease in output current, the LED driver will shut down. |
|---|---|
| LED output short circuit | The LED output current is cut off whenever the LED driver detects a short-circuit. The LED driver will attempt a restart every 400ms after a short-circuit is detected. |
| LED output overload | The LED driver decreases the LED output current sequentially, until it reaches its maximum rated power, whenever a load that exceeds the LED driver's maximum rated power is connected to the LED output. |
| Reverse polarity | The LED driver will not yield any current if the polarity of the load on the LED output is reversed. This situation will not damage the LED driver but may damage the LED load. |

## LED protection

| Thermal protection LED | An external NTC thermistor, which is placed on a PCB near the LEDs, can be connected to the driver via the LEDcode/NTC terminals. The output current to the LEDs is then decreased by 75% whenever the NTC exceeds a maximum allowable temperature, which is specified by the user in the FluxTool software. The default NTC temperature limit is set to 70 °C. |
|---|---|
| Thermistor value | 47kΩ |
| Suitable thermistors | leaded: Vishay, P/N 238164063473<br>screw: Vishay, P/N NTCASCWE3473J |

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## LED driver mechanical details
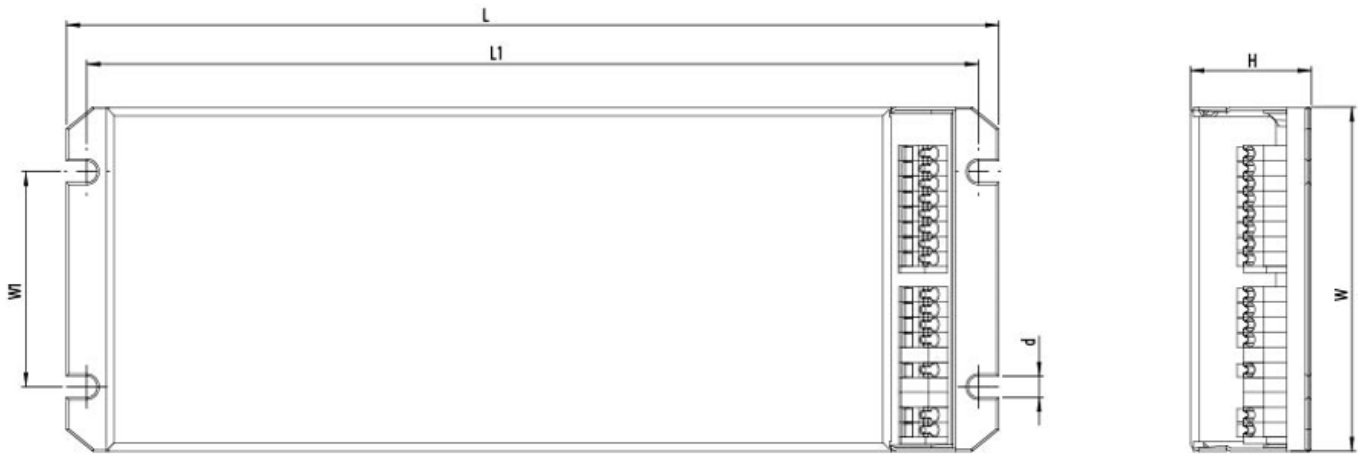
| Length (L) | typical: 230 mm / 9.06 in |
|---|---|
| Width (W) | typical: 80 mm / 3.15 in |
| Height (H) | typical: 30 mm / 1.18 in |
| Weight | 933.5 g |

## Packaging

| Products per box | 20 pcs |
|---|---|

## Connector layout

| | |
|---|---|
| DMX in + | LED output 1 + |
| DMX in - | LED output 1 - |
| DMX in shield | LED output 2 + |
| DMX out + | LED output 2 - |
| DMX out - | LED output 3 + |
| DMX out shield | LED output 3 - |
| Ext in + | LED output 4 + |
| Ext in - | LED output 4 - |
| | LEDcode/NTC + |
| | LEDcode/NTC - |

L

N

## Wiring Specifications

| | |
|---|---|
| Wire Type | AWG 20-16, 0.5-1.5mm²<br>solid or stranded copper |
| Wire strip length | 9mm / 0.35in |

## Automatic circuit breakers (MCB)

| Maximum loading | MCB type | B10 | B13 | B16 | C10 | C13 | C16 |
|---|---|---|---|---|---|---|---|
| | Number of LED drivers | 5 | 6 | 8 | 8 | 10 | 13 |

## Calibrated start-up procedure

| | |
|---|---|
| For optimized DMX dimming performance. | While switching the mains input voltage, the DMX signal to the LED driver needs to be at 100% (255). Unused or open LED outputs of the driver need to be disabled. This can be achieved by programming the driver with the eldoLED Fluxtool software. In the "Setup – Control menu", select "Group scaling" for each unused or open LED output and change the actual value to '0', and write into the driver. For all LED outputs in use, change the value to '255'. |

## Standards and compliance

| | |
|---|---|
| UL, recognized component | UL 1310<br>UL 8750<br>(Class 2 output) |
| ENEC safety | EN 61347-1<br>EN 61347-2-13 (Emergency lighting) |
| ENEC performance | EN 62384 |
| Conducted emissions | EN 55015 |
| Radiated emissions | EN 55015 |
| Radio disturbance characteristics | EN 55022 |
| Harmonic current emissions | EN 61000-3-2 |
| Electromagnetic immunity | EN 61547 |
| DMX | E1.11 – 2008, USITT DMX512-A<br>ANSI E1.20 |
| RCM | AS/NZS 61347.1, AS/NZS 61347.2.13 |
| Restriction of hazardous substances | RoHS3 (Directives 2011/65/EU-2015/863/EU) |

## Certifications

## Safety

| | |
|---|---|
| ⚡ | FELV control terminals marked "Risk of electric shock" are not safe to touch. Dimming connected to FELV control terminal shall be insulated for Low Voltage supply of the control gear. |
| ⚡ | Risk of electrical shock. May result in serious injury or death. Disconnect power before servicing or installing. |
| ⚠ | The LED driver may only be connected and installed by a qualified electrician. All applicable regulations, legislation, and building codes must be observed. Incorrect installation of the LED driver can cause irreparable damage to the LED driver and the connected LEDs. Pay attention when connecting the LEDs: polarity reversal results in no light output and often damages the LEDs. |
| ⚠ | LED drivers are designed and intended to operate LED loads only. Powering non-LED loads may push the LED driver outside its specified design limits and is, therefore, not covered by any warranty. |
| ⓘ | eldoLED products are designed to meet the performance specifications as outlined at certain operating conditions in the data sheet. It is the responsibility of the fixture manufacturer to test and validate the design and operation of the system under expected and potential use cases, including faults. |
| ⓘ | Please observe voltage drop over long cable lengths. Longer cable lengths increase EMI susceptibility. |
| ⓘ | Product renderings and dimensional drawings are generic for the housing type. Product label, connector type and quantity may vary. |