



75W 0-10V 'Dim to Dark' LED Driver

SOLOdrive

LED dimming made beautiful - SOLOdrive offers industry-best Natural Dimming to dark, with any dimmer, in any application. The SOLOdrive works seamlessly with LED modules, controls and intelligent luminaire elements.

Product offering



SOLOdrive 75L-M1M0A

|                     |                                                                                                  |
|---------------------|--------------------------------------------------------------------------------------------------|
| Part number (P/N)   | SL75L-M1M0A2                                                                                     |
| Product description | SOLOdrive, 75W, 0-10V, 1 control channel, constant current, 1x 55V output, side feed, long metal |

Features & benefits

|                      |                                                                                                                                                     |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Natural dimming      | Dim to dark, smooth brightness changes, excellent flicker performance, adaptable dimming curves, configurable minimum dimming level                 |
| LEDcode              | Configurable design to work with most constant current LED modules and arrays, while providing a connection point to integrated peripheral controls |
| Programmable         | Fine-tune your driver for any application                                                                                                           |
| Performance          | Universal input voltage range, low inrush current and total harmonic distortion (THD), high power factor and efficiency                             |
| Camera compatibility | Hybrid HydraDrive technology is proven to work in TV studios and security camera environments                                                       |

## Programming tools

|                                     |                                                                               |
|-------------------------------------|-------------------------------------------------------------------------------|
| Programming interface               | <a href="#">TOOLbox pro (TLU20504)</a>                                        |
| Programming cable set               | <a href="#">TOOLbox pro to LED driver, programming cable, 5pcs (TLC03051)</a> |
| Programming Hand-held, Touch-and-Go | <a href="#">PJ0035HH1</a>                                                     |
| Programming jig                     | <a href="#">PJ0750L1</a>                                                      |
| Programming software                | <a href="#">FluxTool</a>                                                      |

## Warranty

|                 |                                              |
|-----------------|----------------------------------------------|
| Warranty period | <a href="#">General Terms and Conditions</a> |
|-----------------|----------------------------------------------|

## Order number configurator

**SL75L-M1M0A2**

Part Number

**mA**  
LED Output  
Current

  
Dimming  
Curve

.
**min**  
Minimum Dimming  
Level

**v****aux**  
AUX  
voltage

  
AUX  
standby

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LED output current    | Enter value in 1mA increments, e.g. "811" for 811mA                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Dimming curve         | "LOG" for logarithmic (default)<br>"LIN" for linear<br>"SLN" for soft-linear<br>"SQU" for square                                                                                                                                                                                                                                                                                                                                                                    |
| Minimum dimming level | Leave blank for default minimum dimming level of 0.1%. Specify in 0.1% increments, e.g. "10.5" for 10.5%.                                                                                                                                                                                                                                                                                                                                                           |
| AUX voltage           | The AUX voltage is selectable in 1V increments between 4V and 16V and 2V increments between 16V and 24V.<br><br><b>If left blank, the default AUX voltage is 16V.</b>                                                                                                                                                                                                                                                                                               |
| AUX standby           | The AUX output can be either "ON" or "OFF" when the driver is in standby mode. If a peripheral device depends on the AUX for normal operation, even if the driver is in standby mode, this option should be set to "ON".<br>If AUX is not used to power any peripheral device, the AUX may be set to "OFF" during standby; this ensures that the total driver standby power is less than 0.5W.<br><br><b>If left blank, the default AUX standby option is "ON".</b> |

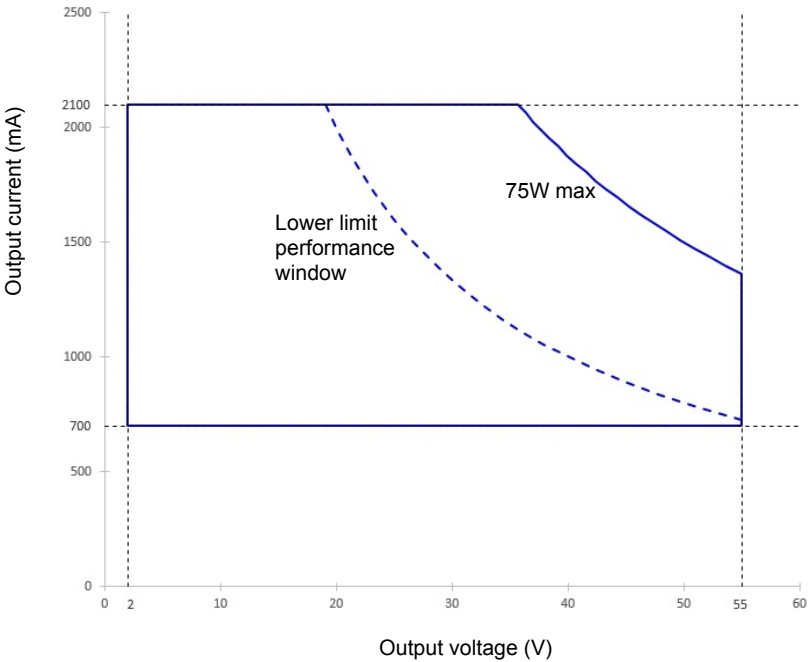
Input characteristics

|                              |                                          |
|------------------------------|------------------------------------------|
| Nominal input voltage range  | 120 - 250 VAC (ENEC), 120 - 277 VAC (UL) |
|                              | 120 - 250 VDC                            |
| Absolute input voltage range | 108 - 305 VAC                            |
| Input frequency range        | 50 - 60 Hz                               |
| Maximum input current        | 0.8A @ 120 VAC                           |
|                              | 0.4A @ 230 VAC                           |
|                              | 0.35 A @ 277 VAC                         |
| Efficiency at full load      | 85%                                      |
| Power factor at full load    | > 0.95                                   |
| THD at full load             | < 20%                                    |
| Maximum inrush current       | < 200mA²s @ 120 VAC                      |
|                              | < 200mA²s @ 230 VAC                      |
|                              | < 200mA²s @ 277 VAC                      |
| Surge protection             | 2kV differential mode (DM)               |
|                              | 2kV common mode (CM)                     |
| Maximum standby power        | 0.5W                                     |
|                              | If no load connected to the AUX output   |

Output characteristics

|                                       |                                                               |
|---------------------------------------|---------------------------------------------------------------|
| Maximum LED output power              | 75W                                                           |
| Number of LED outputs                 | 1                                                             |
|                                       | (UL Class 2)                                                  |
| Programmable LED output current range | 700 - 2100mA                                                  |
| LED output type                       | Programmable in 1mA increments within specified current range |
| LED output current tolerance          | +/- 5% at programmed LED output current                       |
| LED output voltage range              | 2 - 55V                                                       |
| Auxiliary output                      | 4V - 24V DC, 100mA maximum                                    |
| Auxiliary voltage settable?           | Yes                                                           |
| Auxiliary voltage resolution          | 1V (below 16V)                                                |
|                                       | 2V (above 16V)                                                |

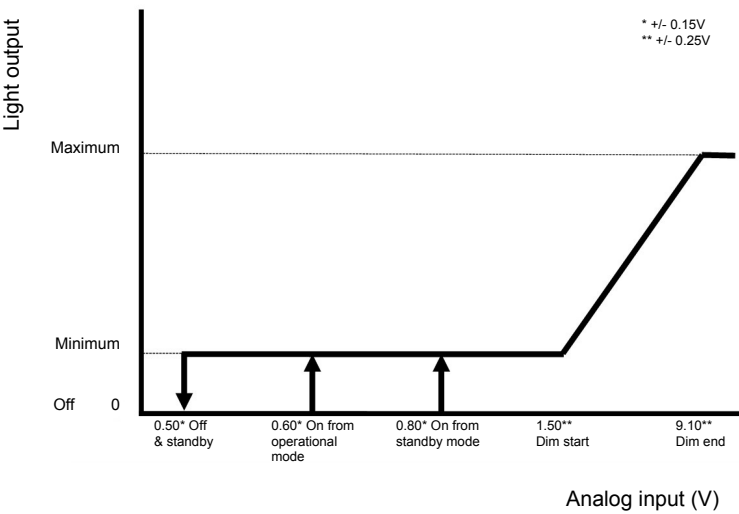
Operating window



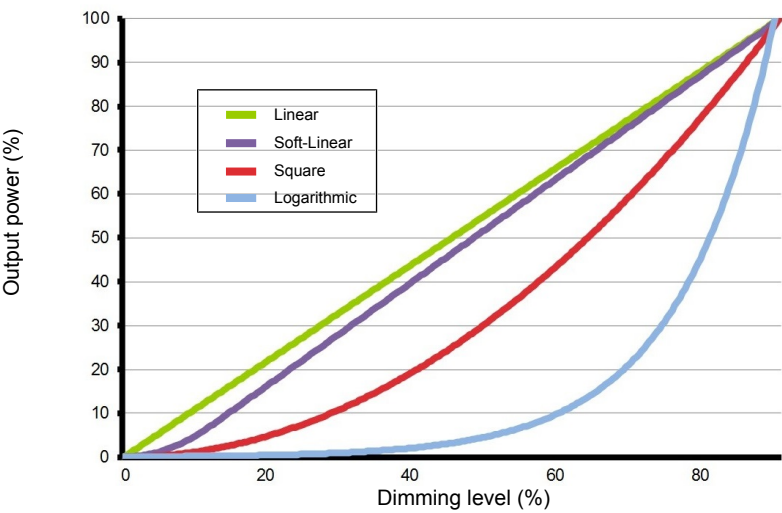
Control characteristics

|                       |                                                          |
|-----------------------|----------------------------------------------------------|
| Control channels      | 1                                                        |
| Control protocol      | 0-10V                                                    |
|                       | LEDcode                                                  |
| Dimming range         | 100% - 0.1%                                              |
| Dimming curve options | Logarithmic (default)<br>Linear<br>Soft-Linear<br>Square |
| Dimming method        | Hybrid HydraDrive                                        |
| 0-10V current draw    | 0.6mA                                                    |
| Time delay to standby | < 30s                                                    |

0-10V dimming chart



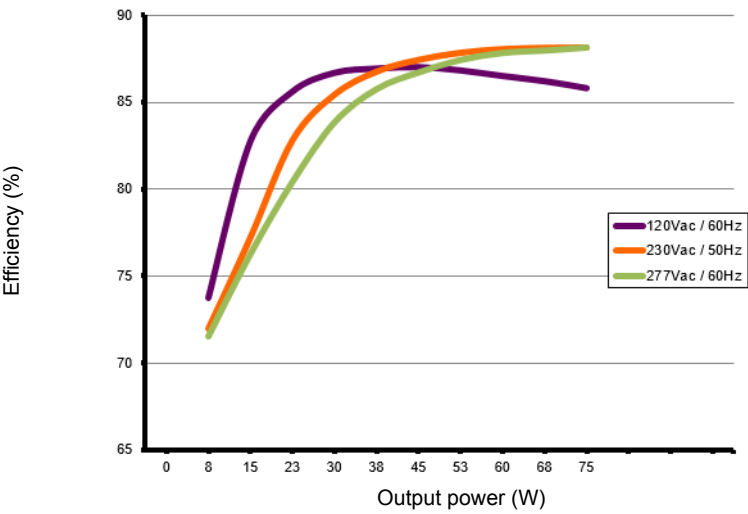
Dimming curves



Performance

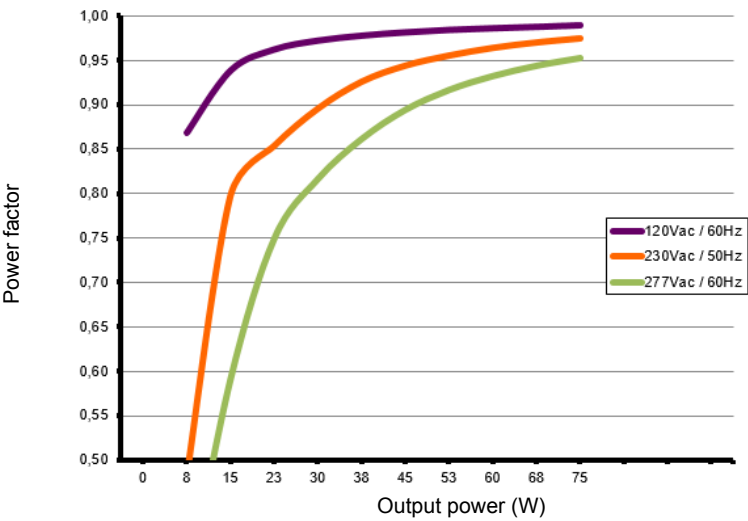
Typical efficiency vs load

Tested with a load of 11 LEDs in series, programmed for 2100mA and at 25 °C ambient temperature. The measurements below 75W were performed by dimming the light output.



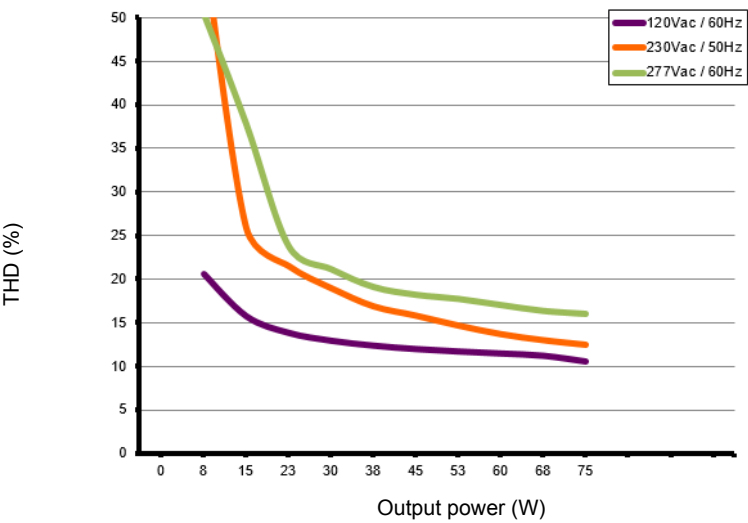
Typical power factor vs load

Tested with a load of 11 LEDs in series, programmed for 2100mA and at 25 °C ambient temperature. The measurements below 75W were performed by dimming the light output.



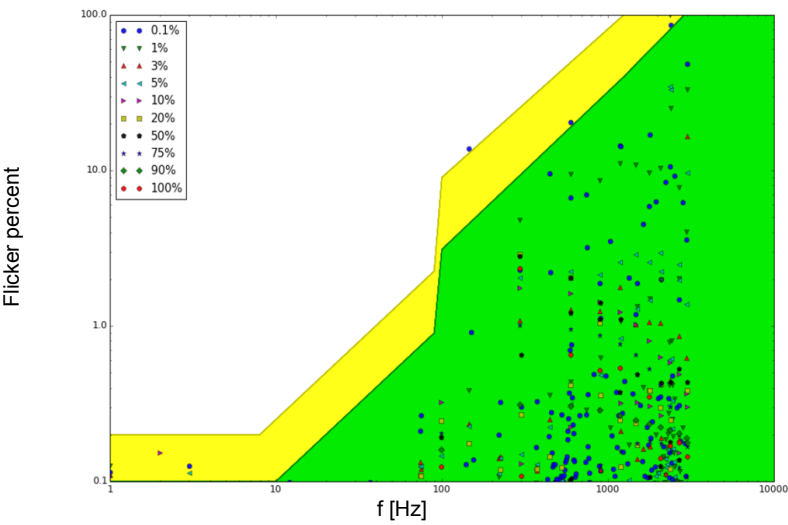
Typical THD vs load

Tested with a load of 11 LEDs in series, programmed for 2100mA and at 25 °C ambient temperature. The measurements below 75W were performed by dimming the light output.



Typical flicker performance

Typical flicker percent as a function of frequency, measured across the dimming range. The results are overlaid with the low-risk (yellow) and no observable effect (green) levels as defined in IEEE P1789.



Environmental conditions

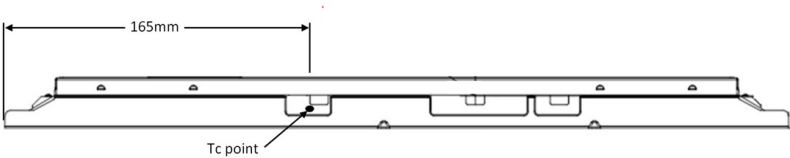
Operating ambient temperature (Ta) range                    -20 °C to +50 °C

Maximum operating case temperature (Tc max)                85 °C

Acoustic noise – steady state                                        <24dBA (Class A)

Lifetime                                                                        50,000 hours at a maximum case temperature (Tc) of 85 °C

Tc point location



## LED driver protection

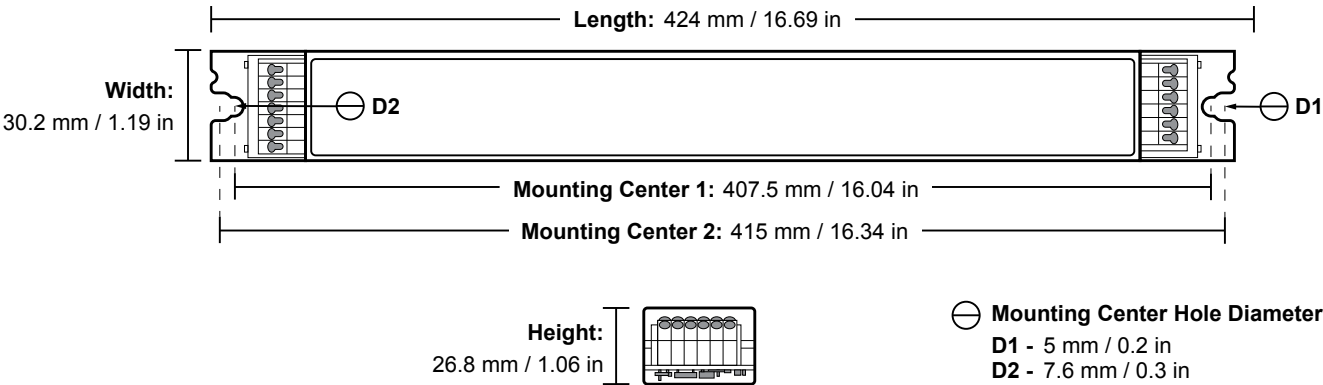
|                          |                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Thermal                  | The LED output current is automatically decreased whenever the internal driver temperature exceeds a factory preset temperature. The LED output current is increased once the internal driver temperature drops below the preset temperature threshold. If the internal driver temperature continues to increase, despite a decrease in output current, the LED driver will eventually 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 open circuit  | The LED output is turned off whenever the LED driver detects an open circuit. The LED driver will attempt a restart every 400ms after an open circuit is detected.                                                                                                                                                                                                                                |
| LED output overload      | The driver monitors the LED output load. Whenever the output load exceeds the maximum output power rating of the LED driver, the output current is sequentially scaled down until the cumulative load drops below the maximum output power rating of the LED driver.                                                                                                                              |
| 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                                                                                                                                                                                                                                                                                            |



LED driver mechanical details



|                 |                     |
|-----------------|---------------------|
| Weight          | 385 g               |
| Mounting torque | Not to exceed 0.5Nm |

3D Mechanical files for this product are available on the eldoLED website.

Packaging

|                             |                                     |
|-----------------------------|-------------------------------------|
| Length x Width x Height     | 457 x 381 x 178 mm / 18 x 15 x 7 in |
| Weight (including products) | 21.3 kg                             |
| Products per box            | 50 pcs                              |

Connector layout



Input wiring specifications

|                               |                            |
|-------------------------------|----------------------------|
| Connector type                | push-in terminals          |
| Connector supplier and series | Wago 250 series            |
| Wire type                     | solid copper               |
| Wire core cross section       | 0.5 - 1.5mm² / AWG 20 – 16 |
| Wire strip length             | 9.0mm (11/32in)            |

Output wiring specifications

|                                              |                                                                                                                                                                                   |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connector type                               | push-in terminals                                                                                                                                                                 |
| Connector supplier and series                | Wago 250 series                                                                                                                                                                   |
| Wire type                                    | solid copper                                                                                                                                                                      |
| Wire core cross section                      | 0.5 - 1.5mm² / AWG 20 – 16                                                                                                                                                        |
| Wire strip length                            | 9.0mm (11/32in)                                                                                                                                                                   |
| Maximum remote mounting distance of LED load | AWG 20 (0.52 mm²) - 14 m / 46 ft<br>AWG 19 (0.65 mm²) - 18 m / 59 ft<br>AWG 18 (0.82 mm²) - 22 m / 72 ft<br>AWG 17 (1.04 mm²) - 28 m / 92 ft<br>AWG 16 (1.31 mm²) - 36 m / 118 ft |

## Standards and compliance

|                                              |                                                                                                                                                                                                                                                                                             |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UL Listed, Class P                           | 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<br><br>FCC title 47 CFR part 15 class B                                                                                                                                                                                                                                            |
| Radiated emissions                           | EN 55015<br><br>FCC title 47 CFR part 15 class B                                                                                                                                                                                                                                            |
| Radio disturbance characteristics            | EN 55022                                                                                                                                                                                                                                                                                    |
| Harmonic current emissions                   | EN 61000-3-2                                                                                                                                                                                                                                                                                |
| Electrostatic discharge                      | EN 61000-4-2                                                                                                                                                                                                                                                                                |
| RFE field susceptibility                     | EN 61000-4-3                                                                                                                                                                                                                                                                                |
| Electrical fast transient                    | EN 61000-4-4                                                                                                                                                                                                                                                                                |
| Surge immunity                               | EN 61000-4-5                                                                                                                                                                                                                                                                                |
| Conducted radio frequency                    | EN 61000-4-6                                                                                                                                                                                                                                                                                |
| Voltage dips                                 | EN 61000-4-11                                                                                                                                                                                                                                                                               |
| Electromagnetic immunity                     | EN 61547                                                                                                                                                                                                                                                                                    |
| ECOdesign 2019/2020: Controlgear + luminaire | Flicker for LED: Pst LM $\leq$ 1.0 at full-load<br>Stroboscopic effect for LED: SVM $\leq$ 0.4 at full load                                                                                                                                                                                 |
| 0-10V                                        | IEC/EN 60929 annex E<br>NOTE: From 0.6V to 10V eldoLED LED drivers comply with IEC/EN 60929 annex E. Below 0.6V eldoLED LED drivers comply with ABL 0-10V Design Spec v1.2 enabling standby mode. For detailed dimming characteristics see 0-10V response chart in Control Characteristics. |
| Surge protection                             | ANSI 62.41 1991 category B1: 2.5kV DM, 2.5kV CM @ 30 Ohm<br><br>0-10V input: 0.5 kV DM, 1 kV CM surge                                                                                                                                                                                       |
| Restriction of hazardous substances          | RoHS3 (Directives 2011/65/EU-2015/863/EU)                                                                                                                                                                                                                                                   |
| SVHC-list substances                         | REACH Art.33                                                                                                                                                                                                                                                                                |

Certifications



Safety

|  |                                                                                                                                                                                                                                                                                                                                                                                                             |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Risk of electrical shock. May result in serious injury or death. Disconnect power before servicing or installing.                                                                                                                                                                                                                                                                                           |
|  | <p>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.</p> <p>Pay attention when connecting the LEDs: polarity reversal results in no light output and often damages the LEDs.</p> |
|  | 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.                                                                                                                                                                                                                                                                          |

Europe, Rest of World

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