Light
is our **passion**

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

SOLOdrive

SOLOdrive offers industry-best Natural Dimming to dark - LED dimming made beautiful! With any dimmer, in any application. Symbiosis on SOLOdrive stands for unity, for the SOLOdrive working seamlessly together with LED modules, controls and intelligent luminaire elements.

Product offering

SOLOdrive 766/LHC

Part number (P/N)	SL0766L2
Product description	SOLOdrive AC, 75W, 0-10V + AUX, 1 control channel, constant current, 1x 55V output, side feed, long metal

Features & benefits

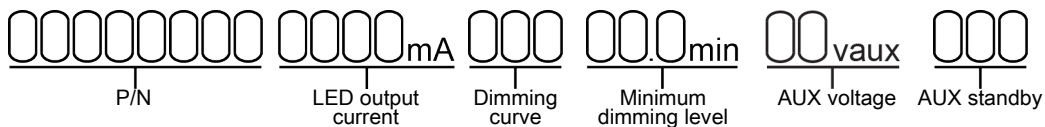|	
Natural dimming	Dim to dark, smooth brightness changes, excellent flicker performance, adaptable dimming curves, configurable minimum dimming level
Symbiosis	Seamless interoperability with LED modules, controls and in-luminaire intelligent devices
LEDcode	Configurable design to work with most constant 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

*Acuity*Brands®

Programming tools

Programming interface	TOOLbox pro (TLU20504)
Programming cable set	TOOLbox pro to LED driver, programming cable, 5pcs (TLC03051)
Programming Hand-held, Touch-and-Go	PJ0035HH1
Programming jig	PJ0750L1
Programming software	FluxTool

Warranty

Warranty period	General Terms and Conditions

Order number configurator

P/N   LED output current   Dimming curve   Minimum dimming level   AUX voltage   AUX standby

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P/N	LED driver part number.
LED output current	Enter value in 1mA increments, e.g. "811" for 811mA
Dimming curve	"LOG" for logarithmic (default) "LIN" for linear "SLN" for soft-linear "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. **If left blank, the default AUX voltage is 16V.**
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 shall be set to "ON". 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. **If left blank, the default AUX standby option is "ON".**

Input characteristics

Nominal input voltage range AC	120 - 277V (UL)
Absolute input voltage range AC	108 - 305V
Nominal input voltage range DC	120 - 250V
Maximum input current	0.8A @ 120V / 60Hz
	0.4A @ 230V / 50Hz
	0.35A @ 277V / 60Hz
Input frequency range	50 - 60Hz
Efficiency at full load	85%
Power factor at full load	> 0.95
THD at full load	< 15%
Maximum inrush current	< 200mA²s @ 120V / 60Hz
	< 200mA²s @ 230V / 50Hz
	< 200mA²s @ 277V / 60Hz
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

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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	4 - 24V DC, 100mA max
Auxiliary voltage settable?	Yes
Auxiliary voltage resolution	1V (below 16V)
	2V (above 16V)

Operating window
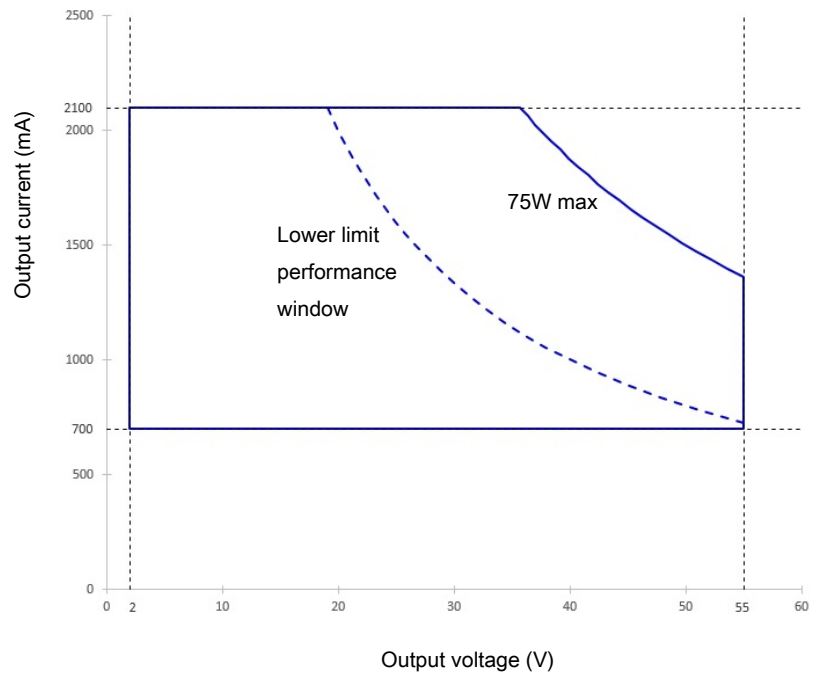
Control characteristics

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

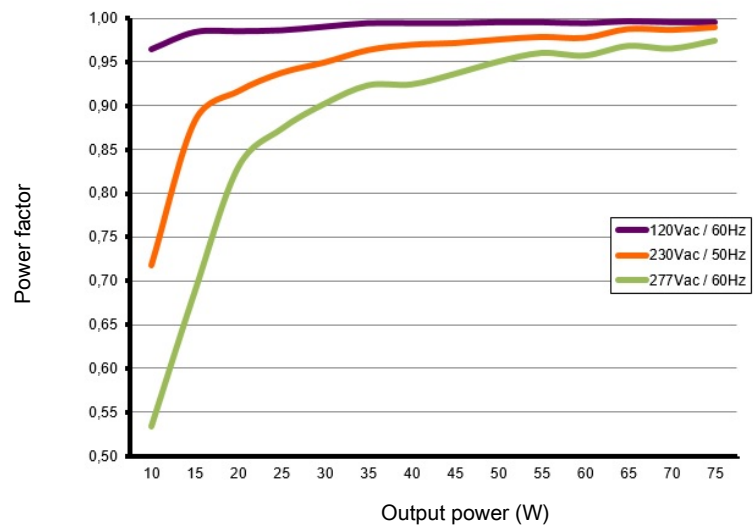0-10V dimming chart
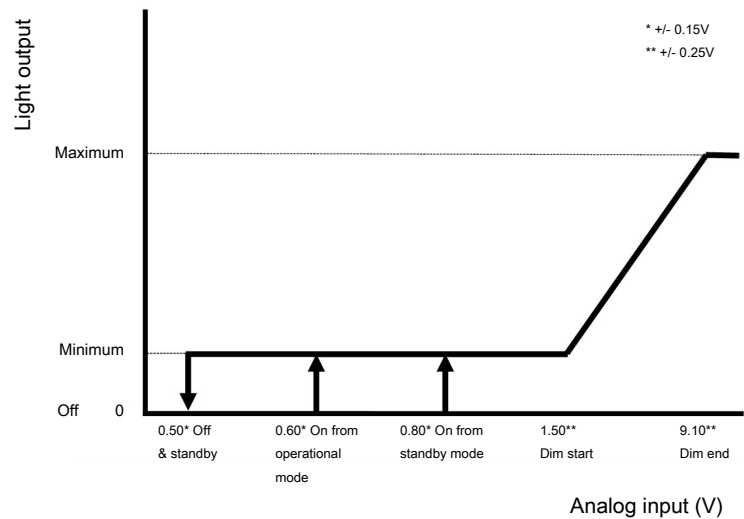
Dimming curves
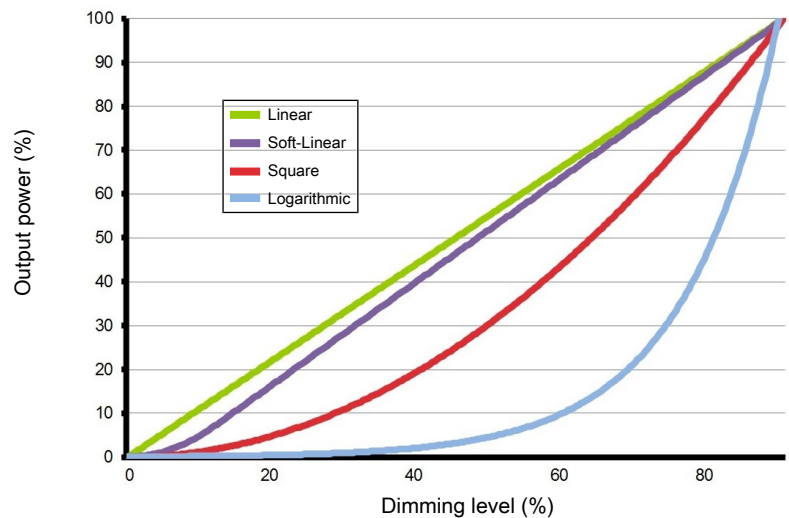
Performance

Typical efficiency vs load

Tested with a load of 12 LEDs in series, programmed for 2100mA and at 25 ºC ambient temperature. The measurements below 75W were performed by dimming the light output.
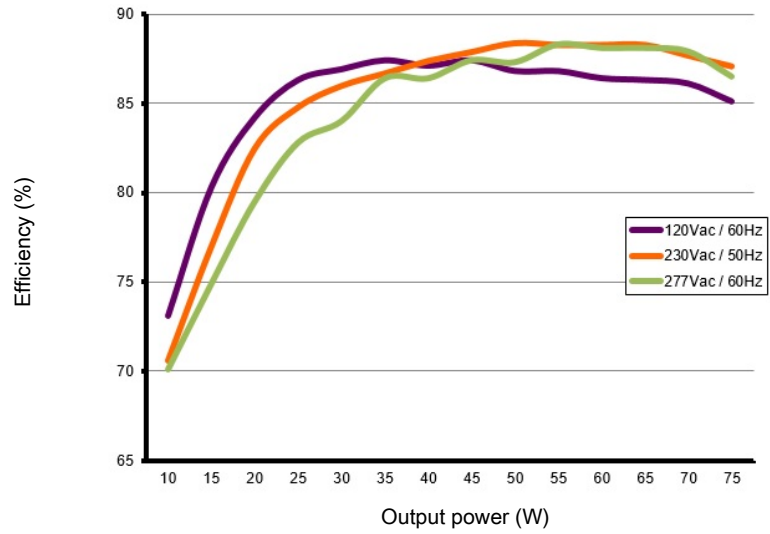
Typical power factor vs load

Tested with a load of 12 LEDs in series, programmed for 2100mA and at 25 ºC ambient temperature. The measurements below 75W were performed by dimming the light output.
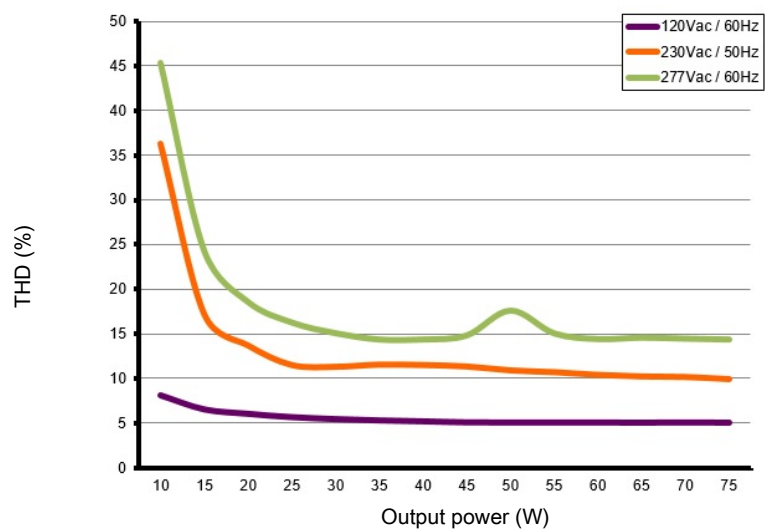

Typical THD vs load

Tested with a load of 12 LEDs in series, programmed for 2100mA and at 25 ºC ambient temperature. The measurements below 75W were performed by dimming the light output.
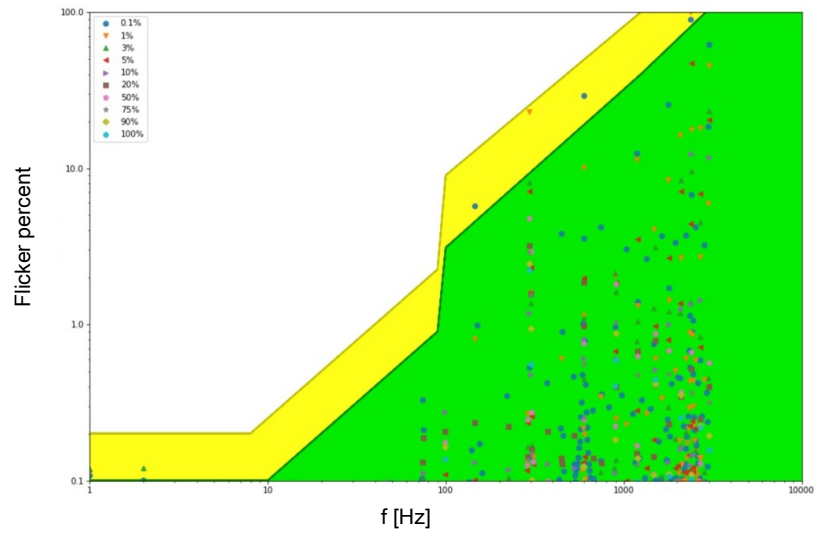
Typical flicker performance

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

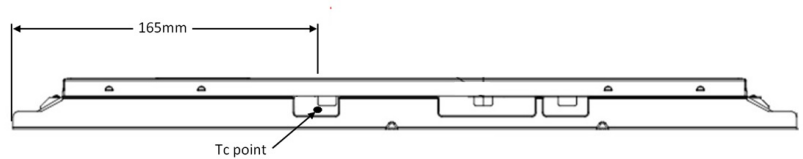|	
Operating ambient temperature (Ta) range	-20 ºC to +50 ºC
Maximum operating case temperature (Tc max)	87 ºC
Acoustic noise – steady state	<24dBA (Class A)
Lifetime	50000 hours at a maximum case temperature (Tc) of 84 ºC
UL Type TL	Measured Tref: 71 °C Maximum allowed Tref: 87 °C Measured at 2100mA
TC point location	

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 screw: Vishay, P/N NTCASCWE3473J

eldoLED
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## LED driver mechanical details
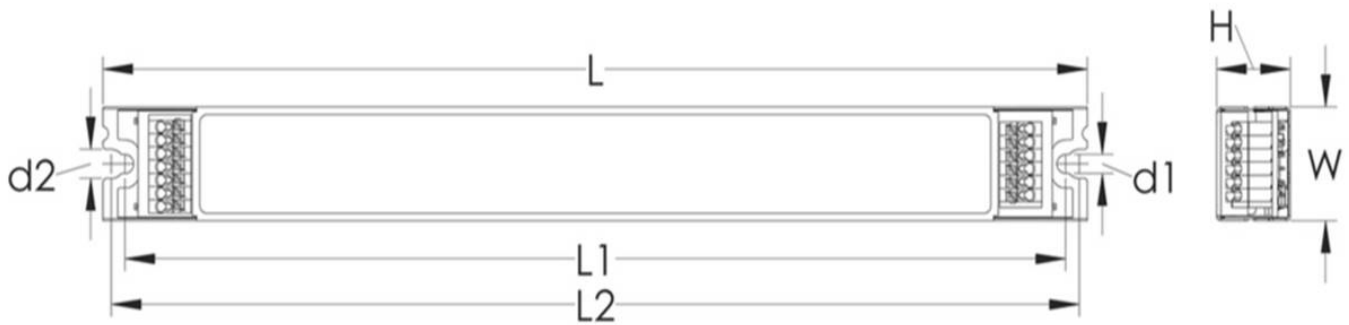
Length (L)	typical: 424.0 mm / 16.69 in
	maximum: 424.5 mm / 16.71 in
Width (W)	typical: 30.2 mm / 1.19 in
	maximum: 30.7 mm / 1.21 in
Height (H)	typical: 26.8 mm / 1.06 in
	maximum: 27.8 mm / 1.09 in
Mounting hole diameter (d1)	5.0 mm / 0.2 in
	tolerance: 0.5 mm / 0.02 inch
Mounting hole diameter (d2)	7.6 mm / 0.3 in
	tolerance: 0.5 mm / 0.02 inch
Center to center mounting hole distance (L1)	407.5 mm / 16.04 in
	tolerance: 0.5 mm / 0.02 inch
Center to center mounting hole distance (L2)	415.0 mm / 16.34 in
	tolerance: 0.5 mm / 0.02 inch
3D files available on product web page	IGS
	STEP
Weight	385 g
Mounting torque	Not to exceed 0.5Nm

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

N — LED output +
L — LED output -
⏚ — LEDcode/NTC +
0-10V + — LEDcode/NTC -
0-10V - — AUX +
— AUX -
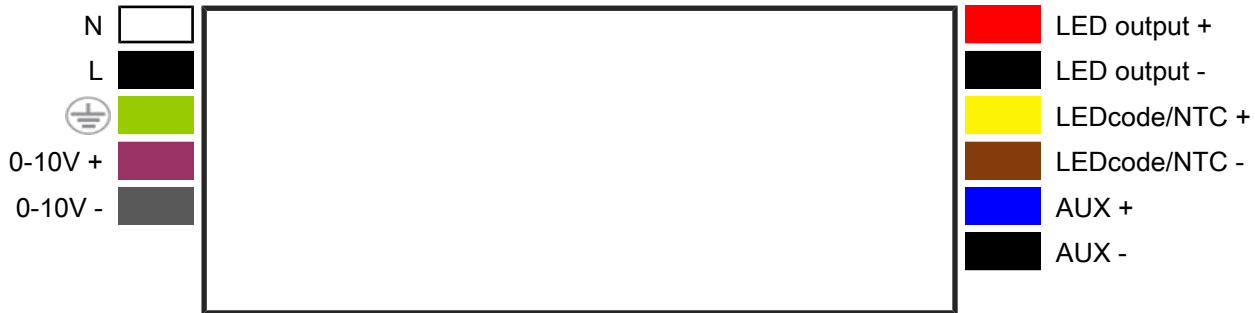
Input wiring specifications

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

Output wiring specifications

Connector type	push-in terminals
Connector supplier and series	Wago 250 series
Wire type	solid copper
Wire core cross section	AUX: 0.2 - 0.5 mm² AWG 24 – 20, others: 0.5 - 1.5 mm² AWG 20 – 16
Wire strip length	9.0 mm
Maximum remote mounting distance of LED load	AWG 20 (0.52 mm²) - 14 m / 46 ft AWG 19 (0.65 mm²) - 18 m / 59 ft AWG 18 (0.82 mm²) - 22 m / 72 ft AWG 17 (1.04 mm²) - 28 m / 92 ft AWG 16 (1.31 mm²) - 36 m / 118 ft

Standards and compliance

UL, recognized component	UL 1310 UL 8750 (Class 2 output). Type TL LED driver.
Conducted emissions	FCC title 47 part 15 class B
Radiated emissions	FCC title 47 part 15 class B
0-10V	IEC/EN 60929 annex E 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	IEC 61000-4-5 level 3: 2kV DM, 2kV CM @ 2 Ohm - ANSI 62.41 1991 category B1: 2.5kV DM, 2.5kV CM @ 30 Ohm 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

E333135

Safety

⚡	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.