

Constant current LEDs are to be wired in <u>SERIES</u> and require a <u>MINIMUM</u> and maximum number of fixtures connected to a driver as indicated on the following page.

POWERING or TESTING less than the MINIMUM number of fixtures per driver OR connecting fixtures with the driver live OR wiring them in parallel will IMMEDIATELY and PERMANENTLY DESTROY the LEDs.

Carefully read instructions prior to installation and testing.



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Constant Current drivers

Wiring Key Points

- 1. This product shall be installed by a qualified electrician.
- 2. Make sure the main power supply to the driver is turned off when wiring either the LEDs or driver.
- 3. LEDs shall be wired in series as shown in wiring diagram. CAUTION: parallel wiring will damage LEDs.
- 4. Wire shall be 18 awg stranded minimum. Large gauge wire shall be used to limit voltage drop in order to maintain the proper operating voltage. Take every precaution to avoid interferance from other electrical circuits and equipment.
- 5. Dimming circuits are more sensitive to voltage drop and electrical interference from other electrical sources.
- 6. Isolating LED wiring by dedicated circuit for each control zone is recommended.
- 7. Contractor shall verify the fixture quantities connected to the driver are compatible with the driver's specifications prior to energizing the circuit.
- 8. All Class II power cable remote wiring and driver enclosures by others.

LED's can be permanently damaged if these points are not followed



Please note: Dimming/control wiring not shown in the diagram above. A relay or Powerpack may be required. Running separate line side (line voltage) and controls (low voltage) leads may be required. Refer to the NEC, your local jurisdiction and the 0-10V

considerations on how to wire the 0-10V control leads.

dimmer or dimming system manufacturer you are planning on using for additional

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Project:	Туре:	Date:
Manufacturer:	Fixture:	Page:



Maximum Wiring Distance Guide*

Wire Gauge	Maximum Lead Length
18	72 ft (22 m)
16	118 ft (36 m)
14	150 ft (46 m)
12	200 ft (61 m)

*Actual distance must be calculated by installer. Must comply with NEC code.

Our drivers are programmed to Linear dimming curve by default. Compatible/Recommended dimmers and interfaces*:

- Lutron Diva DVSTV (Wallbox dimmer)
- Lutron Nova T NTSTV (Wallbox dimmer)
- Lutron Maestro MS-Z101/MS-Z101-V (Wallbox dimmer/sensor)
- Lutron PowPak 0-10V RMJ-5T-DV-B (Energi Tripak)
- Lutron GRX-TVI (0-10V interface for Grafik QS and some commercial dimming panels)
- Lutron TVI-LMF-2A (EcoSystem to 0-10V interface)
- Lutron QSN-4T16-S (Energi Savr Node 0-10V)
- Lutron TVM2 module (HomeWorks and commercial dimming panels)

*Consult factory for any dimmer not listed above or if programming to a logarithmic dimming curve is required before ordering the drivers.





50W 0-10V/DALI LED Drivers with Smooth 1% Dimming

Input characteristics

Input voltage AC	120-250V (ENEC approved)
Input voltage DC	120-250V
Input current	0.7A max
Input frequency	50-60Hz
Efficiency	89% @ full load, ≥85% above 67% load
Power factor	>0.9
THD	<20%
Inrush current	negligible: 30mA ² s @ 277V
Surge protection	1kV differential mode surge
	2kV common mode surge
Standby power	<0.5W

Output characteristics

LED output power	50W max
LED output current range	200-1,050mA (settable)
LED output current resolution	25mA
LED output current tolerance	+/- 5%
LED outputs	1 (UL Class 2)
LED output voltage range	2-55V
Control channels	1

Control characteristics

Dimming protocol	DALI (560) or 0-10V (561)
Dimming range	100%-1% (Hybrid HydraDrive)
Dimming curve	linear or logarithmic
Driver configuration	with TOOLbox pro and FluxTool software
0-10V isolation	to line voltage input: 1500V (561) to LED output: 3750V (561)
0-10V current draw	<2mA (561)

Protection

LED output short	yes
Overload	yes
Reverse polarity	yes, for LED output
Restart after protection	yes

Product offering



P/N: EC0560A1

ECOdrive 560/A

ECOdrive AC, 50W, DALI, constant current, 1x 55V output, side feed, square metal/plastic

ECOdrive 561/A

P/N: EC0561A1 ECOdrive AC, 50W, 0-10V, constant current, 1x 55V output, side feed, square metal/plastic



ECOdrive 561/M

P/N: EC0561M1 ECOdrive AC, 50W, 0-10V, constant current, 1x 55V output, flying leads, long metal



P/N: EC0561S1

ECOdrive 560/S

P/N: EC0560S1 ECOdrive AC, 50W, DALI, constant current, 1x 55V output, side feed, square metal

ECOdrive 561/S

ECOdrive AC, 50W, 0-10V, constant current, 1x 55V output, side feed, square metal

Order number configuration





eldol your product | our drive

Datasheet **ECOdrive 50W**

Dimensions, weight and packaging

ECOdrive 560/A, 561/A	
LxWxH	152.5x76x30.1mm / 6x2.99x1.19in
Weight	372 g / 13.12 oz
Drivers per carton	6 or 45 pcs

ECOdrive 561/M

LxWxH	240x42x30mm / 9.45x1.65x1.18in
Weight	400 g / 14.1 oz
Drivers per carton	40 pcs

ECOdrive 560/S, 561/S

LxWxH	130x76x30mm / 5.12x2.99x1.18in
Weight	350 g / 12.35 oz
Drivers per carton	6, 10 or 45 pcs

Standards and certifications

Standards compliance

EN	61347-1 / -2-7 / -2-13, 62384, 55015, 55022, 61000-3-2, 61547 62386-101/102/207 (560)
FCC	47 CFR Part 15 class B
RoHS	RoHS2

Certifications CE KEMA EL Remarks 561/M: UL only UL Recognized Component for US and Canada (file no. E333135), according to UL1310 and UL8750. US/Canada: Class 2 output.

Wiring Specifications

Wire type 561/M	AWG 22 stranded (LEDcode) AWG 18 solid (other wires)
Wire type 56*/A, 56*/S	AWG 20-16, solid/stranded copper
Wire length 561/M	Line in: 453mm 0-10V: 663mm LED output, LEDcode: 150mm
Wire length 56*/A, 56*/S	n.a.
Wire strip length 561/M	12.7mm / 0.5in
Wire strip length 56*/A, 56*/S	9mm / 0.35in

Thermal protection

External NTC thermistor	throttling @ 70 °C / 158 °F (settable)
External thermistor value	47kΩ
Recommended thermistors	NTCS0805E4473JXT (SMD) 238164063473 (leaded)
	NTCASCWE3473J (screw)

Wiring diagrams



Thermal specification

Ta operating range	-20 °C +50 °C / -4 °F +122 °F
Tc max safety	85 °C / 185 °F (56*/A,56*/S) 75 °C / 167 °F (561/M)
Tc max lifetime	78 °C / 172.4 °F (56*/A, 56*/S) 75 °C / 167 °F (561/M)

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