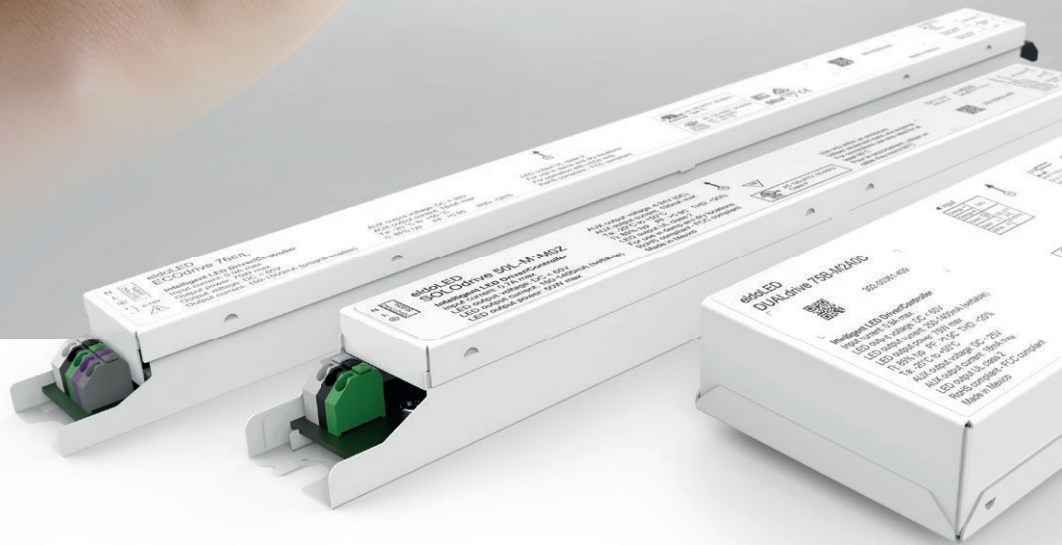
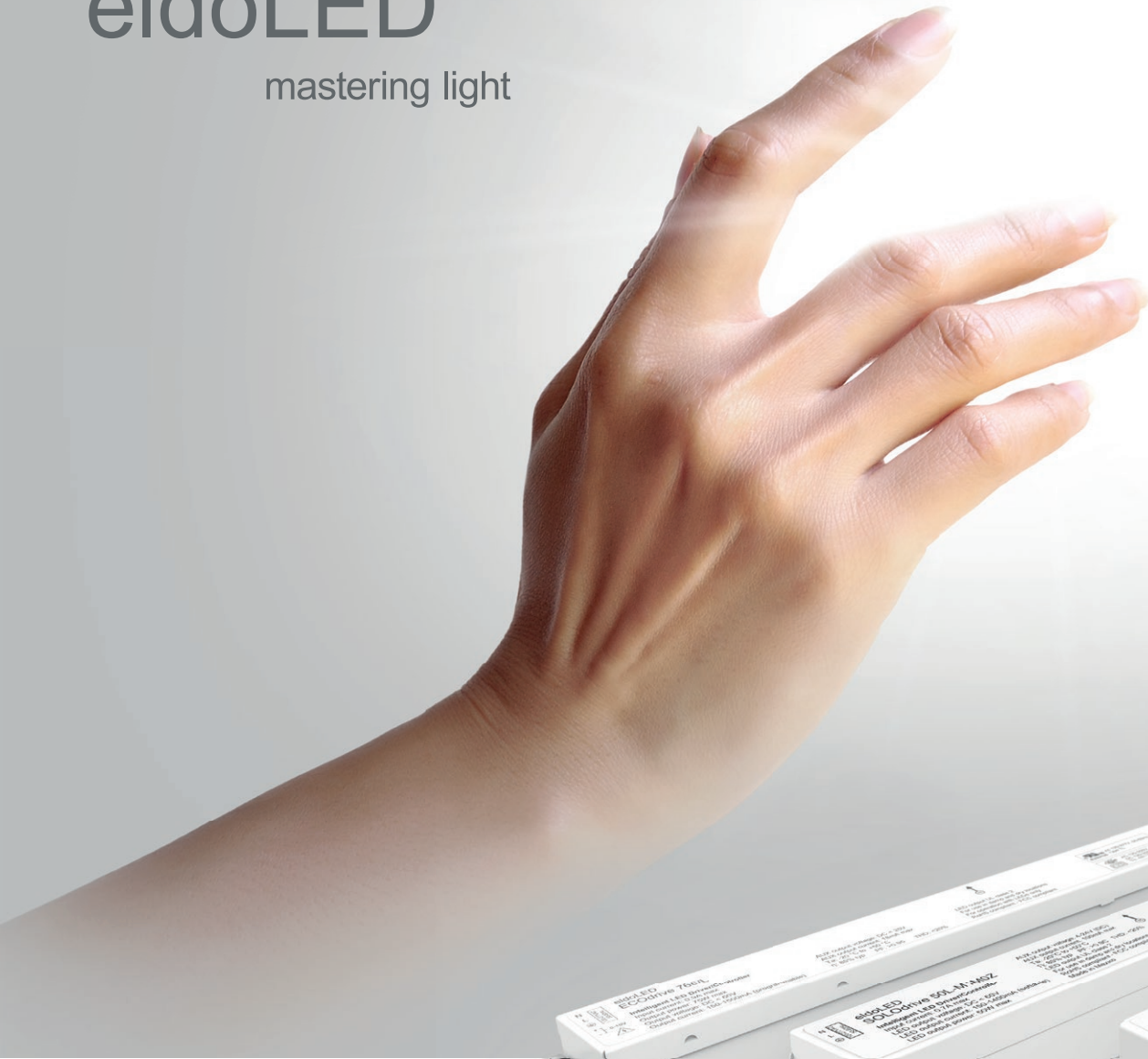


eldoLED  
mastering light



# LED Driver Selection Guide

Global edition



Photo: Holland Light Company





## Introduction

By setting standards for dimming, flicker, and enabling quality light, eldoLED drivers play an essential role in the transformation of lighting.

Our aim is to reduce complexity, ensure reliability, and facilitate beautifully lit spaces. We achieve this by innovating, in order to create the future of human centric lighting and spectrum management.

eldoLED's digital driver technology makes it possible to seamlessly integrate components - from source to lens or sensor - across a room, building, or site. Regardless of protocol or control system.

Our drivers, featuring two-way communications, are a reliable constant in the design of any solution and key to creating attractive, healthful lighting.

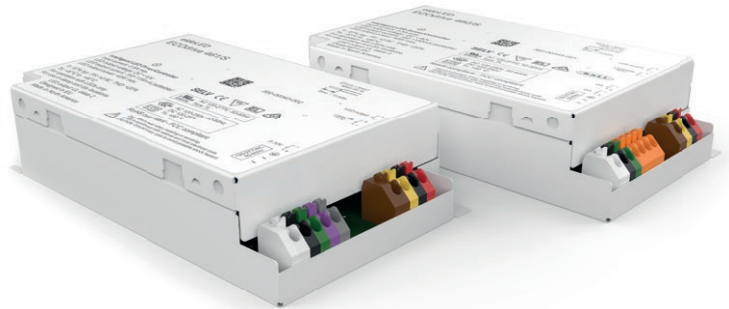
This selection guide presents an overview of our product portfolio. You will find descriptions of each driver family and a matrix to help find the right eldoLED driver for your application.

# ECODrive

## Value delivered

**Premium performance for general lighting. Smooth and flicker-free dimming down to 1% with programmable current setting.**

- Natural dimming – Dim to 1%
- Constant current
- DALI-2 or 0-10V controls
- LEDcode for in-luminaire intelligence
- Power levels from 10W to 100W
- For indoor applications



# SOLOdrive

## LED dimming made beautiful

**The smoothest dimming all the way to dark. With any controller, in any application. What's more, LightShape allows you to tailor the dimming curve to perfectly match your lighting application.**

- Natural dimming – Dim to Dark (0.1%)
- Constant current
- DALI-2 or 0-10V controls, single channel
- LightShape for Dim to Warm applications
- LEDcode for in-luminaire intelligence
- Power levels from 10W to 100W
- For indoor applications



# DUALdrive

## Every shade of white

**Designed for dynamic and Tunable White LED lighting. DUALdrive excels in configurability, deep dimming, and two-way digital control.**

- Natural dimming – Dim to Dark (0.1%)
- Constant current
- DALI-2 controls, dual channel
- LightShape for Tunable White applications
- LEDcode for in-luminaire intelligence
- Power levels from 20W to 120W
- For indoor applications





# POWERdrive

## Beyond color

Achieve more than the right color and the smoothest fade. POWERdrive is DMX and DALI compatible. In addition, it allows you to create your color or dynamic show without an external controller. POWERdrive's dynamic response allows you to fine-tune your application like no other driver!

- Natural dimming – Dim to Dark (0.1%)
- Constant current
- DMX / RDM or DALI controls
- Designed for 3 or 4-channel, RGBW
- Application-specific dynamic response
- Power levels from 50W to 100W
- For indoor applications



# LINEARdrive

## Infinite color control

All the color you will ever need for low-voltage LED applications. LINEARdrive products cover applications from single colors for accent and cove lighting right up to RGBW for full-color entertainment product solutions. All industry control protocols are covered: DALI, DMX/ RDM and 0-10V – you'll not run out of control options with LINEARdrive!

- Natural dimming – Dim to Dark (0.1%)
- Constant voltage
- DALI-2, DMX / RDM or 0-10V controls
- Designed for 12V or 24V LED tape lighting
- Application-specific dynamic response
- Power levels up to 720W
- For indoor applications
- LightShape for Dim to Warm or Tunable White applications



# Standards & certifications

eldoLED LED drivers are high quality products that comply with regional and global industry standards. Below is an overview of the industry standards and concepts with which eldoLED is compliant.



## BIS (India)

Safety certification for India.

The figure at the bottom of the label indicates the number of the certificate.



## ENEC (Europe)

The ENEC European safety certification and defines requirements for preventing electrical shock and fire.

There are two categories:

- A standard ENEC label indicates that the LED driver has passed the standard ENEC safety test with AC mains voltage. The standard reference is EN61347-1. The digits in the label ('05') are the lab identification number.
- An EL label indicates that the driver has also passed the test with DC mains voltage for emergency lighting. The standard reference is EN-61347-2-13.



## PSE (Japan)

PSE is the safety standard for Japan. PSE certified products have this label.



## RCM (Australia/NZ)

RCM is a certification for New Zealand and Australia. This consists of basic ENEC certification with additional testing for RCM. The standard references are SAA 61347.1 and SAA 61347.2.13.

There are two RCM labels:

- The standard RCM label
- The label for independent drivers



The LED driver is a standalone driver and should not be covered with isolation material.



## TISI (Thailand)

TISI is the safety standard for Thailand. The digits below the label are the certificate number.



## UL (North-America)

UL is a North American safety standard that defines requirements for preventing electrical shock and fire from LED drivers.

There are three categories:

- UL recognized. This is the basic UL certification.  
The LED driver is a UL recognized component and only intended for use in other end-use products.  
The standard references are UL8750 and UL1310.  
In the label, 'C' is for Canada and 'US' for United States of America.  
The code 'E333135' at the bottom is the company identification number for eldoLED.
- UL recognized, type TL  
The LED driver is a UL recognized component. In addition to standard UL certification, the LED driver has been tested and Tref and TrefMax value.
- UL listed, Class-P  
The LED driver is a UL listed product that can be used as end-use product.  
In addition to standard UL certification, the LED driver has been tested on temperature protection.



# Product selector

On the next pages, you will find an overview of eldoLED's driver portfolio with a variety of options. You can easily select the most suitable product based on the most critical elements of an LED driver:

- driver family
- output power
- controls type
- constant current vs. constant voltage
- form factor

## **LEDcode2**

### **LEDcode2**

The ECOdrive, SOLOdrive and DUALdrive families support LEDcode2.

Several products exclusively support LEDcode2 and do not support any other control type. These products can be used in combination with any LEDcode2 peripheral such as a Bluetooth radio, and are marked with a blue dot in the product overview.



### **Wireless solution with Bluetooth radio**

Wireless lighting with eldoLED is easy with our Bluetooth Low Energy (BLE) radios. eldoLED's BLE radios feature a LEDcode2 connection and are compatible with our DALI and LEDcode2-only drivers. Lighting control is easily managed using an SDK mobile application from Casambi or Atrius.

Application configurations include::

- Through-ceiling installation with integrated antenna
- In luminaire installations with integrated or external antenna

For more information, please visit <http://eldoLED.com/wireless>.



*A driver with Bluetooth radio (Casambi or Atrius ready)*





































































































### **LightShape**





Our LightShape technology takes the complexity out of dynamic white lighting and allows you to create intuitive Tunable White and Dim to Warm lighting applications with standard controls, drivers and LED modules. In the product overview, you can see products that include LightShape technology for either Dim to Warm or Tunable White applications.

For more information on LightShape, please visit [www.eldoled.com/lightshape](http://www.eldoled.com/lightshape).

# ENEC certified LED drivers

		Constant current									
		ECOdrive					SOLOdrive				
Form factor		A	M	L	S	U	A	M	L	S	U
Output power	10W				 					 	
	20W	   	   		 	  	   	   		 	  
	30W	   		   	 	  	   	   	 	 	  
	45W										
	50W	 		  	 	  	 		  	 	  
	75W			  					  		
	90W										
	100W		  		  		 	  		  	
	120W										
	180W										
	200W										
	600W										
	720W										

-  0 - 10V
-  DMX
-  LEDcode2 only

-  DALI version-1
-  DALI-2 Device Type 6 (DT6)
-  DALI-2 Device Type 8 (DT8)
-  PulseDimming



											Constant voltage		
DUALdrive					POWERdrive					LINEARdrive			
A	M	L	S	U	A	M	R	S	U	A	M	S	
6 8	6 8			6 8									
				6 8									
					● ●								
6 8		6 8	6 8	6 8	●			●	●				
		6 8											
					● ●								
●	6 8		6 8		● ●	● ●		● ●	●	● ●		● ● ●	
	●												
					● ●					●			
										● ● ●			
							● ●						
										● ●			

□ DC powered product (needs a separate power supply)

■ LightShape: for Tunable White applications

■ LightShape: for Dim to Warm applications

# UL listed, Class P certified LED drivers

Constant current										
POWERdrive					SOLOdrive					
Form factor	B	L	S	U	B	L	S	U		
Output power	20W				 				 	
	30W	 	 	 	 	 	 	 		
	50W		 	 		 		 		
	75W									
	100W									
	600W									














































































































































- 0 - 10V
 DMX
 LEDcode2 only
- DALI version-1
 DALI-2 Device Type 6 (DT6)
 DALI-2 Device Type 8 (DT8)
 PulseDimming
- CA Title 24 compliant (start-up time)










							Constant voltage
DUALdrive				POWERdrive		LINEARdrive	
B	L	S	U	R	S	S	
			6 8				
6 8		6 8	6 8				
	6 8	6 8 8	6 8				
6 8	6 8						
		8					

- ☐ DC powered product (needs a separate power supply)
- ☐ LightShape: for Tunable White applications
- ☐ LightShape: for Dim to Warm applications






# UL recognized LED drivers


































		Constant current												
		ECODrive						SOLOdrive						
	Form factor	A	B	M	L	S	U	A	B	M	L	S	U	
Output power	10W		   			   			   			   		
	15W													
	20W		   			   	   		   			   	   	
	30W	   	   		   	   	   	   		   	   	   		
	45W													
	50W	   	   	 	   	   	   	   		   	   	   		
	75W				   						   			
	90W													
	100W			   		   			   			   		
	180W													
	200W													
	600W													
	720W													

-  0 - 10V
-  DMX
-  LEDcode2 only
-  DALI version-1
-  DALI-2 Device Type 6 (DT6)
-  DALI-2 Device Type 8 (DT8)
-  PulseDimming
-  Type TL certification
-  CA Title 24 compliant (start-up time)
































[illegible]

-  DC powered product (needs a separate power supply)
-  LightShape: for Tunable White applications
-  LightShape: for Dim to Warm applications

## BIS certified LED drivers

		Constant current									
		ECODrive					SOLOdrive				
	Form factor	A	B	M	L	S	A	B	M	L	S
Output power	20W	  		 			  		 		
	30W	 				 	 				
	50W	 					 	 			 
	100W						 		 		 
	180W										
	200W										
	720W										

## TISI certified LED drivers

		Constant current										
		ECODrive						SOLOdrive				
	Form factor	A	B	M	L	S	U	A	B	M	L	S
Output power	20W	  		 				  		 		
	30W	  						 				
	50W	 			 	 		 	 		 	 

-  0 - 10V
-  DALI version-1
-  DMX
-  DALI-2 Device Type 6 (DT6)
-  LEDcode2 only
-  DALI-2 Device Type 8 (DT8)



								Constant voltage
DUALdrive				POWERdrive				LINEARdrive
A	L	S	U	A	M	S	U	A
6	6	6	6					

DUALdrive			
A	L	S	U
6	6	6	6




- DC powered product  
(needs a separate power supply)
- LightShape: for Tunable White applications
- LightShape: for Dim to Warm applications

# RCM certified LED drivers\*\*

		Constant current											
		ECOdrive					SOLOdrive						
Form factor		A	B	M	S	U	A	B	L	M	S	U	
Output power	15W												
	20W												
	30W												
	45W												
	50W												
	75W												
	90W												
	100W												
	120W												
	180W												
	200W												
	720W												

\*\* For our DC drivers RCM certification is not required according to the official guide lines.

- 0 - 10V
- DMX
- LEDcode2 only
- DALI version-1
- DALI-2 Device Type 6 (DT6)
- DALI-2 Device Type 8 (DT8)
- PulseDimming

-  DC powered product  
(needs a separate power supply)
-  LightShape: for Tunable White applications
-  LightShape: for Dim to Warm applications



# PSE certified LED drivers\*

		Constant current				Constant voltage	
		ECODrive	SOLOdrive	DUALdrive	POWERdrive	LINEARdrive	
Form factor		A	A	A	A	A	
Output power	15W	●					
	30W	● ● ● 6 PD	● ● 6 PD				
	45W	●			● ●		
	50W	● ● 6	● ● 6	● 6			
	90W				● ●		
	180W				● ●	●	
	200W					● ● ●	●
	720W					● ●	

\* Our DC drivers have an input voltage lower than 50V DC, therefore PSE certification is not required according to the official guide lines.

- 0 - 10V
- DMX
- LEDcode2 only
- CA Title 24 compliant (start-up time)
- DALI version-1
- 6 DALI-2 Device Type 6 (DT6)
- 8 DALI-2 Device Type 8 (DT8)
- PD PulseDimming

- DC powered product (needs a separate power supply)
- LightShape: for Tunable White applications
- LightShape: for Dim to Warm applications



# Form factor overview

**A**



**20W, single channel driver:** 161 x 42 x 31 mm



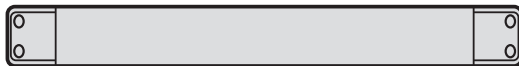
**20W, dual channel driver:** 183 x 42 x 31 mm



**30W:** 210 x 41 x 34 mm



**50W:** 153 x 76 x 31 mm



**100W:** 388 x 42 x 30 mm

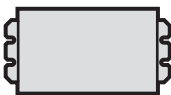


**POWERdrive 45W, 90W, 180W (DC product):** 193 x 50 x 23 mm

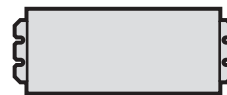


**ECOdrive 15W, 45W and LINEARdrive 180W, 200W, 720W (DC product):** 153 x 50 x 23 mm

**B**



**10W, 20W, 30W, 50W:** 130 x 72 x 35 mm



**75W:** 174 x 72 x 29 mm

**L**



**30W, 50W:** 320 x 30 x 26 mm



**75W:** 424 x 30 x 27 mm

**M**



**20W, single channel driver:** 129 x 42 x 31 mm



**20W dual channel driver:** 184 x 42 x 31 mm



**100W, 120W:** 370 x 41 x 30 mm

**S**



**10W, 20W, 30W:** 130 x 72 x 35 mm



**50W:** 130 x 76 x 30 mm



**100W:** 230 x 80 x 30 mm

**U**



**20W, 30W:** 280 x 30 x 21 mm



**50W:** 444 x 30 x 21 mm

# Lighting controls protocols



## **DALI-2**

DALI-2 is an international standard for the DALI dimming protocol.

Compared to DALI version-1 devices current on the market, DALI-2 certified components bring the promise of significantly improved interoperability and additional functionality.

For more information: <https://www.digitalilluminationinterface.org/certification/>



## **DMX**

The international standard reference for DMX dimming is ANSI E1.20 and E1.11 – 2008, USITT DMX512-A.



## **0-10V dimming**

The international standard for 0-10V dimming is IEC 60929 annex E; for Europe EN 60929 annex E.

Compliance of eldoLED drivers:

Below 0.6V: enabling standby mode.

From 0.6V to 10V: with IEC/EN 60929 annex E.

For detailed dimming characteristics see the 0-10V response chart in the Control Characteristics section of the product datasheets.



## **Casambi**

Protocol for wireless communication, based on Bluetooth Low Energy. A wireless mesh network can be created to control the fixtures that are included.



## **Pulse dimming**

Pulse dimming is a feature on eldoLED DALI drivers that enables easy switching and dimming. Pulse dimming uses standard mains voltage (max 250V AC) switches for lighting control.

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