

OPTOTRONIC Driver with DEXAL Technology



The OSRAM OPTOTRONIC LED Programmable Driver with DEXAL Technology, is a non-proprietary, intra-luminaire interface that enables bi-directional communications between the driver and the fixture integrated component. It provides exact luminaire-specific data, including diagnostics, to light management systems. Fixture manufacturers can design smart fixtures and streamline the configuration process by leveraging DEXAL as a standard bi-directional communications interface.



Product family features

- Two-way communication and power between driver and fixture integrated components
- Helps streamline luminaire configuration and manufacturing process (one driver can support multiple LMS)
- Enables exact luminaire-specific data including: - Power consumption - Temperature profile - Operating hours - Diagnostics
- OEM Programmable with 1mA resolution to perfectly match LED load and maximize performance
- Integrated OEM programmable features include: - Constant lumen maintenance - End-of-life indication - LED thermal protection - Dim-to-off - Soft start
- Programming doesn't require powering up or connecting the power supply to AC line voltage
- Specification grade dimming down to 1%
- Slim form factors
- Input voltage: - Universal 120-277 V_{AC} 50/60Hz
- UL Class 2 output for safe operation

Areas of application

- Indirect/direct
- Linear
- Recessed troffer

Technical data

General product information

Programmable Features	Output Current/Dimming: Linear & Log/DEXAL/LED thermal protection/Constant lumen output/End-of-life indicator
Programming Tool	51645 & 51647/51648
Type	Constant Current, Class2

Electrical specifications - Dimming

Dimming Control	DEXAL (Digital Dimming) ¹⁾
Dimming Range	1-100% ²⁾
Dimming Type	Analog
Standby Power	0.40W(120V) 0.55W(277V) ³⁾

¹⁾ The default mode for the interface is DEXAL. This combines the power and communication on the single bus. In this mode, the polarity of the interface is sensitive. For applications employing DALI systems (wired or wireless), the power supply on the interface can be turned off via the programming software. This makes the interface non-polarized. CAUTION: More than one power supply present

²⁾ The minimum output current for both LED drivers is 6mA.

³⁾ This does not include the sensor power in DEXAL mode.

Electrical specifications - Input

Efficiency @ Full load 120V	≥86%
Efficiency @ Full load 277V	≥86%
Frequency Range (Hz)	50 – 60 Hz (+/- 10%)
Input Current (A) 120V	0.31
Input Current (A) 277V	0.14
Input Voltage (VAC)	120V-277V (+/- 10%)
Inrush Current (Apk, T@50% of Apk) 120V	15.9, 200μs
Inrush Current (Apk, T@50% of Apk) 277V	39.7, 165μs
Power Factor @ Full load 120V	>0.9
Power Factor @ Full load 277V	>0.9
THD @ Full load 120V	<20%
THD @ Full load 277V	<20%

Electrical specifications - LED thermal protection (NTC)

NTC Value Active Range	≤25kΩ ¹⁾
Temperature Derating start	User defined

¹⁾ External NTC cannot leave the fixture. The PRG/ NTC control circuit terminals or lead wires are not isolated.

Electrical specifications - Output

LED Power-Up Time	<1sec
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Product datasheet

Line Regulation	<5%
Load Regulation	<5%
Max. Output Power (W)	30W
Output Current (mA)	150-1050mA (1mA step)
Output Ripple Current	<20% @ 1400mA
Output Short-Circuit Protection	Yes, non-latching
Output Voltage (VDC)	10-56VDC
Over Load Protection	Yes, non-latching
Over Temperature Protection	Foldback at 95°C
Over Voltage Protection	Yes, non-latching
Voltage Rating (DEXAL)	12V typ.
Peak Current (DEXAL)	125mA max

Environmental specifications

Ambient Operating Temperature	-30°C to 50°C
Case Temperature (Tc)	75°C (50kHrs) ¹⁾
EMI Compliance	FCC Part 15 Class A
Max. Relative Humidity (%)	85% non-condensing
Max. Storage Temp.	70°C
Sound Rating	Class A
Transient Protection	NEMA SSL 1 - 2010 / Non-Roadway 2.5KV
UL Environmental Rating	Dry & Damp
UL File number	E320395

¹⁾ The lowest output current is 6mA and the minimum percentage of dimming is dependent on the programmed output current of the driver.

Packaging Information

Item number	EAN/UPC	Packaging	Quantity	Outside dimensions l x w x h	Gross weight
	4052899345829	Unpacked (SKU)	1		
	4052899328921	Shipping box (Case)	20	14.8 in x 6.9 in x 5.6 in	13.9 lb

The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

Accessories Mandatory

Product name	Accessory name	Item number	EAN/UPC
	OT PROGRAMMER	51645	▶ 4052899209640

Product datasheet

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