

OPTOTRONIC Linear Programmable LED Drivers

57420 / OTi 85/120-277/2A3 DIM-1 L



The OPTOTRONIC programmable dimmable family consists of highly efficient linear constant current LED power supplies. One click programming through the OPTOTRONIC programmer allows OEMs to configure the output current with 1mA resolution. Also fully customizable by customers are the end of life indicator, LED thermal protection and the constant lumen maintenance features. The OPTOTRONIC programmer does not require the power supply to be powered up or connected to AC line voltage while programming. The power supplies are available with built-in 0-10V dimming protocol with models available in 1% to 10%. The auxiliary output has the capability to power various sensors and is optimized for the OSRAM Connected Lighting Module (CLM).



Product family features

- 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
- Programming doesn't require powering up or connecting the power supply to AC line voltage
- Specification grade dimming down to 1% or 10% on 0-10V dimmers
- Available optional auxiliary output to power 12 V, 20 V, and 24 V low power applications
- Slim form factors
- Input voltage: - Universal 120-277 V_{AC} 50/60Hz - 347 V_{AC} 50/60 Hz
- UL Class 2 output for safe operation

Areas of application

- Indirect/direct
- Linear
- Recessed troffer

Product datasheet

Technical data

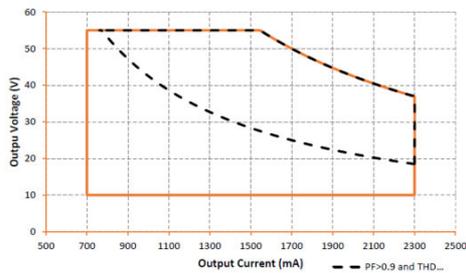
General product information

Product Name	OTI851202772A3DIM1L 10/CS 1/SKU
Ordering Abbreviation	OTi 85/120-277/2A3 DIM-1 L
Brand Name	OSRAM
General Description	OTi85 Gen 2.0 UNV Linear 1% No AUX
Programmable Features	Output current/Dimming level/Dim-to-off, Soft Start/LED thermal protection/Auxiliary output voltage/Constant lumen output/End-of-life indicator
Programming Tool	51645 & 51647/51648
Type	Constant Current, Class2
Product Number	57420

Electrical data

Nominal Total Max Wattage	85 W
Nominal Voltage	120-277 V

Operating Range



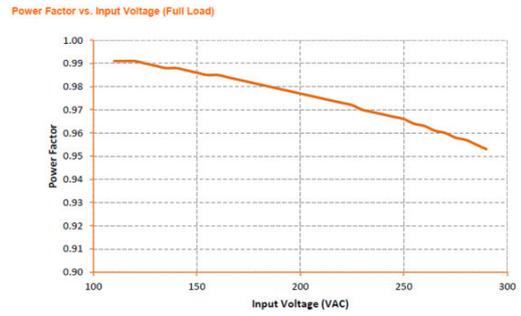
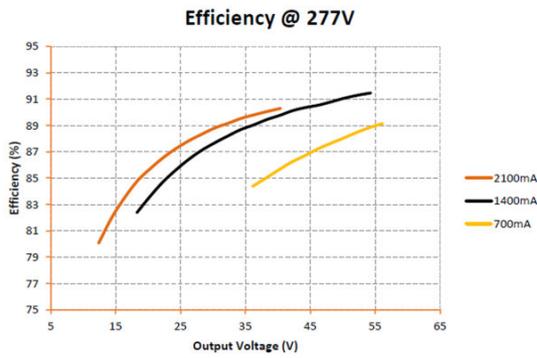
Efficiency vs. Output Voltage



Operating Window

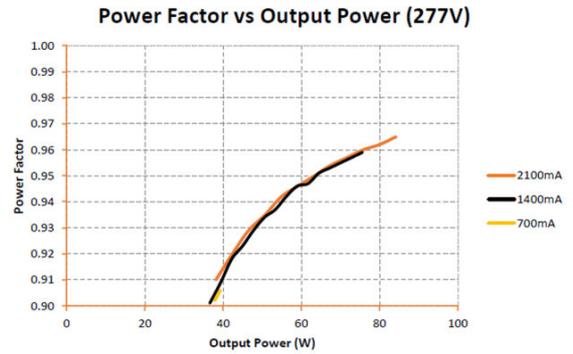
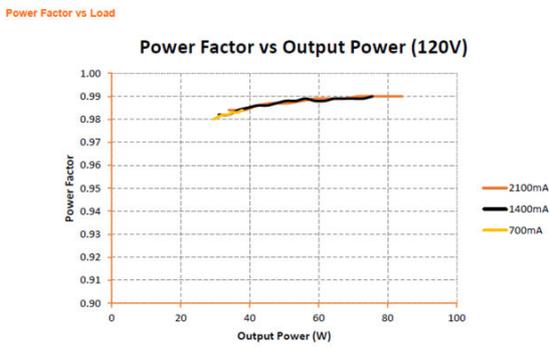
Typical Efficiency v Load 120 V 60 Hz

Product datasheet



Typical Efficiency v Load 277 V 60 Hz

Typical Power Factor v Load

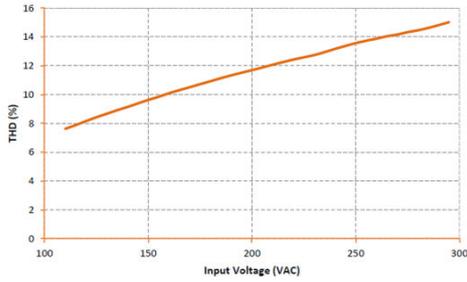


Typical Power Factor v Load

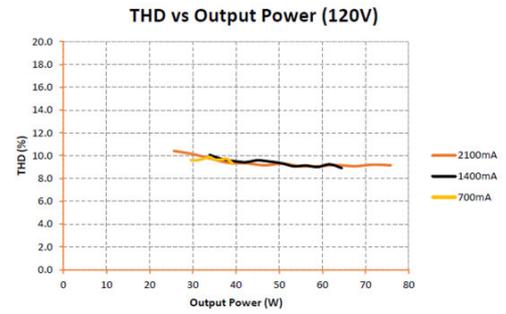
Typical Power Factor v Load

Product datasheet

THD vs. Input Voltage (Full Load)



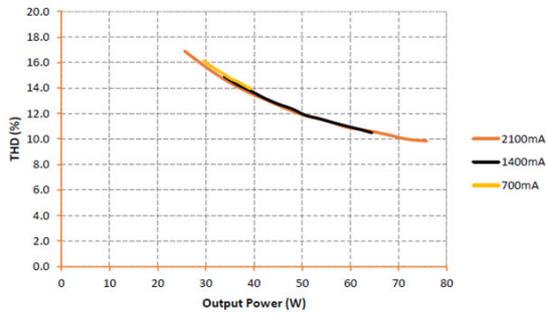
THD vs Load



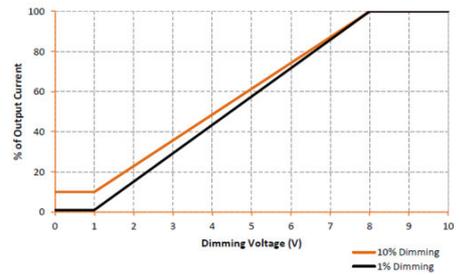
Typical THD v Load

Typical THD v Load

THD vs Output Power (277V)



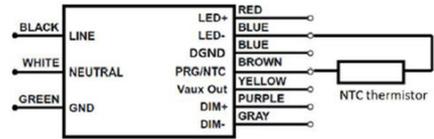
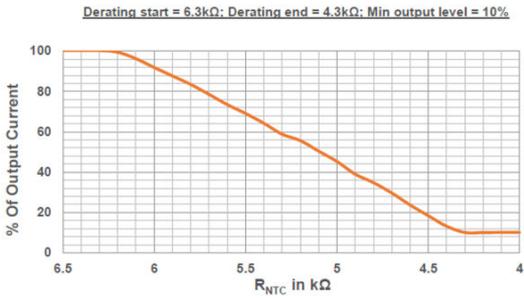
Dimming Curve



Typical THD v Load

0-10 V Control Input

Product datasheet

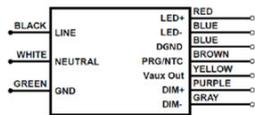


LED Thermal Protection perc. of Out Curr

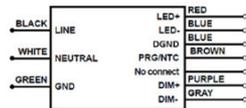
LED Thermal Protection - Wiring Diagram

Wiring Diagram

Wiring diagram for AUX output models



Wiring diagram for non-AUX output models



LED Thermal Protection - Wiring Diagram

Electrical specifications - Auxiliary output (for AUX models only)

Output Current (mA) Aux Only	40
Output Voltage (VDC) Aux Only	12/20/24V (configurable)
Voltage Regulation	+/- 10%

Electrical specifications - Dimming

Dimming Control	0 – 10V (Isolated) ¹⁾
Dimming Input Isolation [CRM]	2.5KV
Dimming Range	1-100%
Dimming Type	Current Reduction
Dim-to-Off OFF/ON	0.8V
Source/Sink Current	0.2mA

¹⁾ CAUTION: More than one power supply present

Electrical specifications - Input

Efficiency @ Full load 120V	≥87%
Efficiency @ Full load 277V	≥89%
Frequency Range (Hz)	50 – 60 Hz (+/- 10%)
Input Current (A) 120V	0.83
Input Current (A) 277V	0.36
Input Voltage (VAC)	120V-277V (+/- 10%)
Inrush Current (Apk, T@50% of Apk) 120V	37.4A, 150μs
Inrush Current (Apk, T@50% of Apk) 277V	84.7A, 160μs
Power Factor @ Full load 120V	>0.9
Power Factor @ Full load 277V	>0.9
THD @ Full load 120V	<10%
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
Line Regulation	<3%
Load Regulation	<3%
Max. Output Power (W)	85W
Output Current (mA)	700-2300mA (1mA step)
Output Ripple Current	<5% @ 2300mA
Output Short-Circuit Protection	Yes, non-latching
Output Voltage (VDC)	10-55VDC ¹⁾
Over Load Protection	Yes, non-latching

Product datasheet

Over Temperature Protection	Foldback to 50°C at 105°C
Over Voltage Protection	Yes, non-latching

¹⁾ Default V Aux is 12V

Environmental specifications

Ambient Operating Temperature	-40 °C to 50 °C
Case Temperature (Tc)	85°C (50kHrs)/90°C (30kHrs) ¹⁾
EFT	IEC61000-4-4, Level 3
EMI Compliance	FCC Part 15 Class A
Max. Relative Humidity (%)	85% non-condensing
Max. Storage Temp.	70°C
Sound Rating	Class A
Transient Protection	ANSI C62.41 Cat. A 2.5kV ²⁾
UL Environmental Rating	Dry & Damp
UL File number	E320395

¹⁾ Warranty applicable only at 85°C

²⁾ 6kV transient protection for high-bay (HB) models.

Packaging Information

Item number	EAN/UPC	Packaging	Quantity	Outside dimensions l x w x h	Gross weight
57420	4052899490246	Unpacked (SKU)	1		
57420	4052899472891	Shipping box (Case)	10	18 in x 6.2 in x 2.4 in	9 lb
57420	54059089574200	(Case)	0		

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
OTi 85/120-277/2A3 DIM-1 L	OT PROGRAMMER	51645	▶ 4052899209640

Disclaimer

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