Xitanium LED ELECTRONIC DRIVERS

Philips Xitanium Programmable LED Drivers

Ultimate flexibility for LED lighting manufacturers

Optimized to meet the ever-evolving needs of today's LED lighting manufacturers, Xitanium Programmable LED Drivers are a one-stop solution for the varying power needs of industrial high bay, highway, urban street, as well as area and flood lighting applications. Offering an unparalleled level of flexibility, these drivers provide a large number of features which can be customized based on the desired functionality of the luminaire design with a simple programming* interface. With multiple choices for current output levels, module temperature control settings and a network-ready DALI interface, this is an easily integrated driver solution. Luminaire designers and manufacturers are also able to streamline logistics without compromising on performance.

Benefits include:

- Robust programmable solution that offers ultimate design flexibility with a reliable long lifetime
- Reduced SKU complexity and simplified logistics management (one driver to serve many needs)
- Multiple dimming options provide energy savings and can reduce light pollution and CO_2 impact
- Easily programmable user interface for onsite customization of driver requirements
- Optimized life expectancies of up to 100,000 hours**
- Driver programmability provides hours for the ever-evolving improvements in LED efficacy, removing the need to design-in a new LED driver as technology improves or changes

* Programming the driver requires an interface device between your computer and the DALI connection on the driver. Please contact your Philips sales representative for the programming interface.

** Minimum 90% survivals based on MTBF modeling.

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Feature highlights

- Robust protection against moisture and vibration
- Programmable Adjustable Output Current (AOC): The power to choose the LED current that is optimal for the LED PCB
- Module Temperature Control Protection (MTC): Set the limit temperature level at which the driver starts to dim the LEDs
- Constant Light Output (CLO): Regulates required light output over life to maximize efficiency
- Over the Life (OTL): Driver provides an end of life signal for easy maintenance
- Integrated Dynadimmer, classic and time based, DALI or 1-10V dimming protocols (Dynadimmer override is also available)
- Lighting system diagnostic (beta version)

Rugged design

Xitanium Programmable LED drivers are designed for both indoor and outdoor specification to foster reliability and long life. Exceptionally robust construction provides protection against dust, moisture and destructive vibrations, and full functionality across a wide temperature spectrum. The drivers are designed to deliver maximum lifetime of 100,000 hours.*

Reliability

Helping to improve the reliability of an LED luminaire, the Module Temperature Control (MTC) feature manages excessive temperatures of the PCB board. High heat negatively impacts the useful life of the module, and can increase maintenance costs. The driver reads the temperature of the LED module, and once it exceeds the specified threshold, will automatically reduce the current to the LEDs, dimming the lights and cooling down the module. Even the most robust LED solutions eventually approach end of useful life. The luminaire manufacturer can program the Over the Life (OTL) indicator function to signal that the LED module should be replaced.

Minimizing power consumption over life

All lighting sources suffer from a depreciation of light output over time. To ensure the minimum required light levels at lamp's end of life, most systems consume more power than necessary. The Constant Light Output (CLO) functionality enables the LEDs to always deliver the required light output by gradually increasing the current over the lifetime of the module, compensating for the reduction in light.

Benefits of dimming

The remarkable energy savings and CO_2 reductions achieved with LED lighting solutions can be further extended with dimming. Lowering the light levels during off-peak hours also minimizes light pollution. Xitanium Programmable LED drivers offer a full range of dimming options, with both stand-alone and network protocols. The integrated Dynadimmer functionality offers multiple dimming profiles. The 1-10V interface allows for simplified, one way management, while the DALI interface makes any installation with the Xitanium Programmable LED driver ready for a fully networked control system.

Applications

- Highways
- Urban streets
- Area and flood lighting
- High bay, industrial

* Minimum 90% survivals based on MTBF modeling.

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Product specifications

Output current range (mA)	Output voltage range (V)	Output power (W)	Dimming range (%)	Efficiency range (at max. load)	Input voltage range (Vac)	Inrush current peak (A)	Inrush current width to 50% (?s)	Power factor (100% load)	Power factor (dimmed 50%)	Lifetime* @ Tcase life 71° C (10% failure)
Xitanium 75W										
350-700	80-152	30-75	100-10	≥ 92%	120-277	108	140	≥ 0.97	≥ 0.92	100,000
Xitanium 150W										
350-700	125-280	30-150	100-10	≥ 93%	120-277	108	140	≥ 0.97	≥ 0.94	100,000

* Minimum 90% survivals based on MTBF modeling.

General product characteristics

Rated frequency:	50/60 Hz
T ambient:	-40 to +55° C
T max:	+80° C
THD:	20%

External RSET

Factory default setting enables customization of the output current without the programming interface, offering choices in a continuous range between 350 and 700 mA. The current value is determined by placing a specific resistor between the Rset (yellow) and Common (ble/wht) wires (RSET) and Signal ground (COMN) wires. Please refer to the Design-in Guide for full range of values.

Programming note

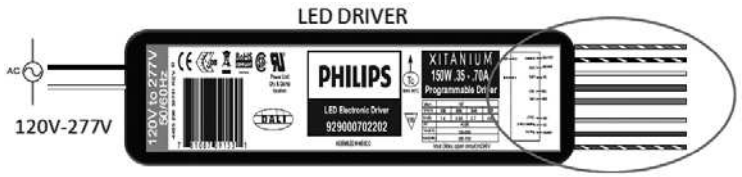
Xitanium Programmable LED drivers are shipped from factory with the following default settings:

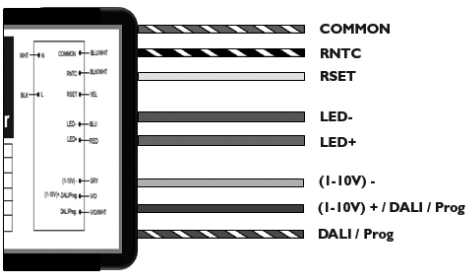
Adjustable output current (AOC)	Use external RSET. If no resistor connected, driver will deliver 700mA)
Module thermal protection (MTC)	Enabled (NTC2-15 k+390 Ohm)
Adjustable startup time	1000 ms
Over the life (OTL) indicator	Disabled
Dimming interface selection	1-10 V (minimum dim level 10%)
Constant light output (CLO)	Disabled

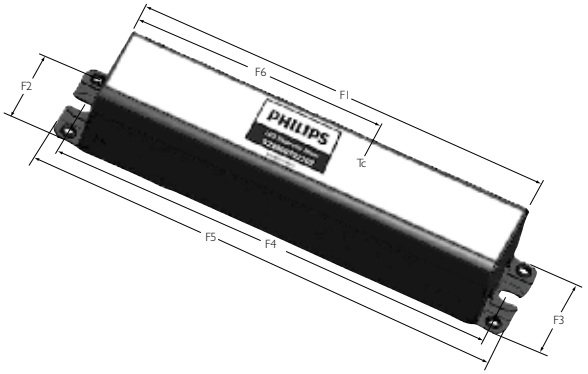
For complete details, please refer to the Design-in Guide.

Dimensions

Xitanium 75W & 150W Programmable LED drivers	F1	F2	F3	F4	F5	F6
inches	8.31"	1.48"	2.33"	8.84"	9.47"	5.2"
mm	211.14	37.61	59.13	224.63	240.51	130







Catalog Number Explanation

LED	INT	A	C035	V425	D	N	M

Packaging:
M = Midpack I = Individual Pack B = Bulk Pack

Fixed or Dimming:
FO = Fixed
DO= Dimming (0-10V) Isolated
DN= Dimming (0-10V) NON-Isolated
DL= Dimming (0-10V) NON-Isolated in F-can
F3= Tritap
FL= Fixed in F-can

Max Current or Max Voltage:

210=210V	80=80V	24=24V	18=1.8A	50=5.0A	24=24V
425=425V	33=3.3A	07=0.7A	20=2.0A	30=3.0A	60=60V
140=140V	28=2.8A	21=2.1A	22=2.2A	32=3.2A	80=80V
280=280V	10=1.0A	14=1.4A	36=36V	41=4.1A	

Constant Current or Constant Voltage:
C= Constant Current
V= Constant Voltage

Max Current or Max Voltage:

0350=350mA	0700=700mA	0024=24V	700=700mA	1600=1.6A
0400=400mA	1050=1.05A	0012=12V	0520=520mA	1000=1.0A
0530=530mA	2000=2.0A	0036=36V	1400=1.4A	

Input Voltage:
A=AC Voltage
D=DC Voltage

Input Voltage:
INT= 120 - 277V (UL, CSA)
120 = 120V (UL, CSA)
277 = 277V (UL, CSA)
UNI = 120 - 240V
HCN = 347-480V (UL, CSA)

General
LED= Xitanium LED Driver