Ultimate flexibility for LED lighting manufacturers

Philips Xitanium Programmable LED Drivers –
a highly reliable, flexible and easy-to-use technology that can reduce SKU complexity.

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. With unparalleled flexibility, these drivers feature programmable FlexDrive technology that enables customization of a large number of features all based on the desired functionality of the luminaire's design.* 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.

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

** Minimum 90% survivals based on MBTF modeling.

Benefits include:
- Programmable FlexDrive technology that offers ultimate design flexibility with a reliable 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
- Ease programmable user interface for onsite customization of driver requirements
- Optimized maximum lifetime (100,000 hours)**
- Driver programmability provides a future-proof solution for the ever-evolving improvements in LED efficacy, removing the need to design-in a new LED driver as technology improves or changes

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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)

Applications

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

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.

* Minimum 90% survivals based on MTBF modeling.

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
IP classification:	66
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.
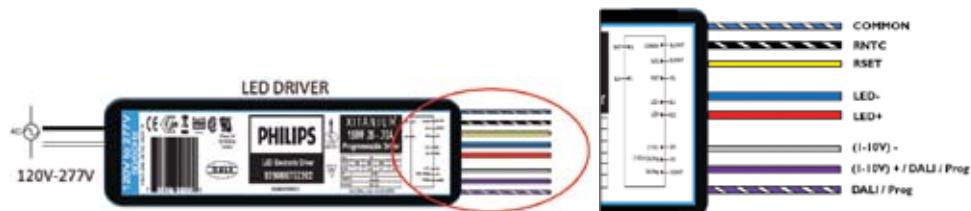
Dimensions

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
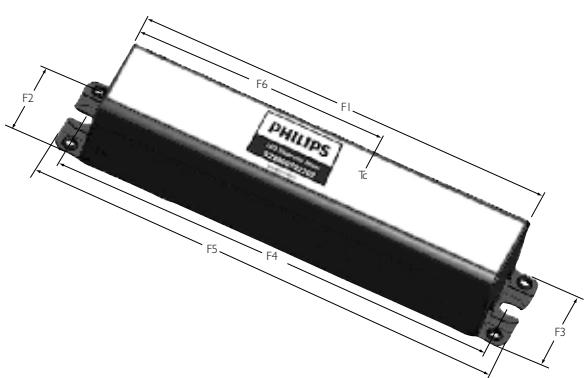
Ordering and packaging data

Product	Qty. per box (pcs)	Part number
Xitanium 75W 0.35-0.7A GL Prog sXt	10	929000702302M
Xitanium 150W 0.35-0.7A GL Prog sXt	10	929000702202M
Xitanium 150W 0.35-0.7A GL-F Prog sXt	10	929000705113
Xitanium 75W 0.35-0.7A GL-F Prog sXt	10	929000704913
Xitanium 150W 0.35-0.7A GL-H Prog sXt	10	XI150C035V425MPH1M

Prog + has all the features of Prog along with AmpDim and Dynadimmer Override