



Datasheet

Xitanium LED drivers – linear HV non-isolated iXt

Xitanium 150W 0.2-0.7A 300V iXt 230V

Enabling future-proof LED technology

Xitanium LED drivers are designed to operate LED solutions for general lighting applications such as linear lighting, as well as down lighting and spot/accent lighting.

Reliability is enhanced by specific features that protect the connected LED module, e.g. hot wiring, reduced ripple current and thermal de-rating. Most drivers feature central DC operation.

In the coming years LEDs will continue to increase in efficiency, creating generation and complexity challenges for OEMs. With Xitanium LED drivers, flexibility in luminaire design is assured thanks to an adjustable output current. Application-oriented operating windows offer the flexibility required to provide the stable lumen output and light quality levels that lighting specifiers and architects demand.

Benefits

- High reliability underpinned by 5 year warranty
- Future-proof flexibility
- Compatibility - adjustable output current enables operation of various LED solutions from different manufacturers or OEMs own designs
- More robust LED drivers for industry applications
- Flicker and noise free dimming with all Touch and DALI LED drivers due to amplitude dimming (AM)

Features

- Up to 95% efficiency, lowest cost and smallest dimensions
- Operating windows - output current can be adjusted via the Philips MultiOne configurator (TD drivers) or with a resistor outside the driver
- Reduced ripple current and thermal de-rating for increased reliability
- Multiple versions - DALI dimmable & programmable, 1-10V dimmable, and fixed-output;
- All T5 form factors but various lengths
- Longer life time (100khrs), improved surge and burst (4kV) and Tambient (-40°C to +60°C) specifications

Application

- 17W, 36W and 75W LED drivers for office applications
- 110W and 150W LED drivers for industry, warehouses, public areas, distribution centers and shopping malls

Electrical input data

| Specification item | Value | Unit | Condition |
|---------------------------|------------|-----------------|---|
| Nominal input voltage | 220...240 | V _{ac} | performance range |
| Nominal input frequency | 50...60 | Hz | |
| Nominal input current | 0.7 | A | @230V @ full load |
| Input voltage | 230 | V _{ac} | |
| Nominal input power | 158 | W | @230V @ full load |
| Power factor | ≥ 0.9 | | @ full load. See graph. |
| Total harmonic distortion | ≤ 20 | % | @ full load. See graph. |
| Efficiency | 96 | % | @230V @ full load |
| Nominal input voltage DC | 186...250 | V _{dc} | |
| Nominal input current DC | 0.69 | A | Input voltage 230 V _{dc} , full load |
| Input voltage AC | 202...254 | V _{ac} | Operational range |
| Input frequency AC | 47.5...63 | Hz | Maximum permissible range |
| Input voltage DC | 186...250 | V _{dc} | Maximum permissible range |
| Isolation Input to Output | Non Class2 | | |

Electrical output data

| Specification item | Value | Unit | Condition |
|--------------------------|------------------|-----------------|-----------------------------|
| Regulation method | Constant Current | | |
| Output voltage | 100...300 | V _{dc} | |
| Output voltage max. | 330 | V | Peak voltage at open load |
| Output current | 0.2...0.7 | A | Full output current setting |
| Output current tolerance | ± 5 | % | |
| Output current ripple LF | ≤ 4 | % | Ripple = peak / average |
| Output current ripple HF | ≤ 4 | % | |
| Output power | 43...150 | W | Full output |

Electrical data controls input

| Specification item | Value | Unit | Condition |
|--------------------|-------|------|-----------|
| Control method | Fixed | | |

Logistical data

| Specification item | Value |
|--------------------|--------------------------------------|
| Product name | Xitanium 150W 0.2-0.7A 300V iXt 230V |
| Order code | 87186955589700 |
| Logistic code 12NC | 9290 015 06706 |
| EAN3 | |
| Pieces per box | 24 |

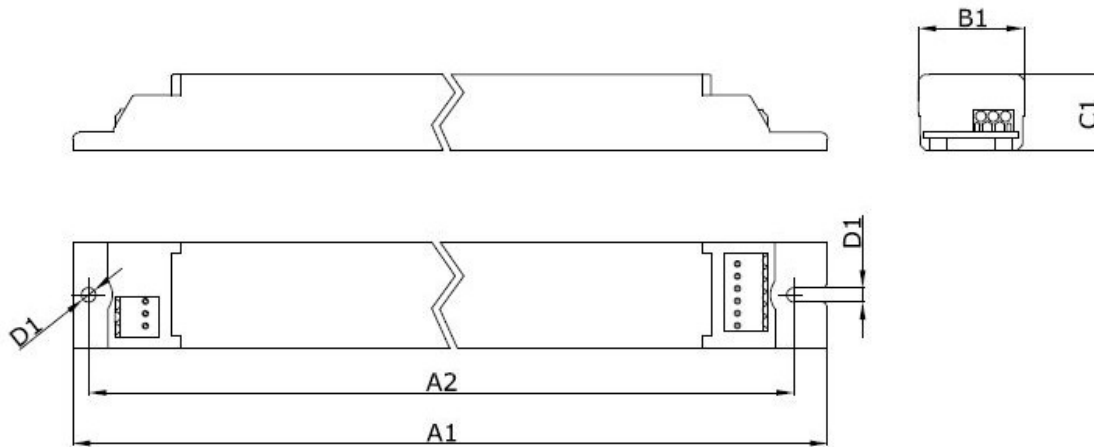
Wiring & Connections

| Specification item | Value | Unit | Condition |
|---------------------------|-----------|-----------------|--|
| Input wire cross-section | 0.5...1.5 | mm ² | WAGO744, solid wire |
| | 16...20 | AWG | WAGO744, solid wire |
| Input wire strip length | 8...9 | mm | |
| Output wire cross-section | 0.5...1.5 | mm ² | WAGO744, solid wire |
| | 16...20 | AWG | WAGO744, solid wire |
| Output wire strip length | 8...9 | mm | |
| Maximum cable length | 4000 | mm | Total length of wiring including LED module, one way |



Dimensions and weight

| Specification item | Value | Unit | Condition |
|---------------------------|-------|------|-----------|
| Length (A1) | 360 | mm | |
| Width (B1) | 30 | mm | |
| Height (C1) | 21 | mm | |
| Fixing hole diameter (D1) | 4.1 | mm | |
| Fixing hole distance (A2) | 350 | mm | |
| Weight | 278 | gram | |



Operational temperatures and humidity

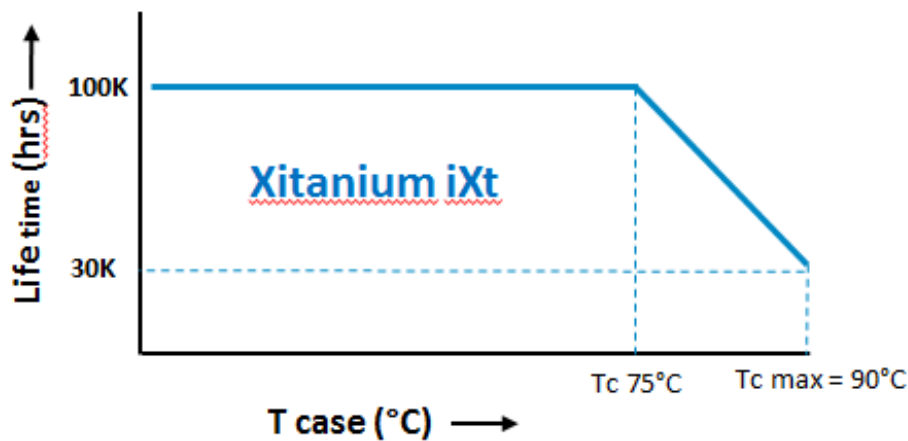
| Specification item | Value | Unit | Condition |
|------------------------------|-----------|------|--|
| Ambient temperature | -40...+60 | °C | Higher ambient temperature allowed as long as T _{case-max} is not exceeded. |
| Starting Ambient temperature | ≥ -40 | °C | |
| T _{case-max} | 90 | °C | Maximum temperature measured at T _{case-point} |
| T _{case-life} | 75 | °C | Measured at T _{case-point} |
| Maximum housing temperature | 110 | °C | In case of a failure |
| Relative humidity | 10...90 | % | Non-condensing |

Storage temperature and humidity

| Specification item | Value | Unit | Condition |
|---------------------|-----------|------|----------------|
| Ambient temperature | -25...+85 | °C | |
| Relative humidity | 5...95 | % | Non-condensing |

Lifetime

| Specification item | Value | Unit | Condition |
|------------------------|-----------|----------|--|
| Driver lifetime | 100,000 | hours | Measured temperature at T_{case} -point is T_{case} -life. Maximum failures = 10% |
| Mains switching cycles | > 100,000 | switches | See Design-in guide for detailed explanation |



Programmable features

| Specification item | Value | Remark | Condition |
|---------------------------------------|----------------------|----------------------|---------------------------------------|
| Set output current (AOC) | LEDset and SimpleSet | See Design-in guide. | Default output current: ≤ 200 mA |
| LED module temperature derating (MTP) | No | | |
| Constant Lumen Over Lifetime (CLO) | No | | |
| DC emergency dimming (DCemDIM) | No | | |
| Corridor mode | No | | |
| Energy metering | No | | |
| Diagnostics | No | | |

Features

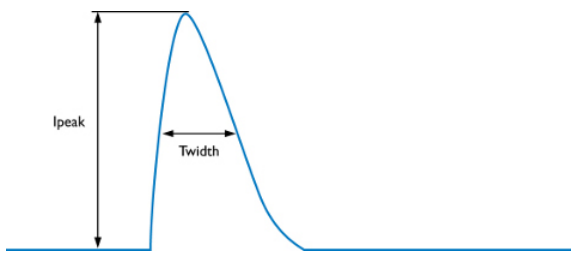
| Specification item | Value | Remark | Condition |
|---|-------|--------|----------------------|
| Open load protection | Yes | | Automatic recovering |
| Short circuit protection | Yes | | Automatic recovering |
| Over power protection | Yes | | Automatic recovering |
| Hot wiring | No | | |
| Suitable for fixtures with protection class | I | | per IEC60598 |

Certificates and standards

| Specification item | Value |
|-----------------------------------|-----------------|
| Approval marks | CCC / CE / ENEC |
| Ingress Protection classification | 20 |

Inrush current

| Specification item | Value | Unit | Condition |
|----------------------------|-----------|---------|--|
| Inrush current I_{peak} | 7.68 | A | Input voltage 230V |
| Inrush current T_{width} | 62.6 | μ s | Input voltage 230V, measured at 50% I_{peak} |
| Drivers / MCB 16A type B | ≤ 12 | pcs | |



| MCB | Rating | Relative number of LED drivers |
|-----|--------|--------------------------------|
| B | 10A | 63% |
| B | 13A | 81% |
| B | 16A | 100% (stated in datasheet) |
| B | 20A | 125% |
| B | 25A | 156% |
| C | 10A | 104% |
| C | 13A | 135% |
| C | 16A | 170% |
| C | 20A | 208% |
| C | 25A | 260% |

Driver touch current

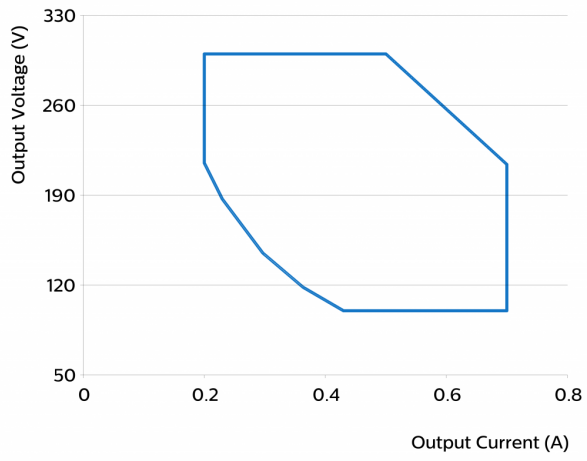
| Specification item | Value | Unit | Condition |
|-----------------------|-------|---------|---|
| Typical touch current | 0.5 | mA peak | Acc. IEC61347-1. LED module contribution not included |

Surge immunity

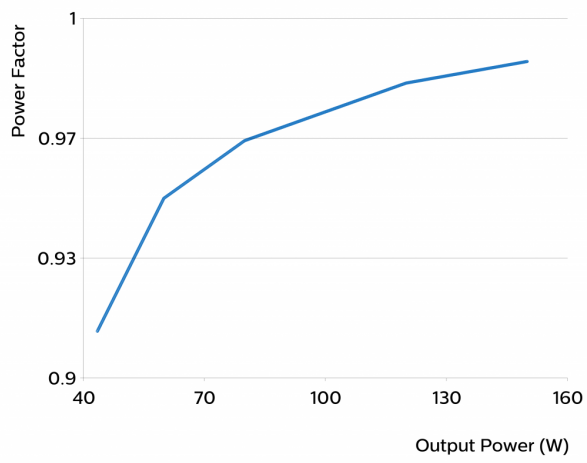
| Specification item | Value | Unit | Condition |
|-----------------------------------|-------|------|---|
| Mains surge immunity (diff. mode) | 2 | kV | Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us |
| Mains surge immunity (comm. mode) | 4 | kV | Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us |

Graphs

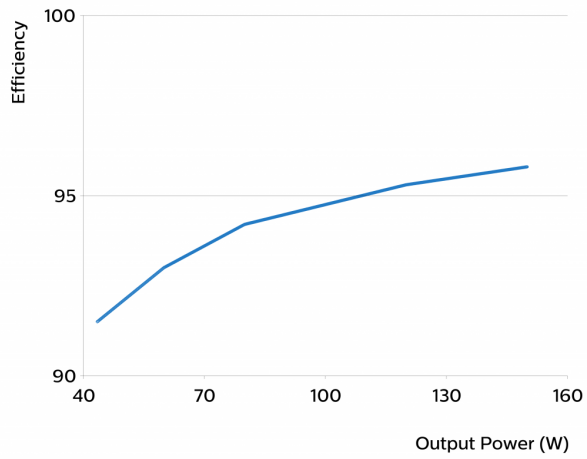
Operating window



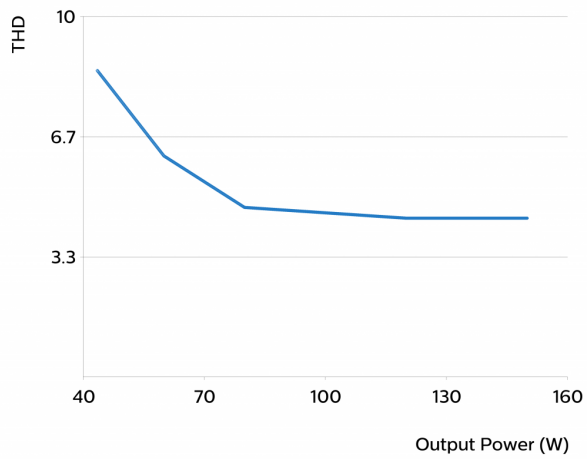
Power factor versus output power



Efficiency versus output power



THD versus output power



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