

# PHILIPS

## Xitanium

### LED driver



## Datasheet

### Xitanium LED drivers – Spot- and downlight

Xitanium 59W 1.3/1.4A 42V I 230V

#### Affordable and reliable LED Drivers

Affordable LED Driver range offering Philips reliability. The Xitanium range is compatible with COB and mid-power LEDs from any LED manufacturer.

#### Benefits

- Driver design based on Philips experience and knowledge of conventional fluorescent and HID technologies
- Various power wattage Drivers that are related to the lumen packages/applications
- Fixed output Drivers
- Independent-version housing design for stand-alone installations

#### Features

- Small, compact dimensions
- Specific, optimized output current and voltage
- 50,000 hours lifetime
- Fast Time to Market
- Low ripple, low THD

#### Application

- Public buildings (airports, cinemas, theaters, exhibition halls)
- Retail (supermarkets, shops)
- Office

## Electrical input data

| Specification item          | Value     | Unit            | Condition                                  |
|-----------------------------|-----------|-----------------|--|
| Rated input voltage range   | 220...240 | V <sub>ac</sub> | Performance range                          |
| Rated input voltage         | 230       | V <sub>ac</sub> |  |
| Rated input frequency range | 50...60   | Hz              | Performance range                          |
| Rated input current         | 0.29/0.31 | A               | @ full output power @ rated input voltage  |
| Rated input power           | 62/67     | W               | @ rated output power @ rated input voltage |
| Power factor                | ≥ 0.92    |                 | @ full output power @ rated input voltage  |
| Total harmonic distortion   | ≤ 15      | %               | @ rated output power @ rated input voltage |
| Efficiency                  | ≥ 87      | %               | @ rated output power @ rated input voltage |
| Input voltage AC range      | 202...254 | V <sub>ac</sub> | Operational range                          |
| Input frequency AC range    | 47.5...63 | Hz              | Operational range                          |
| Isolation input to output   | SELV      |                 |  |

## Electrical output data

| Specification item       | Value                 | Unit            | Condition                   |
|--------------------------|-----------------------|-----------------|-----------------------------|
| Regulation method        | Constant Current      |                 |                             |
| Output voltage           | 30...42               | V <sub>dc</sub> |                             |
| Output voltage max.      | 60                    | V               | Peak voltage at open load   |
| Output current           | 1.3 / 1.4             | A               | Full output current setting |
| Output current tolerance | ± 8                   | %               |                             |
| Output current ripple LF | ≤ 3                   | %               | Ripple = peak / average     |
| Output current ripple HF | ≤ 15                  | %               |                             |
| Output power             | 39...54.6 / 42...58.8 | W               | Full output                 |

## Electrical data controls input

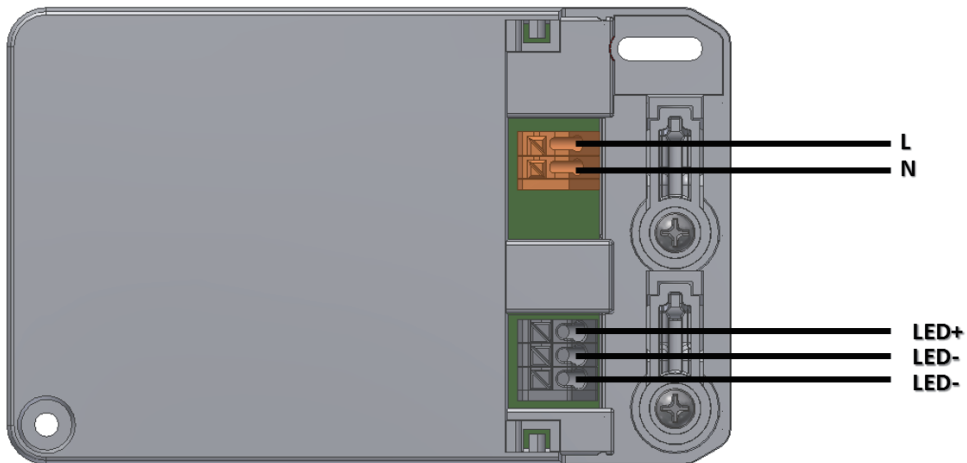
| Specification item | Value | Unit | Condition |
|--------------------|-------|------|-----------|
| Control method     | Fixed |      |           |
| Galvanic Isolation | No    |      |           |

## Logistical data

| Specification item | Value                            |
|--------------------|----------------------------------|
| Product name       | Xitanium 59W 1.3/1.4A 42V I 230V |
| Logistic code 12NC | 9290 014 23480                   |
| Pieces per box     | 40                               |

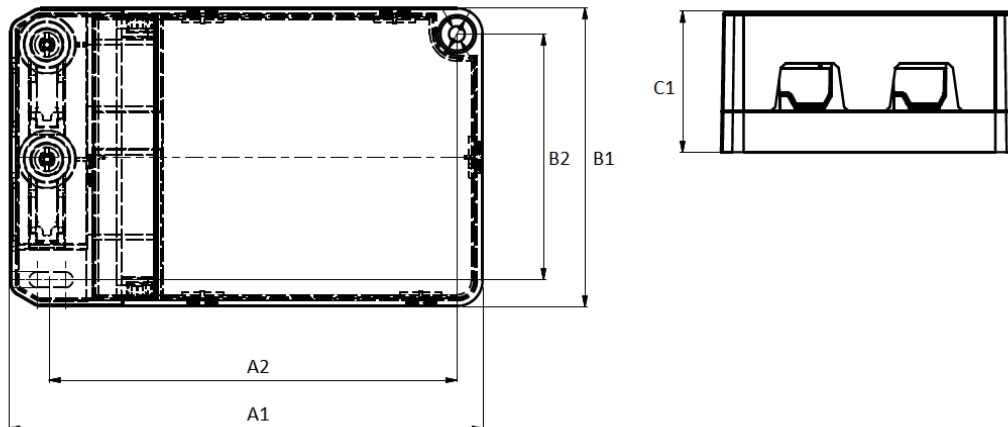
## Wiring & Connections

| Specification item        | Value      | Unit            | Condition  |
|---------------------------|------------|-----------------|--|
| Input wire cross-section  | 0.75...1.5 | mm <sup>2</sup> | Connector 250 (3.5 mm), solid / stranded wire        |
|                           | 16...21    | AWG             | Connector 250 (3.5 mm), solid / stranded wire        |
| Input wire strip length   | 8...9      | mm              |  |
| Output wire cross-section | 0.4...1.5  | mm <sup>2</sup> | Connector 250 (3.5 mm), solid / stranded wire        |
|                           | 16...18    | AWG             | Connector 250 (3.5 mm), solid / stranded wire        |
| Output wire strip length  | 8...9      | mm              |  |
| Maximum cable length      | 600        | mm              | Total length of wiring including LED module, one way |



## Dimensions and weight

| Specification item        | Value | Unit | Condition |
|---------------------------|-------|------|-----------|
| Length (A1)               | 108   | mm   |           |
| Width (B1)                | 68    | mm   |           |
| Width (B2)                | 56.1  | mm   |           |
| Height (C1)               | 32    | mm   |           |
| Fixing hole distance (D1) | 3.6   | mm   |           |
| Fixing hole distance (A2) | 92.9  | mm   |           |
| Weight                    | 270   | gram |           |



## Operational temperatures and humidity

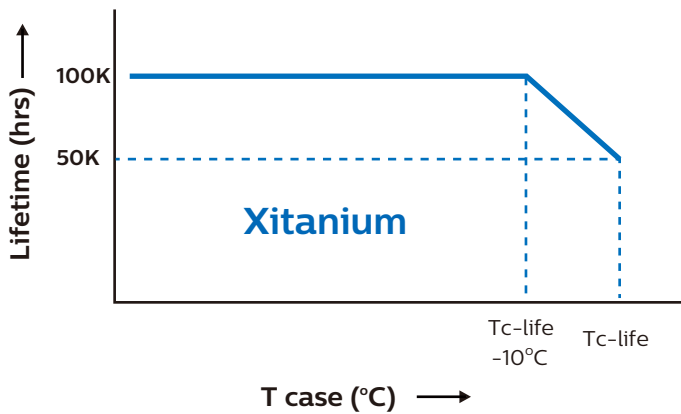
| Specification item          | Value   | Unit | Condition  |
|-----------------------------|---------|------|--|
| Ambient temperature         | 0...+50 | °C   | Higher ambient temperature allowed as long as $T_{\text{case-max}}$ is not exceeded. |
| $T_{\text{case-max}}$       | 95      | °C   | Maximum temperature measured at $T_{\text{case-point}}$                              |
| $T_{\text{case-life}}$      | 85      | °C   | Measured at $T_{\text{case-point}}$  |
| Maximum housing temperature | 130     | °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    | 50,000 | hours | Measured temperature at $T_{\text{case-point}}$ is $T_{\text{case-life}}$ .<br>Maximum failures = 10% |



## Programmable features

| Specification item                    | Value | Remark               | Condition                         |
|---------------------------------------|-------|----------------------|-----------------------------------|
| Set output current (AOC)              |       | See Design-in guide. | Default output current: = 1400 mA |
| LED module temperature derating (MTP) | No    |                      |                                   |
| Constant Lumen Over Lifetime (CLO)    | No    |                      |                                   |
| DC emergency dimming (DCemDIM)        | No    |                      |                                   |

## Features

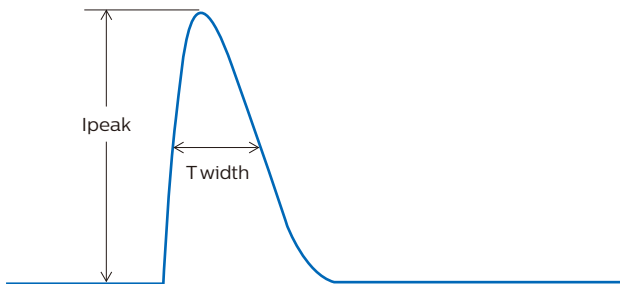
| Specification item                          | Value    | Remark | Condition            |
|---|----------|--------|----------------------|
| Open load protection                        | Yes      |        | Automatic recovering |
| Short circuit protection                    | Yes      |        | Automatic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

## Certificates and standards

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

## Inrush current

| Specification item         | Value     | Unit    | Condition                                      |
|----------------------------|-----------|---------|--|
| Inrush current $I_{peak}$  | 19.8      | A       | Input voltage 230V                             |
| Inrush current $T_{width}$ | 380       | $\mu$ s | Input voltage 230V, measured at 50% $I_{peak}$ |
| Drivers / MCB 16A type B   | $\leq 14$ | 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 / protective conductor current

| Specification item                    | Value | Unit    | Condition   |
|---------------------------------------|-------|---------|---|
| Typical touch current (ins. Class II) | < 0.7 | mA peak | Acc. IEC61347-1. LED module contribution not included |

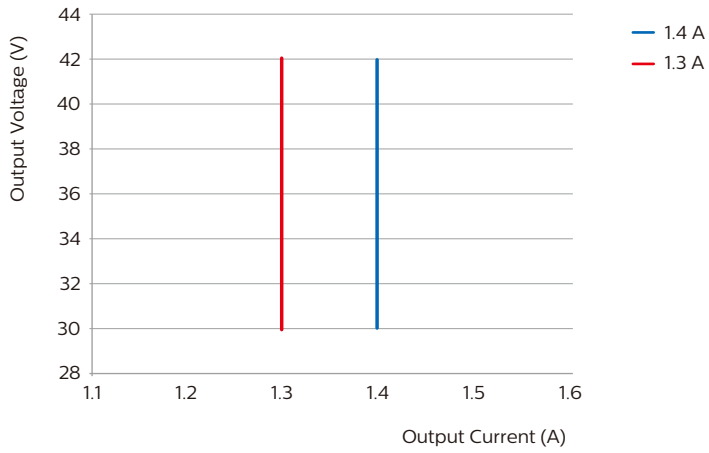
## Surge immunity

| 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

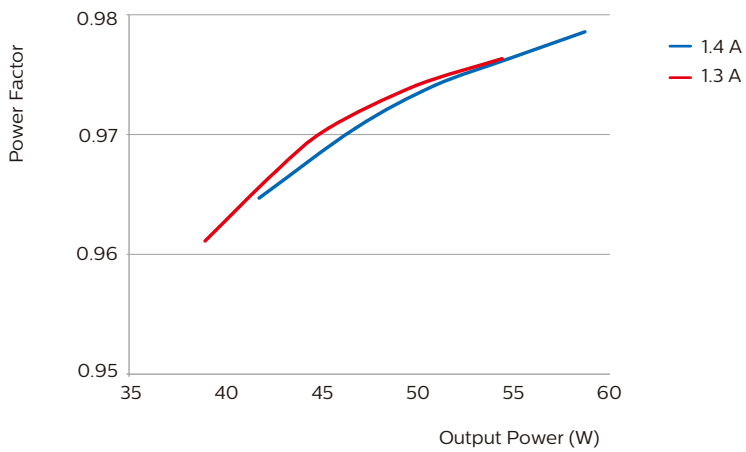
### Operating window

---



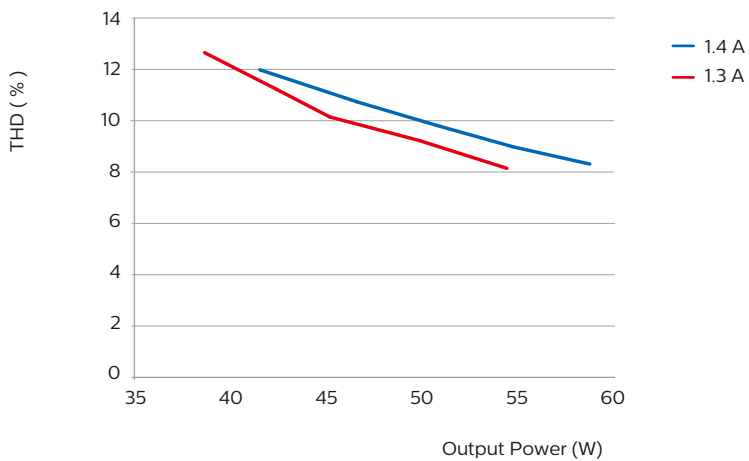
### Power factor versus output power

---

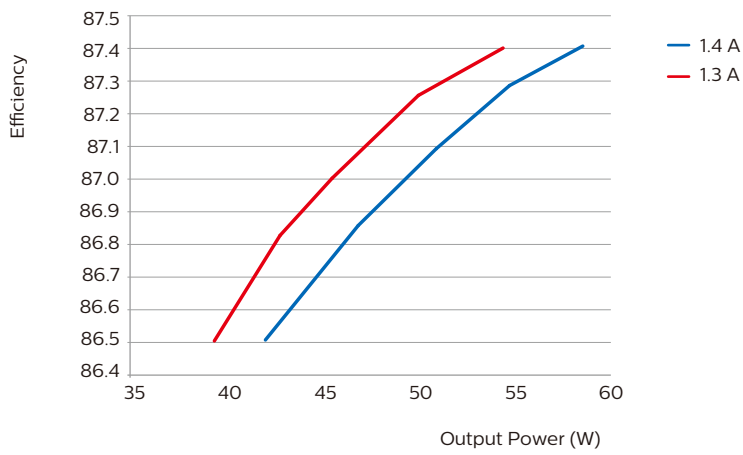


### Total Harmonic Distortion

---



## Efficiency versus output power



©2018 Koninklijke Philips Electronics N.V.

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent- or other industrial or intellectual property rights. Data subject to change.

Date of release: May 04, 2018

[www.philips.com](http://www.philips.com)