

# PHILIPS

## Xitanium

### LED driver



## Datasheet

# Xitanium LED drivers – linear LV isolated FO

## Xitanium 36W 0.3-1A 54V 230V

### Offering flexibility and differentiation opportunities

Xitanium LED drivers are designed to operate LED solutions for general lighting application such as linear lighting for office and industry applications. Flexibility and differentiation possibilities in luminaire design is assured thanks to application-oriented operating windows. High reliability underpinned by 5 year warranty is enhanced by specific features that protect the connected LED module, e.g reduced ripple current and thermal derating. Most drivers feature central DC operation.

### Benefits

- Flexibility and differentiation opportunities
- Freedom of interchangeability by addressing market standards
- Assurance of camera and scanner friendly performance
- Flicker- and noise free dimming
- “One-stop shop” for OEMs

### Features

- Application oriented operating windows
- LEDset3 addressing the new interface standard for LED modules and LED drivers
- ‘real 21mm’ height
- Low ripple output current (4%)
- Amplitude modulation (AM) dimming of Touch & DALI LED drivers
- Complete portfolio offering:
  - Power ratings: 17W, 36W, 75W, 110W and 150W
  - isolated and non-isolated drivers
  - DALI programmable
  - DALI, 1-10V dimmable
  - fixed output versions
  - Industry extreme (IXt) versions available

### Application

- office, industry and retail

## Electrical input data

| Specification item        | Value     | Unit            | Condition                                     |
|---------------------------|-----------|-----------------|---|
| Nominal input voltage     | 220...240 | V <sub>ac</sub> | performance range                             |
| Nominal input frequency   | 50..60    | Hz              |   |
| Nominal input current     | 0.2       | A               | @230V @ full load                             |
| Input voltage             | 230       | V <sub>ac</sub> |   |
| Nominal input power       | 41        | W               | @230V @ full load                             |
| Power factor              | >= 0.9    |                 | @ full load. See graph.                       |
| Total harmonic distortion | <= 20     | %               | @ full load. See graph.                       |
| Efficiency                | 88        | %               | @230V @ full load                             |
| Nominal input voltage DC  | 186...250 | V <sub>dc</sub> |   |
| Nominal input current DC  | 0.18      | A               | Input voltage 230 V <sub>dc</sub> , full load |
| Input voltage AC          | 202...254 | V <sub>ac</sub> | Operational range                             |
| Input frequency AC        | 47.5...63 | Hz              | Maximum permissible range                     |
| Input voltage DC          | 168...275 | V <sub>dc</sub> | Maximum permissible range                     |

## Electrical output data

| Specification item       | Value            | Unit            | Condition                   |
|--------------------------|------------------|-----------------|-----------------------------|
| Regulation method        | Constant Current |                 |                             |
| Output voltage           | 27...54          | V <sub>dc</sub> |                             |
| Output voltage max.      | 60               | V               | Peak voltage at open load   |
| Output current           | 0.3...1          | A               | Full output current setting |
| Output current tolerance | ± 5              | %               |                             |
| Output current ripple LF | <= 4             | %               | Ripple = peak / average     |
| Output current ripple HF | <= 15            | %               |                             |
| Output power             | 11...37          | W               | Full output                 |

## Electrical data controls input

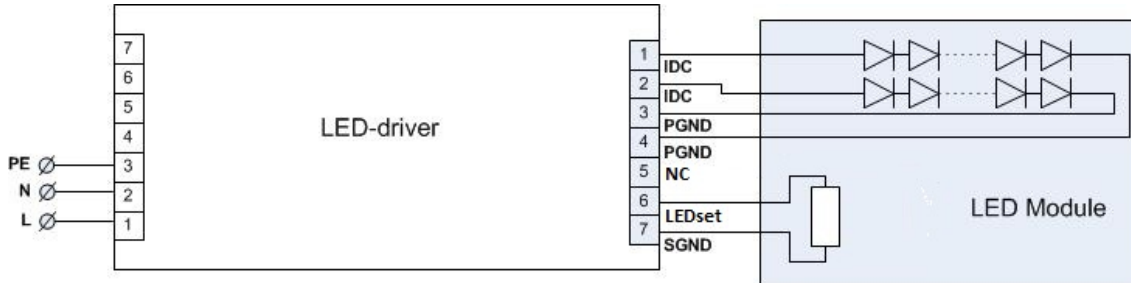
| Specification item | Value | Unit | Condition |
|--------------------|-------|------|-----------|
| Control method     | Fixed |      |           |

## Logistical data

| Specification item | Value                        |
|--------------------|------------------------------|
| Product name       | Xitanium 36W 0.3-1A 54V 230V |
| Order code         | 871869646887600              |
| Logistic code 12NC | 9290 009 58706               |
| EAN3               | 8718696468883                |
| Pieces per box     | 24                           |

## Wiring & Connections

| Specification item        | Value     | Unit            | Condition  |
|---------------------------|-----------|-----------------|--|
| Input wire cross-section  | 0.5...1.5 | mm <sup>2</sup> | 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 <sup>2</sup> | 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 |

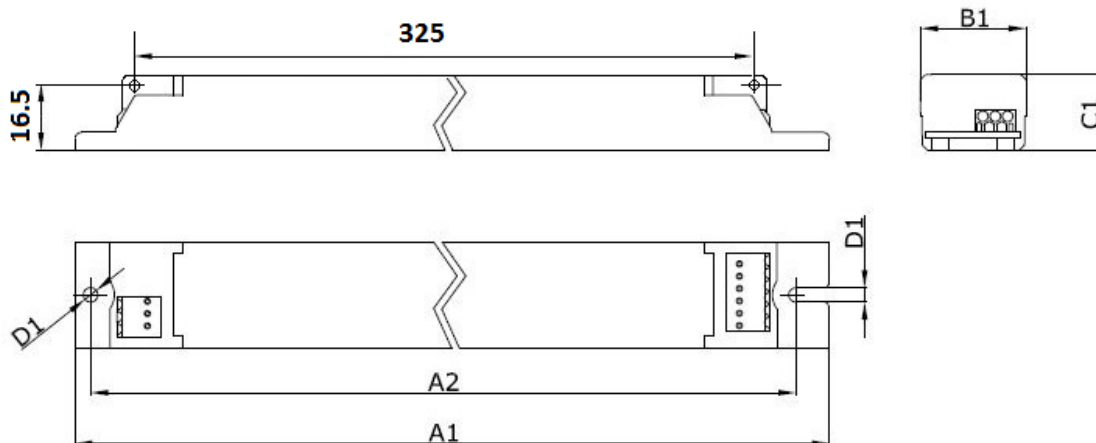


## Insulation

| Insulation | input       | output      | LEDset      |
|------------|-------------|-------------|-------------|
| input      |             | Re-inforced | Re-inforced |
| output     | Re-inforced |             | Basic       |
| LEDset     | Re-inforced | Basic       |             |

## 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                    | 250   | gram |           |



## Operational temperatures and humidity

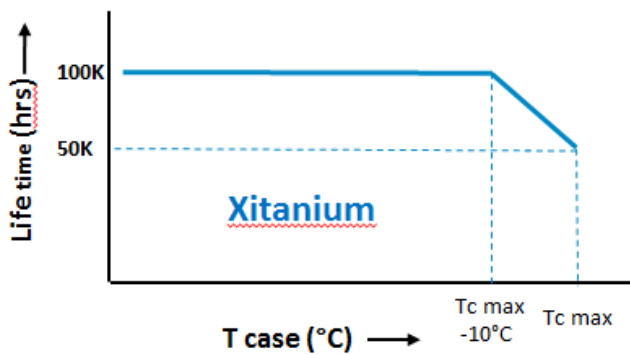
| Specification item          | Value     | Unit | Condition   |
|-----------------------------|-----------|------|---|
| Ambient temperature         | -20...+50 | °C   |   |
| T <sub>case-max</sub>       | 75        | °C   | Maximum temperature measured at T <sub>c</sub> -point |
| T <sub>case-life</sub>      | 75        | °C   | Measured at T <sub>c</sub> -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    | 50,000 | hours | Measured temperature at T <sub>c</sub> -point is T <sub>case-life</sub> .<br>Maximum failures = 10% |



## Programmable features

| Specification item                    | Value  | Remark               | Condition                        |
|---------------------------------------|--------|----------------------|----------------------------------|
| Set output current (AOC)              | LEDset | See Design-in guide. | Default output current: ≤ 300 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

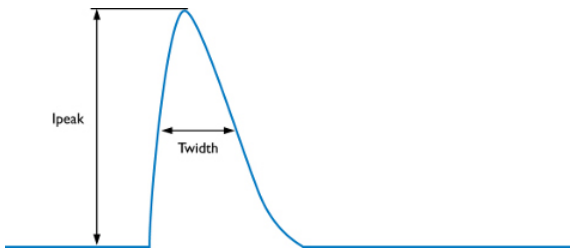
| Specification item                          | Value    | Remark | Condition            |
|---|----------|--------|----------------------|
| Open load protection                        | Yes      |        | Automatic recovering |
| Short circuit protection                    | Yes      |        | Automatic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

## Certificates and standards

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

## Inrush current

| Specification item         | Value     | Unit    | Condition                                      |
|----------------------------|-----------|---------|--|
| Inrush current $I_{peak}$  | 13        | A       | Input voltage 230V                             |
| Inrush current $T_{width}$ | 270       | $\mu$ s | Input voltage 230V, measured at 50% $I_{peak}$ |
| Drivers / MCB 16A type B   | $\leq 24$ | 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 | 0.3   | mA peak | Acc. IEC61347-1. LED module contribution not included |

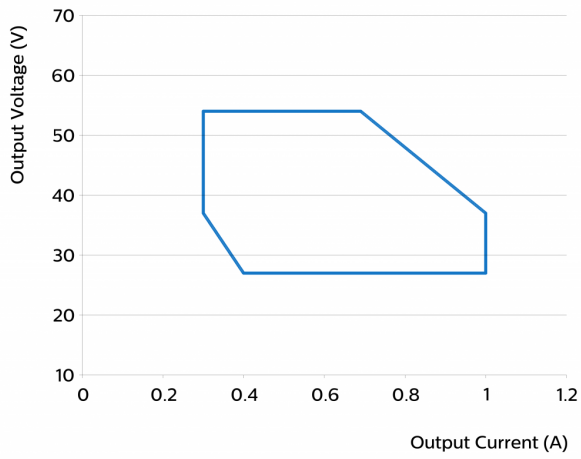
## Surge immunity

| Specification item                | Value | Unit | Condition                                   |
|-----------------------------------|-------|------|---|
| Mains surge immunity (diff. mode) | 1     | kV   | Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us  |
| Mains surge immunity (comm. mode) | 2     | kV   | Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us |

## Graphs

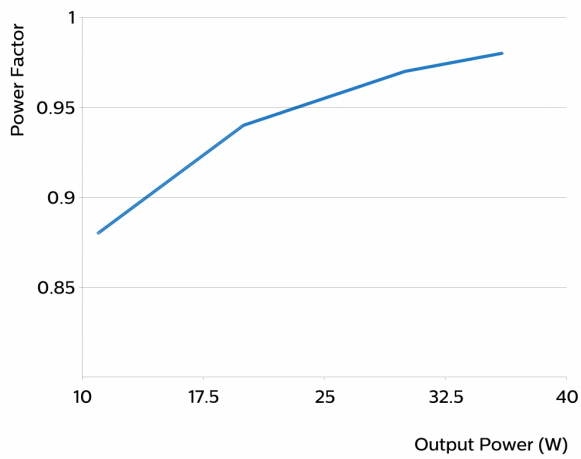
### Operating window

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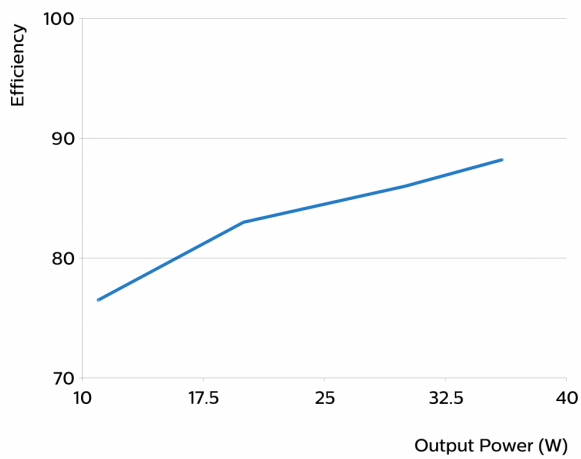
### Power factor versus output power

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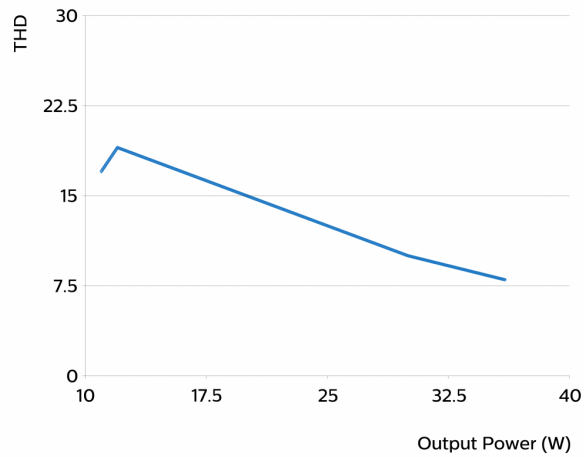
### Efficiency versus output power

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## THD versus output power

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