

# PHILIPS

## Xitanium

### LED driver



## Datasheet

### Xitanium LED drivers – linear LV isolated

#### Xitanium 57W 0.9/1.05A 54V 230V

#### Optimizing Performance

Xitanium LED drivers are designed to operate LED solutions for general lighting applications such as linear lighting in offices, public buildings as well as industrial and retail environments. Xitanium LED drivers with single current output offer industry leading performance and reliability at optimized cost. They are ideal for high volume applications while delivering to specific requirements. These drivers offer the same level of performance as Xitanium adjustable-current linear drivers to ensure high quality of light but, with a specific current setting. In addition, the isolated drivers offer ease of design-in and simpler approbation process.

Xitanium LED drivers are based on Philips experience and knowledge from conventional fluorescent technology. The reliability of the LED solution is further enhanced by specific features that protect the connected LED module, such as reduced ripple current.

#### Benefits

- High reliability underpinned by 5 year warranty
- Assurance of camera and scanner-friendly performance
- Optimized performance at specific output current setting
- Enable simple approbation process to luminaires

#### Features

- Low output current tolerance
- Long lifetime 50,000 hours lifetime at Tc max
- Low ripple output current (4%)

#### Application

- Offices and industry
- For luminaires of protection Class I

## 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         | 0.27/0.31 | A               | @ rated output power @ rated input voltage |
| Rated input power           | 56.0/65.2 | W               | @ rated output power @ rated input voltage |
| Power factor                | ≥ 0.9     |                 | @ rated output power @ rated input voltage |
| Total harmonic distortion   | ≤ 20      | %               | @ rated output power @ rated input voltage |
| Efficiency                  | ≥ 85      | %               | @ 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           | 27...54             | V <sub>dc</sub> |                             |
| Output voltage max.      | 70                  | V               | Peak voltage at open load   |
| Output current           | 0.9/1.05            | A               | Full output current setting |
| Output current tolerance | ± 8                 | %               |                             |
| Output current ripple LF | ≤ 4                 | %               | Ripple = peak/average       |
| Output current ripple HF | ≤ 15                | %               | Ripple = peak/average       |
| Output power             | 24.3...49/28.4...57 | 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 57W 0.9/1.05A 54V 230V |
| Logistic code 12NC | 9290 014 20080                  |
| Pieces per box     | 24                              |

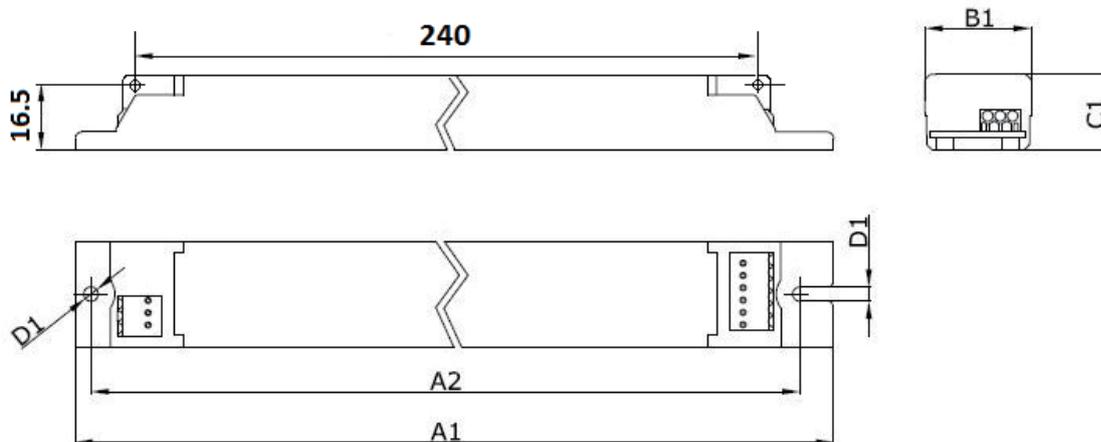
## Wiring & Connections

| 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      | 600       | mm              | Total length of wiring including LED module, one way |



## Dimensions and weight

| Specification item        | Value | Unit | Condition |
|---------------------------|-------|------|-----------|
| Length (A1)               | 280   | mm   |           |
| Width (B1)                | 30    | mm   |           |
| Height (C1)               | 21    | mm   |           |
| Fixing hole diameter (D1) | 4.1   | mm   |           |
| Fixing hole distance (A2) | 265   | mm   |           |
| Weight                    | 222   | gram |           |



## Operational temperatures and humidity

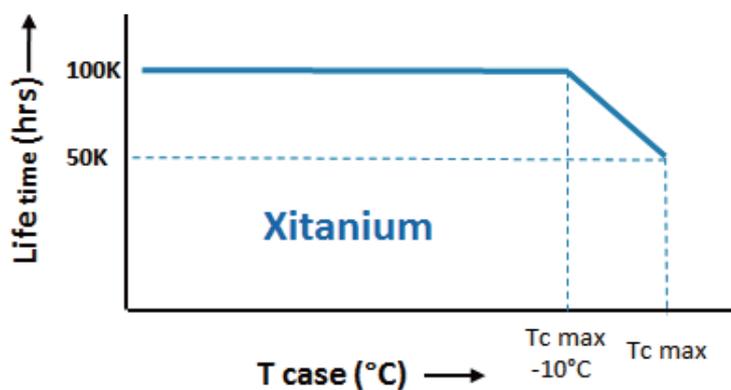
| Specification item          | Value     | Unit | Condition  |
|-----------------------------|-----------|------|--|
| Ambient temperature         | -20...+50 | °C   | Higher ambient temperature allowed as long as T <sub>case-max</sub> is not exceeded. |
| T <sub>case-max</sub>       | 75        | °C   | Maximum temperature measured at T <sub>case</sub> -point                             |
| T <sub>case-life</sub>      | 65        | °C   | Measured at T <sub>case</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    | 100,000 | hours | Measured temperature at $T_{case}$ -point is $T_{case}$ -life.<br>Maximum failures = 10% |



## Programmable features

| Specification item                    | Value | Remark               | Condition                             |
|---------------------------------------|-------|----------------------|---------------------------------------|
| Set output current (AOC)              |       | See Design-in guide. | Default output current: = 900/1050 mA |
| LED module temperature derating (MTP) | No    |                      |                                       |
| Constant Lumen Over Lifetime (CLO)    | No    |                      |                                       |
| DC emergency dimming (DCemDIM)        | No    |                      |                                       |

## Features

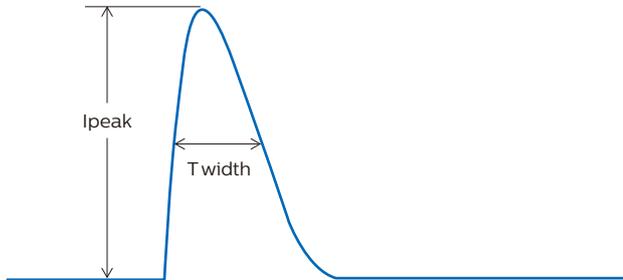
| Specification item                          | Value | Remark | Condition            |
|---|-------|--------|----------------------|
| Open load protection                        | Yes   |        | Automatic recovering |
| Short circuit protection                    | Yes   |        | Automatic recovering |
| Over power protection                       | Yes   |        |                      |
| Hot wiring                                  | No    |        |                      |
| Suitable for fixtures with protection class | I     |        | 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 $I_{peak}$  | 19.3      | A       | Input voltage 230V                             |
| Inrush current $T_{width}$ | 230       | $\mu s$ | Input voltage 230V, measured at 50% $I_{peak}$ |
| Drivers / MCB 16A type B   | $\leq 26$ | 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 protective conductor current (ins. Class I) | < 0.7 | mA rms | Acc. IEC61347-1. LED module contribution not included |

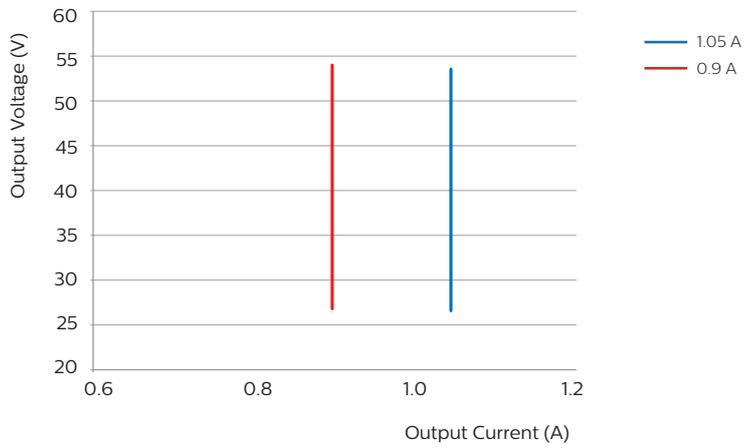
## Surge immunity

| 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

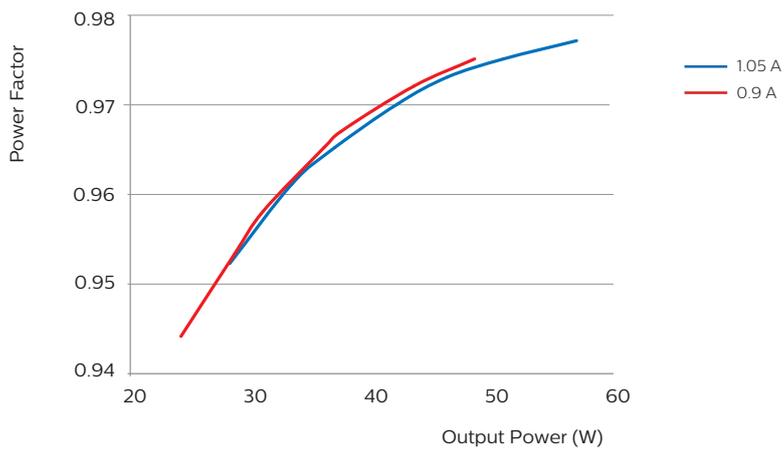
### Operating window

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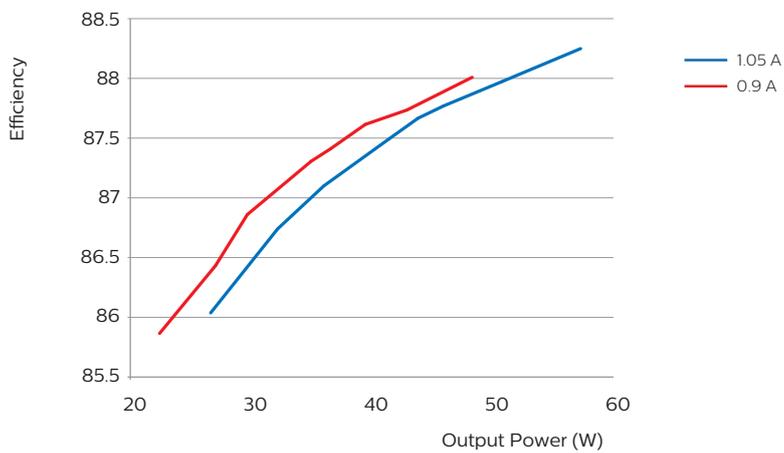
### Power factor versus output power

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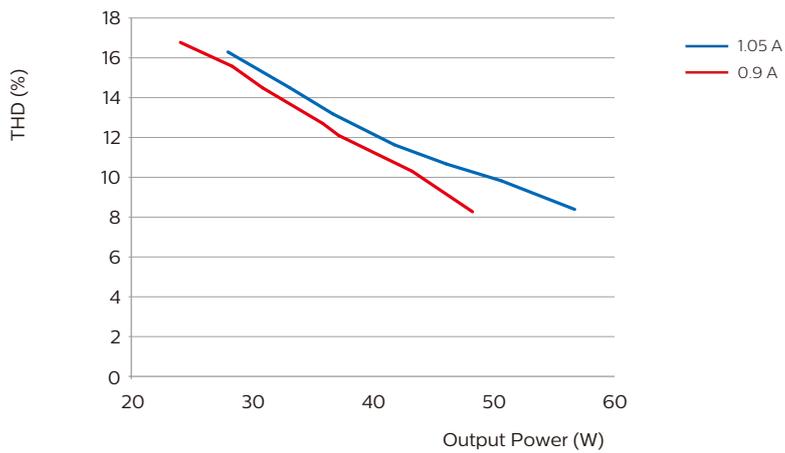
### Efficiency versus output power

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## THD versus output power

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