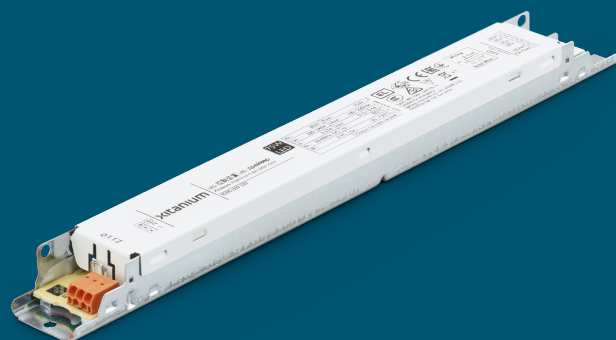


## Datasheet

# Xitanium LED drivers – linear HV non-isolated

Xitanium 75W 0.12A-0.4A 220V 230V  
9290 009 50706



### 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 - application-oriented operating windows enable LED generation and complexity management
- Compatibility - adjustable output current enables operation of various LED solutions from different manufacturers or OEM own designs
- Flicker and noise free dimming with all Touch and DALI LED drivers due to amplitude dimming (AM)

### Application

- 17W, 35W, 36W, 60W and 75W LED drivers for office applications
- 100W, 150W and 300W LED drivers for industry, warehouses, public areas, distribution centers and shopping malls

### 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 output 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
- For the iXt versions. longer life time (100khrs), improved surge and burst (4kV) and Tambient (-40°C to +60°C) specifications

Logistical data

| Specification item | Value                             |
|--------------------|-----------------------------------|
| Product name       | Xitanium 75W 0.12A-0.4A 220V 230V |
| EOC                | 871869644002500                   |
| Logistic code 12NC | 9290 009 50706                    |
| EAN1 (GTIN)        | 8718696440025                     |
| EAN3 (box)         | 8718696440032                     |
| Pieces per box     | 24                                |
| Weight             | 185 gram                          |

Electrical input data

| Specification item             | Value     | Unit            | Condition                                                                            |
|--------------------------------|-----------|-----------------|--------------------------------------------------------------------------------------|
| Rated input voltage range      | 220...240 | V <sub>ac</sub> | Performance range                                                                    |
| Rated input voltage            | 220       | V <sub>ac</sub> |                                                                                      |
| Rated input frequency          | 50...60   | Hz              | Performance range                                                                    |
| Rated input current            | 0.35      | A               | @ max output power @ rated input voltage                                             |
| Rated input power              | 80.0      | W               | @ rated output power @ rated input voltage                                           |
| Power factor performance range | ≥ 0.90 C  |                 | @ rated output power @ rated input voltage@ rated output power @ rated input voltage |
| Total harmonic distortion      | 20        | %               | @ rated output power @ rated input voltage                                           |
| Efficiency                     | 93.7      | %               | @ rated output power @ rated input voltage @ max. U <sub>out</sub>                   |
| Rated input voltage DC         | 186...250 | V <sub>dc</sub> | Performance range                                                                    |
| Rated input current DC         | ≤ 0.37    | A <sub>dc</sub> | Performance range                                                                    |
| Input voltage AC               | 198...264 | V <sub>ac</sub> | Operational range                                                                    |
| Input frequency AC             | 45...66   | Hz              | Operational range                                                                    |
| Input voltage DC               | 168...275 | V <sub>dc</sub> | Operational range                                                                    |
| Isolation input to output      | No        |                 |                                                                                      |

Electrical output data

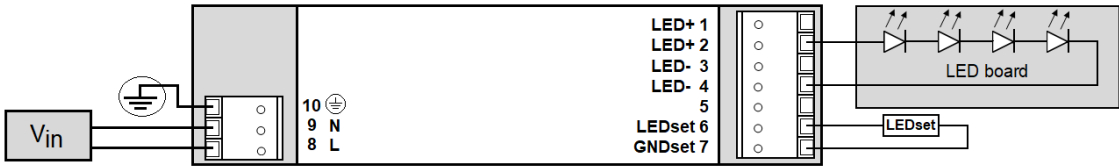
| Specification item                   | Value            | Unit            | Condition                       |
|--------------------------------------|------------------|-----------------|---------------------------------|
| Regulation method                    | Constant Current |                 |                                 |
| Output voltage                       | 100...220        | V <sub>dc</sub> |                                 |
| Output voltage max.                  | 330              | V               | Maximum output voltage (rms)    |
| Output current                       | 120...400        | mA              |                                 |
| Output current tolerance ±           | 5                | %               | @full load                      |
| Output current ripple LF             | ≤ 4              | %               | Ripple = peak / average, < 3kHz |
| Output P <sub>st</sub> <sup>LM</sup> | ≤ 0.3            |                 |                                 |
| Output SVM                           | ≤ 0.3            |                 |                                 |
| Output power                         | 21.0...75.0      | W               |                                 |

Control interfaces

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

Wiring and Connections

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

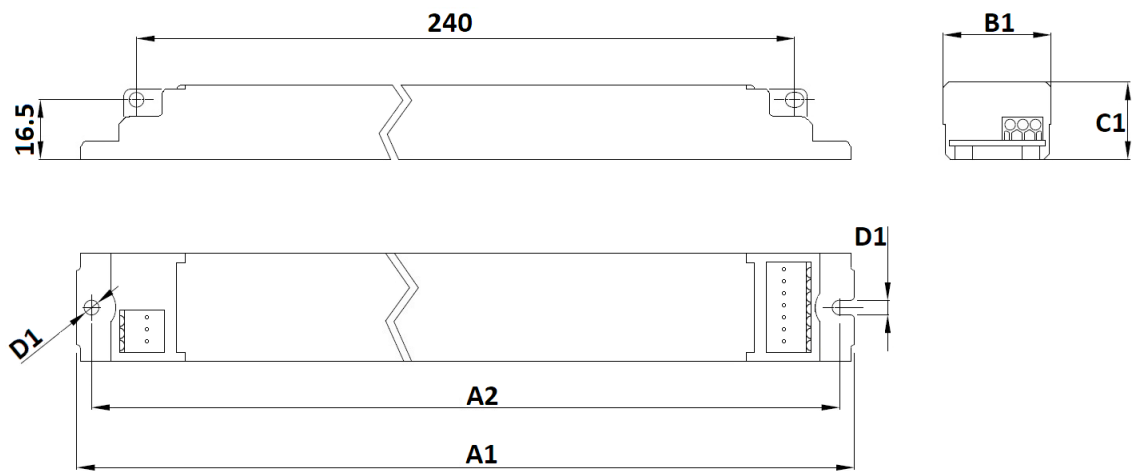


Isolation

| Insulation per IEC61347-1 | Input | Output+LEDset | Housing |
|---------------------------|-------|---------------|---------|
| Input                     | -     | No            | Basic   |
| Output+LEDset             | No    | -             | Basic   |
| Housing                   | Basic | Basic         | -       |

Dimensions and weight

| Specification item          | Value | Unit | Tolerance (mm) |
|-----------------------------|-------|------|----------------|
| Length (A1)                 | 280   | mm   |                |
| Mounting hole distance (A2) | 265   | mm   |                |
| Length (A3)                 | 240   | mm   |                |
| Width (B1)                  | 30    | mm   |                |
| Height (C1)                 | 21    | mm   |                |
| Mounting hole diameter (D1) | 4.1   | mm   |                |
| Weight                      | 185   | gram |                |

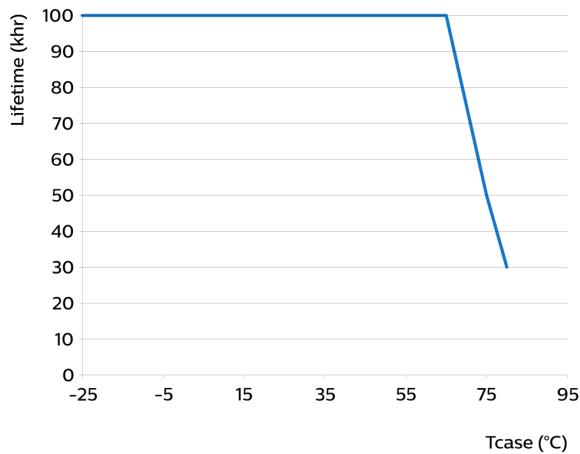


Operational temperatures and humidity

| Specification item          | Value     | Unit | Condition                                                               |
|-----------------------------|-----------|------|-------------------------------------------------------------------------|
| Ambient temperature         | -25...+50 | °C   | Higher ambient temperature allowed as long as Tcase-max is not exceeded |
| Tcase-max                   | 80        | °C   | Maximum temperature measured at T <sub>case</sub> -point                |
| Tcase-life                  | 75        | °C   | Measured at T <sub>case</sub> -point                                    |
| Maximum housing temperature | 110       | °C   | In case of a failure, inherent by design                                |
| Relative humidity           | 10...90   | %    | Non-condensing                                                          |

Lifetime

| Specification item    | Value   | Unit  | Condition                                                                                |
|-----------------------|---------|-------|------------------------------------------------------------------------------------------|
| Driver lifetime       | 50,000  | hours | Measured temperature at Tcase-point is Tcase-life.<br>Maximum failures = 10%             |
| Driver lifetime       | 100,000 | hours | Measured temperature at Tcase-point is Tcase-life<br>-10 degrees. Maximum failures = 10% |
| Driver lifetime Tcmax | 0       | hours | Measured temperature at Tcase-point is Tcase-life.<br>Maximum failures = 10%             |



Maximum failures = 10%

| Temperature [°C] | Lifetime | Unit | Condition                      |
|------------------|----------|------|--------------------------------|
| 80               | 25000    | hr   | Temperature measured @Tc point |
| 77.5             | 35000    | hr   |                                |
| 75               | 50000    | hr   |                                |
| 70               | >50000   | hr   |                                |
| 65               | 100000   | hr   |                                |

Storage temperature and humidity

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

## Programmable features

| Specification item                      | Available | Default setting | Condition                                                                                                           |
|-----------------------------------------|-----------|-----------------|---------------------------------------------------------------------------------------------------------------------|
| Set Adjustable Output Current (AOC)     | LEDset    | 120 mA          | Set the output current via LEDset, do not leave open / short-circuit. See Design-In Guide for resistor value table. |
| LED Module Temperature Protection (MTP) | No        |                 |                                                                                                                     |
| Constant Light Output (CLO)             | No        |                 |                                                                                                                     |
| DC emergency (DCemDim)                  | No        |                 | With a DC mains the output current is equal to the AOC value                                                        |

## Non-programmable features

| Specification item                          | Value | 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         |
| Energy metering (DALI part 252)             | No    |                      |
| Diagnostics via Signify tool                | No    |                      |

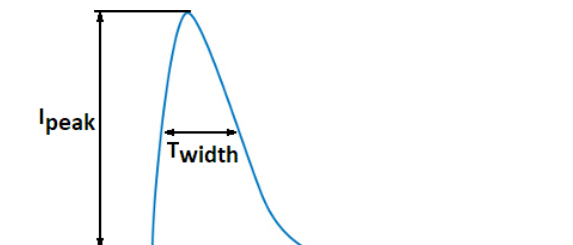
## Inrush current

| Specification item                | Value | Unit | Condition                                  |
|-----------------------------------|-------|------|--------------------------------------------|
| Inrush current                    | 19    | A    | Input voltage 220V                         |
| Inrush peak width                 | 280   | μs   | Input voltage 220V, measured at 50% height |
| Drivers / MCB 16A type B @230V AC | ≤ 24  | pcs  | Input voltage 230V                         |

Please refer to the driver design in guide if you use other MCB-types.

If several mini circuit breakers are used directly side-by-side (without distance piece)

a correction factor of 80% has to be applied to the rated current



## Driver touch current / protective conductor current / earth leakage current

| Specification item                                     | Value | Unit   | Condition                                             |
|--------------------------------------------------------|-------|--------|-------------------------------------------------------|
| Typical Protective Conductor Current<br>(ins. Class I) | 0.3   | mA rms | Acc. IEC60598-1. LED module contribution not included |

## Surge immunity

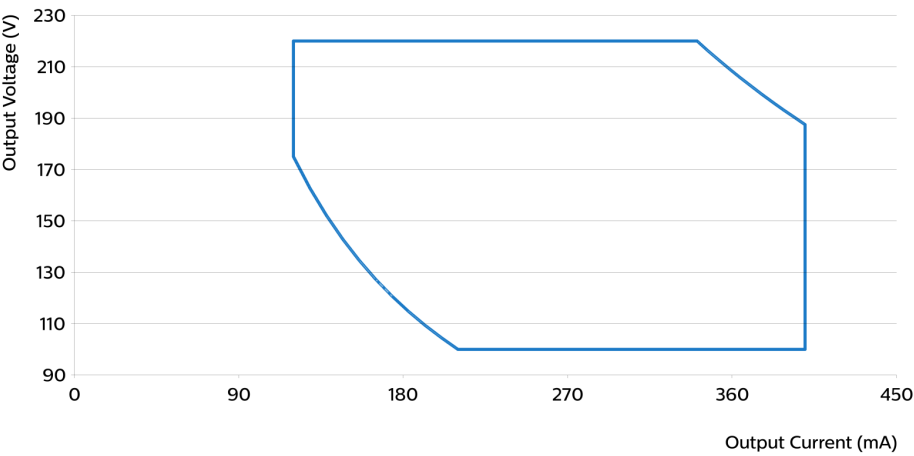
| Specification item                | Value | Unit | Condition                                   |
|-----------------------------------|-------|------|---------------------------------------------|
| Mains surge immunity (diff. mode) | 1     | kV   | Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us  |
| Mains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

## Application Info (Approbation)

| Specification item                     | Value                                                   |
|----------------------------------------|---------------------------------------------------------|
| Approval marks and Certifications      | BIS / CCC / CE / EAC / EL / ENEC / KC / RCM / TISI / UA |
| Ingress Protection classification (IP) | 20                                                      |
| Application                            | Indoor Linear                                           |
| Mounting Type                          | Built-in                                                |

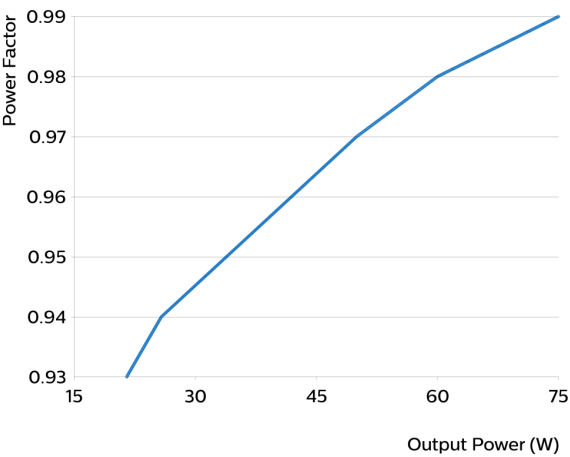
Graphs

Operating window

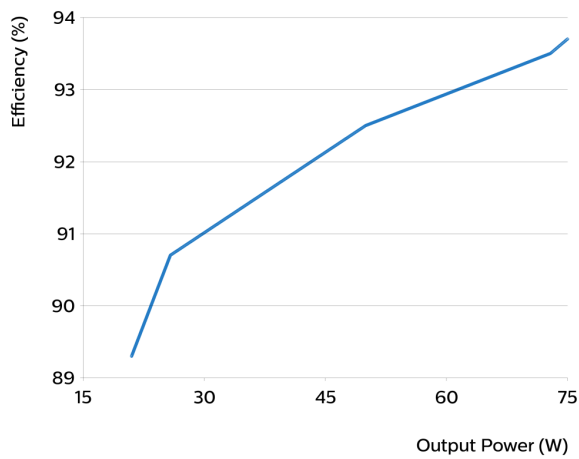


| Type                              | Output current (mA) | Min. output voltage (V) | Max. output voltage (V) | Max. output power (W) |
|-----------------------------------|---------------------|-------------------------|-------------------------|-----------------------|
| Xitanium 75W 0.12A-0.4A 220V 230V | 120                 | 175                     | 220                     | 26.4                  |
| Xitanium 75W 0.12A-0.4A 220V 230V | 170                 | 123                     | 220                     | 37.4                  |
| Xitanium 75W 0.12A-0.4A 220V 230V | 220                 | 100                     | 220                     | 48.4                  |
| Xitanium 75W 0.12A-0.4A 220V 230V | 270                 | 100                     | 220                     | 59.4                  |
| Xitanium 75W 0.12A-0.4A 220V 230V | 320                 | 100                     | 220                     | 70.4                  |
| Xitanium 75W 0.12A-0.4A 220V 230V | 400                 | 100                     | 187                     | 75                    |

Power factor versus output power



## Efficiency versus output power



## THD versus output power

