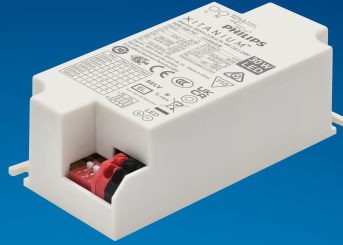


# PHILIPS

## Xitanium

### LED driver



## Datasheet

### LED drivers – mini (DipSwitch)

Xitanium 30W/m 0.35-0.7A 44V DS S 230V

9290 028 79706

#### Enabling future-proof LED technology

Xitanium LED drivers are designed to operate LED solutions for general lighting applications.

#### Benefits

- High reliability underpinned by 5 year warranty
- Future-proof flexibility - application-oriented operating windows enable LED generation and complexity management
- Compatibility - can also be used for other manufacturers' modules or OEMs' own PCB designs

#### Features

- Easy current selection via dipswitch
- SELV

#### Application

- Retail

## 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          | 0.16       | A               | @ rated output power @ rated input voltage                         |
| Rated input power            | 35         | 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                   | 88         | %               | @ rated output power @ rated input voltage @ max. U <sub>out</sub> |
| Rated input voltage DC range | 186...250  | V <sub>dc</sub> | Performance range; EOFI = 95%                                      |
| Rated input current DC range | 0.2...0.12 | A <sub>dc</sub> | Performance range                                                  |
| Input voltage AC range       | 198...264  | V <sub>ac</sub> | Operational range                                                  |
| Input frequency AC range     | 45...66    | Hz              | Operational range                                                  |
| Input voltage DC range       | 168...275  | V <sub>dc</sub> | Operational range                                                  |
| Isolation input to output    | SELV       |                 |                                                                    |

## Electrical output data

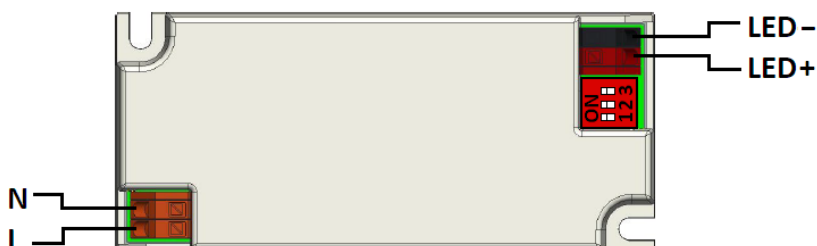
| Specification item                   | Value            | Unit            | Condition                                                 |
|--------------------------------------|------------------|-----------------|-----------------------------------------------------------|
| Regulation method                    | Constant Current |                 |                                                           |
| Output voltage                       | 5...44           | V <sub>dc</sub> |                                                           |
| Output voltage max.                  | 60               | V               | Maximum output voltage (rms)                              |
| Output current                       | 0.35 / 0.7       | A               | Via dipswitch: 0.35/0.4/0.45/0.5/0.55/0.6/0.65/0.7A       |
| Output current tolerance ±           | 5                | %               |                                                           |
| Output current ripple LF             | ≤ 4              | %               | Ripple = peak / average, < 3kHz                           |
| Output P <sub>st</sub> <sup>LM</sup> | ≤ 1              |                 | In entire voltage range for each choice of output current |
| Output SVM                           | ≤ 0.4            |                 | In entire voltage range for each choice of output current |
| Output power                         | 1.75...30        | W               | Performance range: 9 ... 30W                              |

## Electrical data controls input

| Specification item | Value | Unit | Condition                                  |
|--------------------|-------|------|--------------------------------------------|
| Control method     | Fixed |      | Output current can be set via dip switches |

## Wiring and Connections

| Specification item        | Value     | Unit                  | Type                                   |
|---------------------------|-----------|-----------------------|----------------------------------------|
| Input wire cross-section  | 0.5...1.5 | mm <sup>2</sup> / AWG | solid / stranded wire                  |
| Input wire strip length   | 8...9     | mm                    |                                        |
| Output wire cross-section | 0.5...1.5 | mm <sup>2</sup> / AWG | solid / stranded wire                  |
| Output wire strip length  | 8...9     | mm                    |                                        |
| Maximum cable length      | 0.6       | m                     | CISPR15: between driver and LED module |



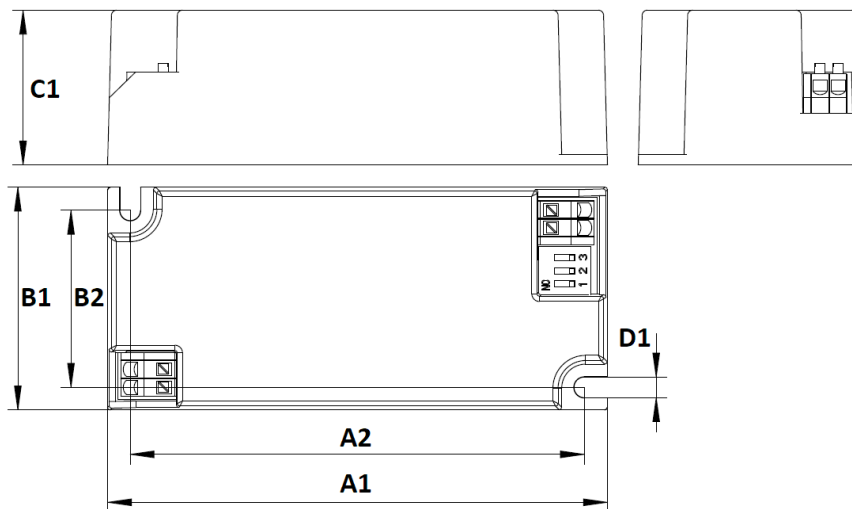
| I <sub>out</sub> | Sw1 | Sw2 | Sw3 |
|------------------|-----|-----|-----|
| 350mA            | 0   | 0   | 0   |
| 400mA            | 0   | 0   | 1   |
| 450mA            | 0   | 1   | 0   |
| 500mA            | 0   | 1   | 1   |
| 550mA            | 1   | 0   | 0   |
| 600mA            | 1   | 0   | 1   |
| 650mA            | 1   | 1   | 0   |
| 700mA            | 1   | 1   | 1   |

## Insulation

| Insulation per IEC61347-1 | Input | Output |
|---------------------------|-------|--------|
| Input                     |       | SELV   |
| Output                    | SELV  |        |

## Dimensions and weight

| Specification item          | Value            | Unit | Tolerance (mm) |
|-----------------------------|------------------|------|----------------|
| Length (A1)                 | 97.3             | mm   | ± 0.4          |
| Mounting hole distance (A2) | 88.4             | mm   | ± 0.4          |
| Width (B1)                  | 43.3             | mm   | ± 0.3          |
| Width (B2)                  | 34.4             | mm   | ± 0.3          |
| Height (C1)                 | 30               | mm   | ± 0.3          |
| Mounting hole diameter (D1) | 4                | mm   | ± 0.2          |
| Weight                      | 95               | gram |                |
| Housing color               | White (RAL 9016) |      |                |



## Logistical data

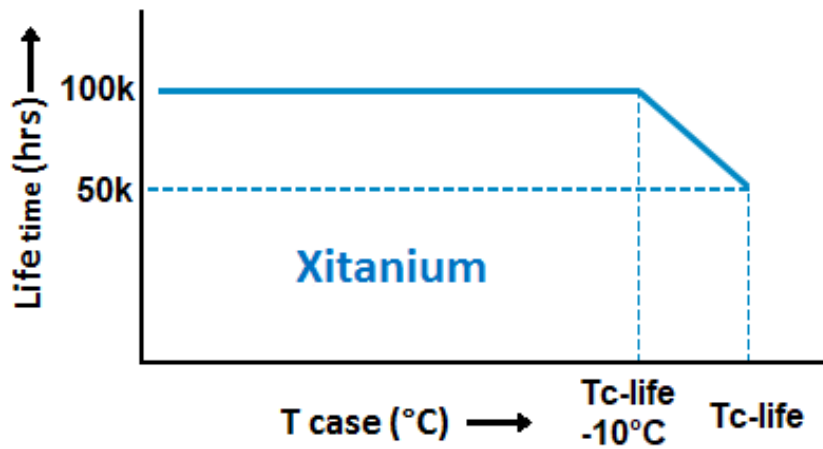
| Specification item | Value                                  |
|--------------------|----------------------------------------|
| Product name       | Xitanium 30W/m 0.35-0.7A 44V DS S 230V |
| EOC                | 871951438560300                        |
| Logistic code 12NC | 9290 028 79706                         |
| EAN1 (GTIN)        | 8719514385603                          |
| EAN3 (box)         | 8719514385610                          |
| Pieces per box     | 40                                     |

## Operational temperatures and humidity

| Specification item          | Value     | Unit | Condition                                                                            |
|-----------------------------|-----------|------|--------------------------------------------------------------------------------------|
| Ambient temperature         | -20...+50 | °C   | Higher ambient temperature allowed as long as T <sub>case</sub> -max is not exceeded |
| T <sub>case</sub> -max      | 80        | °C   | Maximum temperature measured at T <sub>case</sub> -point                             |
| T <sub>case</sub> -life     | 80        | °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. Maximum failures = 10% |



## Storage temperature and humidity

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

## Programmable features

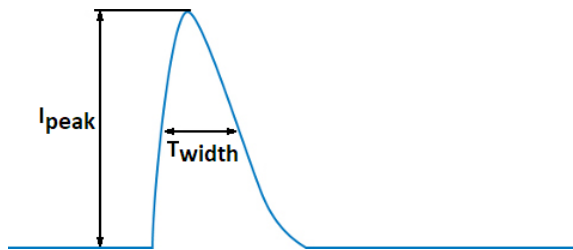
| Specification item                  | Available | Default setting | Condition                                                                    |
|-------------------------------------|-----------|-----------------|------------------------------------------------------------------------------|
| Set Adjustable Output Current (AOC) | DipSwitch | 350 mA          | Set the output current via the dipswitch, see wiring diagram for an overview |

## 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 and II |  | per IEC60598         |

## Inrush current

| Specification item       | Value | Unit | Condition                                   |
|--------------------------|-------|------|---------------------------------------------|
| Inrush current           | 14.5  | A    | Input voltage 230V                          |
| Inrush peak width        | 150   | μs   | Input voltage 230 V, measured at 50% height |
| Drivers / MCB 16A type B | ≤ 54  | pcs  | Indicative value                            |



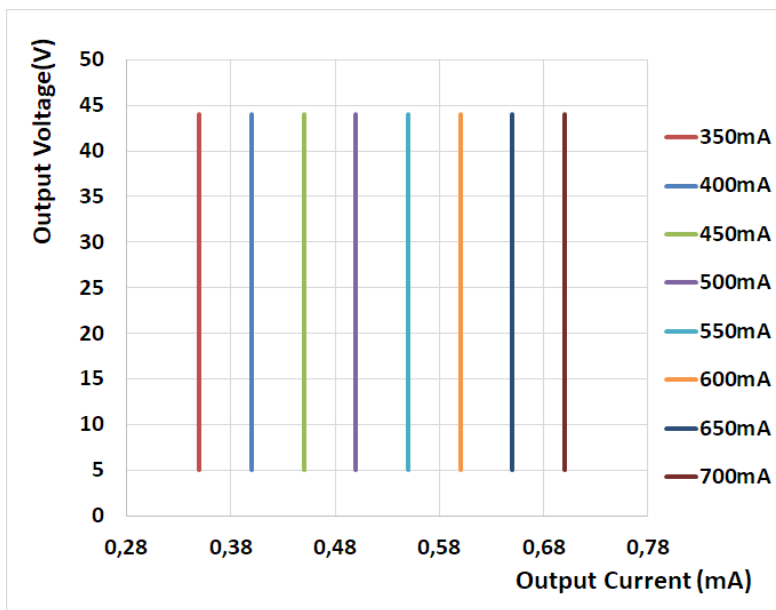
Please refer to the driver design in guide if you use other MCB-types.

## Surge immunity

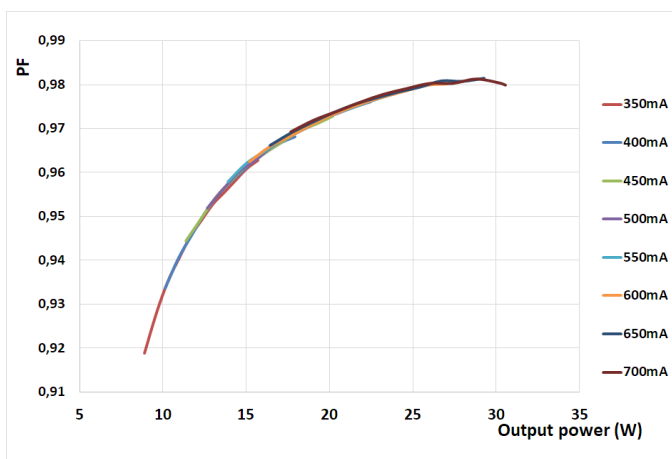
| Specification item                | Value | Unit | Condition                                       |
|-----------------------------------|-------|------|-------------------------------------------------|
| Mains surge immunity (diff. mode) | 1     | kV   | L- N Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us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

## Application Info

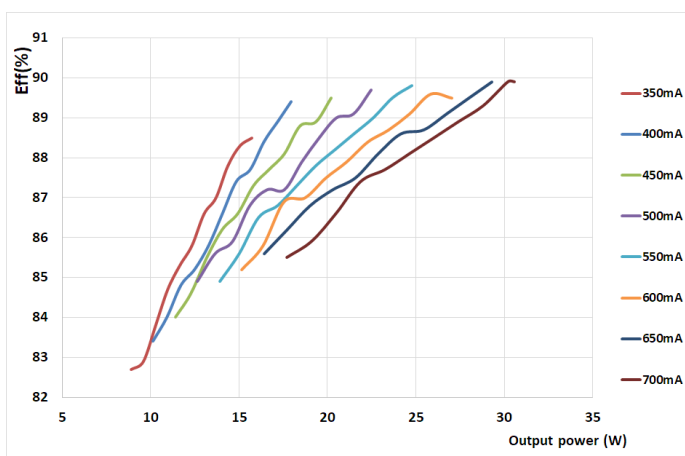
| Specification item                     | Value                                                                       |
|----------------------------------------|-----------------------------------------------------------------------------|
| Approval marks                         | CCC / CE / Double-insulated Built-In / EL / ENEC / RCM / SELV / UKCA / WEEE |
| Ingress Protection classification (IP) | 20                                                                          |
| Noise and hum dB(A)                    | 20                                                                          |
| Application                            | Indoor Point                                                                |
| Mounting Type                          | Built-in                                                                    |



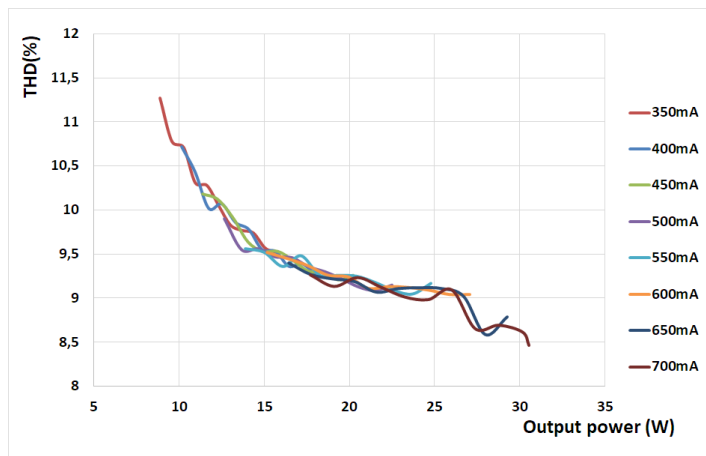
#### Power factor versus output power



#### Efficiency versus output power



## THD versus output power



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Date of release: October 14, 2021 v1

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