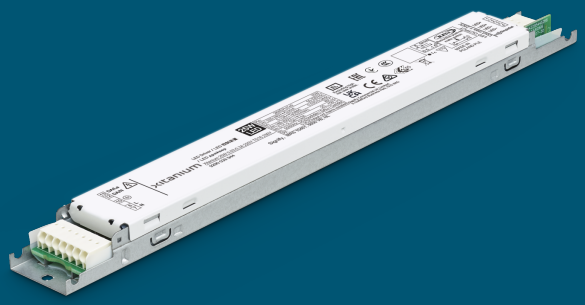
Xitanium

Datasheet

# Xitanium non-iso DALI dimmable & programmable (TD16 SimpleSet)



Xitanium 25W 0.03-0.3A 220V TD16 230V
9290 039 94406

**Xitanium non-isolated DALI drivers are ideal for High Voltage (HV) linear systems and stand on three pillars: quality of light, reliability and flexibility.**

By using Xitanium LED drivers in your luminaires, you can be sure to offer your customers high quality of light without visual flicker and stroboscopic effects. The reliability of our drivers is based on in-depth electronics knowledge and extensive testing.

Finally, 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

- Low profile housing (16mm height)
- SimpleSet configuration interface (NFC)
- High quality of light
- High reliability
- Future-proof flexibility
- Flicker and noise free dimming due to amplitude modulation dimming (AM)

## Application

- Offices
- Healthcare
- Education
- Indoor parking areas
- Retail: supermarkets, shopping malls
- Industry

## Features

- Configurable operating windows (AOC) via DALI and SimpleSet interface
- Adjustable Light Output (ALO)
- Constant Light Output (CLO)
- Corridor Mode (CM)
- Dimming supported during DC operation (DCemDim)
- Touch & Dim (TD)
- OEM Write Protection (OWP)
- Memory Bank 1 Extension / Luminaire Data (DALI part 251)
- Energy Reporting (DALI part 252)
- Diagnostics & Maintenance (DALI part 253)

## Logistical data

| Specification item | Value |
|---|---|
| Product name | Xitanium 25W 0.03-0.3A 220V TD16 230V |
| Logistic code 12NC | 9290 039 94406 |
| Pieces per box | 24 |
| Weight | 180 gram |

## Electrical input data

| Specification item | Value | Unit | Condition |
|---|---|---|---|
| Rated input voltage range | 220...240 | $V_{ac}$ | Performance range |
| Rated input voltage | 230 | $V_{ac}$ | |
| Rated input frequency | 50...60 | Hz | Performance range |
| Rated input current | 0.12 | A | @ rated output power @ rated input voltage |
| Rated input power | 28.0 | W | @ rated output power @ rated input voltage |
| Power factor performance range | 0.98 | | @ rated output power @ rated input voltage |
| Total harmonic distortion | 20 | % | @ rated output power @ rated input voltage |
| Efficiency | 89.0 | % | @ rated output power @ rated input voltage |
| Rated input voltage DC | 186...250 | $V_{dc}$ | Performance range, No external DC fuse is required |
| Input voltage AC | 198...264 | $V_{ac}$ | Safety operational range |
| Input frequency AC | 47.5...63 | Hz | Safety operational range |
| Input voltage DC | 168...275 | $V_{dc}$ | Safety Operational range |
| Standby Power (W) | 0.25 | W | |

## Electrical output data

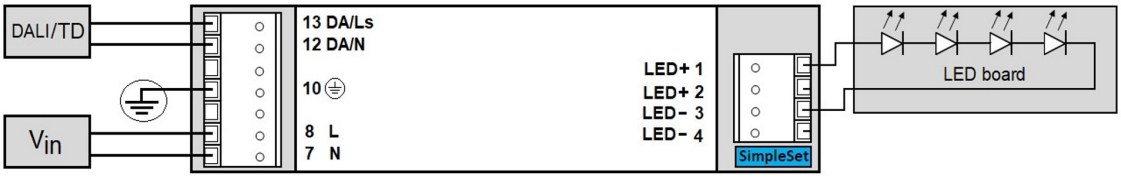
| Specification item | Value | Unit | Condition |
|---|---|---|---|
| Regulation method | Constant Current | | |
| Output voltage | 50...220 | $V_{dc}$ | |
| Output voltage max. | 250 | V | Maximum output voltage (rms) |
| Output current | 1.2...300 | mA | |
| Output current min programmable | 30 | mA | |
| Output current ripple LF | ≤ 4 | % | Ripple = peak / average, < 3kHz |
| Output current ripple LF | ≤ 4 | % | @120hz |
| Output $P_{st}^{LM}$ | ≤ 1.0 | | In entire operating window |
| Output SVM | ≤ 0.3 | | In entire operating window |
| Output power | 0.1...25.0 | W | |
| Minimum performance output power | 7.5 | W | Power factor > 0.9 and THD < 20% |

## Control interfaces

| Specification item | Value | Unit | Condition |
|---|---|---|---|
| Control method | Corridor Mode, DALI, TD | | DALI parts: 101, 102, 207, 251, 252, 253. See design-in guide at www.philips.com/oem for more controllability details. |
| Dimming range | 1...100 | % | with AOC > 80mA 1% dimming possible; AOC < 80mA min. physical current = 3mA |
| Isolation controls input to output | Basic | | acc. IEC61347-1 |

## Wiring and Connections

| Specification item | Value | Unit | Type |
|---|---|---|---|
| Input wire cross-section | 0.5...1.5 / 20...16 | mm² / AWG | WAGO744, solid wire |
| Input wire strip length | 8...9 | mm | |
| Output wire cross-section | 0.5...1.5 / 20...16 | mm² / AWG | WAGO744, solid wire |
| Output wire strip length | 8...9 | mm | |
| Control wire cross-section | 0.5...1.5 / 20...16 | mm² / AWG | WAGO744, solid wire |
| Control wire strip length | 8...9 | mm | |
| Maximum cable length | 2 | m | Total length of wiring including LED module, one way |

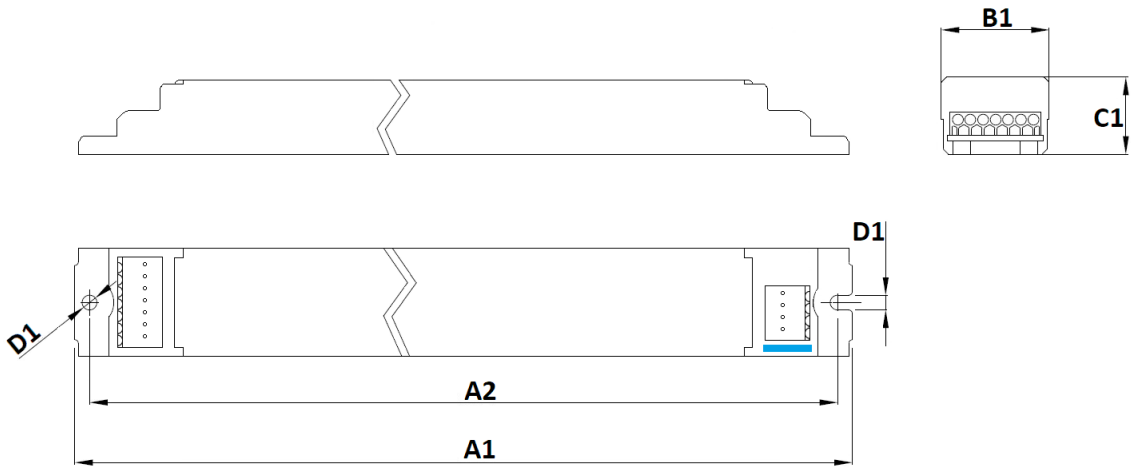



## Isolation

| Insulation per IEC61347-1 | Input | Output | DALI | Housing |
|---|---|---|---|---|
| Input | - | No | Basic | Basic |
| Output | No | - | Basic | Basic |
| DALI | Basic | Basic | - | Basic |
| Housing | Basic | Basic | Basic | - |

## Dimensions and weight

| Specification item | Value | Unit | Tolerance (mm) |
|---|---|---|---|
| Length (A1) | 280 | mm | |
| Mounting hole distance (A2) | 270 | mm | |
| Width (B1) | 30 | mm | |
| Height (C1) | 16 | mm | |
| Mounting hole diameter (D1) | 4.1 | mm | |
| Weight | 180 | gram | |
| Housing color | White | | |

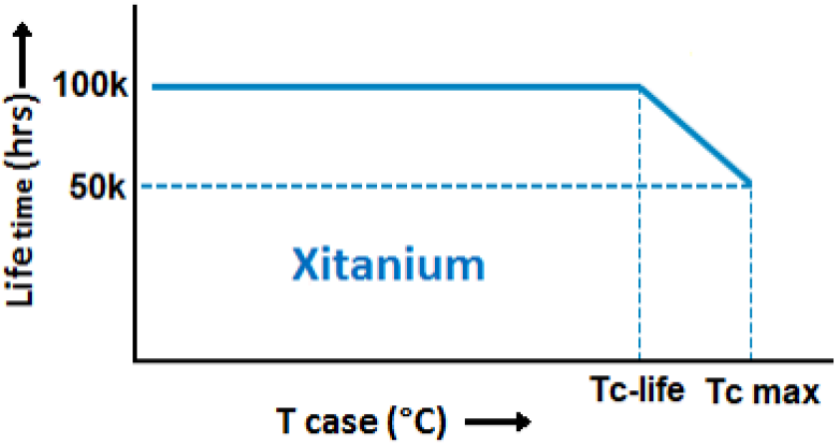



## Operational temperatures and humidity

| 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 $T_{case}$-point |
| Tcase-life | 70 | °C | Measured at $T_{case}$-point |
| Relative humidity | 5...95 | % | Non-condensing |

## Lifetime

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




Maximum failures = 10%

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

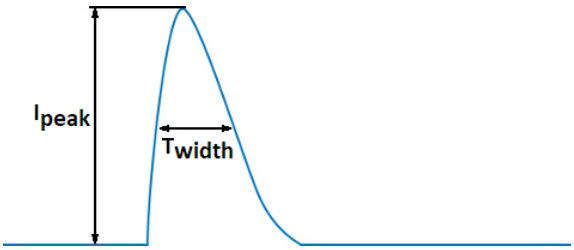
| Specification item | Available | Default setting | Condition |
|---|---|---|---|
| Set Adjustable Output Current (AOC) | NFC, Programmable, SimpleSet | 35 mA | |
| Adjustable Light Output (ALO) | Yes | OFF | |
| Constant Light Output (CLO) | Yes | OFF | |
| Touch & Dim (TD) | Yes | ON | Factory default setting: ON |
| Corridor Mode | Yes | ON | Default: T1=55s, T2=12s, T3=30min |
| Min Dim Level (%) | Yes | 1 % | |
| DC emergency (DCemDim) | Yes | ON | Default 15%, EOFi range=1..100% (EOFi = DCemDIM level) |
| DALI control supported at DC operation | Yes | ON | |
| OEM Write Protection (OWP) | Yes | OFF | |
| DALI 102 | Yes | | Programmable via SimpleSet |
| Luminaire Info (DALI part 251) | Yes | | |
| Luminaire maintenance (DALI part 253) | Yes | | |

## 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 |
| Output Overvoltage Detection | Yes | |
| Energy metering (DALI part 252) | Yes | |

## Inrush current

| Specification item | Value | Unit | Condition |
|---|---|---|---|
| Inrush current | 36 | A | Input voltage 230V |
| Inrush peak width | 130 | µs | Input voltage 230V, measured at 50% height |
| Drivers / MCB 16A type B @230V AC | ≤ 25 | 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 pieces

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 (ins. Class I) | 0.5 | mA rms | Acc. IEC60598-1. LED module contribution not included |

## Surge immunity

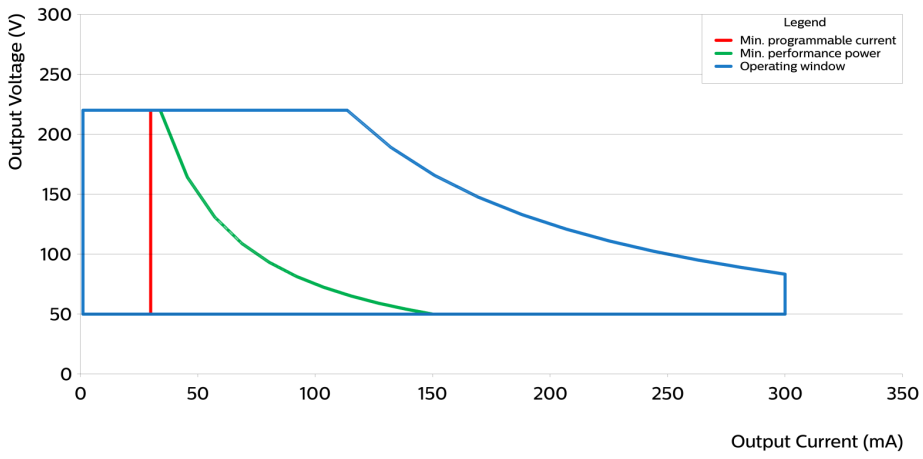
| Specification item | Value | Unit | Condition |
|---|---|---|---|
| Mains surge immunity (diff. mode) | 1 | kV | Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us |
| Mains surge immunity (comm. mode) | 2 | kV | Acc. IEC61000-4-5. 12 Ohm 1.2/50us,8/20us |
| Control surge immunity (diff. mode) | 1 | kV | Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us |
| Control 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 | CCC / CE / DALI 2 / EAC / EL / ENEC / RCM / UA / UKCA |
| Ingress Protection classification (IP) | 20 |
| Application | Indoor Linear |
| Mounting Type | Built-in |

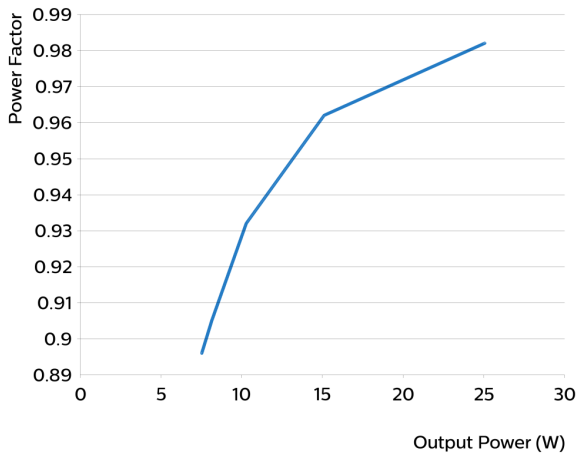
## Graphs

## Operating window

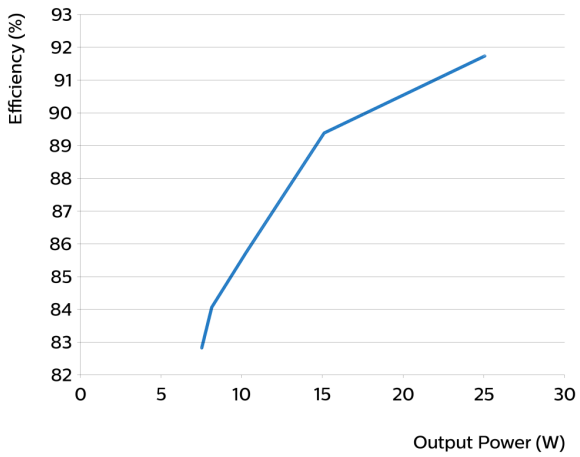



| Type | Output current (mA) | Min. output voltage (V) | Max. output voltage (V) | Max. output power (W) |
|---|---|---|---|---|
| Xitanium 25W 0.03-0.3A 220V TD16 230V | 30 | 50 | 220 | 6.6 |
| Xitanium 25W 0.03-0.3A 220V TD16 230V | 80 | 50 | 220 | 17.6 |
| Xitanium 25W 0.03-0.3A 220V TD16 230V | 130 | 50 | 192 | 25 |
| Xitanium 25W 0.03-0.3A 220V TD16 230V | 180 | 50 | 138 | 25 |
| Xitanium 25W 0.03-0.3A 220V TD16 230V | 230 | 50 | 108 | 25 |
| Xitanium 25W 0.03-0.3A 220V TD16 230V | 300 | 50 | 83 | 25 |

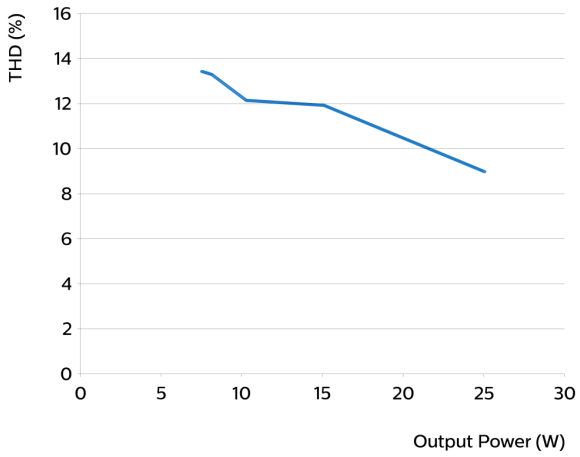
## Power factor versus output power




## Efficiency versus output power




## THD versus output power



## Notes

Electrical Specifications:All the specifications are typical and at 25°C Ta unless specified otherwise.

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