

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium LED drivers – linear LV isolated

Xitanium 41W 0.5-0.8A 51V DS 230V

9290 028 31880

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 years 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%)
- Adjustable output current by dip switch

Application

- Offices and industry

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 range | 50...60 | Hz | Performance range |
| Rated input current | 0.26 | A | @ full output power @ rated input voltage |
| Rated input power | 30 / 35 / 41 / 46 | W | @ full 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 | % | @ full output power @ rated input voltage @ max. I _{out} |
| Input voltage AC range | 198...264 | V _{ac} | 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 | 23...51 / 27...51(I _{out} =0.5A) | V _{dc} | |
| Output voltage max. | 60 | V | Maximum output voltage (rms) |
| Output current | 0.5 / 0.6 / 0.7 / 0.8 | A | |
| Output current tolerance | ± 8 | % | |
| Output current ripple LF | < 4 | % | Ripple = peak / average, < 3kHz |
| Output P _{st} ^{LM} | ≤ 1 | | In entire operating window |
| Output SVM | ≤ 1.6 | | In entire operating window |
| Output power | 13.5...41 | W | |

Electrical data controls input

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

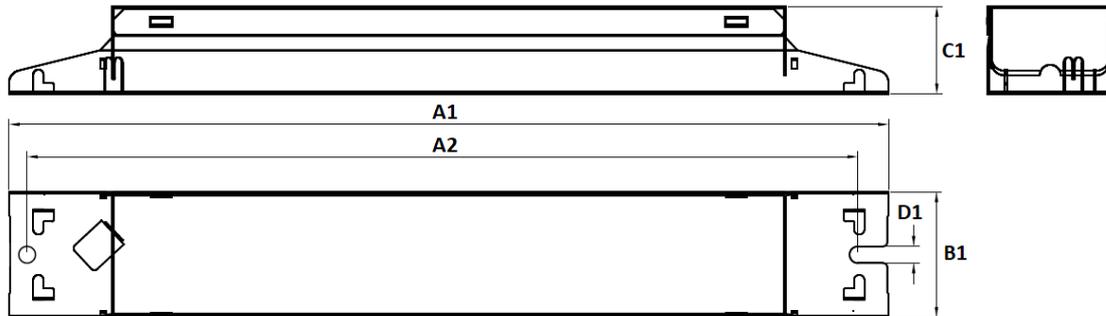
Wiring and Connections

| Specification item | Value | Unit | Type |
|---------------------------|---------------------|-----------------------|---|
| Input wire cross-section | 0.5...1.5 / 20...16 | mm ² / AWG | Type250, solid / stranded wire |
| Input wire strip length | 8...9 | mm | |
| Output wire cross-section | 0.5...1.5 / 20...16 | mm ² / AWG | Type250, solid / stranded wire |
| Output wire strip length | 8...9 | mm | |
| Maximum cable length | 2 | m | Total length of wiring including LED module, one way. For longer wiring please double check EMI behavior of luminaire |



Dimensions and weight

| Specification item | Value | Unit | Tolerance (mm) |
|-----------------------------|-------|------|----------------|
| Length (A1) | 188 | mm | |
| Mounting hole distance (A2) | 176.4 | mm | |
| Width (B1) | 30.2 | mm | |
| Height (C1) | 21 | mm | |
| Mounting hole diameter (D1) | 4.1 | mm | |
| Weight | 147 | gram | |



Logistical data

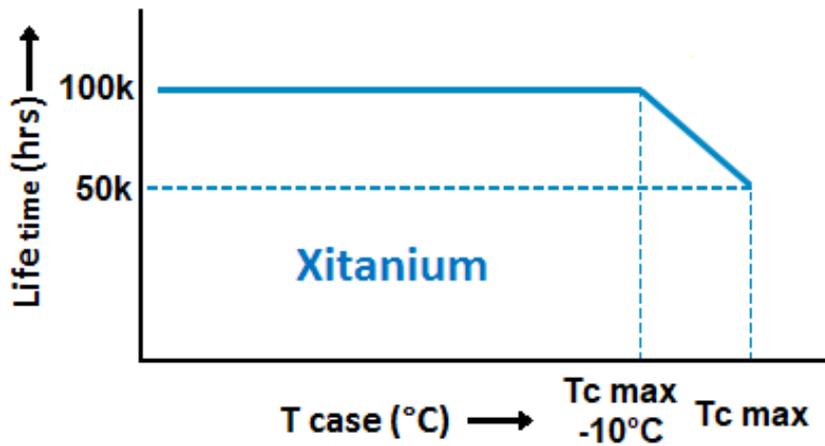
| Specification item | Value |
|---------------------|-----------------------------------|
| Product name | Xitanium 41W 0.5-0.8A 51V DS 230V |
| European order code | 6922341 919602 00 |
| Logistic code 12NC | 9290 028 31880 |
| Pieces per box | 50 |

Operational temperatures and humidity

| Specification item | Value | Unit | Condition |
|-----------------------------|-----------|------|---|
| Ambient temperature | -20...+50 | °C | Higher ambient temperature allowed as long as T _{case-max} is not exceeded |
| T _{case-max} | 75 | °C | Maximum temperature measured at T _{case-point} |
| T _{case-life} | 65 | °C | Measured at T _{case-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 | 100,000 | 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

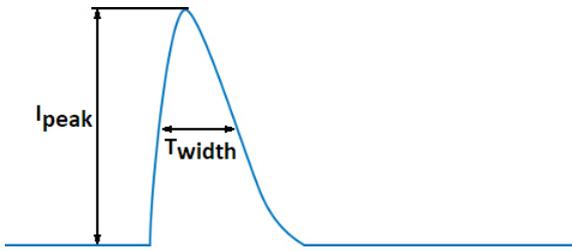
| Specification item | Available | Default setting | Condition |
|-------------------------------------|-----------|-----------------|-------------------------------|
| Set Adjustable Output Current (AOC) | | 500 mA | Manual setting via dip-switch |
| Constant Light Output (CLO) | No | | |
| DC emergency (DCemDim) | No | | |

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 |
| Energy metering | No | | |
| Diagnostics | No | | |

Inrush current

| Specification item | Value | Unit | Condition |
|----------------------------|-----------|---------|--|
| Inrush current I_{peak} | 15.3 | A | Input voltage 230V |
| Inrush current T_{width} | 290 | μ s | Input voltage 230V, measured at 50% I_{peak} |
| Drivers / MCB 16A type B | ≤ 50 | pcs | Indicative value |



| MCB | Rating | Relative number of LED drivers |
|-----|--------|--------------------------------|
| B | 4A | 25% |
| B | 6A | 40% |
| B | 10A | 63% |
| B | 13A | 81% |
| B | 16A | 100% (stated in datasheet) |
| B | 20A | 125% |
| B | 25A | 156% |
| B | 32A | 200% |
| B | 40A | 250% |
| C | 4A | 42% |
| C | 6A | 63% |
| C | 10A | 104% |
| C | 13A | 135% |
| C | 16A | 170% |
| C | 20A | 208% |
| C | 25A | 260% |
| C | 32A | 340% |
| C | 40A | 415% |

Surge immunity

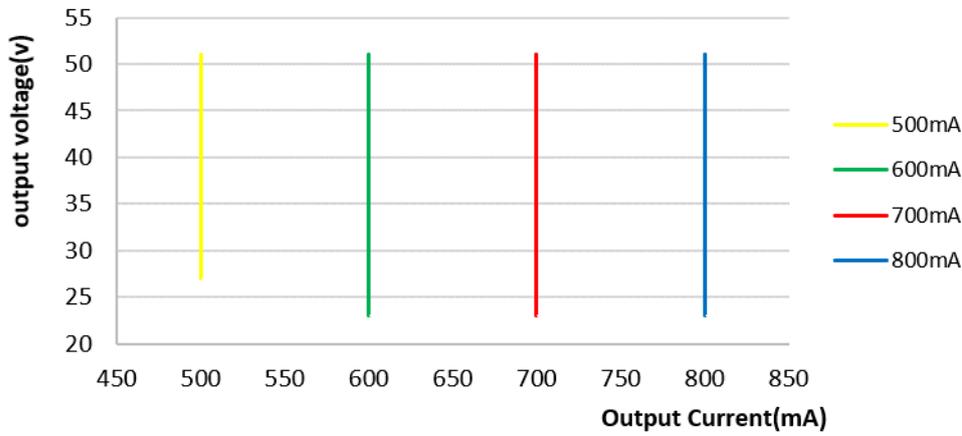
| Specification item | Value | Unit | Condition |
|-----------------------------------|-------|------|---|
| Mains surge immunity (diff. mode) | 1 | kV | Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us |
| Mains surge immunity (comm. mode) | 2 | kV | Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us |

Application Info

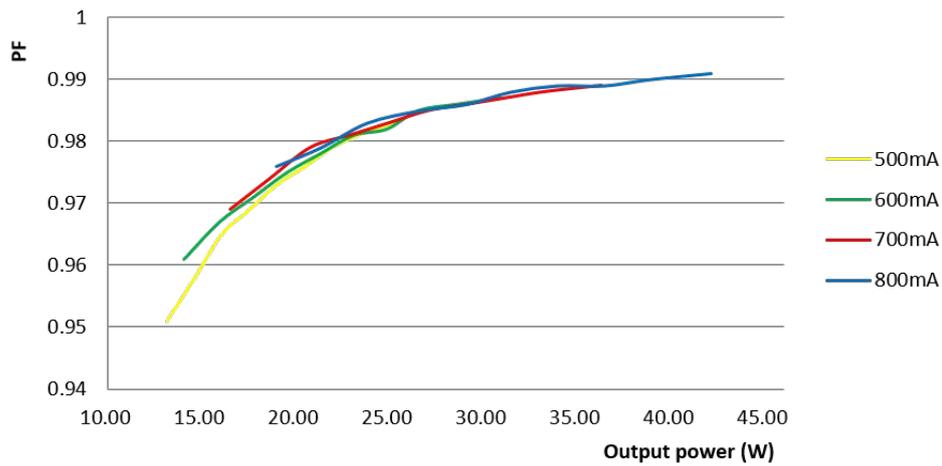
| Specification item | Value |
|--|----------------------------|
| Approval marks | CB / CCC / CE / ENEC / RCM |
| Ingress Protection classification (IP) | 20 |

Graphs

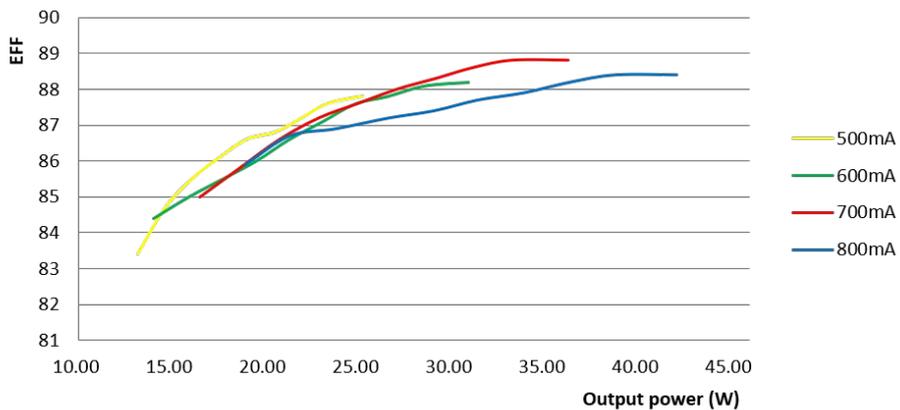
Operating window



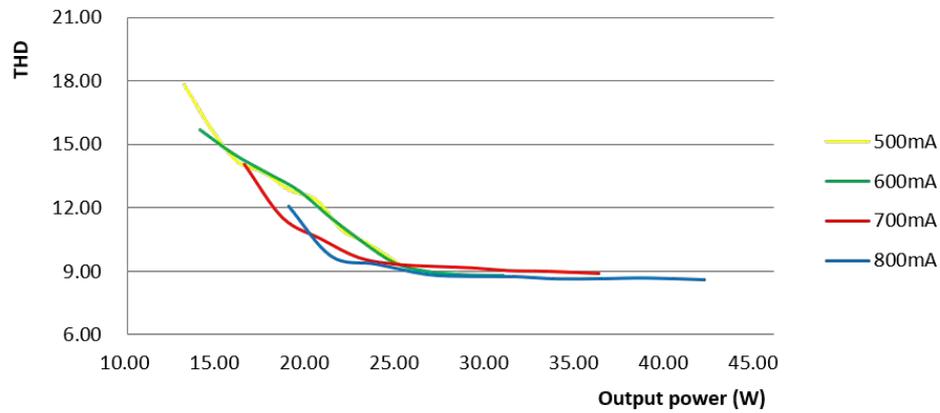
Power factor versus output power



Efficiency versus output power



THD versus output power



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