

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium LED Transformer G2

Xi LED Transformer 30W 24VDC

9290 034 63380

Philips Xitanium Constant Voltage drivers are designed to operate 24VDC LED solutions used both in built-in and independent applications such as shelf lighting, retail display lighting and facade lighting. Xitanium Constant Voltage drivers come with several protection features which guarantee reliable operation and 50,000 hours lifetime. They are specifically designed to ensure great EMI performance, high robustness and safe usage.

Features

- Class II application
- Built in and independent application
- Open Load/Short-circuit/Overpower Protection
- 5% output power at minimal operation range
- 2% output voltage ripple
- 50,000 hours lifetime

Benefits

- Provides options for different luminaire designs
- Great EMI performance for easy design-in
- Guarantee reliable operations
- Peace of mind with proven reliability

Application

- Retail display lighting
- Cove lighting
- Façade lighting
- Shelf lighting

Logistical data

| Specification item | Value |
|--------------------|------------------------------|
| Product name | Xi LED Transformer 30W 24VDC |
| Logistic code 12NC | 9290 034 63380 |
| Pieces per box | 80 |

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 | 47...63 | Hz | Performance range |
| Rated input current | 0.18 | A | @ rated output power @ rated input voltage |
| Rated input power | 36.0 | W | @ rated output power @ rated input voltage |
| Power factor performance range | ≥ 0.95 | | @ rated output power @ rated input voltage |
| Total harmonic distortion | 10 | % | @ rated output power @ rated input voltage |
| Efficiency | 86.0 | % | @ rated output power @ rated input voltage |
| Input voltage AC | 198...264 | V _{ac} | Operational range |
| Input frequency AC | 45...66 | Hz | Operational range |
| Isolation input to output | SELV | | |

Electrical output data

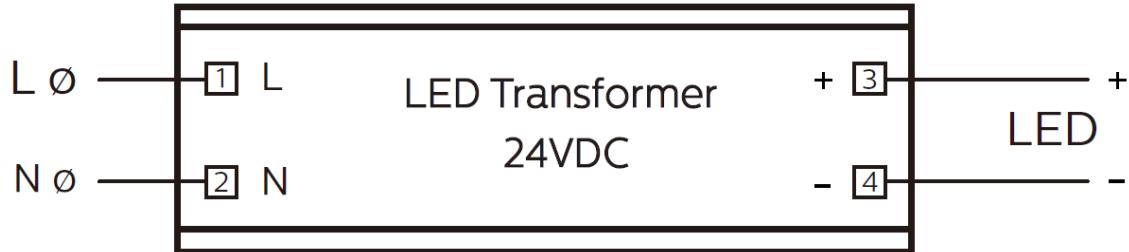
| Specification item | Value | Unit | Condition |
|--------------------------|------------------|-----------------|---|
| Regulation method | Constant Voltage | | |
| Output voltage | 24 | V _{dc} | Output voltage range: 22.8 ... 25.2VDC @ output current range 0.375 ... 1.25A |
| Output voltage max. | 31 | V | |
| Output current | 63...1250 | mA | |
| Output voltage ripple | ≤ 2 | % | ≤ 480 mV _{pp} |
| Output power | 1.5...30.0 | W | |
| Line regulation | ≤ 1 | % | |
| Load regulation | ≤ 3 | % | |
| Turn-on delay | ≤ 1 | s | |
| Output voltage rise time | ≤ 30 | ms | |
| Hold-up time | ≥ 10 | ms | |

Control interfaces

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

Wiring and Connections

| Specification item | Value | Unit | Type |
|---------------------------|----------------------|-----------------------|---|
| Input wire cross-section | 0.75...1.5 / 18...16 | mm ² / AWG | solid / stranded wire |
| Input wire strip length | 7.5...8.5 | mm | |
| Output wire cross-section | 0.5...1.5 / 20...16 | mm ² / AWG | solid / stranded wire |
| Output wire strip length | 7.5...8.5 | mm | |
| Maximum cable length | 2.5 | m | Total cable length between driver and LED modules per CISPR15 |

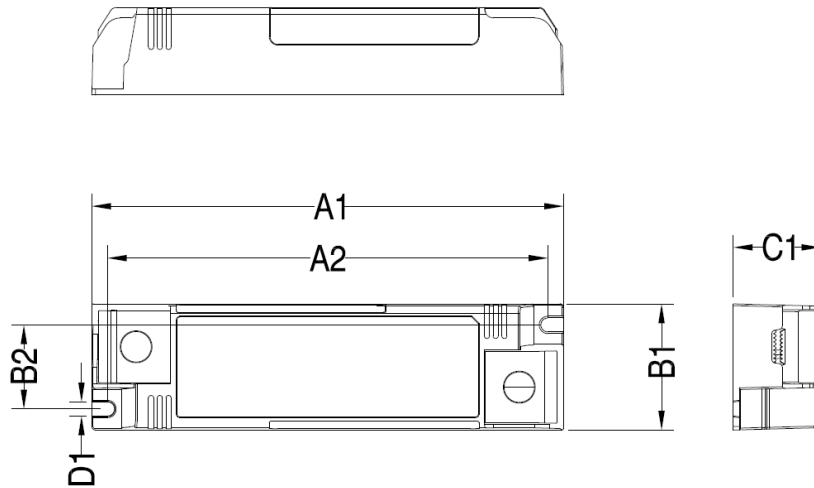


Isolation

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

Dimensions and weight

| Specification item | Value | Unit | Tolerance (mm) |
|-----------------------------|-------|------|----------------|
| Length (A1) | 135 | mm | ± 1 |
| Mounting hole distance (A2) | 126 | mm | ± 1 |
| Width (B1) | 36 | mm | ± 0.5 |
| Width (B2) | 24 | mm | ± 0.5 |
| Height (C1) | 25 | mm | ± 0.5 |
| Mounting hole diameter (D1) | 4 | mm | ± 0.5 |
| Weight | 90 | gram | |

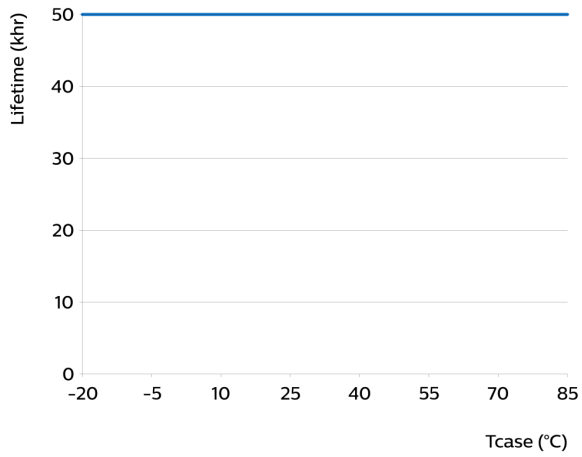


Operational temperatures and humidity

| 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} | 90 | °C | Maximum temperature measured at T _{case-point} |
| T _{case-life} | 85 | °C | Measured at T _{case-point} |
| Relative humidity | 10...90 | % | Non-condensing |

Lifetime

| Specification item | Value | Unit | Condition |
|--------------------|--------|-------|--|
| Driver lifetime | 50,000 | hours | Measured temperature at T _{case-point} is T _{case-life} . Maximum failures = 10% |



Maximum failures = 10%

Storage temperature and humidity

| Specification item | Value | Unit | Condition |
|---------------------|-----------|------|----------------|
| Ambient temperature | -20...+85 | °C | |
| Relative humidity | 5...95 | % | Non-condensing |

Non-programmable features

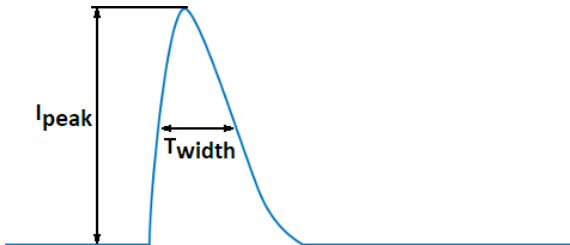
| Specification item | Value | Unit | Condition |
|---|-------|------|-----------------------------------|
| Open load protection | Yes | | Automatic recovering |
| Short circuit protection | Yes | | Hiccup mode, automatic recovering |
| Over power protection | Yes | | Automatic recovering |
| Hot wiring | Yes | | No load power < 0.5W |
| Suitable for fixtures with protection class | II | | per IEC60598 |

Inrush current

| Specification item | Value | Unit | Condition |
|--------------------------|-------|------|---|
| Inrush current | 32 | A | Input voltage 230V |
| Inrush peak width | 126 | μs | Input voltage 230 V, measured at 50% height |
| Drivers / MCB 16A type B | ≤ 29 | pcs | Input voltage 230V/230 |

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 Touch Current (ins. Class II) | 0.7 | mA peak | Acc. IEC60598-1. LED module contribution not included |

Surge immunity

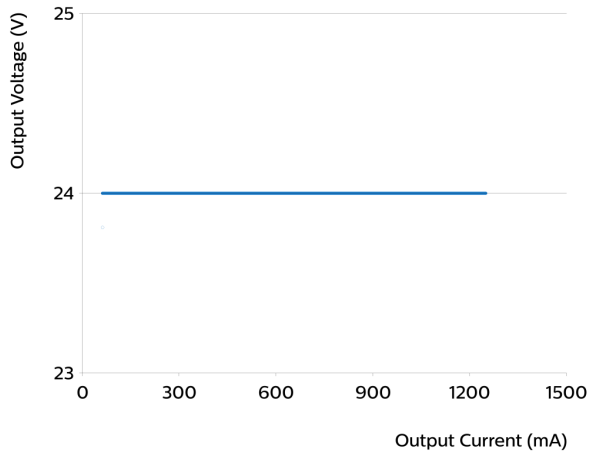
| Specification item | Value | Unit | Condition |
|-----------------------------------|-------|------|-----------------------------------|
| Mains surge immunity (diff. mode) | 1 | kV | L-N acc. IEC61000-4-5. 2 Ohm |
| Mains surge immunity (comm. mode) | 2 | kV | L/N-PE, acc. IEC61000-4-5. 12 Ohm |

Application Info (Approbation)

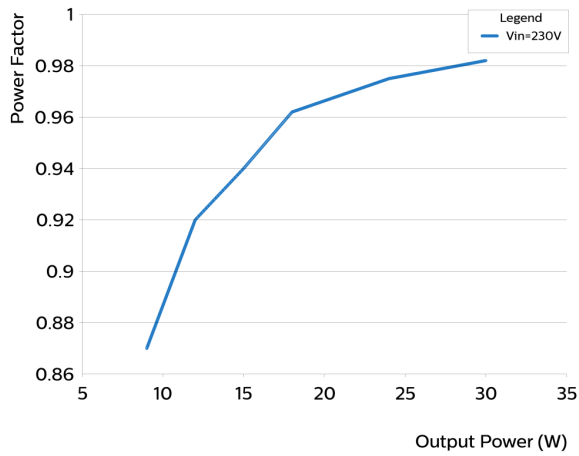
| Specification item | Value |
|--|--|
| Approval marks and Certifications | CCC / CE / ENEC / MM / RCM / SELV / UKCA |
| Ingress Protection classification (IP) | 20 |
| Noise and hum dB(A) | 20 |
| Application | Indoor Constant Voltage |
| Mounting Type | Built-in / Independent |

Graphs

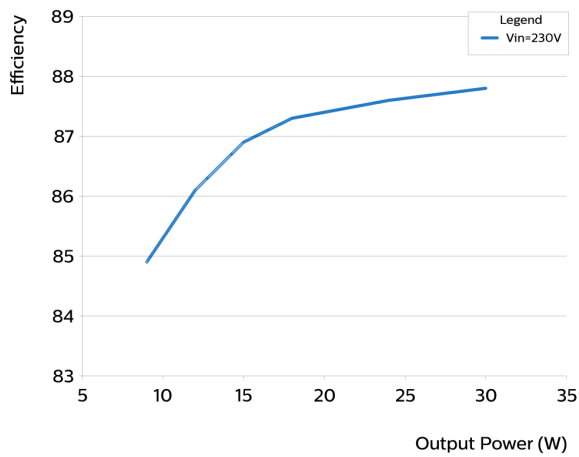
Operating window



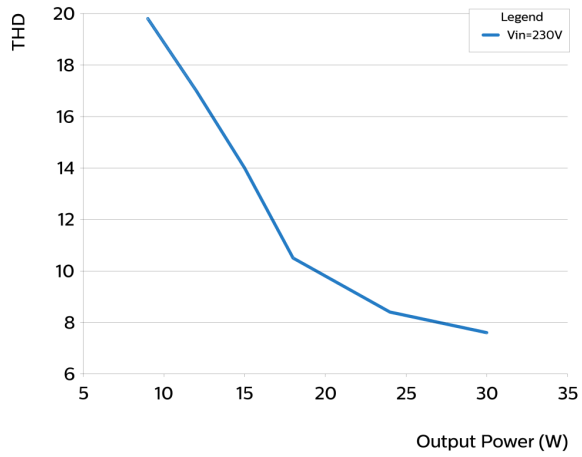
Power factor versus output power



Efficiency versus output power



THD versus output power



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