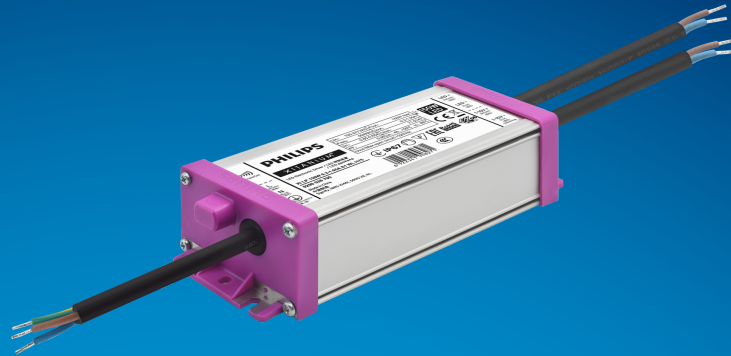


PHILIPS

Xitanium

LED driver



Datasheet

Xitanium LITE Prog LED drivers Independent

Xi LP 150W 0.3-1.05A S1 WL I175

9290 028 79080

Philips Xitanium Lite Programmable LED drivers are value engineered to deliver a carefully selected feature set and high-end performance, making it a preferred choice for many outdoor applications. The portfolio offers high flexibility with a customizable operating window, enabling differentiation in LED lighting designs via system tuning and being prepared for LED efficacy upgrades.

In this product family Philips introduces new drivers in a stretched form factor with a balanced feature set, which offer high value for both OEM customers and end-users. The products can replace the existing programmable outdoor LED drivers and will bring significant improvement in programming, assembly into a luminaire and electrical performance. One of the key features is SimpleSet®, an easy and fast way to configure the driver without the need to power the driver.

Benefits

- Ultimate robustness, offering peace of mind and lower maintenance costs
- Long lifetime and high survival rate
- Energy savings through high efficiency
- Balanced configurable feature set covering the most common applications
- Superior thermal management
- Consistent waterproof performance through the lifecycle
- Easy to design-in, configure and install for Class I applications

Features

- SimpleSet®, wireless configuration interface
- High surge protection
- Long lifetime and robust protection against moisture, vibration and temperature
- Configurable operating windows(AOC)
- External control interface (1-10V) available
- Digital Configuration Interface (DCI) via MultiOne Interface
- Autonomous or Fixed time based (FTBD) dimming via integrated 5-step DynaDimmer
- Programmable Constant Light Output (CLO)
- Integrated Driver Temperature protection

Application

- Residential areas
- Road and street lighting
- Area and flood lighting
- Tunnel lighting
- High-bay lighting

Electrical input data

| Specification item | Value | Unit | Condition |
|-----------------------------|-----------|-----------------|--|
| Rated input voltage range | 202...254 | V _{ac} | Performance range |
| Rated input voltage | 230 | V _{ac} | |
| Rated input frequency range | 47...63 | Hz | Performance range |
| Rated input current | 0.72 | A | @ rated output power @ rated input voltage |
| Max. input current | 0.83 | A | @ rated output power @ minimum performance input voltage |
| Rated input power | 165 | W | @ rated output power @ rated input voltage |
| Power factor | 0.95 | | @ rated output power @ rated input voltage |
| Total harmonic distortion | 10 | % | @ rated output power @ rated input voltage |
| Efficiency | ≥ 91 | % | @ rated output power @ rated input voltage @ max. U _{out} |
| Input voltage AC range | 85...305 | V _{ac} | Operational range |
| Input frequency AC range | 45...66 | Hz | Operational range |
| Isolation input to output | Basic | | |

Electrical output data

| Specification item | Value | Unit | Condition |
|--------------------------------------|------------------|-----------------|---------------------------------|
| Regulation method | Constant Current | | |
| Output voltage | 71...214 | V _{dc} | |
| Output voltage max. | 320 | V | Maximum voltage at open load |
| Output current | 0.3...1.05 | A | |
| Output current min programmable | 300 | mA | |
| Output current min dimming | 70 | mA | |
| Output current tolerance ± | 5 | % | |
| Output current ripple LF | ≤ 4 | % | Ripple = peak / average @ ≤1KHz |
| Output current ripple HF | ≤ 15 | % | |
| Output P _{st} ^{LM} | ≤ 0.12 | | In entire operating window |
| Output SVM | ≤ 0.07 | | In entire operating window |
| Output power | 5...150 | W | |

Electrical data controls input

| Specification item | Value | Unit | Condition |
|------------------------------------|----------|------|--|
| Control method | 1-10V | | Default: 1-10V. Optional: reversed 1-9V, reversed 0-5V |
| Dimming range | 10...100 | % | Default range |
| Isolation controls input to output | Basic | | acc. IEC61347-1 |

Wiring and Connections

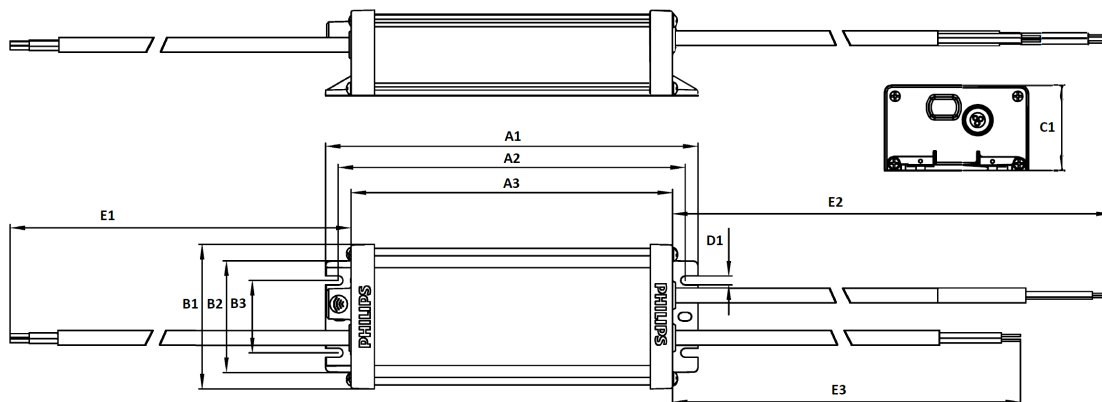
| Specification item | Value | Unit | Type |
|----------------------------|-------|-----------------|--|
| Input wire cross-section | 1 | mm ² | 3x 1.0mm ² stranded wires, waterproof cable |
| Output wire cross-section | 1 | mm ² | 2x 1.0mm ² stranded wires, waterproof cable |
| Control wire cross-section | 1 | mm ² | 2x 1.0mm ² stranded wires, waterproof cable |
| Maximum cable length | 2 | m | Total length of wiring including LED module, one way |

Insulation

| Insulation per IEC61347-1 | Input | Output | 1-10V&Aux | Ground |
|---------------------------|-------|--------|-----------|--------|
| Input | | Basic | Basic | Basic |
| Output | Basic | | Basic | Basic |
| 1-10V&Aux | Basic | Basic | | Basic |
| Ground | Basic | Basic | Basic | |

Dimensions and weight

| Specification item | Value | Unit | Tolerance (mm) |
|-----------------------------|-------|------|----------------|
| Length (A1) | 175 | mm | ± 1 |
| Mounting hole distance (A2) | 163 | mm | ± 1 |
| Length (A3) | 151 | mm | ± 1 |
| Width (B1) | 68 | mm | ± 0.5 |
| Width (B2) | 52.4 | mm | ± 0.5 |
| Width (B3) | 34 | mm | ± 0.3 |
| Height (C1) | 40 | mm | ± 1 |
| Mounting hole diameter (D1) | 4.2 | mm | ± 0.2 |
| Input cable length (E1) | 450 | mm | ± 30 |
| Output cable length (E2) | 450 | mm | ± 30 |
| Control cable length (E3) | 250 | mm | ± 30 |
| Weight | 730 | gram | |



Logistical data

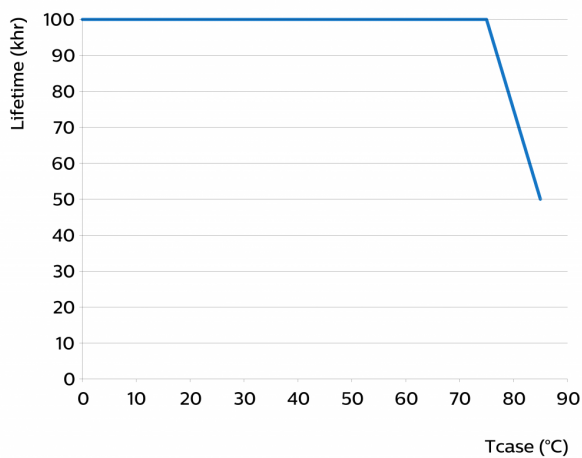
| Specification item | Value |
|--------------------|---------------------------------|
| Product name | Xi LP 150W 0.3-1.05A S1 WL I175 |
| EOC | 692234194627100 |
| Logistic code 12NC | 9290 028 79080 |
| EAN1 (GTIN) | 6922341946271 |
| EAN3 (box) | 06922341946288 |
| Pieces per box | 12 |

Operational temperatures and humidity

| Specification item | Value | Unit | Condition |
|-----------------------------|-----------|------|---|
| Ambient temperature | -40...+50 | °C | Higher ambient temperature allowed as long as Tcase-max is not exceeded |
| Tcase-max | 85 | °C | Maximum temperature measured at T _{case} -point |
| Tcase-life | 75 | °C | Measured at T _{case} -point |
| Maximum housing temperature | 130 | °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-max. Maximum failures = 10% |



Storage temperature and humidity

| Specification item | Value | Unit | Condition |
|---------------------|-----------|------|----------------|
| Ambient temperature | -40...+80 | °C | |
| Relative humidity | 5...95 | % | Non-condensing |

Programmable features

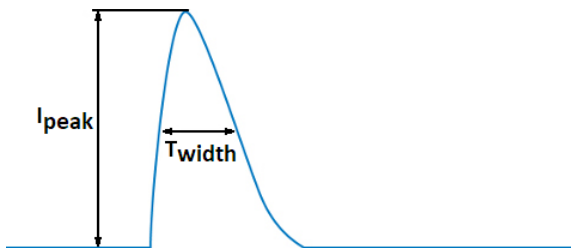
| Specification item | Available | Default setting | Condition |
|-------------------------------------|-----------|-----------------|-----------|
| Set Adjustable Output Current (AOC) | SimpleSet | 700 mA | |
| Adjustable Light Output (ALO) | Yes | | |
| Constant Light Output (CLO) | Yes | | |
| 1-10V | Yes | | |
| Dynadimmer | Yes | | |

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 |
| Overtemperature protection | Yes | Automatic recovering |
| Diagnostics | Yes | |

Inrush current

| Specification item | Value | Unit | Condition |
|----------------------------|----------|---------|--|
| Inrush current I_{peak} | 45 | A | Input voltage 230V |
| Inrush current T_{width} | 315 | μ s | Input voltage 230V, measured at 50% I_{peak} |
| Drivers / MCB 16A type B | ≤ 9 | 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% |

Driver touch current / protective conductor current

| Specification item | Value | Unit | Condition |
|---|-------|--------|---|
| Typical Protective Conductor Current (ins. Class I) | 0.7 | mA rms | Acc. IEC60598-1. LED module contribution not included |

Surge immunity

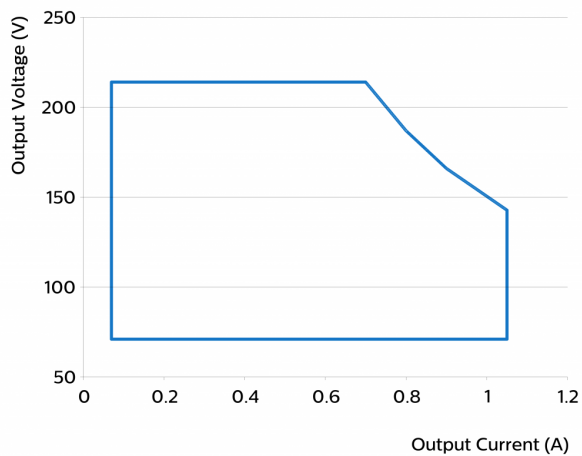
| Specification item | Value | Unit | Condition |
|-----------------------------------|-------|------|--|
| Mains surge immunity (diff. mode) | 6 | kV | Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us |
| Mains surge immunity (comm. mode) | 10 | kV | Acc. IEC61000-4-5. 12 Ohm 1.2/50us,8/20us |

Application Info

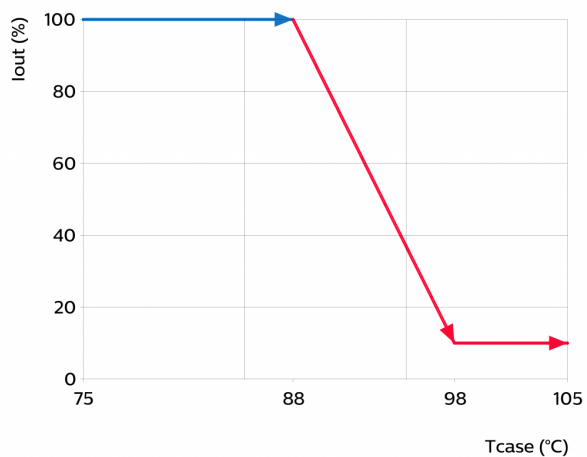
| Specification item | Value |
|--|-----------------------------|
| Approval marks | CB / CCC / CE / ENEC / UKCA |
| Ingress Protection classification (IP) | 67 |
| Application | Outdoor |
| Mounting Type | Independent |

Graphs

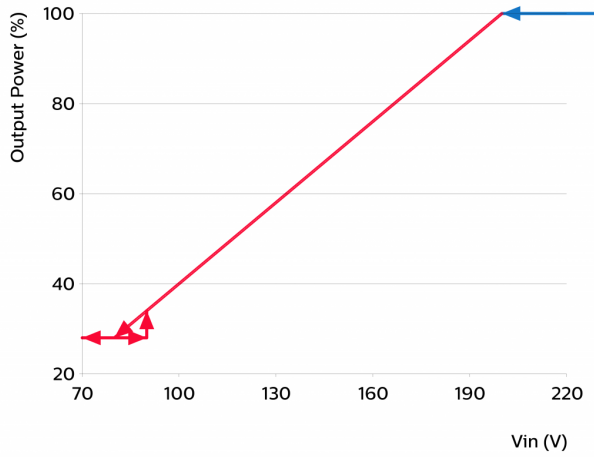
Operating window



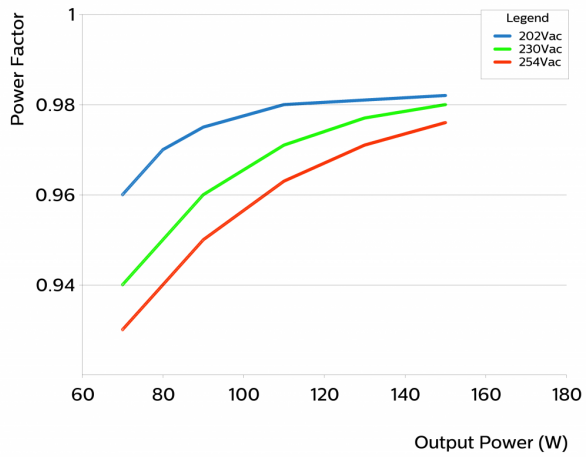
Thermal Guard



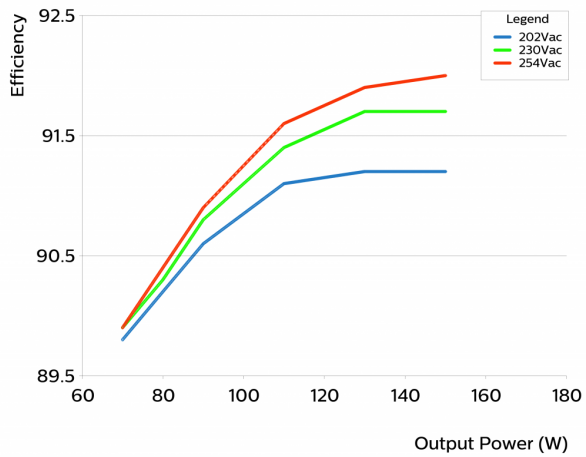
Mains Guard



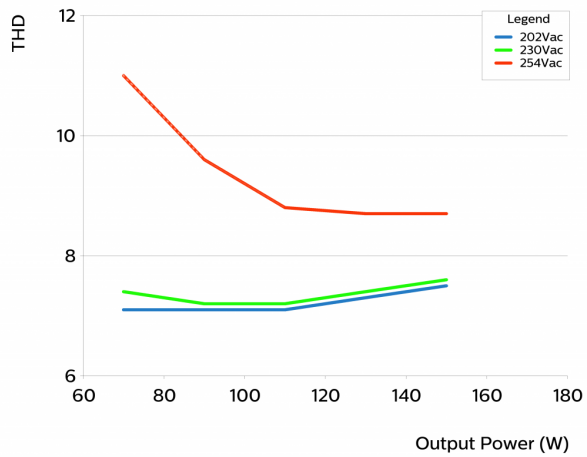
Power factor versus output power



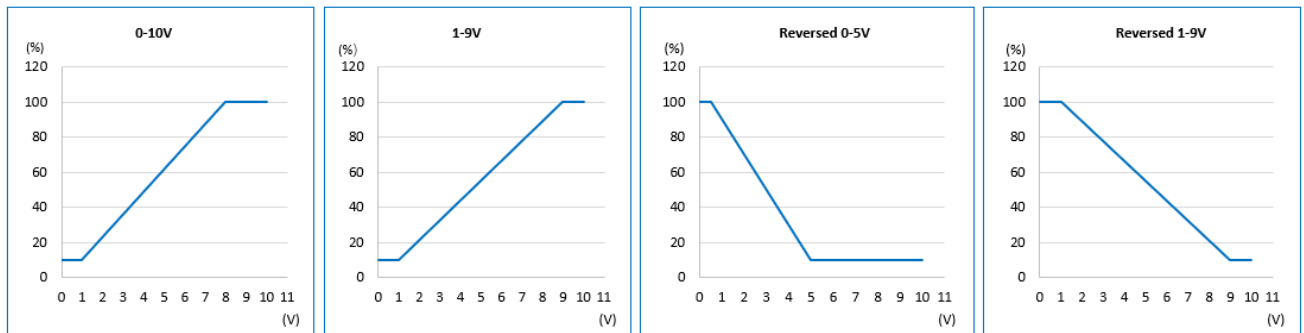
Efficiency versus output power



THD versus output power



I_{out} as function of 1-10V interface



Note:

During reversed dimming mode, when the DIM+/DIM- is open, the driver will be at maximum output current.



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