

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium Outdoor LV LED Drivers Adjustable Current Independent

Xitanium 100W 2.1-4.2A AOC 230V I220

Xitanium LV LED adjustable current drivers are specifically designed for maximum reliability and core flexibility in low voltage outdoor applications. With surge protection of up to 6kV, these durable, independently housed drivers deliver consistent, high performance to luminaires even after multiple indirect lightning strikes – an ideal solution for OEMs that need reliable, adjustable output in a rugged independent form factor.

Benefits

- Low voltage/high current output fits the application of LED strings connecting in parallel
- IP rated housing could be put into a gearbox without fully sealed
- Quick solution without luminaires re-design (perfect for tunnel lighting application)
- AOC (Adjustable Output Current) gives the full flexibility to output different currents to spec-in different projects
- Easy adjustment of output current/voltage by only one screwdriver
- Robust specifications for moisture, vibration and extreme temperature protection
- Consistent quality of light over module life Best energy efficiency by peak design.

Features

- Integrated 4KV (IEC standard)
- Outrush current limitation to protect module
- Adjustable output current with wide window
- Lifetime 50,000 hours at Tc Max

Applications

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

Electrical input data

| Specification item | Value | Unit | Condition |
|---------------------------|-------------|-----------------|---------------------------|
| Nominal Input Voltage | 220...240 | V _{ac} | |
| Input Voltage AC | 198...264 | V _{ac} | Performance range |
| Operation Voltage AC | 110...305 | V _{ac} | Safety operation |
| Nominal Input Frequency | 50...60 | Hz | |
| Input Frequency AC | 47...63 | Hz | Maximum permissible range |
| Nominal Input Current | 0.49...0.53 | A | 220V...240V at full load |
| Maximum Input Current | 0.57 | A | At 202V |
| Nominal Input Power | 111 | W | At 230V at full load |
| Power Factor | 0.95 | | At 230V at full load |
| Total Harmonic Distortion | < 20 | % | At 230V at full load |
| Efficiency | 91 | % | At 230V at full load |

Electrical Output data

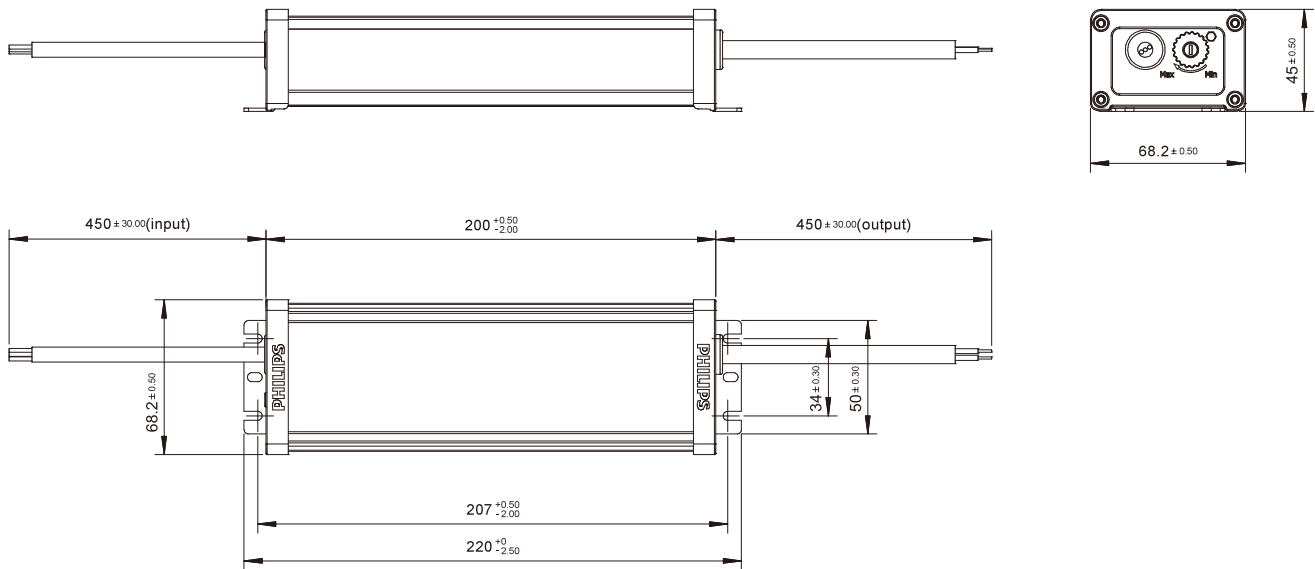
| Specification item | Value | Unit | Condition |
|--------------------------|------------------|-----------------|---|
| Regulation Method | Constant Current | | |
| Output Voltage | 12...48 | V _{dc} | |
| Output Voltage Max | 70 | V _{dc} | Peak voltage at open circuit |
| Output Current | 2.1...4.2 | A | Performance range |
| Output Current Tolerance | 5 | % | At max. output current, T _a =25 °C |
| Output Current Ripple LF | 5 | % | Ripple = peak / average, at <1kHz |
| Output Power | 100 | W | At full load |
| Galvanic Isolation | Yes | | Double; 3750V |

Electrical data controls input

| Specification item | Value | Unit | Condition |
|-------------------------------|-------|------|--------------------------------|
| Control Method | N/A | V | |
| Digital Interface | N/A | | According 2.0 specifications |
| Mains Control | N/A | | Can be configured via MultiOne |
| Time-based Integrated Control | N/A | | Can be configured via MultiOne |
| Dimming Range | N/A | % | |

Wiring & Connections

| Specification item | Value | Unit | Condition |
|----------------------------|---------|-----------------|--|
| Input Wire Size | 1.0 | mm ² | 3-wire cable; 300V/500V rating or higher |
| Output Wire Size | 1.5 | mm ² | 2-wire cable; 300V/500V rating or higher |
| Input & Output Wire Length | 450 ±30 | mm | Out of enclosure |
| Control Wire Size | N/A | mm | N/A |
| Control Wire Length | N/A | mm | |



CE Isolation

| | Input Wires | Output Wires | Chassis |
|--------------|-------------|--------------|---------|
| Input Wires | N/A | Double | Basic |
| Output Wires | Double | N/A | Basic |
| Chassis | Basic | Basic | N/A |

Operational Temperature and Humidity

| Specification item | Value | Unit | Condition |
|---------------------------|-----------|------|-----------------------------------|
| Ambient Temperature | -40...+55 | °C | |
| T _{case} Maximum | 80 | °C | Measured at T _c -point |
| T _{case} Life | 70 | °C | Measured at T _c -point |
| T _{case} Cut-Off | 90 | °C | Power to LEDs is reduced |

Storage Temperature and Humidity

| Specification item | Value | Unit | Condition |
|---------------------|-----------|------|-----------|
| Ambient Temperature | -40...+55 | °C | |

Lifetime

| Specification item | Value | Unit | Condition |
|--------------------|---------|-------|--|
| Lifetime | 100,000 | Hours | At T _{case} Life; Survival rate = 90% |

Programmable Features

| Specification item | Value | Remark | Condition |
|---------------------------------------|-------|--------|---------------------|
| Adjustable Output Current (AOC) | N/A | | See Design-In Guide |
| LED Module Temperature Derating (MTP) | N/A | | |
| Constant Lumen Output (CLO) | N/A | | |
| DC Emergency Dimming (DCEmDIM) | N/A | | |
| Corridor Mode | N/A | | |
| Energy Metering | N/A | | |
| Diagnostics | N/A | | |

Features

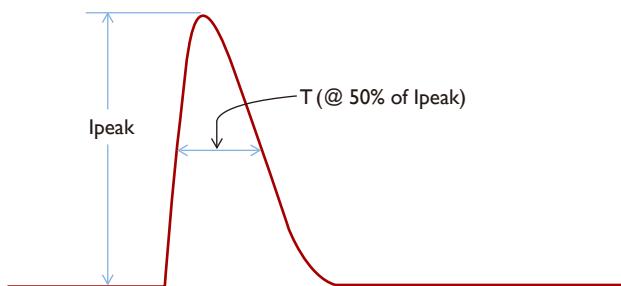
| Specification item | Value | Remark | Condition |
|---|---------|----------|--------------------|
| Over Temperature Protection | Yes | Dim Down | Automatic Recovery |
| Open Circuit Protection | Yes | | Automatic Recovery |
| Short Circuit Protection | Yes | | Automatic Recovery |
| Over Power Protection | Yes | | |
| Hot Wiring | N/A | | |
| Suitable for fixtures with Protection Class | Class I | | |

Certificates and Standards

| Specification item | Value |
|---------------------------|----------------------------------|
| Approval Marks | CE / CB / CCC / KC / TISI / ENEC |
| Ingress Protection Rating | IP65 |

Inrush current

| Specification item | Value | Unit | Condition |
|-----------------------------------|-------|------|--|
| Inrush Current I _{peak} | 36 | A | At 230Vac |
| Inrush Current T _{width} | 380 | μs | At 230Vac, measured at 50% I _{peak} |
| Drivers per MCB 16A Type B | 8 | pcs | |



Earth Leakage Current

| Specification item | Value | Unit | Condition |
|-----------------------|-------|------|--|
| Typical Touch Current | 2 | mApk | Meets IEC 60598; LED module not included |

Surge Capability

| Specification item | Value | Unit | Condition |
|--|-------|------|----------------|
| Mains Surge Capability Differential Mode | 4 | KV | L-N, 20hm |
| Mains Surge Capability Common Mode | 6 | KV | L/N-GND, 120hm |

Wiring & Connections

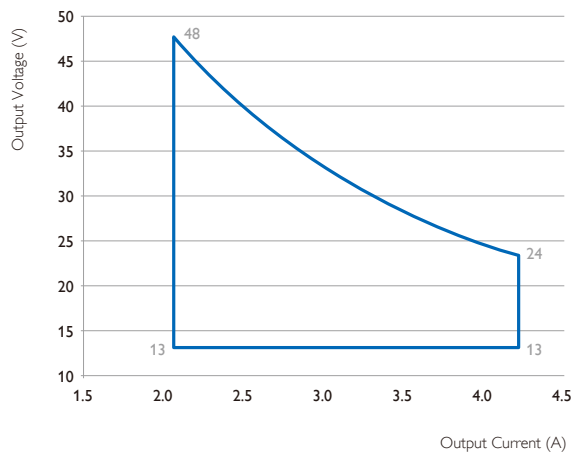
| Specification item | Value | Unit | Condition |
|-------------------------|-------|------|---------------------------------------|
| Length overall | 220 | mm | |
| Width overall | 68.2 | mm | |
| Height overall | 45 | mm | |
| Mounting Holes Distance | 207 | mm | |
| Mounting Holes Width | 34 | mm | |
| Mounting Holes Size | 4 | mm | For M4 with max head diameter of 10mm |
| Weight | 920 | g | |

Logistical Data

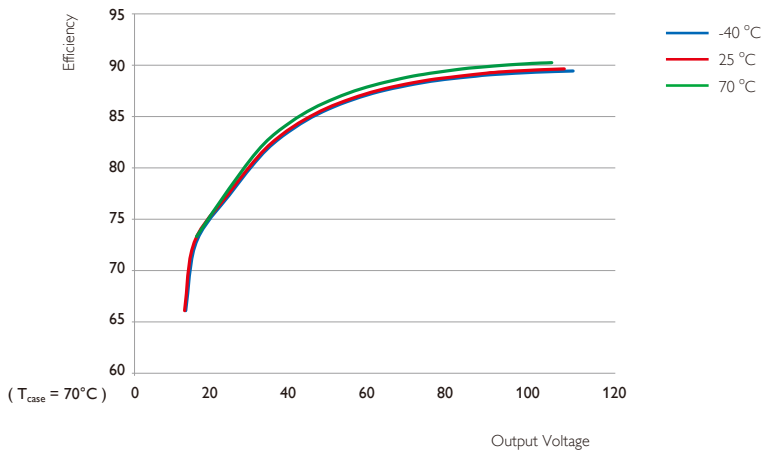
| Specification item | Value |
|---------------------|--------------------------------------|
| Product Name | Xitanium 100W 2.1-4.2A AOC 230V I220 |
| Logistics Code 12NC | 929001404580 |
| Pieces per Box | 10 |

Graphs

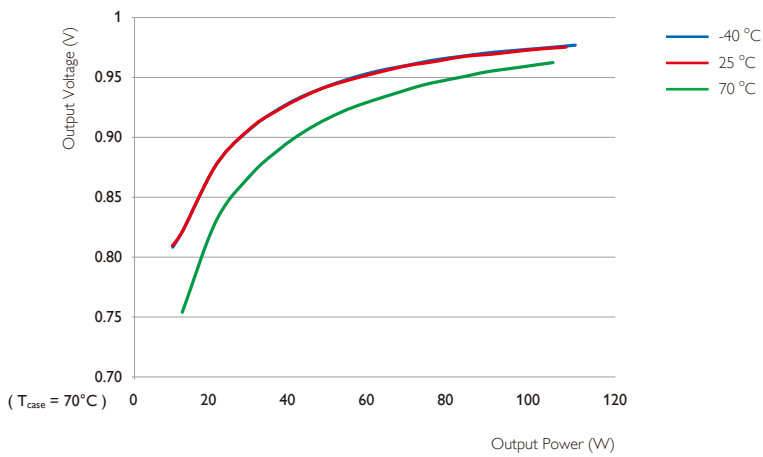
Operating window



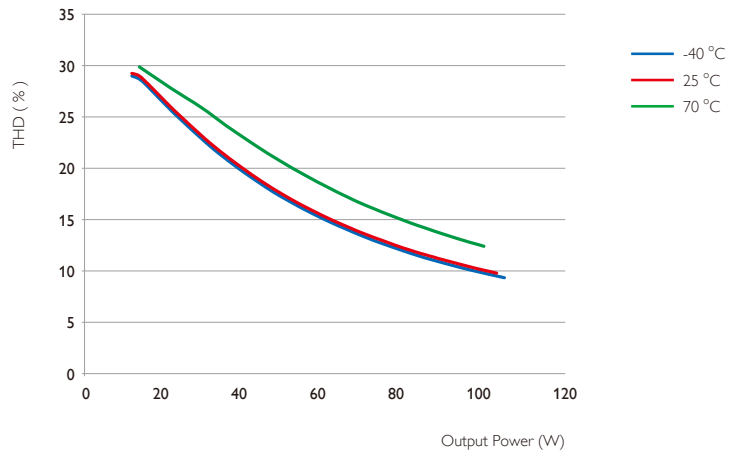
Efficiency versus output power



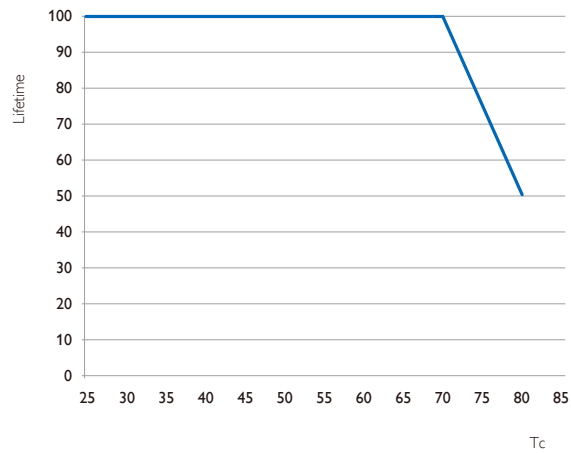
Power factor versus output power



Total Harmonic Distortion (T_{case} = 70°C)



Lifetime vs T_{case}



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