## Xitanium

## LED driver

## Datasheet

## Xitanium non-isolated SR dimmable \& programmable

## Xitanium 35W 0.08-0.35A 220V SR 230V G2

## 929003410506

Because light is all around us, the lighting infrastructure is an ideal platform for collecting and carrying information.
The Philips Xitanium SR drivers are sensor ready, making them perfect for use in building management systems. You can power and interface with sensors directly from the driver without the need for additional modules, devices or power packs. The versatile and scalable DALI- 2 open standard digital interface is used via a simple 2-wire connection to the sensor, so that you can confidently design flexible lighting, and incorporate your preferred sensors and networks, without worrying about potential incompatibilities.

Benefits

- Sensor Ready concept, ideal for use with indoor sensors \& building management systems
- Integrated power supply to power sensors and wireless radios directly from the driver
- Communication between the sensor or wireless radio and the driver is according to the DALI-2 standard
- Highly accurate integrated power metering for use in building management systems
- Certified per DIIA intra-luminaire standard D4i
- Suitable for central emergency DC operation

Features

- Integrated Bus Power Supply for sensors and radios (DALI part 250)
- SimpleSet configuration interface (NFC)
- Configurable operating windows (AOC)
- Dimming supported during DC operation (DCemDim)
- Constant Light Output (CLO)
- Adjustable Light Output (ALO)
- OEM Write Protection (OWP)
- Memory Bank 1 Extension / Luminaire Data (DALI part 251)
- Energy reporting (DALI part 252)
- Diagnostics \& Maintenance (DALI part 253)

Electrical input data

|  | Value |  |  |
| :--- | :--- | :--- | :--- |
| Specification item | Unit | Condition |  |
| Rated input voltage range | $220 \ldots 240$ | $\mathrm{~V}_{\mathrm{ac}}$ | Nominal range |
| Rated input voltage | 230 | $\mathrm{~V}_{\mathrm{ac}}$ |  |
| Rated input frequency range | $50 \ldots . .60$ | Hz | Nominal range |
| Rated input current | 0.18 | A | @ rated output power @ rated input voltage |
| Rated input power | 39 | W | @ rated output power @ rated input voltage |
| Minimum Power factor | 0.98 | $\%$ | @ rated output power @ rated input voltage |
| Total harmonic distortion | 10 | $\%$ | @ rated output power @ rated input voltage |
| Efficiency | 91 | $\mathrm{~V}_{\mathrm{dc}}$ | @ rated output power @ rated input voltage @ max. Uout |
| Rated input voltage DC range | $186 \ldots . .250$ | $\mathrm{~A}_{\mathrm{dc}}$ | Performance range |
| Rated input current DC range | 0.21 | $\mathrm{~V}_{\mathrm{ac}}$ | Performance range |
| Input voltage AC range | $198 . . .264$ | Hz | Operational range |
| Input frequency AC range | $45 \ldots . .66$ | $\mathrm{~V}_{\mathrm{dc}}$ | Operational range |
| Input voltage DC range | $168 . . .275$ | W | Operational range |
| Standby Power (no load) | 0.25 | No |  |
| Isolation input to output |  |  |  |

## Electrical output data

| Specification item | Value | Unit | Condition |
| :--- | :--- | :--- | :--- |
| Regulation method | Constant Current |  |  |
| Output voltage | $50 \ldots . .220$ | $\mathrm{~V}_{\mathrm{dc}}$ |  |
| Output voltage max. | 250 | V | Maximum output voltage (rms) |
| Output current | $0.08 \ldots . .0 .35$ | A |  |
| Output current min programmable | 80 | mA |  |
| Output current min dimming | 2 | mA |  |
| Output current tolerance $\pm$ | 5 | $\%$ | Ripple $=$ peak /average, < 3kHz |
| Output current ripple LF | $\leq 4$ | $\%$ |  |
| Output current ripple HF | $\leq 4$ | $\%$ | cfr. IEC TR 61547-1:2017 |
| Output $\mathrm{P}_{\text {st }}{ }^{\text {m }}$ | $\leq 0.18$ |  | cfr. IEC TR 63518:2018 |
| Output SVM | $\leq 0.02$ | W |  |
| Output power | $0.1 \ldots . .35$ |  |  |

## Electrical data controls input

| Specification item | Value | Unit | Condition |
| :--- | :--- | :--- | :--- |
| Control method | DALI, SR |  | DALI Parts: 101, 102, 207, 250, 251, 252, 253. See design-in guide |
| for more controllability details. |  |  |  |

## Wiring and Connections

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



## Isolation

| Insulation per IEC61347-1 | Input | Output | DA-interface | Housing |
| :--- | :--- | :--- | :--- | :--- |
| Input | - | No | SELV | Basic |
| Output | No | - | SELV | Basic |
| DA-interface | SELV | SELV | - | Basic |
| Housing | Basic | Basic | Basic | - |

(for housing Office 360x30x21 7p4p NFC

| Specification item | Value | Unit | Tolerance (mm) |
| :--- | :--- | :--- | :--- |
| Length (A1) | 360 | mm |  |
| Mounting hole distance (A2) | 350 | mm |  |
| Width (B1) | 30 | mm |  |
| Height (C1) | 21 | mm |  |
| Mounting hole diameter (D1) | 4.1 | mm |  |
| Weight | 250 | gram |  |

## B1




Logistical data

| Specification item | Value |
| :--- | :--- |
| Product name | Xitanium 35W 0.08-0.35A 220V SR 230V G2 |
| EOC | 871951442989500 |
| Logistic code 12NC | 929003410506 |
| EAN1 (GTIN) | 8719514429895 |
| Pieces per box | 24 |

Operational temperatures and humidity

| Specification item | Value | Unit | Condition |
| :--- | :--- | :--- | :--- |
| Ambient temperature | $-25 \ldots+50$ | ${ }^{\circ} \mathrm{C}$ | Higher ambient temperature allowed as long as Tcase-max is not <br> exceeded |
| Tcase-max | 75 | ${ }^{\circ} \mathrm{C}$ | lifetime 50khrs; |
| Tcase-life | 65 | ${ }^{\circ} \mathrm{C}$ | lifetime 100khrs; measured at $T_{\mathrm{c}}$-point |
| Maximum housing temperature | 110 | ${ }^{\circ} \mathrm{C}$ | 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 <br> failures $=10 \%$ |
| Mains switching cycles | $>100,000$ | switches | See Design-in guide for detailed explanation |

##  <br> Tc max <br> T case $\left({ }^{\circ} \mathrm{C}\right) \longrightarrow \quad-10^{\circ} \mathrm{C}$ Tc max

## Storage temperature and humidity

| Specification item | Value | Unit | Condition |
| :--- | :--- | :--- | :--- |
| Ambient temperature | $-25 \ldots+85$ | ${ }^{\circ} \mathrm{C}$ |  |
| Relative humidity | $5 \ldots . .95$ | $\%$ | Non-condensing |

## Programmable features

| Specification item | Available | Default setting | Condition |
| :--- | :--- | :--- | :--- |
| Set Adjustable Output Current (AOC) | Programmable, SimpleSet | 80 mA |  |
| Adjustable Light Output (ALO) | Yes | OFF |  |
| Adjustable Light Output (ALO) min level | Yes | OFF |  |
| Constant Light Output (CLO) | Yes | OFF |  |
| Min Dim Level | Yes | $1 \%$ | Default 15\%, EOFx range = 1 .. 100\% (EOFx = DCemDIM level) |
| DC emergency (DCemDim) | Yes | ON |  |
| DALI control supported at DC operation | Yes | OFF |  |
| OEM Write Protection (OWP) | Yes | OFF |  |
| DALI 102 | Yes | ON |  |
| SR PSU (DALI part 250) | Yes | ON |  |
| Luminaire Info (DALI part 251) | Yes | - | Accuracy 4\% |
| Energy metering (DALI part 252) | Yes | - |  |
| Diagnostics | Yes | - |  |
| Diagnostics (DALI part 253) | Yes | - |  |
| DALI 253 M | 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 |
| Output Overvoltage Detection | Yes |  |  |

Inrush current

| Specification item | Value | Unit | Condition |
| :--- | :--- | :--- | :--- |
| Inrush current | 20 | $A$ | Input voltage 230 V |
| Inrush peak width | 216 | Hs | Input voltage 230 V , measured at $50 \%$ height |
| Drivers / MCB 16A type B | $\leq 24$ | pcs | Indicative value at 230V |



## 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 |  |  |
| :--- | :--- | :--- | :--- |
| Mains surge immunity (diff. mode) | 1 | Unit | Condition |
| Mains surge immunity (comm. mode) | 2 | kV | Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us |
| Control surge immunity (diff. mode) | 0.03 | kV | Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us |
| Control surge immunity (comm. mode) | 1 | kV | Acc. IEC61000-4-5.2 Ohm, 1.2/50us, 8/20us |

## Application Info

|  | Value |
| :--- | :--- |
| Specification item | CCC / CE / D4i / EAC / EL / ENEC / RCM / SR / UA / UKCA / WEEE |
| Approval marks and Certifications | 20 |
| Ingress Protection classification (IP) | 20 |
| Noise and hum dB(A) | Indoor Linear |
| Application | Built-in |

## Graphs

## Operating window



Power factor versus output power


Efficiency versus output power



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