PHILIPS

Xitanium

LED driver



Datasheet

Xitanium non-iso DALI dimmable & programmable

Xitanium 35W 0.08-0.35A 220V TD11 230V

9290 016 27706

Xitanium non-isolated DALI drivers are ideal for High Voltage (HV) linear systems and stand on three pillars: quality of light, reliability and flexibility.

By using Xitanium LED drivers in your luminaires, you can be sure to offer your customers high quality of light without visual flicker and stroboscopic effects. The reliability of our drivers is based on in-depth electronics knowledge and extensive testing.

Finally, application-oriented operating windows offer the flexibility required to provide the stable lumen output and light quality levels that lighting specifiers and architects demand.

Benefits

- High quality of light
- High reliability
- Future-proof flexibility
- Flicker and noise free dimming due to amplitude modulation dimming (AM)

Features

- Configurable operating windows (AOC)
- Adjustable Light Output (ALO)
- Constant Light Output (CLO)
- Corridor Mode (CM)
- Dimming supported during DC operation (DCemDim)
- Touch & Dim (TD)

Application

- Offices
- Healthcare
- Education
- Indoor parking areas
- Retail: supermarkets, shopping malls
- Industry

August 2021

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	0.17	A	@ rated output power @ rated input voltage
Max. input current	0.18	A	@ rated output power @ minimum performance input voltage
Rated input power	38.8	W	@ rated output power @ rated input voltage
Power factor	0.99		@ maximum output power @ rated input voltage
Total harmonic distortion	10	%	@ maximum output power @ rated input voltage
Efficiency	90	%	@ rated output power @ rated input voltage @ max. Uout
Rated input voltage DC range	186…250	V_{dc}	Performance range
Input voltage AC range	198…264	V_{ac}	Operational range
Input frequency AC range	45…66	Hz	Operational range
Input voltage DC range	168…275	V_{dc}	Operational range
Standby Power	0.21	W	Measured at 230Vac according to IEC62442-3
Isolation input to output	No		

Electrical output data

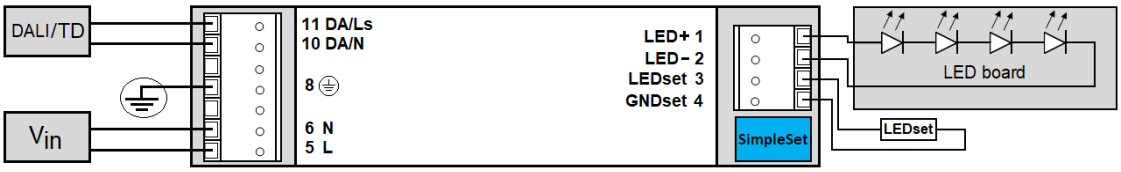
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	50…220	V_{dc}	
Output voltage max.	250	V	Maximum output voltage (rms)
Output current	0.08…0.35	A	
Output current min dimming	2	mA	
Output current tolerance ±	5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 4	%	
Output P_{st}^{LM}	≤ 1		
Output SVM	≤ 0.4		
Output power	10…35	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Corridor Mode, DALI, Touch & Dim (TD)		See design-in guide at www.philips.com/oem for more controllability details.
Dimming range	1…100	%	>80mA 1% dimming; < 80mA min. current 2mA
Isolation controls input to output	Basic		acc. IEC61347-1

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5…1.5 / 20…16	mm² / AWG	WAGO744, solid wire
Input wire strip length	8…9	mm	
Output wire cross-section	0.5…1.5 / 20…16	mm² / AWG	WAGO744, solid wire
Output wire strip length	8…9	mm	
Control wire cross-section	0.5…1.5 / 20…16	mm² / AWG	WAGO744, solid wire
Control wire strip length	8…9	mm	
Maximum cable length	2	m	Total length of wiring including LED module, one way

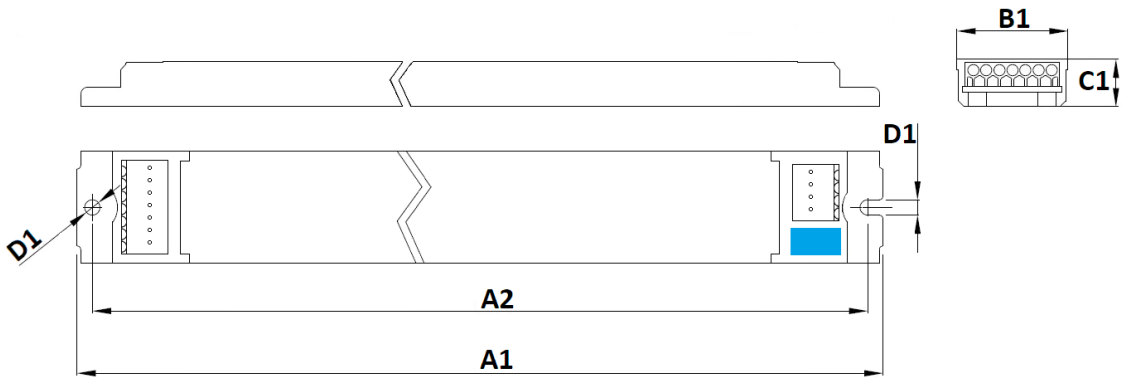


Insulation

Insulation per IEC61347-1	Input	Output+LEDset	DALI	Housing
Input		No	Basic	Basic
Output+LEDset	No		Basic	Basic
DALI	Basic	Basic		Basic
Housing	Basic	Basic	Basic	

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	280	mm	
Mounting hole distance (A2)	270	mm	
Width (B1)	30	mm	
Height (C1)	11	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	125	gram	



Logistical data

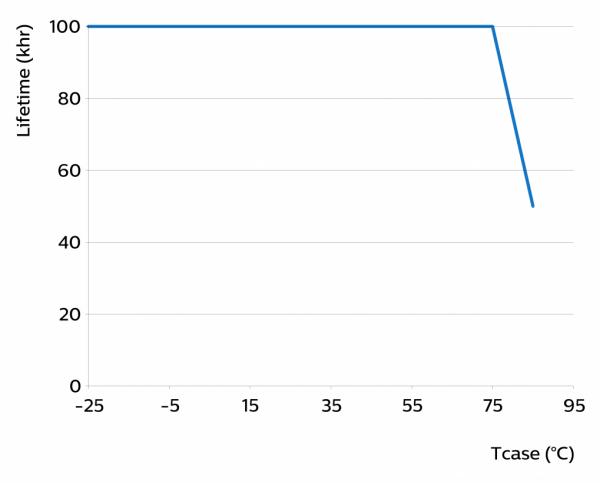
Specification item	Value
Product name	Xitanium 35W 0.08-0.35A 220V TD11 230V
EOC	871869681963000
Logistic code 12NC	9290 016 27706
EAN1 (GTIN)	8718696819630
EAN3 (box)	8718696819647
Pieces per box	24

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25…+60	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	85	°C	lifetime 50khrs;
Tcase-life	75	°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%
Mains switching cycles	> 50,000	switches	See Design-in guide for detailed explanation



Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25…+85	°C	
Relative humidity	5…95	%	Non-condensing

Programmable features

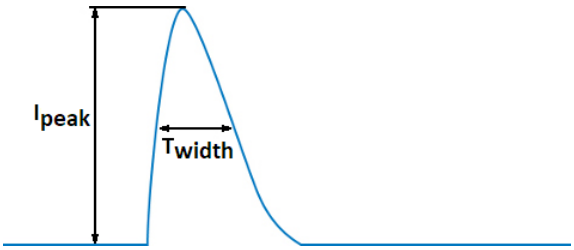
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	LEDset, Programmable, SimpleSet	80 mA	
NTC on LEDset	Yes	OFF	
Adjustable Light Output (ALO)	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
DALI 102	Yes	—	Programmable via SimpleSet
DALI 253 M	Yes	—	
Touch & Dim (TD)	Yes	ON	
Corridor Mode	Yes	ON	Default: T1=55s, T2=12s, T3=30min
Min Dim Level	Yes	1 %	
DC emergency (DCemDim)	Yes	ON	Current output decreased to 15%
OEM Write Protection (OWP)	Yes	OFF	
Luminaire Info (DALI part 251)	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		
Energy metering (DALI part 252)	Yes		Accuracy 10%
Diagnostics	Yes		

Inrush current

Specification item	Value	Unit	Condition
Inrush current	20	A	Input voltage 230V
Inrush peak width	216	µs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 24	pcs	Indicative value



Please refer to the driver design in guide if you use other MCB-types.

Driver touch current / protective conductor 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

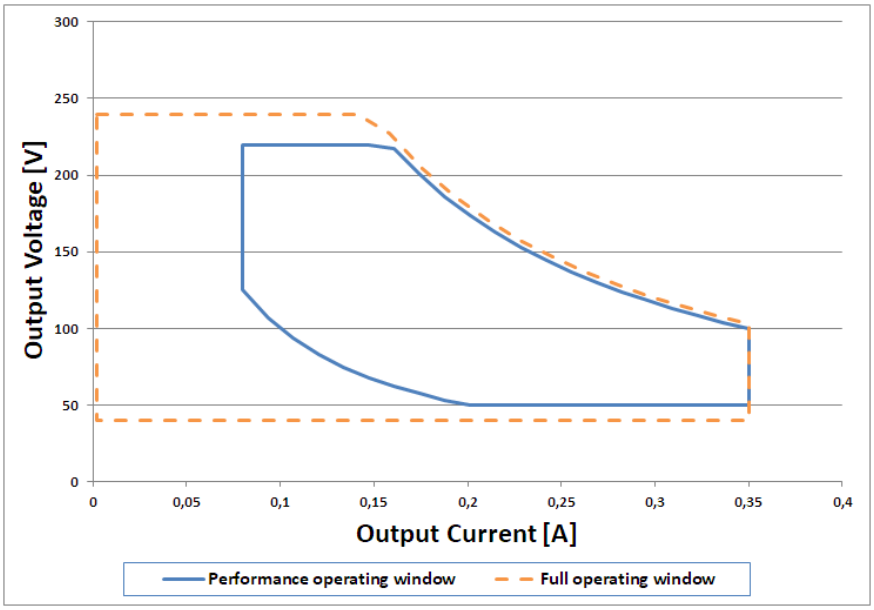
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge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

Application Info

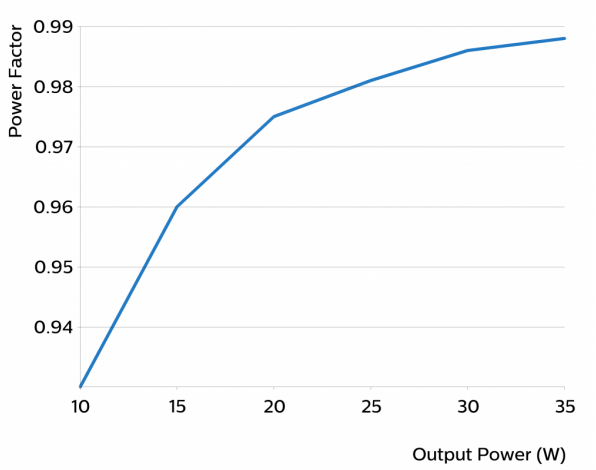
Specification item	Value
Approval marks	CE / DALI 2 / EL / ENEC
Ingress Protection classification (IP)	20
Application	Indoor Linear
Mounting Type	Built-in

Graphs

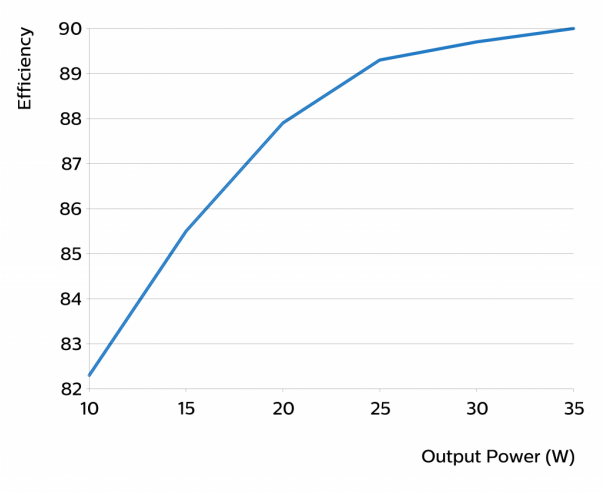
Operating window



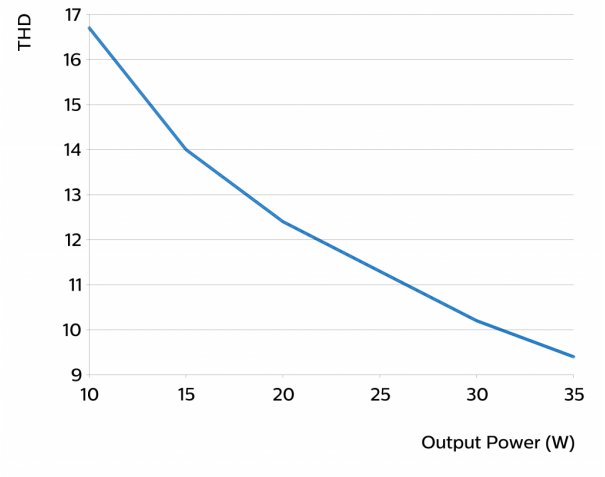
Power factor versus output power



Efficiency versus output power



THD versus output power



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Date of release: August 16, 2021 v4

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