

# PHILIPS

## Xitanium

### LED driver



## Datasheet

### Xitanium non-iso DALI dimmable & programmable (TD16 SimpleSet)

Xitanium 25W 0.03-0.3A 220V TD16 230V

9290 039 94406

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.

#### Features

- Configurable operating windows (AOC) via DALI and SimpleSet interface
- Adjustable Light Output (ALO)
- Constant Light Output (CLO)
- Corridor Mode (CM)
- Dimming supported during DC operation (DCemDim)
- Touch & Dim (TD)
- OEM Write Protection (OWP)
- Memory Bank 1 Extension / Luminaire Data (DALI part 251)
- Energy Reporting (DALI part 252)
- Diagnostics & Maintenance (DALI part 253)

#### Benefits

- Low profile housing (16mm height)
- SimpleSet configuration interface (NFC)
- High quality of light
- High reliability
- Future-proof flexibility
- Flicker and noise free dimming due to amplitude modulation dimming (AM)

#### Application

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

## Logistical data

Specification item	Value
Product name	Xitanium 25W 0.03-0.3A 220V TD16 230V
Logistic code 12NC	9290 039 94406
Pieces per box	24
Weight	180 gram

## Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	220...240	V <sub>ac</sub>	Performance range
Rated input voltage	230	V <sub>ac</sub>	
Rated input frequency	50...60	Hz	Performance range
Rated input current	0.12	A	@ rated output power @ rated input voltage
Rated input power	28.0	W	@ rated output power @ rated input voltage
Power factor performance range	0.98		@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	89.0	%	@ rated output power @ rated input voltage
Rated input voltage DC	186...250	V <sub>dc</sub>	Performance range, No external DC fuse is required
Input voltage AC	198...264	V <sub>ac</sub>	Safety operational range
Input frequency AC	47.5...63	Hz	Safety operational range
Input voltage DC	168...275	V <sub>dc</sub>	Safety Operational range
Standby Power (W)	0.25	W	

## Electrical output data

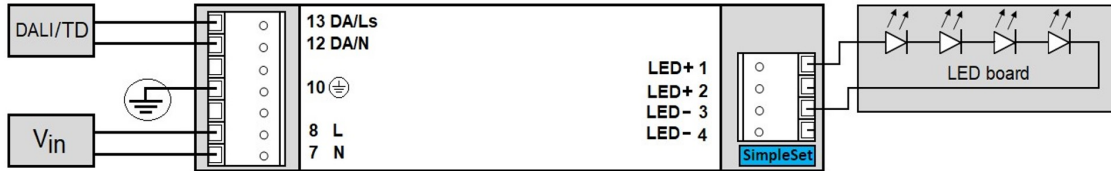
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	50...220	V <sub>dc</sub>	
Output voltage max.	250	V	Maximum output voltage (rms)
Output current	1.2...300	mA	
Output current min programmable	30	mA	
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output current ripple LF	≤ 4	%	@120hz
Output P <sub>st</sub> <sup>LM</sup>	≤ 1.0		In entire operating window
Output SVM	≤ 0.3		In entire operating window
Output power	0.1...25.0	W	
Minimum performance output power	7.5	W	Power factor > 0.9 and THD < 20%

## Control interfaces

Specification item	Value	Unit	Condition
Control method	Corridor Mode, DALI, TD		DALI parts: 101, 102, 207, 251, 252, 253. See design-in guide at <a href="http://www.philips.com/oem">www.philips.com/oem</a> for more controllability details.
Dimming range	1...100	%	with AOC > 80mA 1% dimming possible; AOC < 80mA min. physical current = 3mA
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	mm <sup>2</sup> / AWG	WAGO744, solid wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.5...1.5 / 20...16	mm <sup>2</sup> / AWG	WAGO744, solid wire
Output wire strip length	8...9	mm	
Control wire cross-section	0.5...1.5 / 20...16	mm <sup>2</sup> / 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

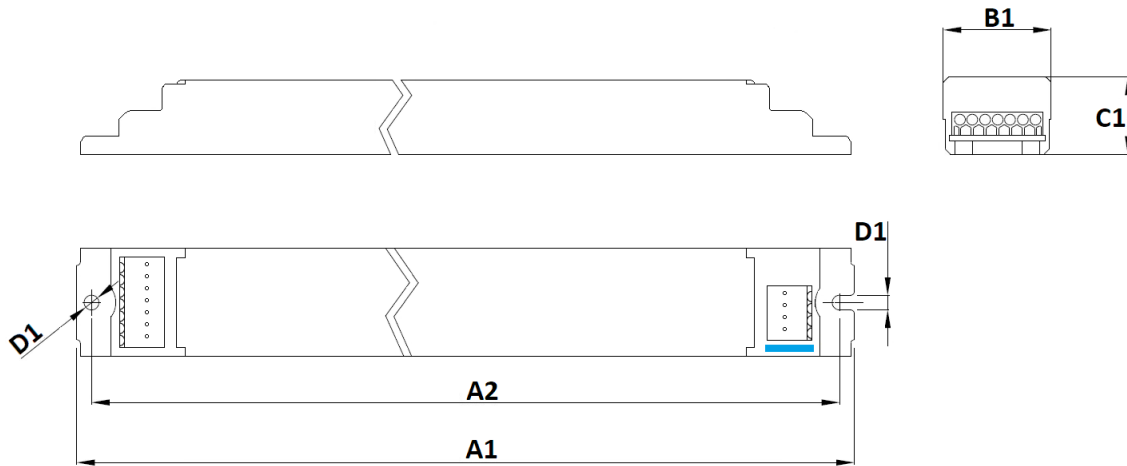


## Isolation

Insulation per IEC61347-1	Input	Output	DALI	Housing
Input	-	No	Basic	Basic
Output	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)	16	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	180	gram	
Housing color	White		

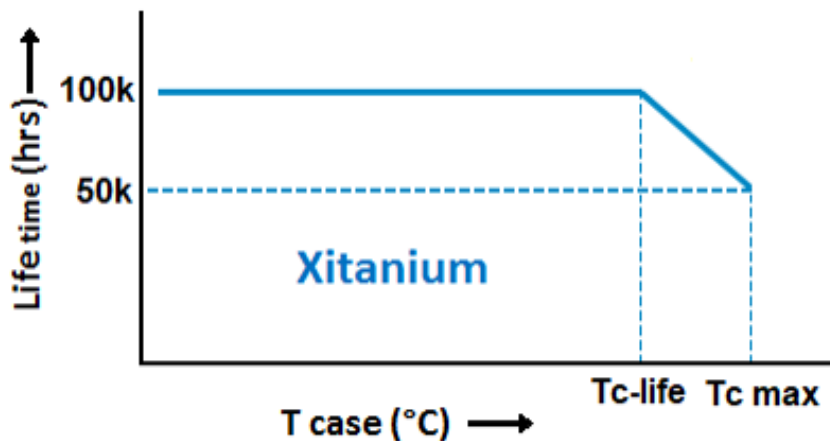


## Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+50	°C	Higher ambient temperature allowed as long as T <sub>case-max</sub> is not exceeded
T <sub>case-max</sub>	80	°C	Maximum temperature measured at T <sub>case-point</sub>
T <sub>case-life</sub>	70	°C	Measured at T <sub>case-point</sub>
Relative humidity	5...95	%	Non-condensing

## Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	50,000	hours	Measured temperature at T <sub>case-point</sub> is T <sub>case-max</sub> .
Driver lifetime	100,000	hours	Measured temperature at T <sub>case-point</sub> is T <sub>case-life</sub> -10 degrees. Maximum failures = 10%



Maximum failures = 10%

### 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)	NFC, Programmable, SimpleSet	35 mA	
Adjustable Light Output (ALO)	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
Touch & Dim (TD)	Yes	ON	Factory default setting: ON
Corridor Mode	Yes	ON	Default: T1=55s, T2=12s, T3=30min
Min Dim Level (%)	Yes	1 %	
DC emergency (DCemDim)	Yes	ON	Default 15%, EOFi range=1..100% (EOFi = DCemDIM level)
DALI control supported at DC operation	Yes	ON	
OEM Write Protection (OWP)	Yes	OFF	
DALI 102	Yes		Programmable via SimpleSet
Luminaire Info (DALI part 251)	Yes		
Luminaire maintenance (DALI part 253)	Yes		

### Non-programmable features

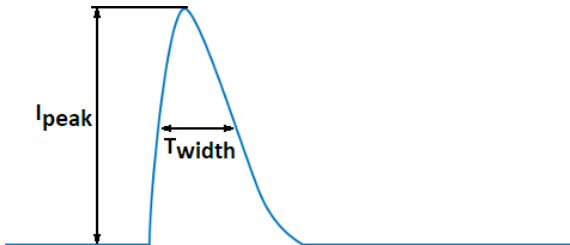
Specification item	Value	Condition
Open load protection	Yes	Automatic recovering
Short circuit protection	Yes	Automatic recovering
Over power protection	Yes	Automatic recovering
Hot wiring	No	
Suitable for fixtures with protection class	I	per IEC60598
Output Overvoltage Detection	Yes	
Energy metering (DALI part 252)	Yes	

## Inrush current

Specification item	Value	Unit	Condition
Inrush current	36	A	Input voltage 230V
Inrush peak width	130	μs	Input voltage 230V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 25	pcs	Input voltage 230V

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 Protective Conductor Current (ins. Class I)	0.5	mA rms	Acc. IEC60598-1. LED module contribution not included

## Surge immunity

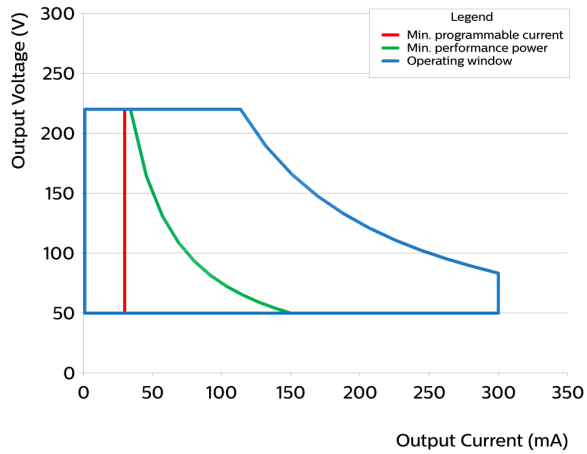
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm 1.2/50us,8/20us
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge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

## Application Info (Approbation)

Specification item	Value
Approval marks and Certifications	CCC / CE / DALI 2 / EAC / EL / ENEC / RCM / UA / UKCA
Ingress Protection classification (IP)	20
Application	Indoor Linear
Mounting Type	Built-in

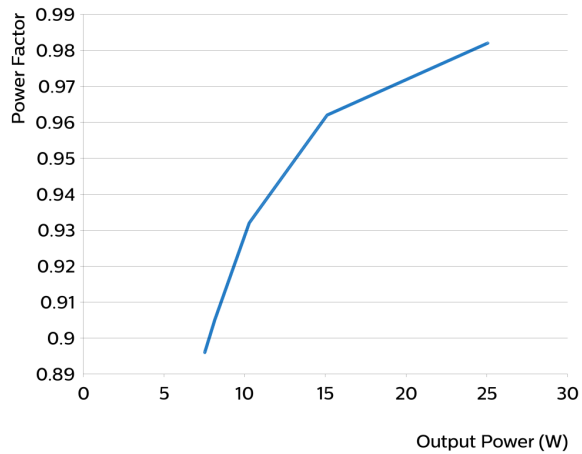
## Graphs

### Operating window

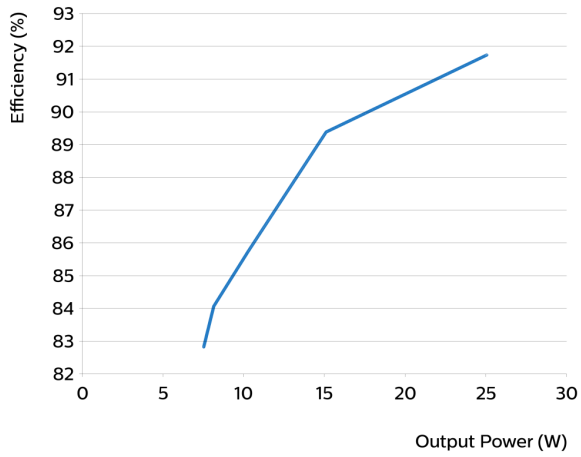


Type	Output current (mA)	Min. output voltage (V)	Max. output voltage (V)	Max. output power (W)
Xitanium 25W 0.03-0.3A 220V TD16 230V	30	50	220	6.6
Xitanium 25W 0.03-0.3A 220V TD16 230V	80	50	220	17.6
Xitanium 25W 0.03-0.3A 220V TD16 230V	130	50	192	25
Xitanium 25W 0.03-0.3A 220V TD16 230V	180	50	138	25
Xitanium 25W 0.03-0.3A 220V TD16 230V	230	50	108	25
Xitanium 25W 0.03-0.3A 220V TD16 230V	300	50	83	25

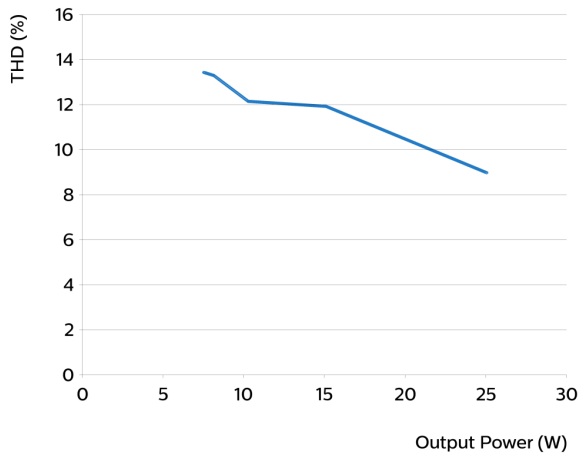
### Power factor versus output power



## Efficiency versus output power



## THD versus output power



## Notes

Electrical Specifications: All the specifications are typical and at 25°C Ta unless specified otherwise.



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