

# PHILIPS

## Xitanium

### LED driver



## Datasheet

### Xitanium non-iso DALI dimmable & programmable Coded Light

Xitanium 100W 0.15-0.5A 300V iXt TDCL 230V

9290 016 16106

#### Enabling future-proof LED technology

Xitanium Coded Light drivers enable indoor positioning and are part of the YellowDot program. The YellowDot program is a luminaire certification program that allows any manufacturer to test and certify that their LED luminaires are interoperable with our indoor positioning technology.

This smart technology allows shoppers and store staff to receive directions to products or location-based notifications. It also collects location-based data analytics to measure marketing impact and assess store operations. To a retailer, this level of customer engagement is invaluable. The Coded Light drivers are based on the latest generation of Xitanium drivers.

#### Benefits

- YellowDot ready
- High quality of light
- High reliability
- Future-proof flexibility
- Fast and easy wireless programming with SimpleSet
- Flicker and noise free dimming due to amplitude modulation dimming (AM)

#### Features

- Coded Light to enable indoor positioning
- High efficiency
- Wide operating windows - output current can be adjusted via the Philips MultiOne software, SimpleSet (NFC) or LEDset (resistor)
- Reduced ripple current and thermal de-rating for increased reliability

#### Application

- Offices
- Retail: supermarkets, shopping malls
- Indoor industry applications (iXt versions): warehouses, distribution centers, cold storage, manufacturing

## 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 range	50...60	Hz	Performance range
Rated input current	0.49	A	@ full output power @ rated input voltage
Rated input power	106	W	@ rated output power @ rated input voltage
Power factor	0.9		@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	94	%	@ full output power @ rated input voltage
Rated input voltage DC range	186...250	V <sub>dc</sub>	Performance range
Input voltage AC range	202...254	V <sub>ac</sub>	Operational range
Input frequency AC range	47.5...63	Hz	Operational range
Input voltage DC range	168...275	V <sub>dc</sub>	Operational range
Standby Power	0.3	W	
Isolation input to output	No		

## Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	100...300	V <sub>dc</sub>	
Output voltage max.	330	V	Maximum output voltage (rms)
Output current	0.15...0.5	A	
Output current tolerance ±	5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 4	%	
Output power	28...100	W	

## Electrical data controls input

Specification item	Value	Unit	Condition
Control method	DALI, Touch & Dim (TD)		
Dimming range	1...100	%	≥ 330mA 1% dimming; < 330mA min. current 3.3mA
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	
Maximum cable length	2	m	Total length of wiring including LED module, one way. For longer wiring please double check EMI behavior of luminaire

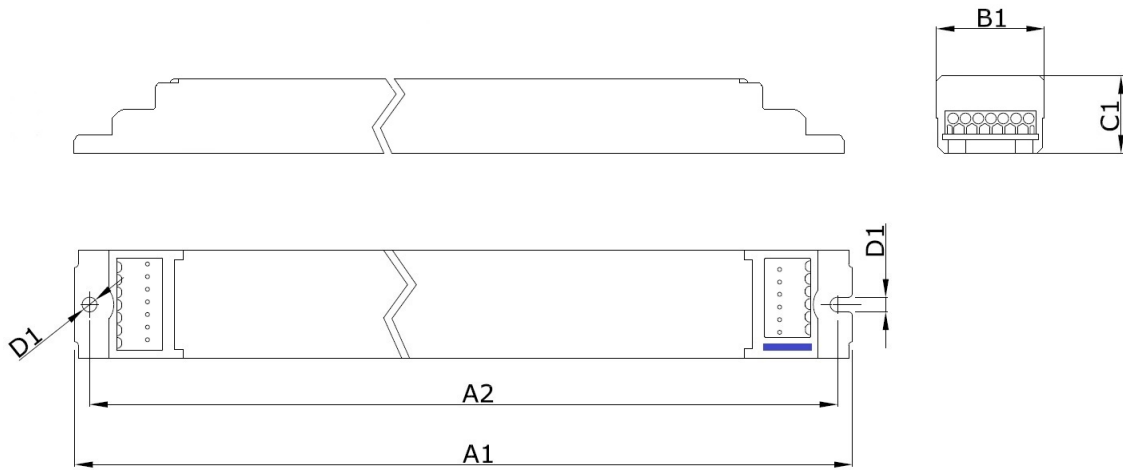


## Insulation

Insulation per IEC61347-1	Input	Output+LEDset	DALI	Housing
Input		Non	Basic	Basic
Output+LEDset	Non		Basic	Basic
DALI	Basic	Basic		Basic
Housing	Basic	Basic	Basic	

## Dimensions and weight

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	284	gram	



## Logistical data

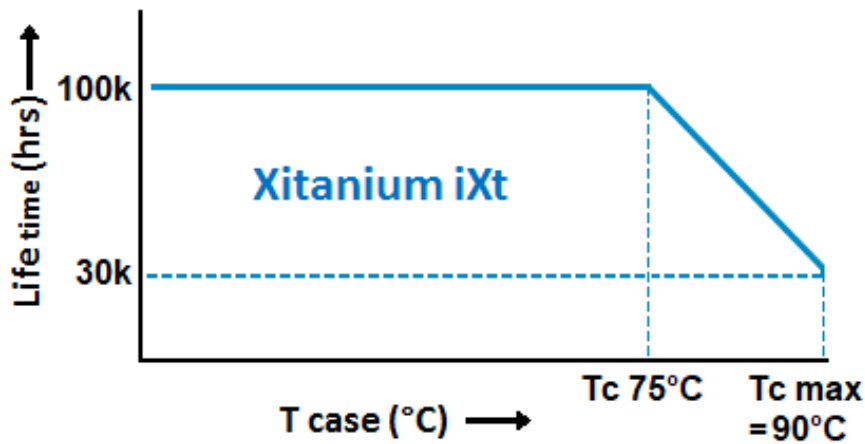
Specification item	Value
Product name	Xitanium 100W 0.15-0.5A 300V iXt TDCL 230V
EOC	871869678746500
Logistic code 12NC	9290 016 16106
EAN1 (GTIN)	8718696787465
EAN3	8718696787472
Pieces per box	24

## Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-30...+60	°C	Higher ambient temperature allowed as long as T <sub>case-max</sub> is not exceeded
T <sub>case-max</sub>	90	°C	lifetime 30khrs;
T <sub>case-life</sub>	75	°C	lifetime 100khrs; measured at T <sub>c</sub> -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	> 100,000	switches	See Design-in guide for detailed explanation



## Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+85	°C	
Relative humidity	5...95	%	Non-condensing

## Programmable features

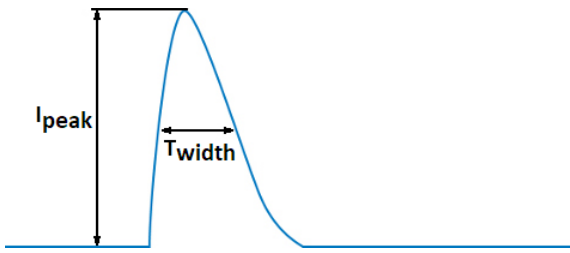
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	LEDset, Programmable, SimpleSet	150 mA	
NTC on LEDset	Yes	OFF	
Adjustable Light Output (ALO)	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
Touch & Dim (TD)	Yes	ON	
Corridor Mode	Yes	ON	Default: T1=55s, T2=12s, T3=30min
Min Dim Level	Yes	1 %	
DC emergency (DCemDim)	Yes	ON	Current output decreased to 15%
Dimming support at DC operating	Yes	OFF	
Coded Light	Yes	ON	
OEM Write Protection (OWP)	Yes	OFF	

## 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	Yes	Accuracy 10%
Diagnostics	Yes	

## Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$	4.5	A	Input voltage 230V
Inrush current $T_{width}$	1000	$\mu$ s	Input voltage 230V, measured at 50% $I_{peak}$
Drivers / MCB 16A type B	$\leq 18$	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)	0.5	mA rms	Acc. IEC60598-1. LED module contribution not included

## Surge immunity

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

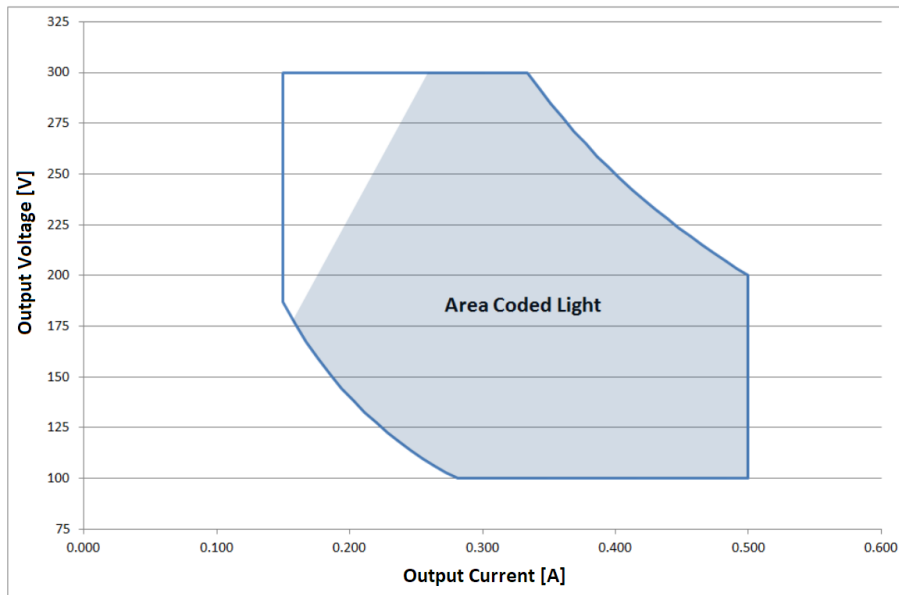
## Application Info

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

## Graphs

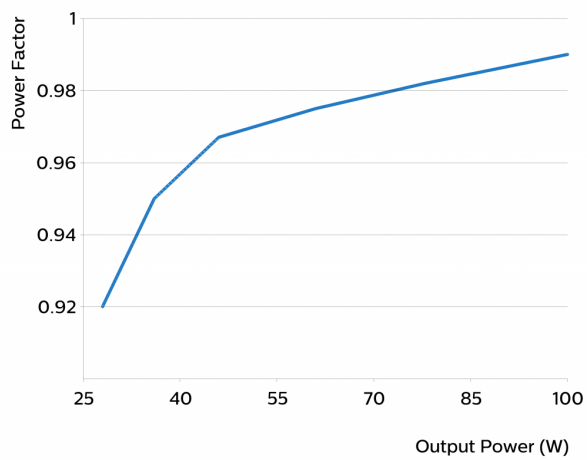
### Operating window

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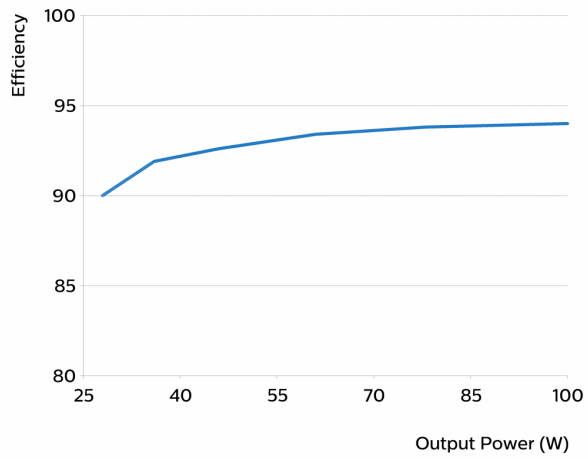
### Power factor versus output power

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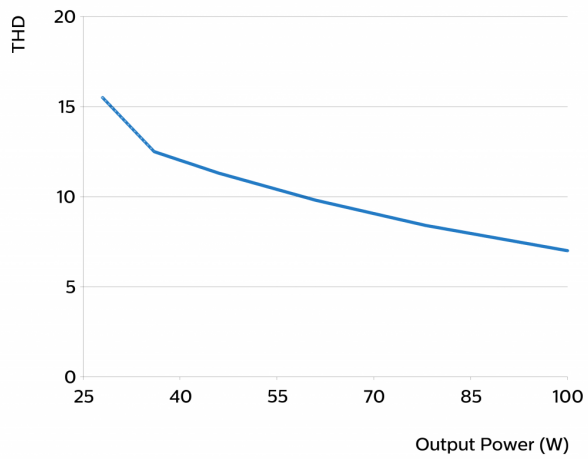
## Efficiency versus output power

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## THD versus output power

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## Notes

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