PHILIPS

Xitanium

LED driver

Datasheet

Xitanium non-isolated Fixed Output SimpleSet with CLO

Xitanium 100W 0.25-0.7A 220V S21 230V

9290 021 16106

Xitanium non-isolated Fixed Output SimpleSet drivers with CLO programming offer quality of light, reliability and low energy consumption.
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.

With the Constant Lumen Output (CLO) feature you can ensure that the light output of your luminaire remains stable over time.

The reliability of your complete lighting system is enhanced as our drivers offer specific features that protect the connected LED module, including reduced ripple current. Finally, the Constant Lumen Output feature enables lower energy consumption as power is optimized over the lifecycle of the luminaire.

Benefits

- High quality of light
- Constant light output over time
- High reliability
- Lower energy consumption
- Fast and easy wireless programming with SimpleSet

Features

- CLO programming
- Wide operating windows - output current can be adjusted via SimpleSet (NFC)
- High efficiency
- Low output ripple current

Application

- Offices
- Industry
- Retail: supermarkets, shopping malls

October 2019

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	0.47	A	@ full output power @ rated input voltage
Rated input power	107	W	@ rated output power @ rated input voltage
Power factor	0.98		@ performance range @ full output power
Total harmonic distortion	9	%	@ performance range @ full output power
Efficiency	93	%	@ full output power @ rated input voltage
Rated input voltage DC range	186…250	V_{dc}	Performance range
Rated input current DC range	≤ 0.47	A_{dc}	Performance range
Input voltage AC range	198…264	V_{ac}	Operational range
Input frequency AC range	47.5…63	Hz	Operational range
Input voltage DC range	168…275	V_{dc}	Operational range
Isolation input to output	No		

Electrical output data

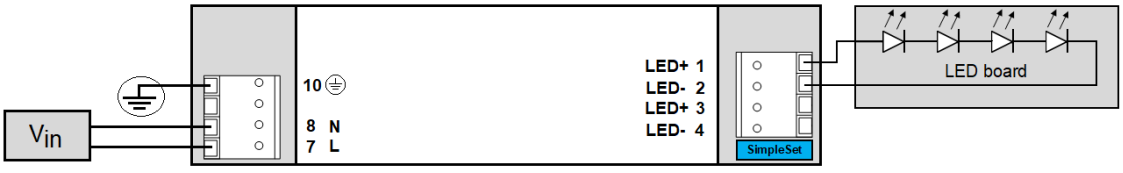
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	50…220	V_{dc}	
Output voltage max.	250	V	Maximum output voltage (rms)
Output current	0.25…0.7	A	
Output current tolerance	± 5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output P_{st}^{LM}	≤ 1		
Output SVM	≤ 0.4		
Output power	28…100	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

Wiring and Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.5…1.5	mm^2	WAGO744, solid wire
	16…20	AWG	WAGO744, solid wire
Input wire strip length	8…9	mm	
Output wire cross-section	0.5…1.5	mm^2	WAGO744, solid wire
	16…20	AWG	WAGO744, solid wire
Output wire strip length	8…9	mm	
Maximum cable length	2000	mm	Total length of wiring including LED module, one way

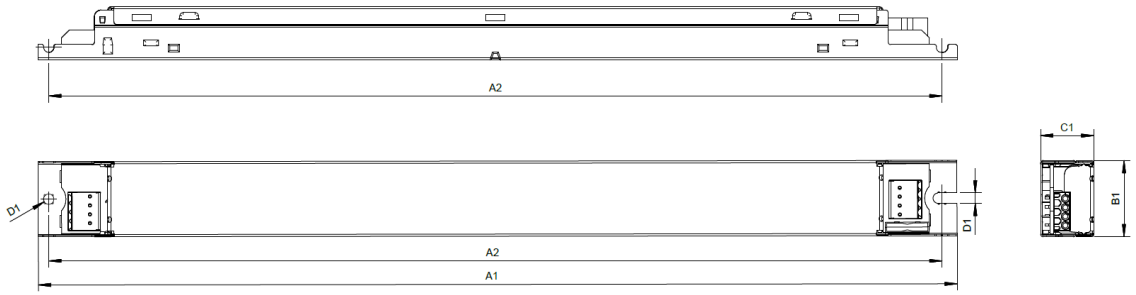


Insulation

Insulation	Input	Output	Housing
Input		Non	Basic
Output	Non		Basic
Housing	Basic	Basic	

Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	360	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Fixing hole diameter (D1)	4.1	mm	
Fixing hole distance (A2)	350	mm	
Weight	260	gram	



Logistical data

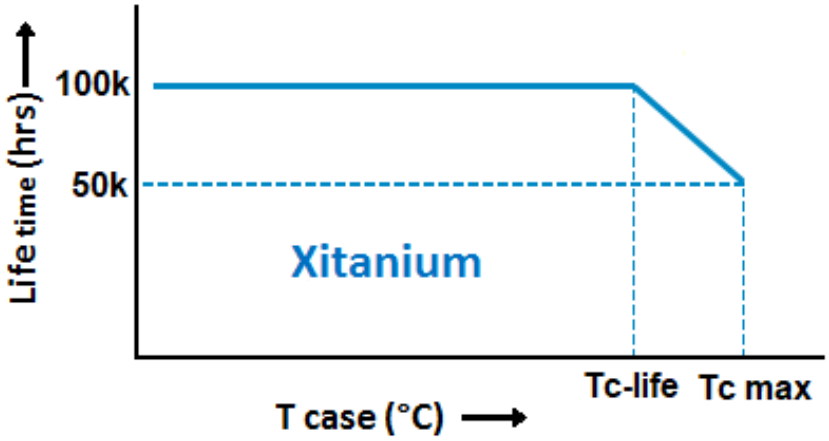
Specification item	Value
Product name	Xitanium 100W 0.25-0.7A 220V S21 230V
EOC	871869971787200
Logistic code 12NC	9290 021 16106
Pieces per box	24

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25…+50	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	75	°C	lifetime 50khrs;
Tcase-life	65	°C	lifetime 100khrs; Measured at T_c-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	-25…+85	°C	
Relative humidity	5…95	%	Non-condensing

Programmable features

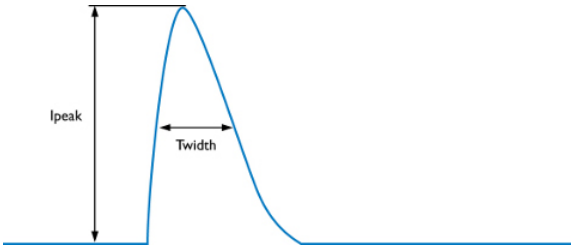
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	SimpleSet	250 mA	
Constant Lumen Over Lifetime (CLO)	Yes	OFF	

Features

Specification item	Value	Remark	Condition
Open load protection	Yes		Mains reset needed
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 I_{peak}	22.5	A	Input voltage 230V
Inrush current T_{width}	30	µs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 23	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

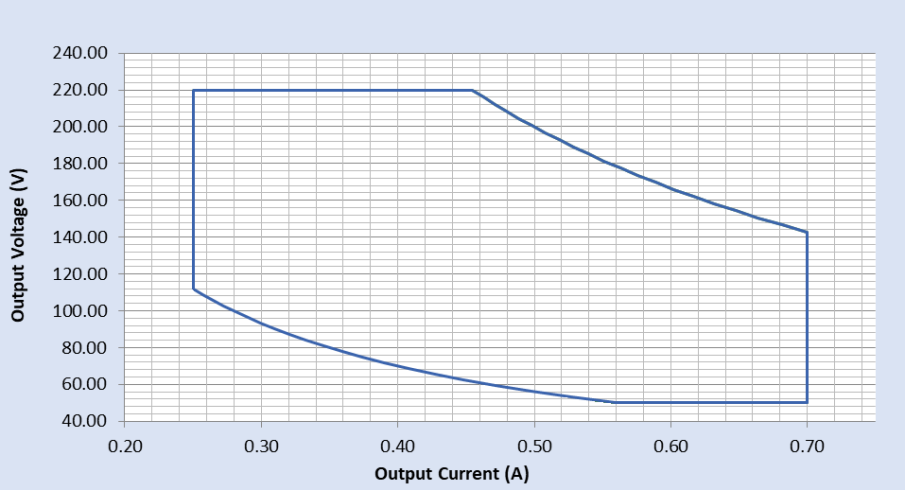
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info

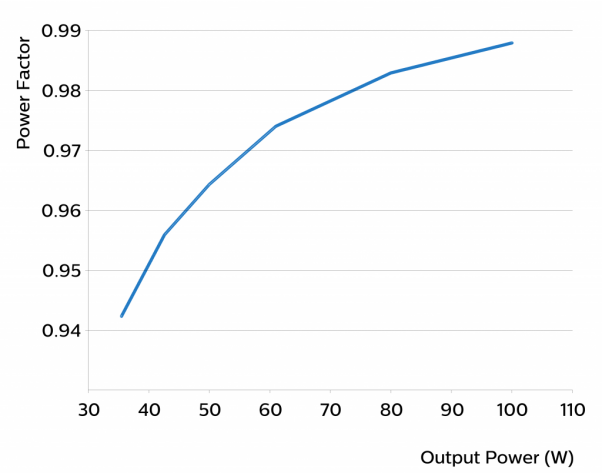
Specification item	Value
Approval marks	CB / CCC / EL / ENEC
Ingress Protection classification (IP)	20

Graphs

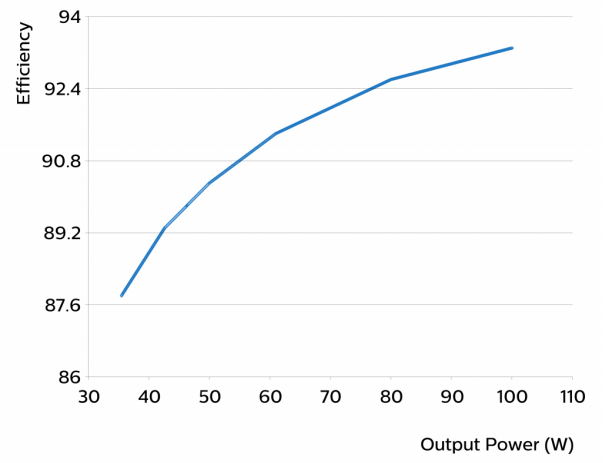
Operating window



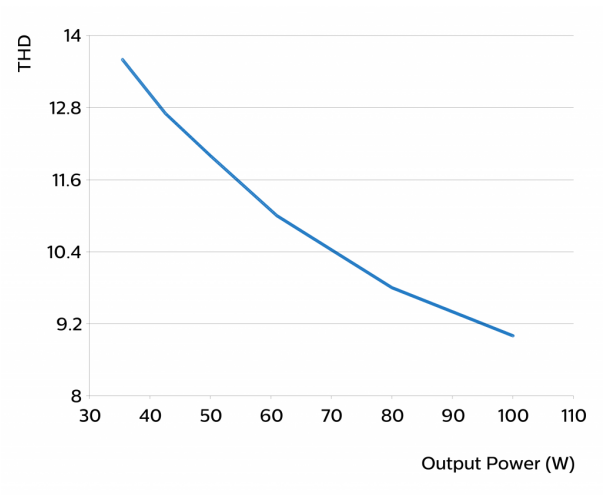
Power factor versus output power



Efficiency versus output power



THD versus output power



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