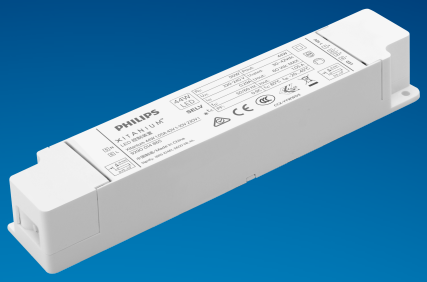
PHILIPS

Xitanium

LED driver



Datasheet

Xitanium LED drivers – linear LV isolated Low Ripple

Xitanium 44W 1.05A 42V 1-10V 230V I

9290 014 86580

Optimizing Performance

Xitanium LED drivers are designed to operate LED solutions for general lighting applications such as linear lighting in offices, public buildings as well as industrial and retail environments. Xitanium LED drivers with single current output offer industry leading performance and reliability at optimized cost. They are ideal for high volume applications while delivering to specific requirements. These drivers offer the same level of performance as Xitanium adjustable-current linear drivers to ensure high quality of light but, with a specific current setting. In addition, the isolated drivers offer ease of design-in and simpler approbation process.

Xitanium LED drivers are based on Philips experience and knowledge from conventional fluorescent technology. The reliability of the LED solution is further enhanced by specific features that protect the connected LED module, such as reduced ripple current.

Benefits

- High reliability underpinned by 5 year warranty
- Assurance of camera and scanner -friendly performance
- Optimized performance at specific output current setting
- Enable simple approbation process to luminaires

Features

- Low output current tolerance
- Long lifetime 50,000 hours lifetime at Tc max 75°C
- Low ripple output current (4%)

Application

- Offices and industry

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	0.29	A	@ rated output power @ rated input voltage
Rated input power	50	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	≥ 86	%	@ rated output power @ rated input voltage
Input voltage AC range	202…254	V_{ac}	Operational range
Input frequency AC range	47.5…63	Hz	Operational range
Isolation input to output	SELV		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	30…42	V_{dc}	
Output voltage max.	60	V	Peak voltage at open load
Output current	1.05	A	Full output current setting
Output current tolerance	± 8	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average
Output current ripple HF	≤ 15	%	
Output power	31.5…44	W	Full output

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	1-10V		
Dimming range	5…100	%	Default range
Isolation controls input to output	Basic		

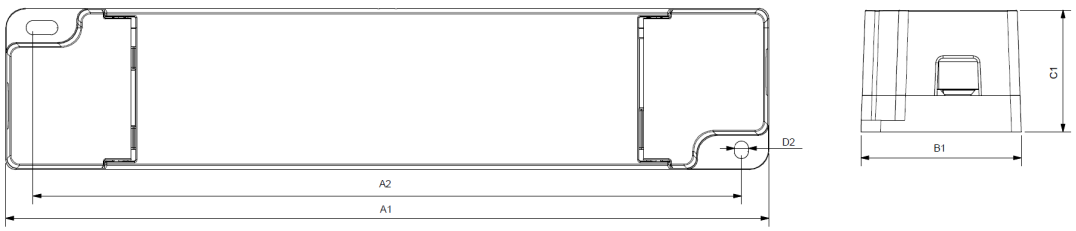
Wiring and Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.2...0.5	mm^2	WAGO250 (2.5 mm), solid wire
	20...24	AWG	WAGO250 (2.5 mm), solid wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.2...0.5	mm^2	WAGO250 (2.5 mm), solid wire
	20...24	AWG	WAGO250 (2.5 mm), solid wire
Output wire strip length	8.5...9.5	mm	
Control wire cross-section	0.2...0.5	mm^2	WAGO250 (2.5 mm), solid wire
	20...24	AWG	WAGO250 (2.5 mm), solid wire
Control wire strip length	8.5...9.5	mm	
Maximum cable length	600	mm	Total length of wiring including LED module, one way



Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	195	mm	
Width (B1)	41	mm	
Height (C1)	31	mm	
Fixing hole diameter (D1)	3.6	mm	
Fixing hole distance (A2)	181	mm	
Weight	146	gram	



Logistical data

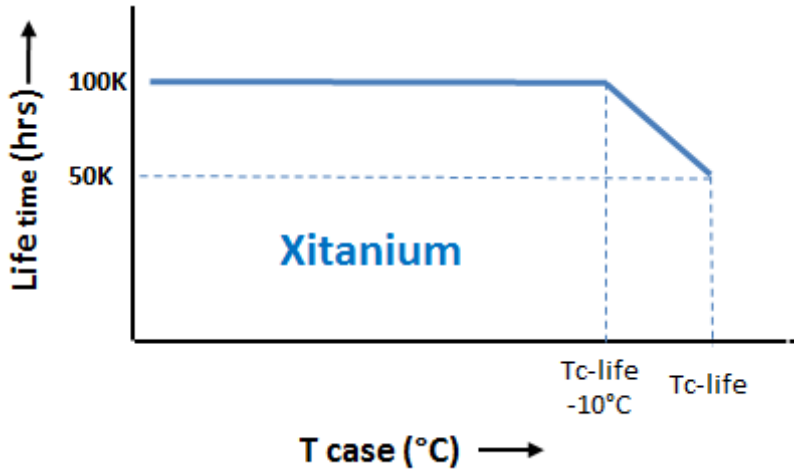
Specification item	Value
Product name	Xitanium 44W 1.05A 42V 1-10V 230V I
EOC	694793915870600
Logistic code 12NC	9290 014 86580
Pieces per box	50

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20…+45	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	85	°C	Maximum temperature measured at T_{case}-point
Tcase-life	75	°C	Measured at T_{case}-point
Maximum housing temperature	130	°C	In case of a failure
Relative humidity	10…90	%	Non-condensing

Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	50,000	hours	Measured temperature at Tcase-point is Tcase-life. 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

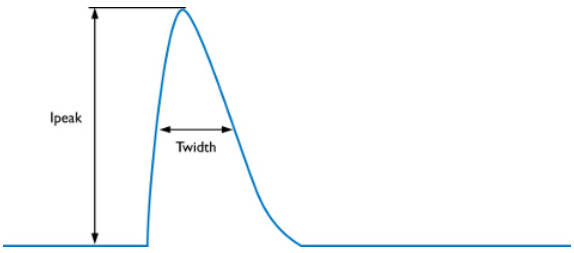
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)		1050 mA	
LED Module Temperature Protection (MTP)	No		
Constant Lumen Over Lifetime (CLO)	No		
DC emergency dimming (DCemDim)	No		

Features

Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		
Hot wiring	No		
Suitable for fixtures with protection class	II		per IEC60598

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	12.6	A	Input voltage 230V
Inrush current T_{width}	120	µs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 46	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 touch current (ins. Class II)	0.7	mA peak	Acc. IEC61347-1. LED module contribution not included

Surge immunity

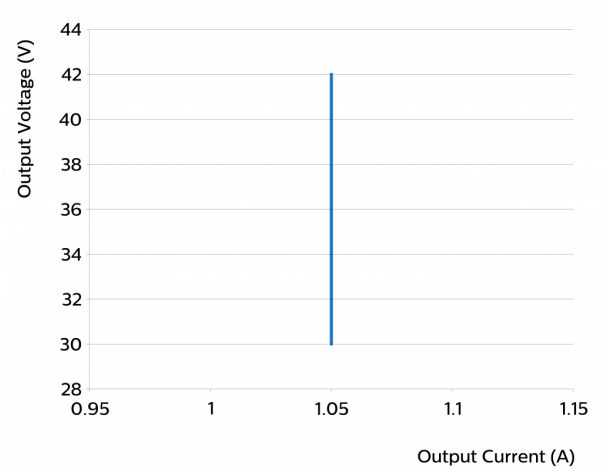
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm 1.2/50us,8/20us
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge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

Application Info

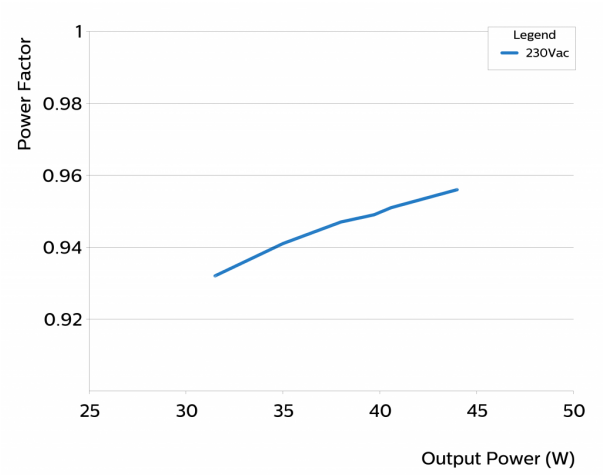
Specification item	Value
Approval marks	CB / CCC / CE / ENEC / TISI
Ingress Protection classification (IP)	20

Graphs

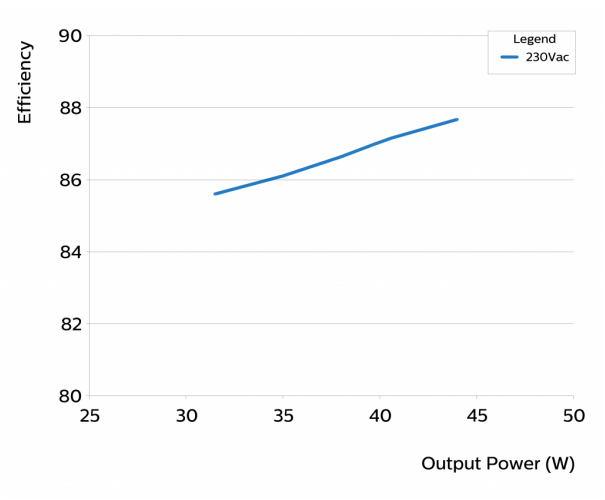
Operating window



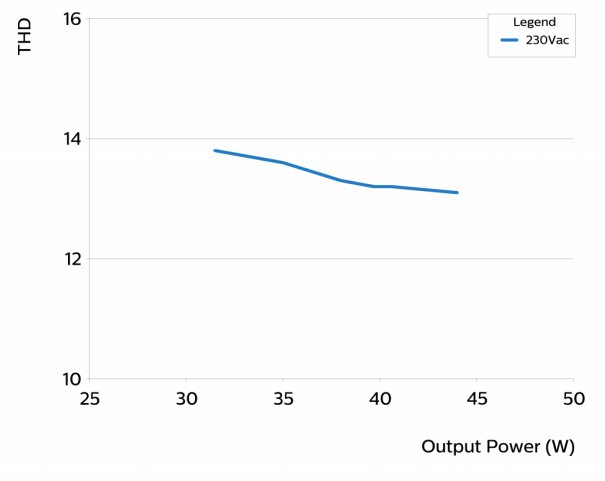
Power factor versus output power



Efficiency versus output power



THD versus output power



Notes

The outer diameter of the cables at output side is 3~8mm.
Meanwhile, the type of 1-10V cable and output cable are recommended to be the same.

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