PHILIPS

Xitanium

LED driver

Datasheet

Xitanium LED drivers – linear LV isolated

Xitanium 72W 1.2/1.4A 51V DS 230V

9290 028 32080

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 years 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
- Low ripple output current (4%)
- Adjustable output current by dip switch

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	0.37	A	@ full output power @ rated input voltage
Rated input power	70 / 80	W	@ full 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	89	%	@ full output power @ rated input voltage @ max. Iout
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	47.5…63	Hz	Operational range
Input voltage DC range	168…275	V_{dc}	Operational range
Isolation input to output	SELV		

Electrical output data

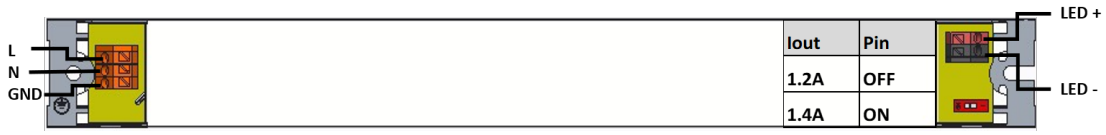
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	23…51	V_{dc}	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	1.2 / 1.4	A	
Output current tolerance	± 8	%	
Output current ripple LF	< 4	%	Ripple = peak / average, < 3kHz
Output P_{st}^{LM}	≤ 1		In entire operating window
Output SVM	≤ 1.6		In entire operating window
Output power	27.6…72	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method			

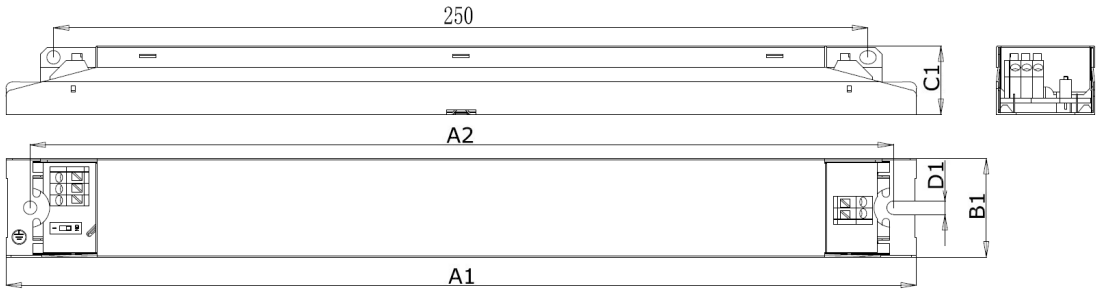
Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5…1.5 / 20…16	mm^2 / AWG	Type250, solid / stranded wire
Input wire strip length	8…9	mm	
Output wire cross-section	0.5…1.5 / 20…16	mm^2 / AWG	Type250, solid / stranded 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



Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	279.5	mm	
Mounting hole distance (A2)	265	mm	
Width (B1)	30.2	mm	
Height (C1)	21	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	241	gram	



Logistical data

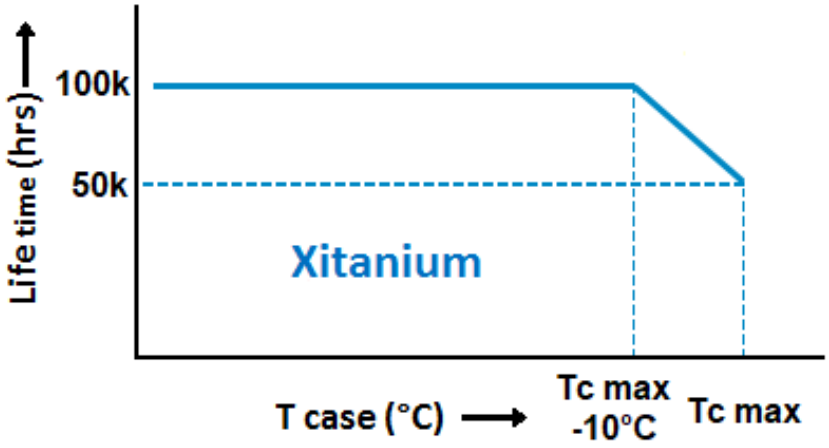
Specification item	Value
Product name	Xitanium 72W 1.2/1.4A 51V DS 230V
European order code	6922341 919640 00
Logistic code 12NC	9290 028 32080
Pieces per box	20

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20…+50	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	80	°C	Maximum temperature measured at T_{case}-point
Tcase-life	70	°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%



Storage temperature and humidity

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

Programmable features

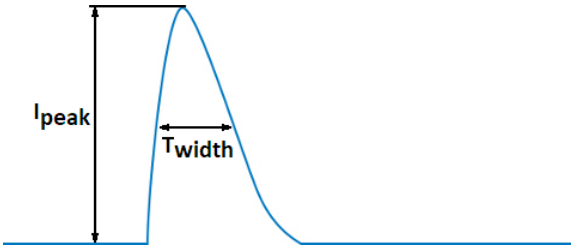
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)		1200 mA	Manual setting via dip-switch
Constant Light Output (CLO)	No		
DC emergency (DCemDim)	No		With a DC mains the output current is 100%. (EOFi)

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
Energy metering	No		
Diagnostics	No		

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	25.1	A	Input voltage 230V
Inrush current T_{width}	358	µs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 28	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%

Surge immunity

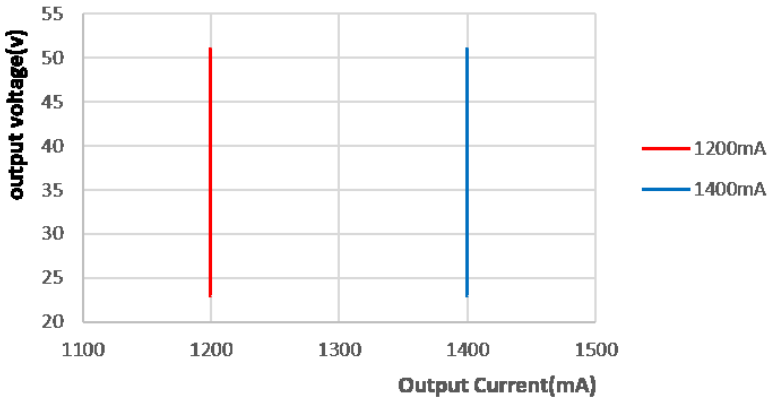
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge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

Application Info

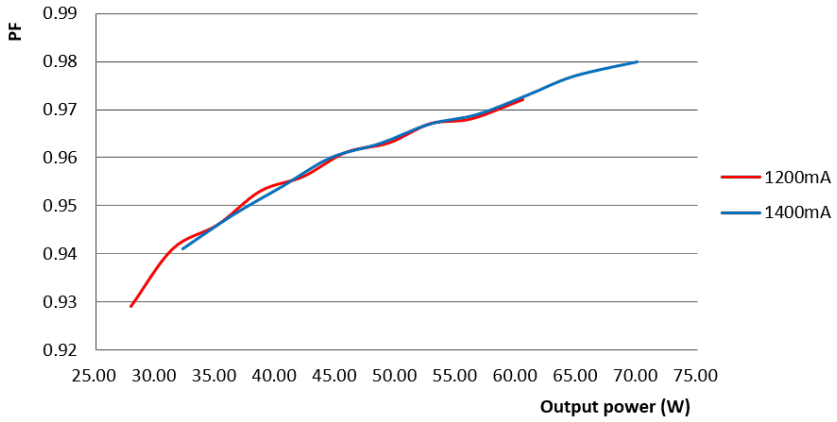
Specification item	Value
Approval marks	CB / CCC / CE / EL / ENEC / RCM
Ingress Protection classification (IP)	20

Graphs

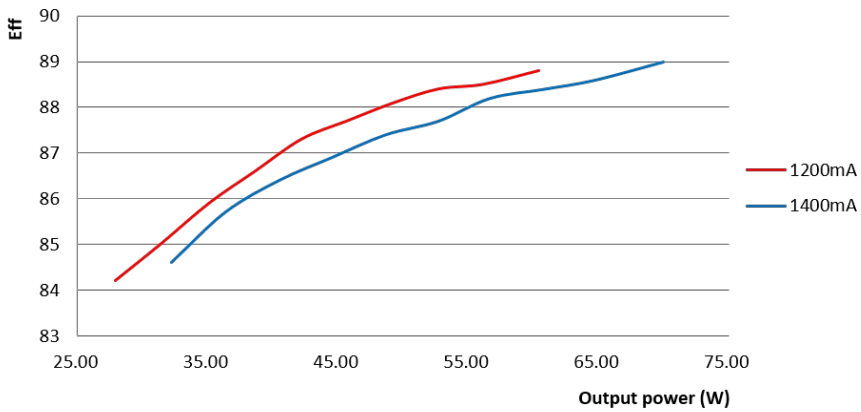
Operating window



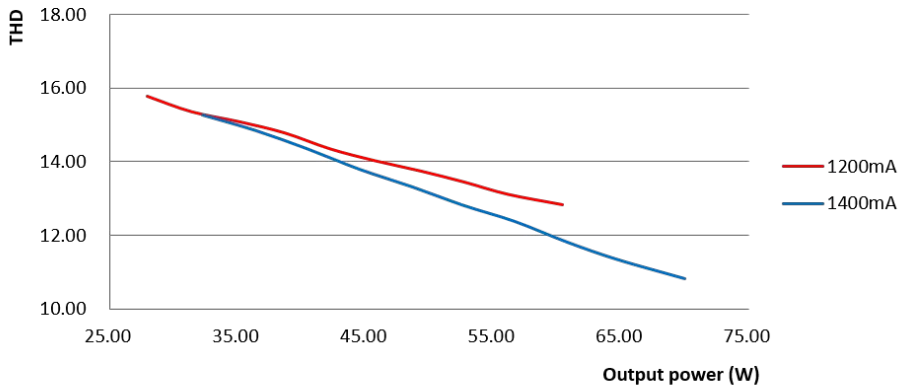
Power factor versus output power



Efficiency versus output power



THD versus output power



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Date of release: Nov 4, 2021 v4