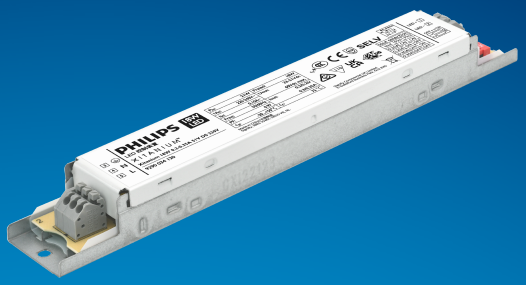
PHILIPS

Xitanium

LED driver



Datasheet

Xitanium LED drivers – linear LV isolated

Xitanium 18W 0.2-0.35A 51V DS 230V

9290 034 12080

Enabling future-proof LED technology

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. This new generation Xitanium LED drivers have 4 output currents, 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. 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
- Low ripple output current (4%)
- Adjustable output current by dip switch

Application

- Offices
- 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	0.1	A	@ full output power @ rated input voltage
Rated input power	21	W	@ full output power @ rated input voltage
Nominal Power factor	0.97		@ full load @Vin 230V
Total harmonic distortion	20	%	For full performance range, Vin range 220…240V
Efficiency	86	%	@ full output power @ rated input voltage @ max. Iout
Input voltage AC range	198…264	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	23…51	V_{dc}	30…51 (Iout=0.2A)
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	0.2 / 0.25 / 0.3 / 0.35	A	Select output current via the dipswitch
Output current tolerance ±	8	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak to average, < 3kHz
Output P_{st}^{LM}	≤ 1		In entire operating window
Output SVM	≤ 0.4		In entire operating window
Output power	6…17.9	W	

Electrical data controls input

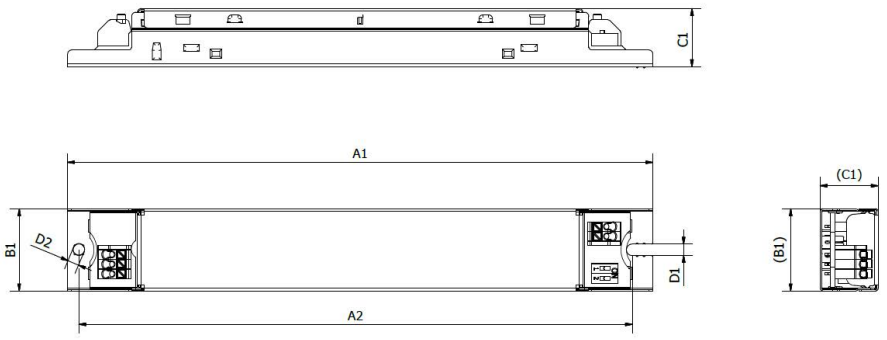
Specification item	Value	Unit	Condition
Control method	Fixed		

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5…1.5 / 20…16	mm^2 / AWG	Type 250
Input wire strip length	8.5…9.5	mm	
Output wire cross-section	0.5…1.5 / 20…16	mm^2 / AWG	Type 250
Output wire strip length	8.5…9.5	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)	210	mm	
Mounting hole distance (A2)	198.5	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Mounting hole diameter (D1)	4	mm	
Weight	140	gram	



Logistical data

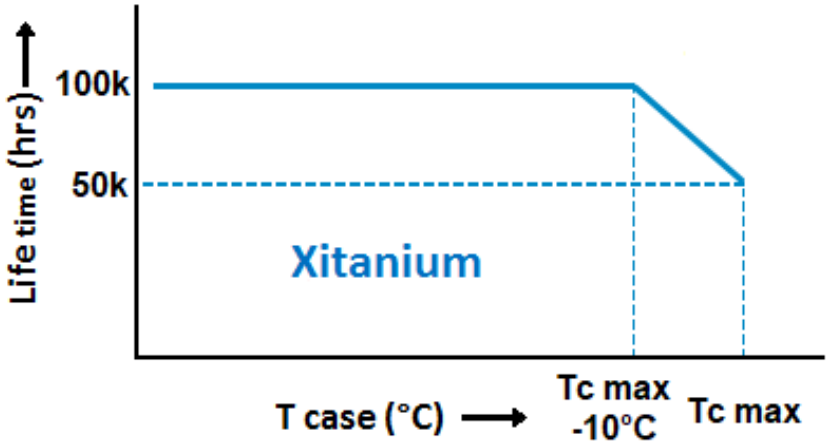
Specification item	Value
Product name	Xitanium 18W 0.2-0.35A 51V DS 230V
Logistic code 12NC	9290 034 12080
Pieces per box	20

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	75	°C	Maximum temperature measured at T_{case}-point
Tcase-life	65	°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	50,000	hours	Measured temperature at Tcase-point is Tcase-max. Maximum failures = 10%
Driver lifetime	100,000	hours	Measured temperature at Tcase-point is Tcase-max -10 degrees. 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

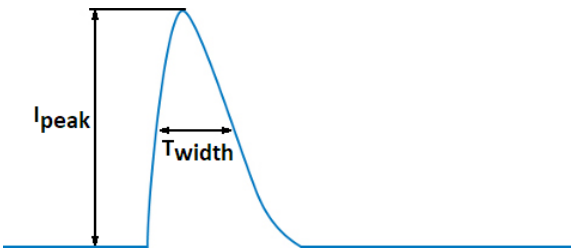
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	DipSwitch	350 mA	Set the output current via the dipswitch, see wiring diagram for an overview
Constant Light Output (CLO)	No		
DC emergency (DCemDim)	No		
Energy metering (DALI part 252)	No		
Diagnostics	No		

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 and II		per IEC60598

Inrush current

Specification item	Value	Unit	Condition
Inrush current	13.4	A	Input voltage 230V
Inrush peak width	200	µs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 45	pcs	Indicative value at 230V



Please refer to the driver design in guide if you use other MCB-types.

Driver touch current / protective conductor current / earth leakage 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

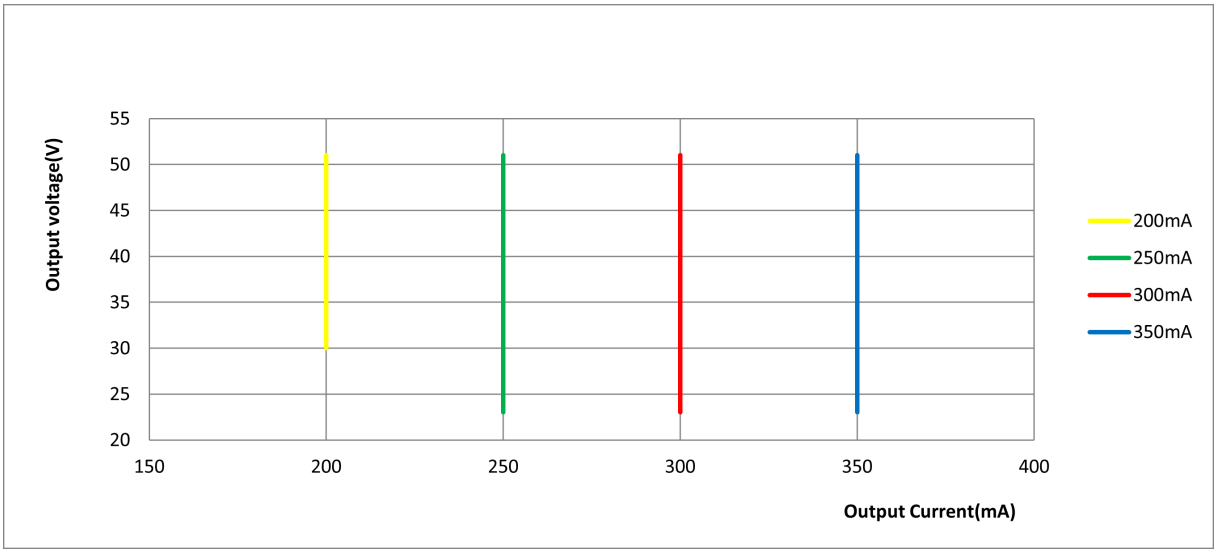
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info

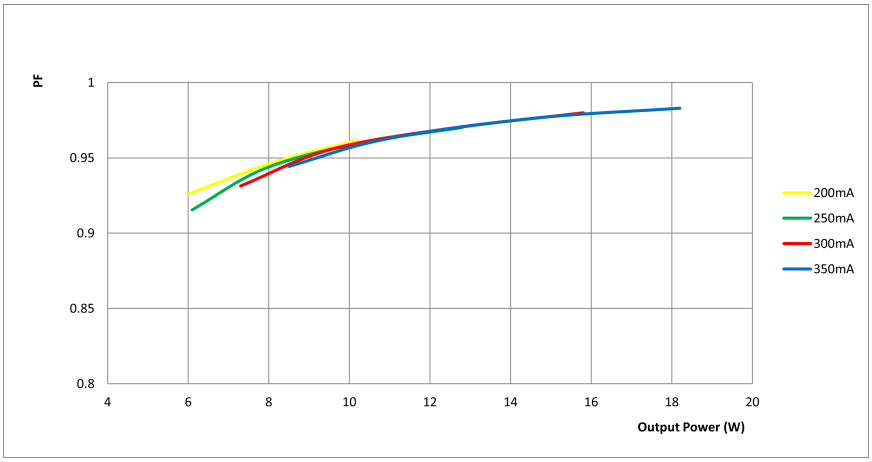
Specification item	Value
Approval marks and Certifications	CB / CCC / CE / ENEC / RCM / TISI / UKCA
Ingress Protection classification (IP)	20
Noise and hum dB(A)	20
Application	Indoor Linear
Mounting Type	Built-in

Graphs

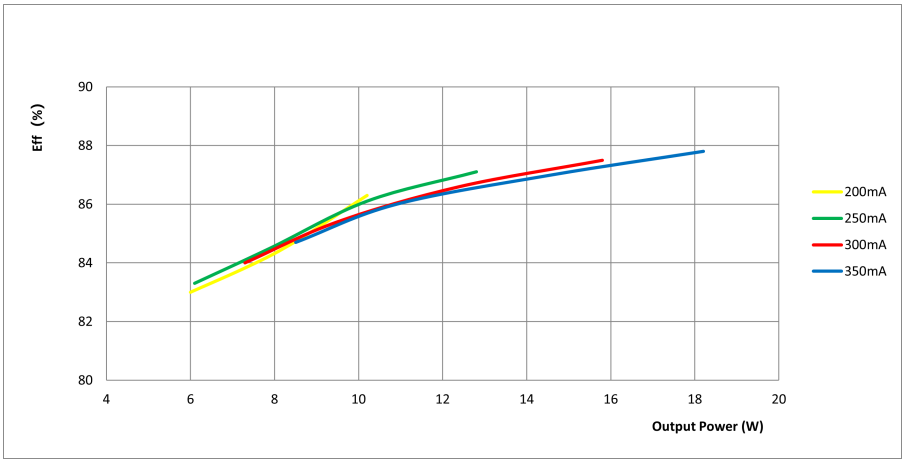
Operating window



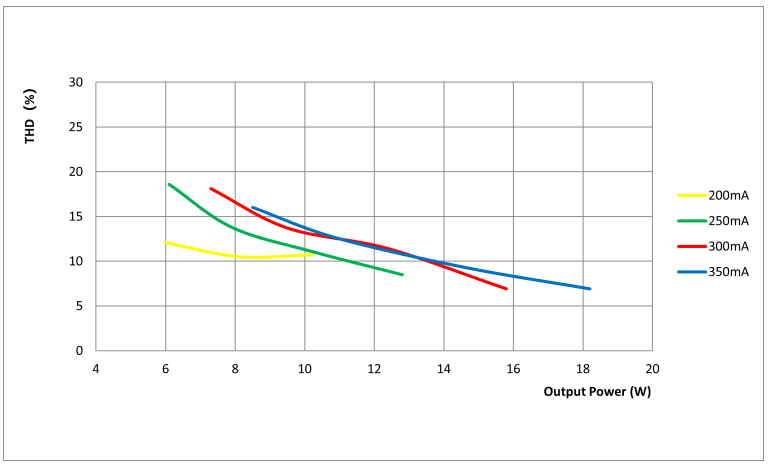
Power factor versus output power



Efficiency versus output power



THD versus output power



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