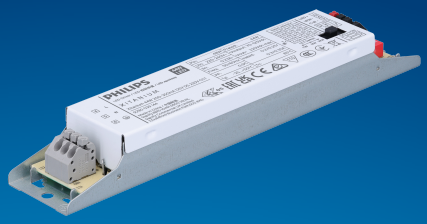
PHILIPS

Xitanium

LED driver



Datasheet

Xitanium LED drivers – linear non-isolated Dip Switch CCT

Xitanium 44W 200-350mA 125V DS 230V CCT

9290 039 14480

Enabling future-proof LED technology

The Philips Xitanium non-isolated Dip Switch CCT Linear LED driver provide 3-way dip switch that enables quick color temperature management for luminaires, offering superior flexibility for Original Equipment Manufacturers (OEM) customers.

Xitanium drivers have common features such as low ripple output current, adjustable output current by dip switch and 50,000 hours lifetime at Tc max. They are specifically designed to ensure great EMI performance, high robustness and safe usage.

Features

- Class I application
- Flexible CCT setting via 3-step dip switch
- Low Ripple less than 4%
- 4 output currents by Dip switch
- High efficiency
- 50,000 hours lifetime @ Tc-max

Benefits

- Provides options for different luminaire designs
- Comfortable for the eyes
- Selectable output current enables flexibility and SKU reduction
- Energy saving
- Peace of mind with proven reliability

Application

- Waterproof lighting
- Linear High Bay

Logistical data

Specification item	Value
Product name	Xitanium 44W 200-350mA 125V DS 230V CCT
Logistic code 12NC	9290 039 14480
Pieces per box	50
Weight	120 gram

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	50...60	Hz	Performance range
Rated input current	0.23	A	@ full output power @ rated input voltage
Rated input power	48.0	W	@ full output power @ rated input voltage
Power factor	0.90		@maximum output power @ rated input voltage
Total harmonic distortion	20	%	For full performance range, Vin range 220...240V
Efficiency	92.0	%	@ full output power @ rated input voltage @ max. Iout
Input voltage AC	198...264	V_{ac}	Operational range
Input frequency AC	47.5...63	Hz	Operational range
Isolation input to output	No		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	70...125	V_{dc}	
Output voltage max.	220	V	Maximum output voltage (rms)
Output current	200 / 250 / 300 / 350	mA	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}	≤ 0.1		In entire operating window
Output SVM	≤ 0.1		In entire operating window
Output power	14.0...43.7	W	
Rated output power	43.7	W	

Control interfaces

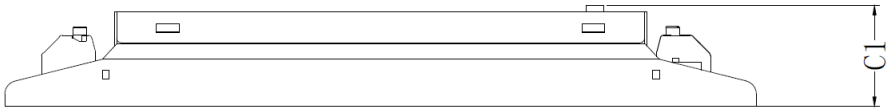
Specification item	Value	Unit	Condition
Control method	Fixed		

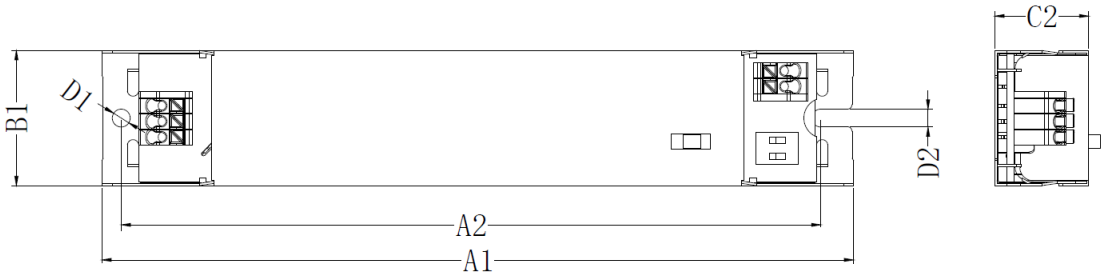
Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5...1.5 / 20...16	mm^2 / AWG	solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.5...1.5 / 20...16	mm^2 / AWG	solid / stranded wire
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)	168	mm	
Mounting hole distance (A2)	156.4	mm	
Width (B1)	30.2	mm	
Height (C1)	22.5	mm	
Height (C2)	21	mm	
Mounting hole diameter (D1)	4	mm	
Mounting hole diameter (D2)	4	mm	
Weight	120	gram	



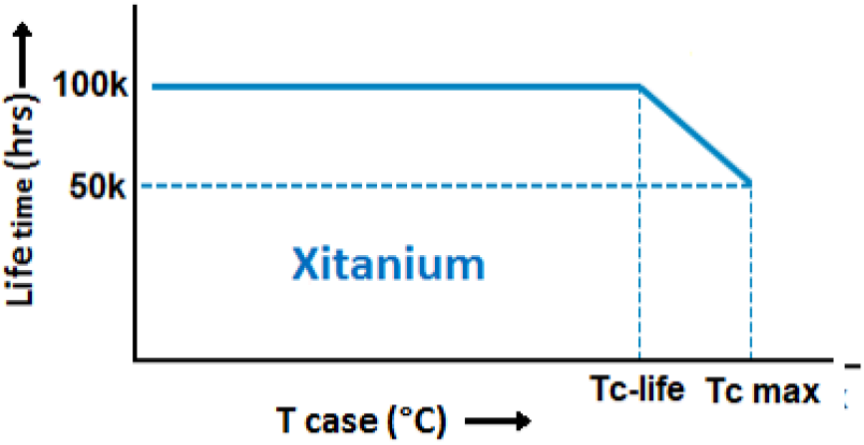


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+50	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	85	°C	Maximum temperature measured at T_{case}-point
Tcase-life	75	°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 Tcmax - 10 degrees. Maximum failures = 10%
Driver lifetime Tcmax	50,000	hours	Measured temperature at Tcase-point is Tc-max. Maximum failures = 10%



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

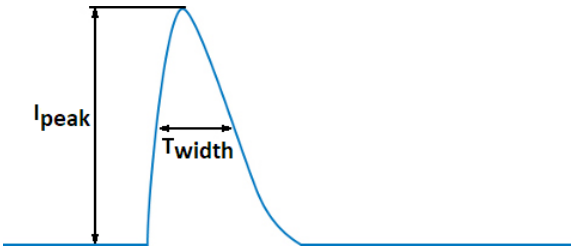
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	DipSwitch	350 mA	Set the output current via the dipswitch, see wiring diagram for an overview

Non-programmable features

Specification item	Value		Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Suitable for fixtures with protection class	I		per IEC60598

Inrush current

Specification item	Value	Unit	Condition
Inrush current	28.4	A	Input voltage 230V
Inrush peak width	124	µs	Input voltage 230V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 33	pcs	Input voltage 230V



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

If several mini circuit breakers are used directly side-by-side (without distance pieces) a correction factor of 80% has to be applied to the rated current

Driver touch current / protective conductor current / earth leakage current

Specification item	Value	Unit	Condition
Typical Protective Conductor Current (ins. Class I)	0.7	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

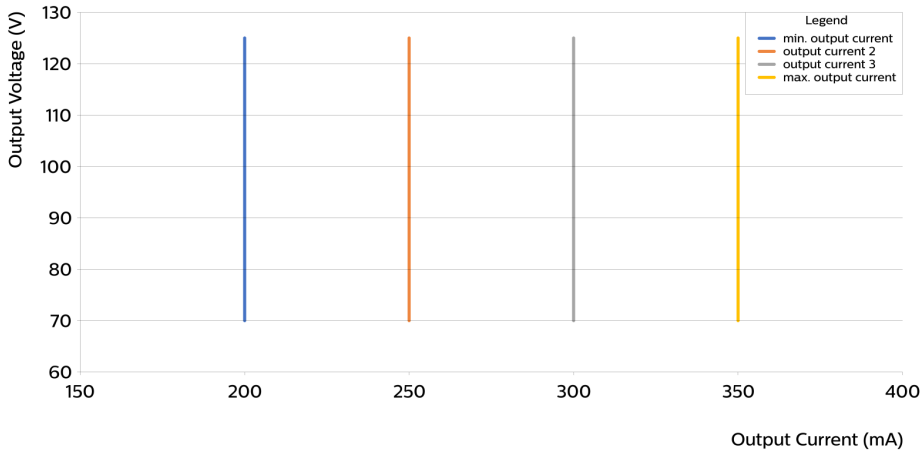
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info (Approbation)

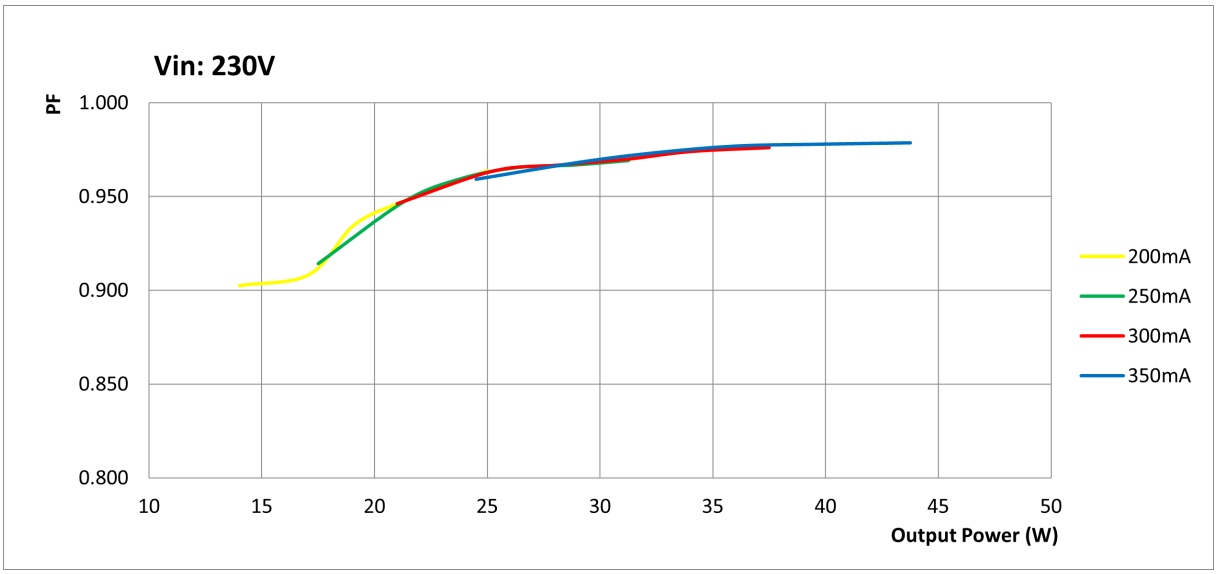
Specification item	Value
Approval marks and Certifications	CB / CCC / CE / EAC / ENEC / RCM / UA / UKCA
Ingress Protection classification (IP)	20
Application	Indoor Linear
Mounting Type	Built-in

Graphs

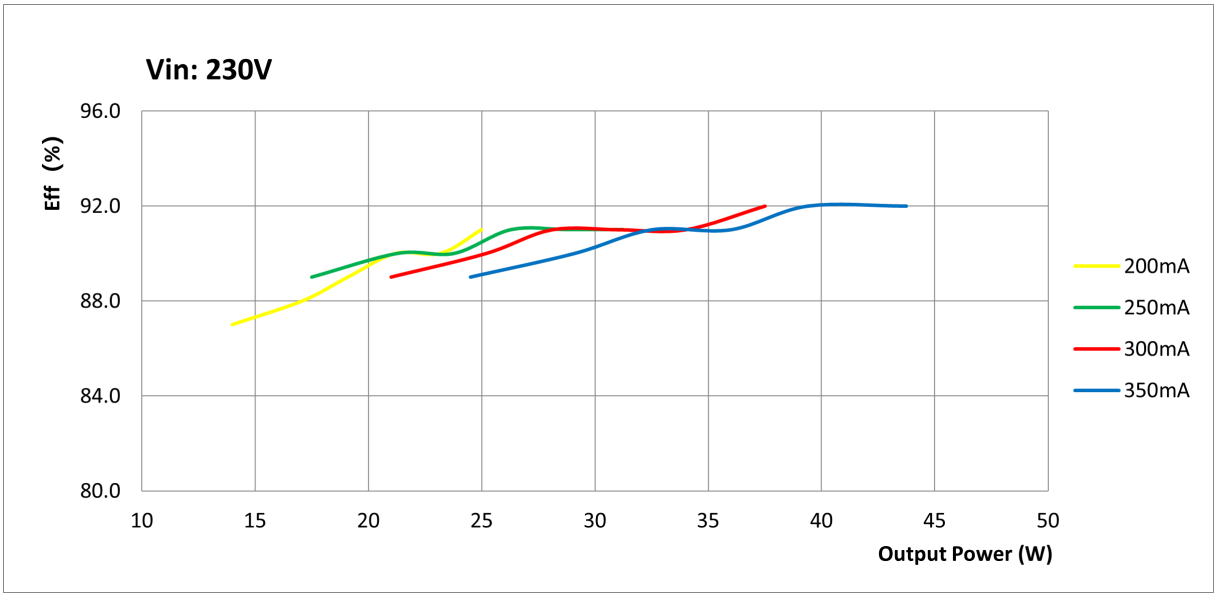
Operating window



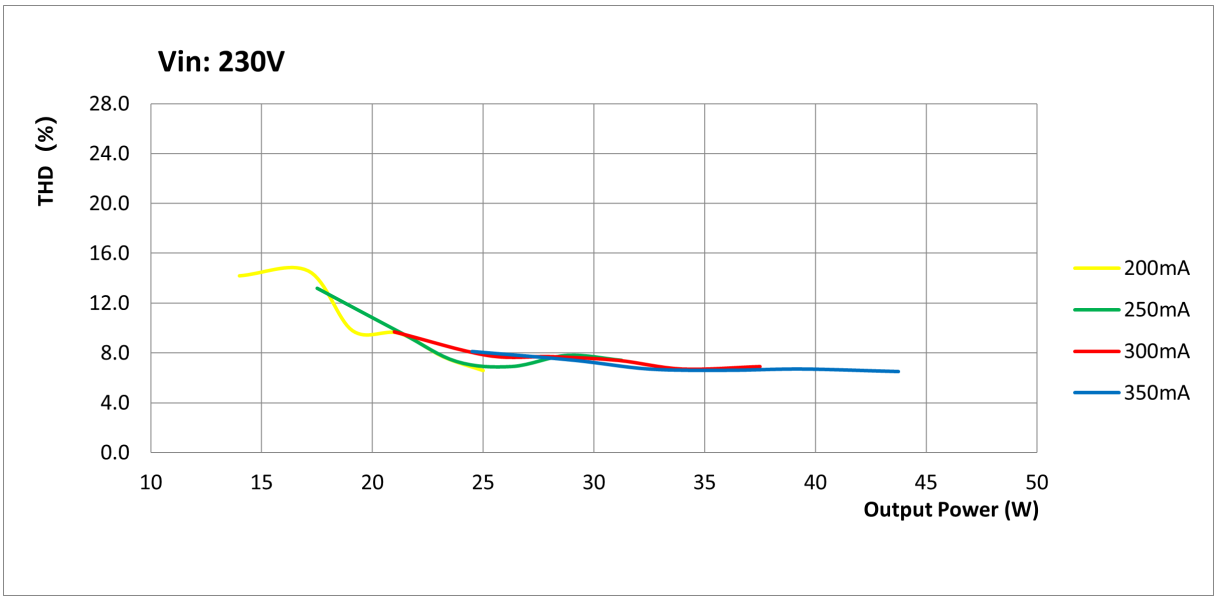
Power factor versus output power



Efficiency versus output power



THD versus output power



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