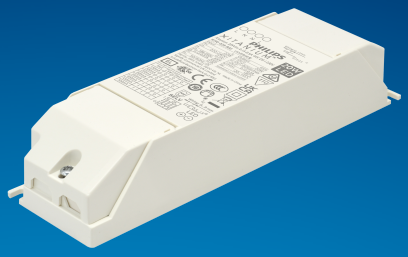
PHILIPS

Xitanium

LED driver



Datasheet

LED drivers – mini (DipSwitch)

Xitanium 20W/m 0.15-0.5A 44V DS I 230V

9290 028 80006

Enabling future-proof LED technology

Xitanium LED drivers are designed to operate LED solutions for general lighting applications.

Benefits

- High reliability underpinned by 5 year warranty
- Future-proof flexibility - application-oriented operating windows enable LED generation and complexity management
- Compatibility - can also be used for other manufacturers' modules or OEMs' own PCB designs

Features

- Easy current selection via dipswitch
- SELV

Application

- Retail

October 2021

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	@ rated output power @ rated input voltage
Rated input power	22	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	87	%	@ rated output power @ rated input voltage @ max. Uout
Rated input voltage DC range	186…250	V_{dc}	Performance range; EOFi = 95%
Rated input current DC range	0.12…0.07	A_{dc}	Performance range
Input voltage AC range	198…264	V_{ac}	Operational range
Input frequency AC range	45…66	Hz	Operational range
Input voltage DC range	168…275	V_{dc}	Operational range
Isolation input to output	SELV		

Electrical output data

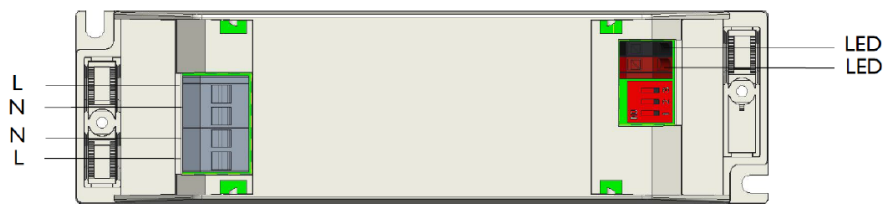
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	5…44	V_{dc}	500mA: 5 … 38V
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	0.15 / 0.5	A	Via dipswitch: 0.15/0.2/0.25/0.3/0.35/0.4/0.45/0.5A
Output current tolerance ±	5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output P_{st}^{LM}	≤ 1		In entire voltage range for each choice of output current
Output SVM	≤ 0.4		In entire voltage range for each choice of output current
Output power	0.75…20	W	Performance range: 6 … 20W

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		Output current can be set via dip switches

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.75…2.5	mm^2 / AWG	solid / stranded wire
Input wire strip length	10…11	mm	
Output wire cross-section	0.5…1.5	mm^2 / AWG	solid / stranded wire
Output wire strip length	8…9	mm	
Maximum cable length	2	m	CISPR15: between driver and LED module
Loop Through	Input		



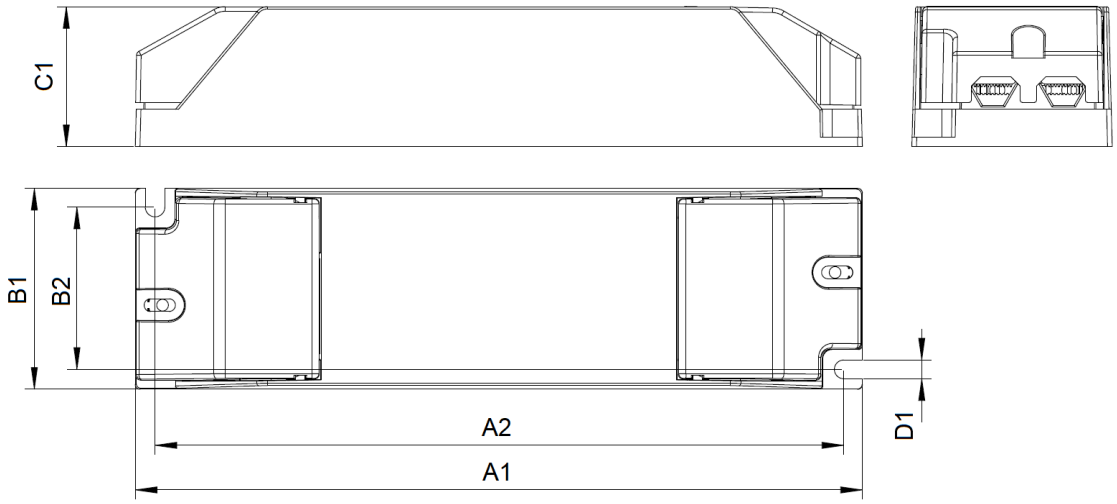
Iout	Sw1	Sw2	Sw3
150mA	0	0	0
200mA	0	0	1
250mA	0	1	0
300mA	0	1	1
350mA	1	0	0
400mA	1	0	1
450mA	1	1	0
500mA	1	1	1

Insulation

Insulation per IEC61347-1	Mains	LED output
Mains		SELV
LED output	SELV	

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	156	mm	
Mounting hole distance (A2)	147.8	mm	
Width (B1)	43	mm	
Width (B2)	34.8	mm	
Height (C1)	30	mm	
Mounting hole diameter (D1)	4	mm	
Weight	120	gram	
Housing color	White (RAL 9016)		



Logistical data

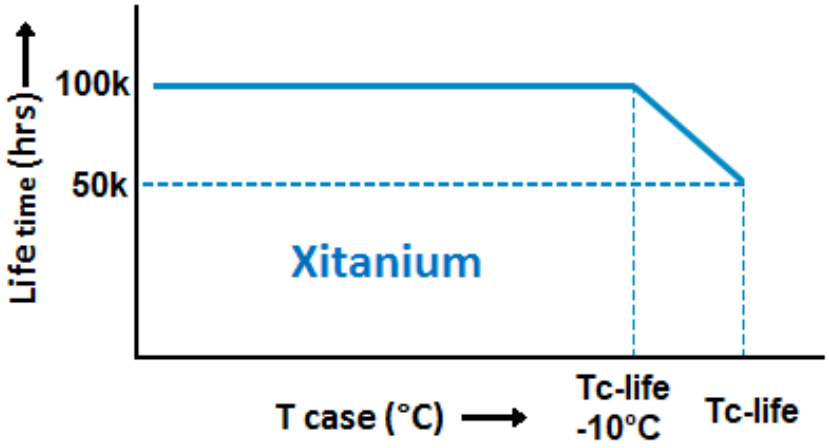
Specification item	Value
Product name	Xitanium 20W/m 0.15-0.5A 44V DS I 230V
EOC	871951439628900
Logistic code 12NC	9290 028 80006
EAN1 (GTIN)	8719514396289
EAN3 (box)	8719514396296
Pieces per box	40

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	80	°C	Maximum temperature measured at T_{case}-point
Tcase-life	80	°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-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

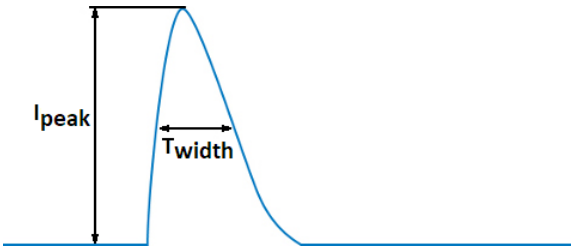
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	DipSwitch	150 mA	Set the output current via the dipswitch, see wiring diagram for an overview

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	14	A	Input voltage 230V
Inrush peak width	130	µs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 65	pcs	Indicative value



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

Surge immunity

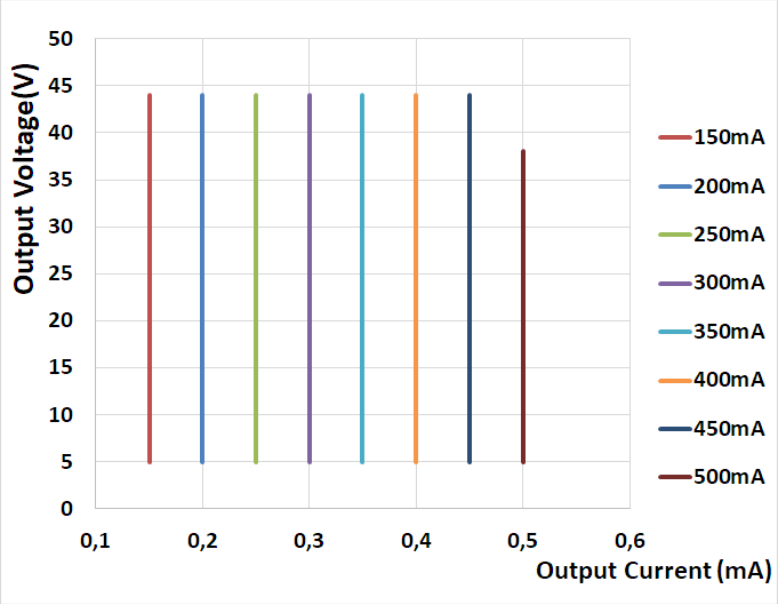
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	L- N Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	L/N - PE Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info

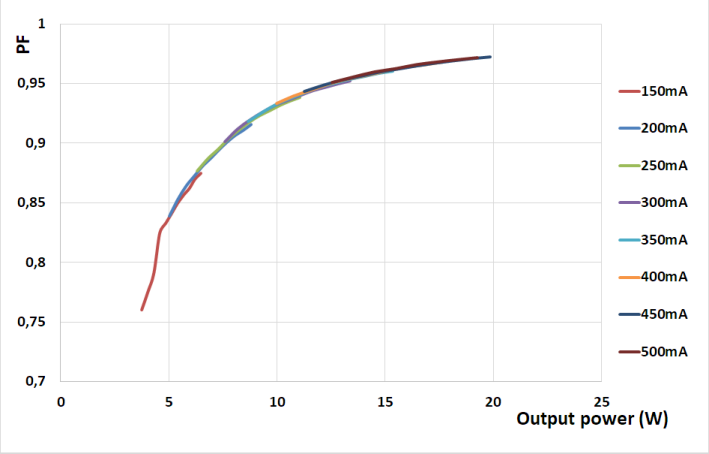
Specification item	Value
Approval marks	CCC / CE / Double-insulated / EL / ENEC / Independent / RCM / SELV / UKCA / WEEE
Ingress Protection classification (IP)	20
Noise and hum dB(A)	20
Application	Indoor Point
Mounting Type	Independent

Graphs

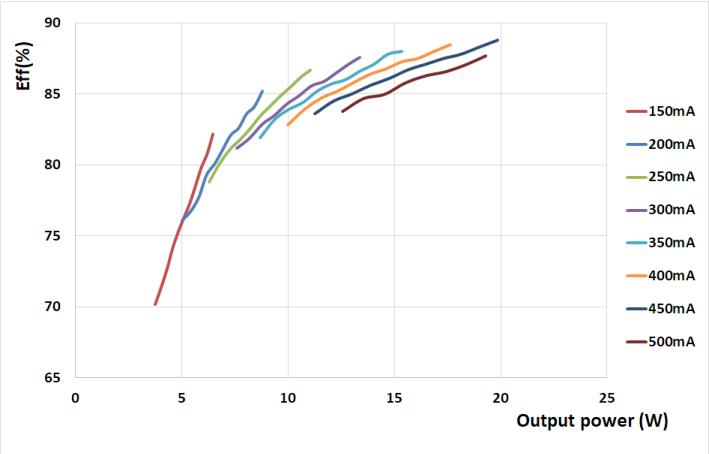
Operating window



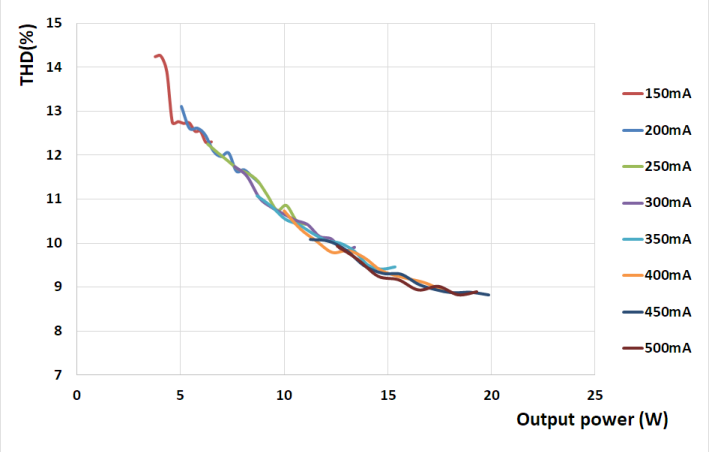
Power factor versus output power



Efficiency versus output power



THD versus output power



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Date of release: October 14, 2021 v1

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