PHILIPS

Xitanium

LED driver

Datasheet

Xitanium non-isolated Dipswitch

Xitanium 42W 175-300mA 140V DS 230V EL

9290 038 65106

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 for optimized performance. Due to the low output current ripple, you can be sure to offer your customers high quality of light without visual flicker and stroboscopic effects.

Features

- Low output current tolerance
- Low output current ripple
- Flexible current setting (4 output currents – dipswitch)
- Suitable for Class I luminaires

Benefits

- High quality of light
- High reliability
- Optimized performance at specific output current settings

Application

- Offices
- Retail: supermarkets, shopping malls

January 2024

Logistical data

Specification item	Value
Product name	Xitanium 42W 175-300mA 140V DS 230V EL
EOC	872016929330400
Logistic code 12NC	9290 038 65106
EAN1 (GTIN)	8720169293304
EAN3 (box)	08720169293311
Pieces per box	50

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	0.21	A	@ rated output power @ rated input voltage
Rated input power	45.0	W	@ rated output power @ rated input voltage
Power factor	0.95		@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Total harmonic distortion, best value	12	%	@ maximum output power @ rated input voltage
Efficiency	91.0	%	typical value @ 230V, full output power
Rated input voltage DC	186…250	V_{dc}	Performance range
Rated input current DC	0.11…0.25	A_{dc}	Performance range
Input voltage AC	198…264	V_{ac}	Operational range
Input frequency AC	45…66	Hz	Operational range
Input voltage DC	168…275	V_{dc}	Operational range
Isolation input to output	No		

Electrical output data

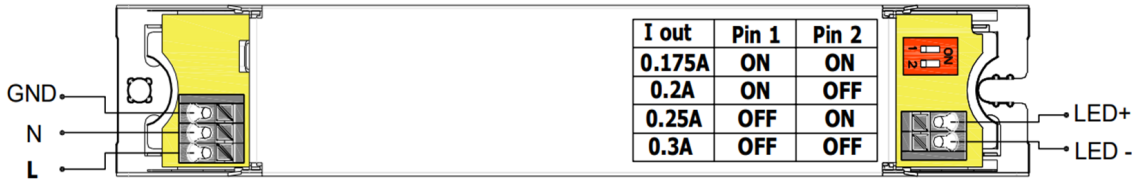
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	90…140	V_{dc}	
Output voltage max.	250	V	Maximum output voltage (rms)
Output current	175 / 200 / 250 / 300	mA	Select output current via the dipswitch (EOFI=0.95)
Output current tolerance ±	8	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz. Rd≥0.48ohm/3V/0.2A
Output current ripple HF	≤ 15	%	
Output P_{st}^{LM}	≤ 0.1		cfr. IEC TR 61547-1:2017
Output SVM	≤ 0.1		cfr. IEC TR 63518:2018
Output power	15.0…42.0	W	
Rated output power	42.0	W	

Control interfaces

Specification item	Value	Unit	Condition
Control method	Fixed		Select output current via the dipswitches

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

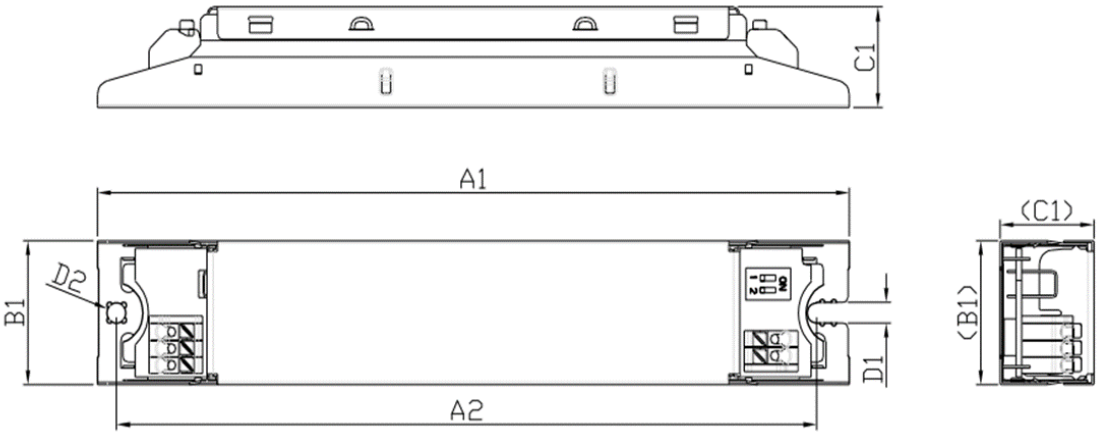


Isolation

Insulation per IEC61347-1	Input	Output	Housing
Input	-	Non	Basic
Output	Non	-	Basic
Housing	Basic	Basic	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	168	mm	
Mounting hole distance (A2)	156.4	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Mounting hole diameter (D1)	4.3	mm	
Mounting hole diameter (D2)	4.3	mm	
Weight	110	gram	
Housing color	White		

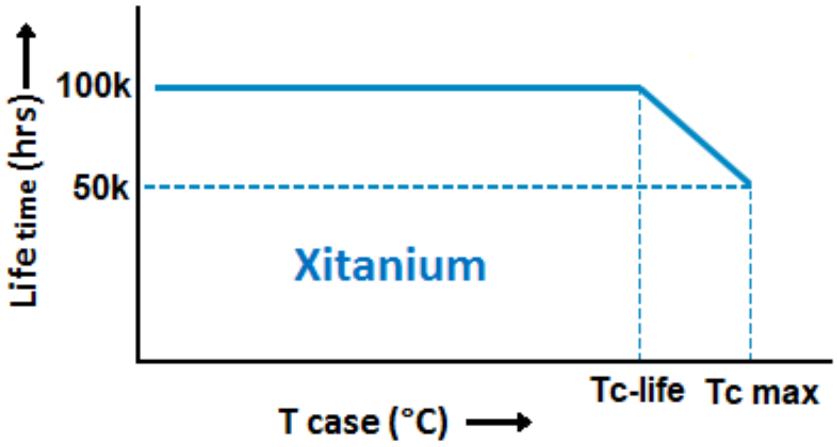


Operational temperatures and humidity

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 Tcase-life. Maximum failures = 10%



Maximum failures = 10%

Temperature [°C]	Lifetime	Unit	Condition
85	50000	hr	
80	71000	hr	
75	100000	hr	Temperature measured @Tc point
70	>100000	hr	
65	>100000	hr	

Storage temperature and humidity

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

Programmable features

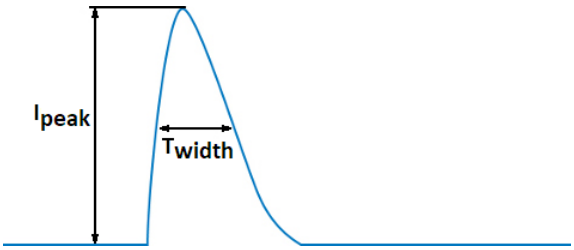
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	DipSwitch	300 mA	Manual set the output current via the dipswitches, see wiring diagram for an overview
LED Module Temperature Protection (MTP)	No		
Constant Light Output (CLO)	No		
Corridor Mode	No		
DC emergency (DCemDim)	No		

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
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598

Inrush current

Specification item	Value	Unit	Condition
Inrush current	16.3	A	Input voltage 230V
Inrush peak width	167	µs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 52	pcs	Indicative value at 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)	0.5	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

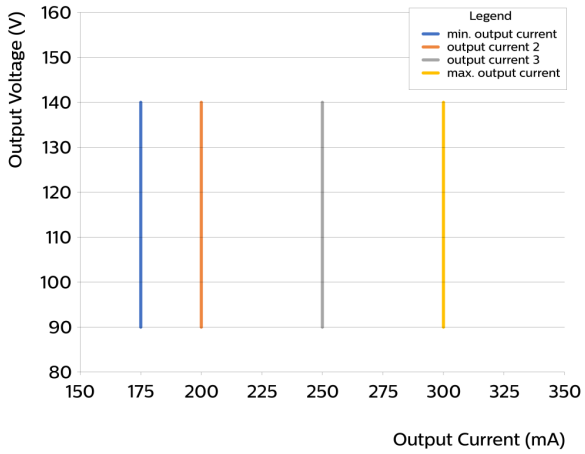
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info (Approbation)

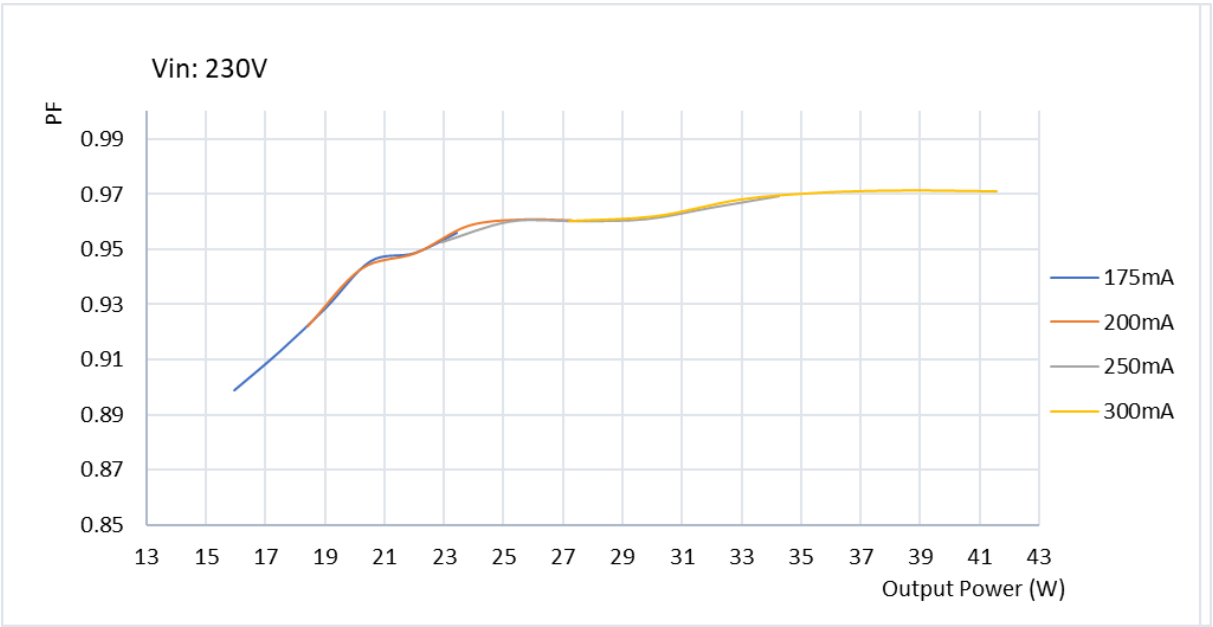
Specification item	Value
Approval marks and Certifications	CCC / CE / EAC / EL / ENEC / RCM / UA / UKCA
Ingress Protection classification (IP)	20
Application	Indoor Linear
Mounting Type	Built-in

Graphs

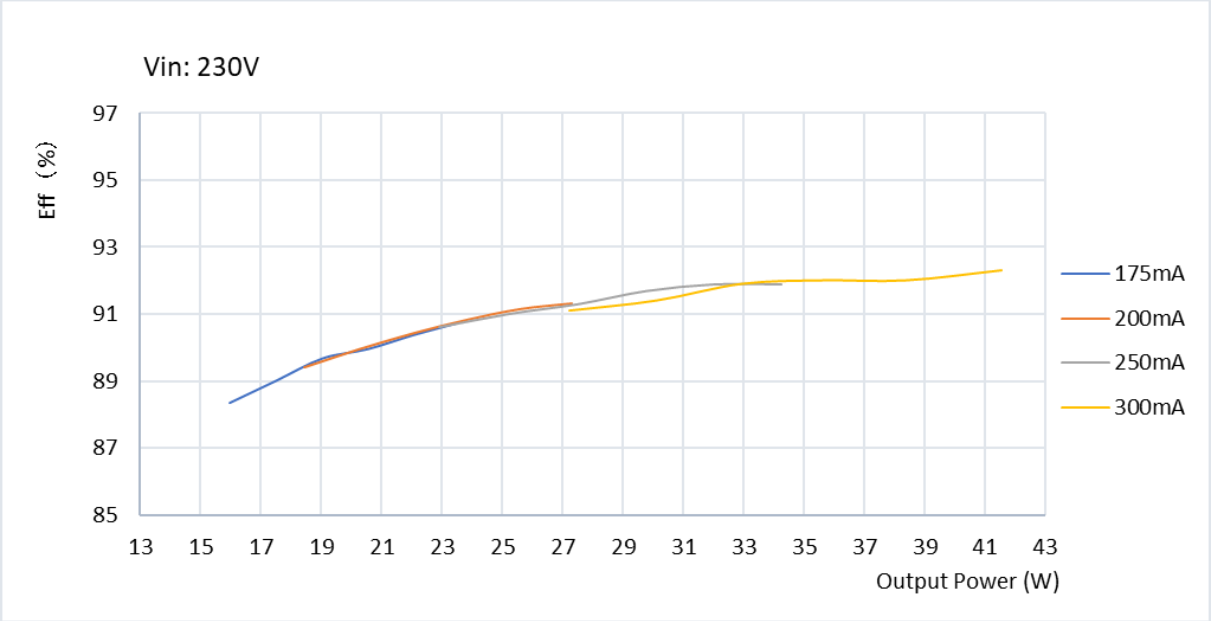
Operating window



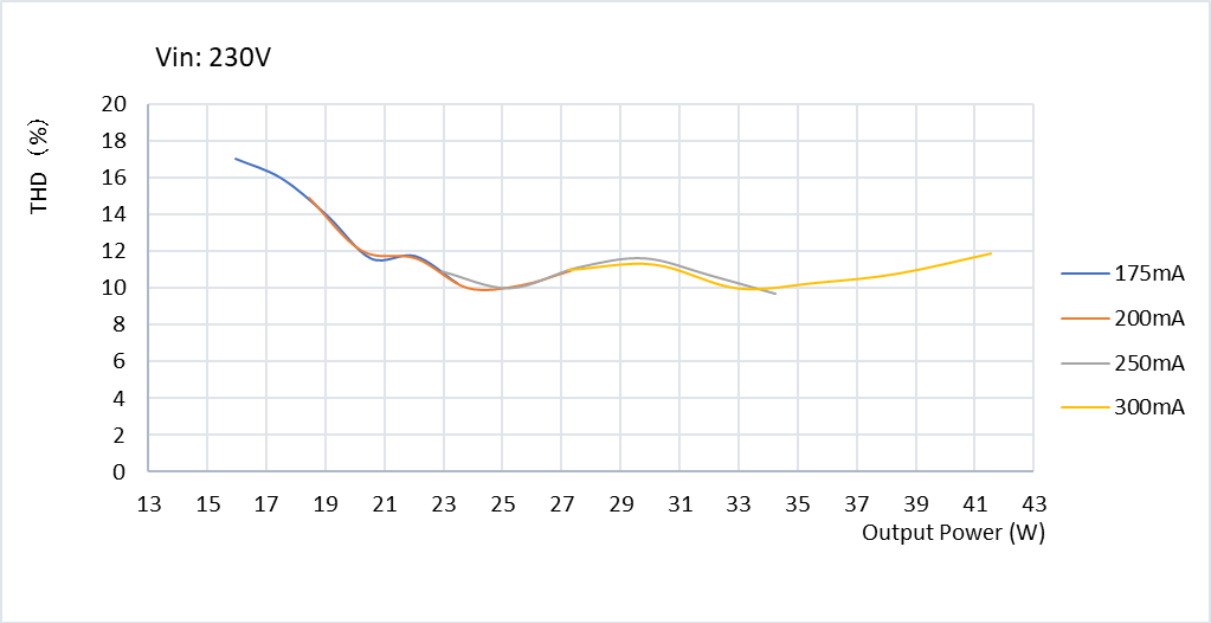
Power factor versus output power



Efficiency versus output power



THD versus output power



Date of release: January 8, 2024 v2

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