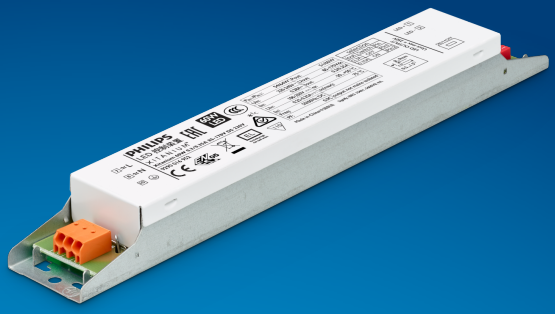
PHILIPS

Xitanium

LED driver



Datasheet

Xitanium non-isolated Single Current (Dipswitch)

Xitanium 50W 0.2/0.25A 100-200V DS 230V

9290 016 95106

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.

Benefits

- High quality of light -assurance of camera and scanner-friendly performance
- High reliability
- Optimized performance at specific output current settings

Features

- Low output current tolerance
- Low output ripple current
- Long lifetime at high operating temperature
- Easy current selection via dipswitch
- Suitable for Class I luminaires

Application

- Offices
- Retail: supermarkets, shopping malls

May 2020

Electrical input data

Specification item	Value	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	0.24		A	@ rated output power @ rated input voltage
Rated input power	43	53	W	@ maximum rated output power @ rated input voltage
Power factor	0.98			@ maximum output power @ rated input voltage
Total harmonic distortion	9		%	@ maximum output power @ rated input voltage
Efficiency	92		%	@230V input, full load
Rated input voltage DC range	186…250		V_{dc}	Performance range
Rated input current DC range	≤ 0.21	≤ 0.3	A_{dc}	Performance range
Input voltage AC range	198…264		V_{ac}	Safety operational range
Input frequency AC range	47.5…63		Hz	Safety operational range
Input voltage DC range	168…275		V_{dc}	Operational range
Isolation input to output	No			

Electrical output data

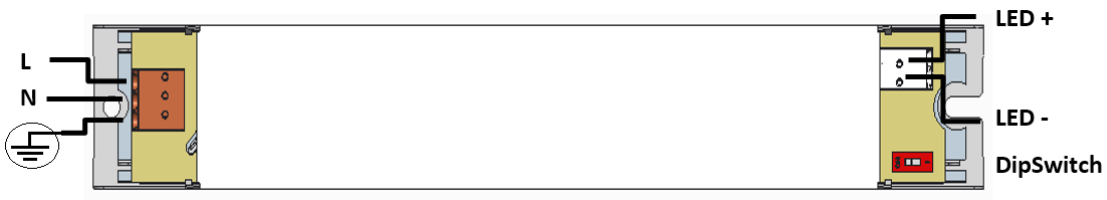
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	100…200	V_{dc}	
Output voltage max.	250	V	Maximum output voltage (rms)
Output current	0.2 / 0.25	A	Select current 200mA (OFF) or 250mA (ON) via dipswitch
Output current tolerance	± 7	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output P_{st}^{LM}	≤ 1		
Output SVM	≤ 0.4		
Output power	20…50	W	

Electrical data controls input

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

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5…1.5 / 20…16	mm^2 / AWG	WAGO744, solid wire
Input wire strip length	8…9	mm	
Output wire cross-section	0.5…1.5 / 20…16	mm^2 / AWG	WAGO744, solid wire
Output wire strip length	8…9	mm	
Maximum cable length	2	m	Total length of wiring including LED module, one way

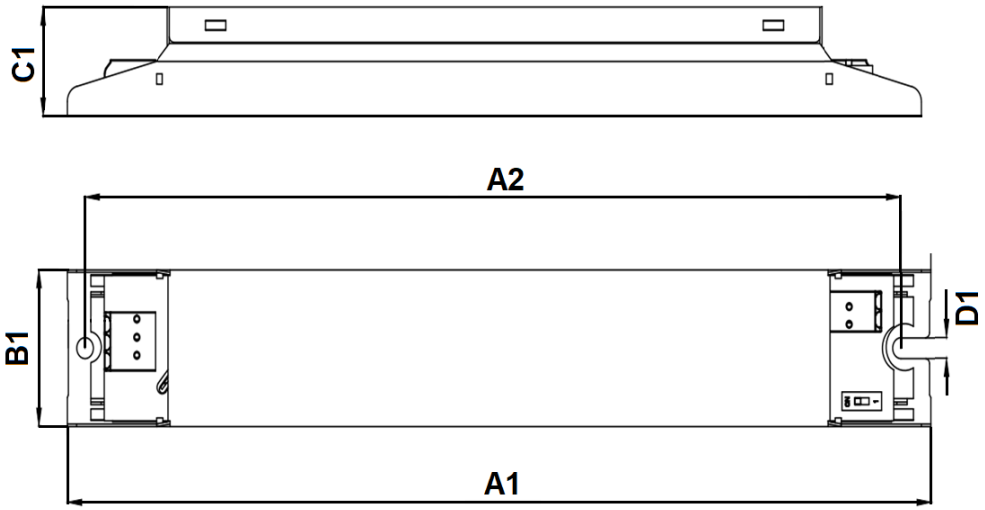


Insulation

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)	210	mm	
Mounting hole distance (A2)	198.4	mm	
Width (B1)	30.2	mm	
Height (C1)	21	mm	
Mounting hole diameter (D1)	4	mm	
Weight	134	gram	



Logistical data

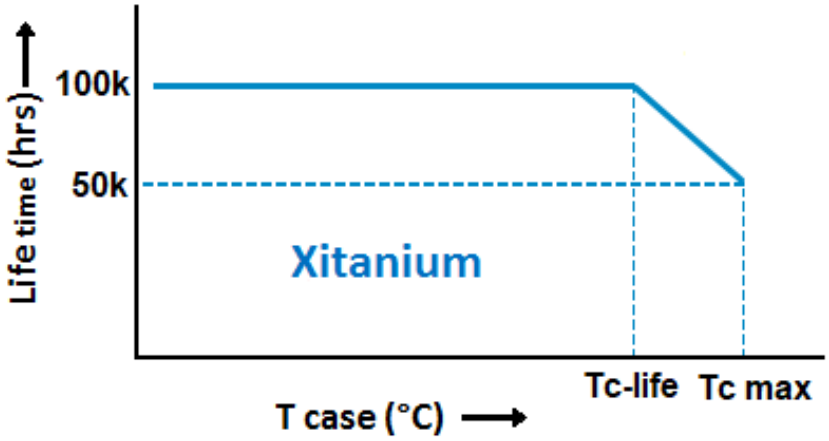
Specification item	Value
Product name	Xitanium 50W 0.2/0.25A 100-200V DS 230V
EOC	871951426647600
Logistic code 12NC	9290 016 95106
EAN1 (GTIN)	8719514266476
EAN3	8719514266483
Pieces per box	50

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25…+50	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	75	°C	Lifetime 50khrs;
Tcase-life	65	°C	Lifetime 100khrs;Measured at T_c-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

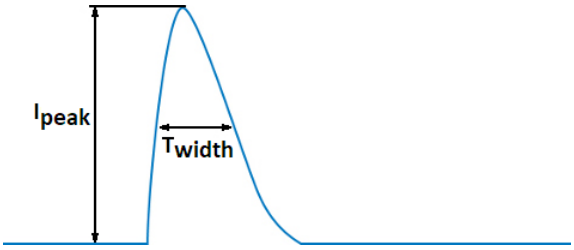
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	Manual	200 mA	Manual set the output current via the dipswitch
DC emergency (DCemDim)	No		With a DC mains the output current is 100%. (EOFi)

Features

Specification item	Value		Condition
Open load protection	Yes		Mains reset needed
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 I_{peak}	20.2	A	Input voltage 230V
Inrush current T_{width}	278	µs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 41	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%

Driver touch current / protective conductor 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

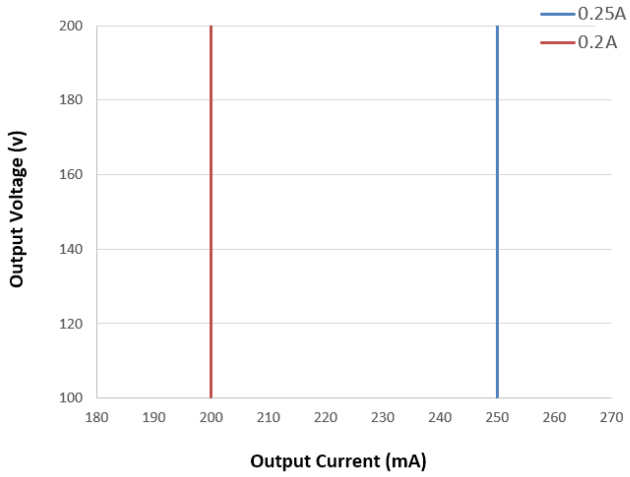
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info

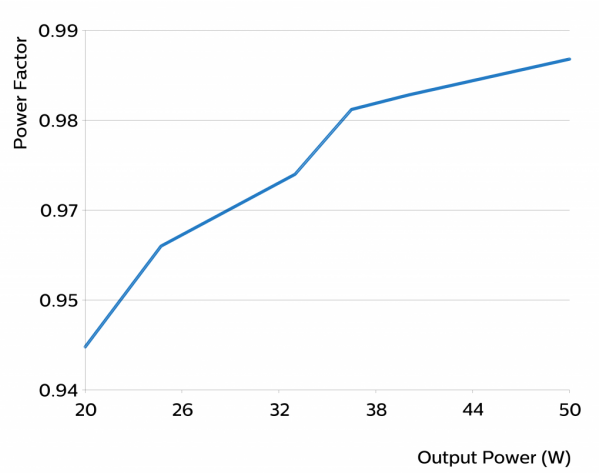
Specification item	Value
Approval marks	CCC / CE / EAC / EL / ENEC / RCM
Ingress Protection classification (IP)	20

Graphs

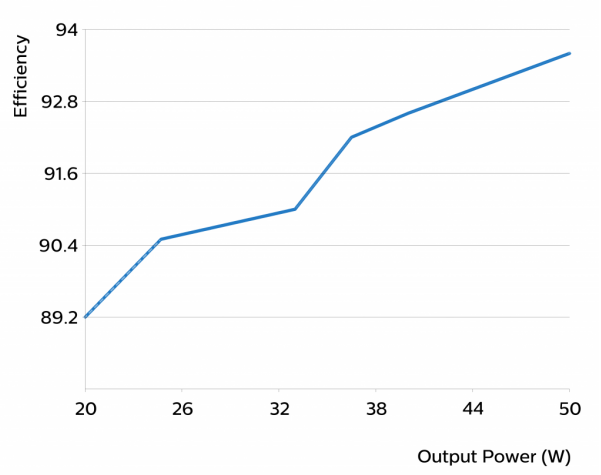
Operating window



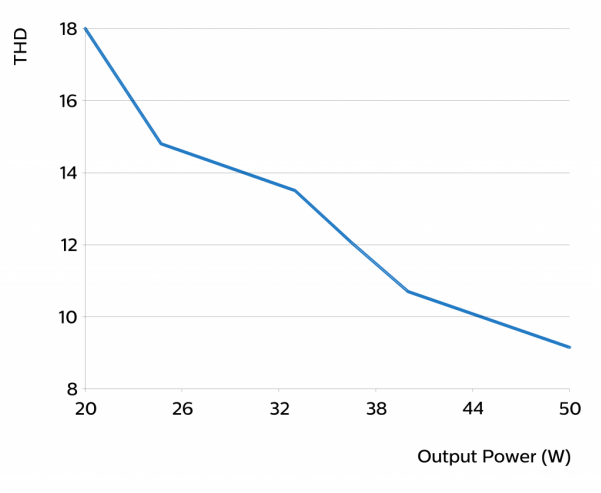
Power factor versus output power



Efficiency versus output power



THD versus output power



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