

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium LED drivers – linear LV isolated FO

Xitanium 75W 0.7-2A 54V 230V

Offering flexibility and differentiation opportunities

Xitanium LED drivers are designed to operate LED solutions for general lighting application such as linear lighting for office and industry applications. Flexibility and differentiation possibilities in luminaire design is assured thanks to application-oriented operating windows. High reliability underpinned by 5 year warranty is enhanced by specific features that protect the connected LED module, e.g reduced ripple current and thermal derating. Most drivers feature central DC operation.

Benefits

- Flexibility and differentiation opportunities
- Freedom of interchangeability by addressing market standards
- Assurance of camera and scanner friendly performance
- Flicker- and noise free dimming
- “One-stop shop” for OEMs

Features

- Application oriented operating windows
- LEDset3 addressing the new interface standard for LED modules and LED drivers
- ‘real 21mm’ height
- Low ripple output current (4%)
- Amplitude modulation (AM) dimming of Touch & DALI LED drivers
- Complete portfolio offering:
 - Power ratings: 17W, 36W, 75W, 110W and 150W
 - isolated and non-isolated drivers
 - DALI programmable
 - DALI, 1-10V dimmable
 - fixed output versions
 - Industry extreme (IXt) versions available

Application

- office, industry and retail

Electrical input data

Specification item	Value	Unit	Condition
Nominal input voltage	220...240	V _{ac}	performance range
Nominal input frequency	50...60	Hz	
Nominal input current	0.42	A	@230V @ full load
Input voltage	230	V _{ac}	
Nominal input power	85	W	@230V @ full load
Power factor	>= 0.9		@ full load. See graph.
Total harmonic distortion	<= 20	%	@ full load. See graph.
Efficiency	88	%	@230V @ full load
Nominal input voltage DC	186...250	V _{dc}	
Nominal input current DC	0.37	A	Input voltage 230 V _{dc} , full load
Input voltage AC	202...254	V _{ac}	Operational range
Input frequency AC	47.5...63	Hz	Maximum permissible range
Input voltage DC	168...275	V _{dc}	Maximum permissible range

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	27...54	V _{dc}	
Output voltage max.	60	V	Peak voltage at open load
Output current	0.7...2	A	Full output current setting
Output current tolerance	± 5	%	
Output current ripple LF	<= 4	%	Ripple = peak / average
Output current ripple HF	<= 15	%	
Output power	21...75	W	Full output

Electrical data controls input

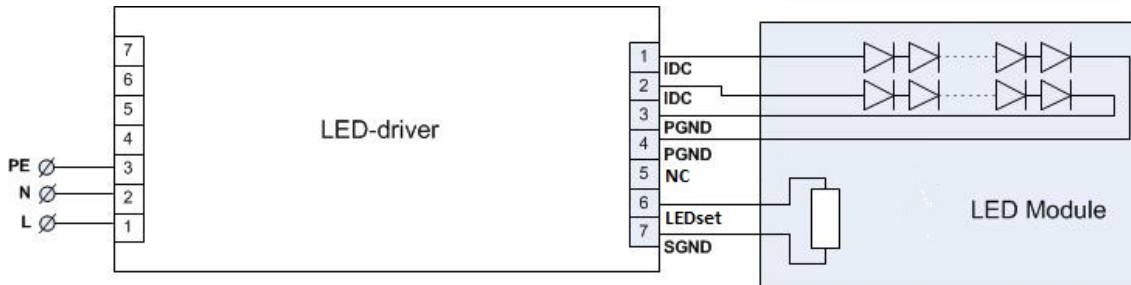
Specification item	Value	Unit	Condition
Control method	Fixed		

Logistical data

Specification item	Value
Product name	Xitanium 75W 0.7-2A 54V 230V
Order code	871869646889000
Logistic code 12NC	9290 009 58806
EAN3	8718696468906
Pieces per box	24

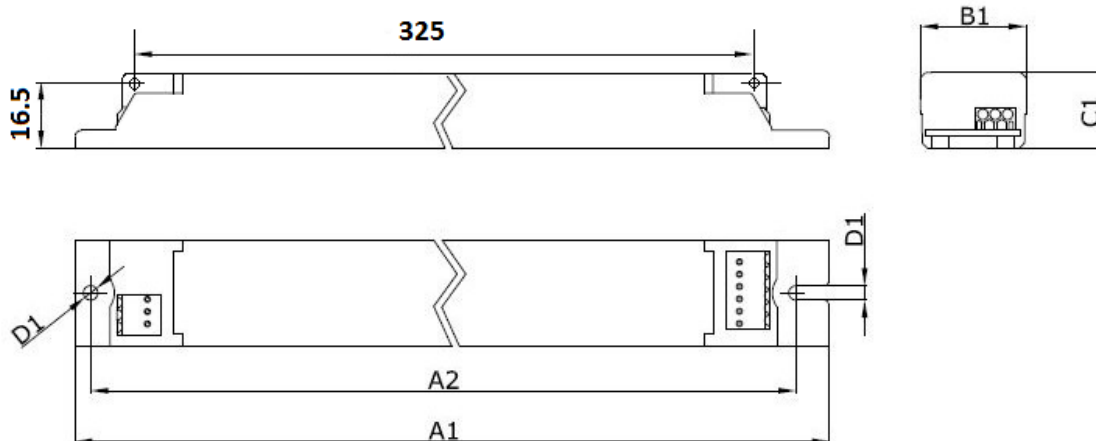
Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.5...1.5	mm ²	WAGO744, solid wire
	16...20	AWG	WAGO744, solid wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.5...1.5	mm ²	WAGO744, solid wire
	16...20	AWG	WAGO744, solid wire
Output wire strip length	8...9	mm	
Maximum cable length	4000	mm	Total length of wiring including LED module, one way



Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	360	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Fixing hole diameter (D1)	4.1	mm	
Fixing hole distance (A2)	350	mm	
Weight	250	gram	



Operational temperatures and humidity

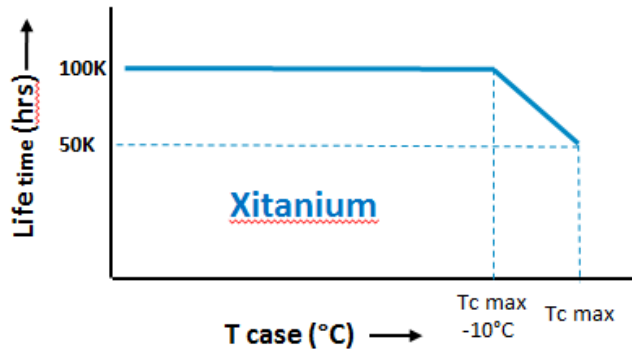
Specification item	Value	Unit	Condition
Ambient temperature	-20...+50	°C	
T _{case-max}	75	°C	Maximum temperature measured at T _c -point
T _{case-life}	75	°C	Measured at T _c -point
Maximum housing temperature	110	°C	In case of a failure
Relative humidity	10...90	%	Non-condensing

Storage temperature and humidity

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

Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	50,000	hours	Measured temperature at T_c -point is $T_{case-life}$. Maximum failures = 10%



Programmable features

Specification item	Value	Remark	Condition
Set output current (AOC)	LEDset	See Design-in guide.	Default output current: $\leq 700 \text{ mA}$
LED module temperature derating (MTP)	No		
Constant Lumen Over Lifetime (CLO)	No		
DC emergency dimming (DCemDIM)	No		
Corridor mode	No		
Energy metering	No		
Diagnostics	No		

Features

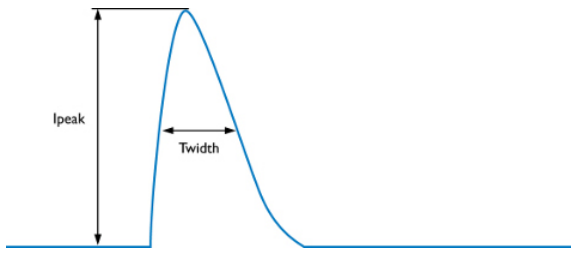
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I and II		per IEC60598

Certificates and standards

Specification item	Value
Approval marks	CCC / CE / ENEC
Ingress Protection classification	20

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	21	A	Input voltage 230V
Inrush current T_{width}	220	μ s	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 24	pcs	



MCB	Rating	Relative number of LED drivers
B	10A	63%
B	13A	81%
B	16A	100% (stated in datasheet)
B	20A	125%
B	25A	156%
C	10A	104%
C	13A	135%
C	16A	170%
C	20A	208%
C	25A	260%

Driver touch current

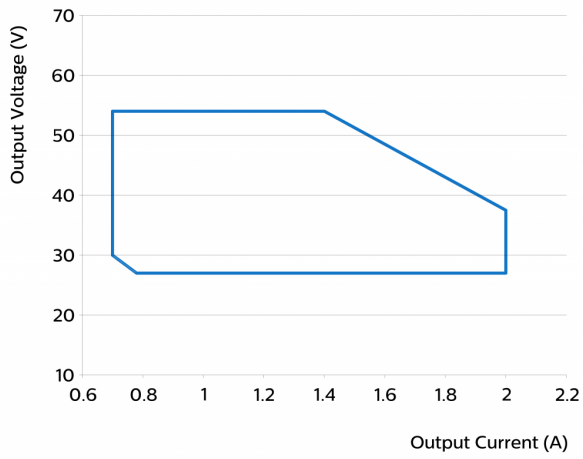
Specification item	Value	Unit	Condition
Typical touch current	0.3	mA peak	Acc. IEC61347-1. LED module contribution not included

Surge immunity

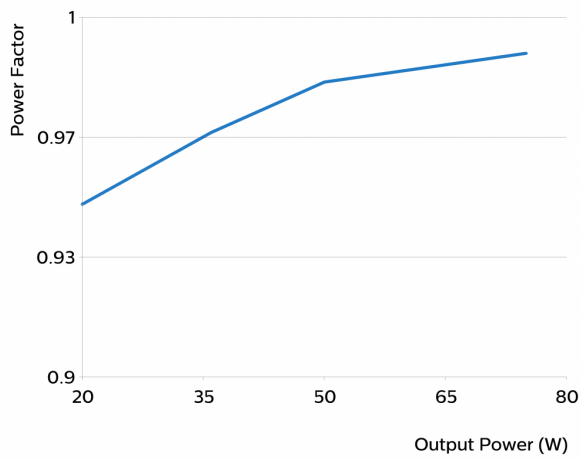
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Graphs

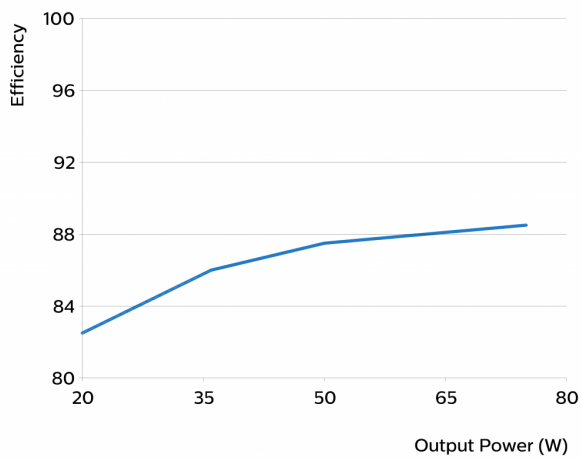
Operating window



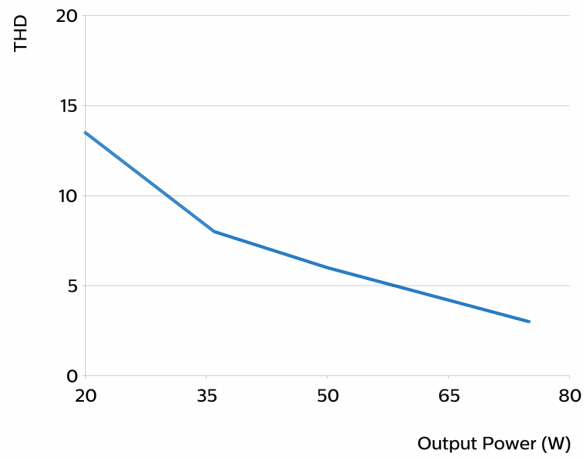
Power factor versus output power



Efficiency versus output power



THD versus output power



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