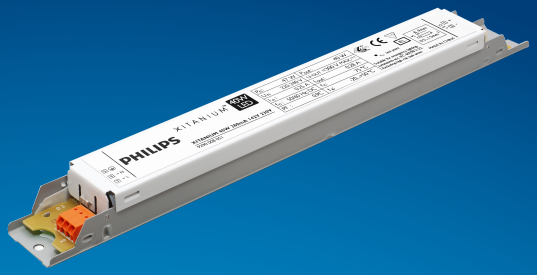
PHILIPS

Xitanium

LED driver



Datasheet

Xitanium Linear Non-isolated LED drivers Single Current

Xitanium 40W 0.28A 142V 230V

Xitanium non-isolated LED drivers with single current output offer industry leading performance and reliability at optimized cost. Available in various slim, low-profile form factors, they are ideal for high volume applications where performance specification is also very key. These drivers guarantee OEMs Xitanium performance and Philips dependability for standard current applications.

Benefits

- Attractive initial cost and a high energy efficiency allowing for interesting payback
- Easy design in – no additional heat sink needed
- Good light quality
- A reliable linear LED system with a 3-year guarantee

Features

- A 2-foot linear LED module with 1 row of LEDs (1R) and 1550 or 1100Lm output (depending on driver used)
- CRI >80 and 3.5 SDCM
- Uses standard WAGO connectors
- 35,000-hour lifetime

Application

- Office
- Supermarkets
- Industry

September 2015

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	0.25	A	@230V @ full load
Input voltage	230	V_{ac}	
Nominal input power	47	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	0.3	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	116…142	V_{dc}	
Output voltage max.	300	V	Peak voltage at open load
Output current	0.28	A	Full output current setting
Output current tolerance	± 5	%	
Output current ripple LF	≤ 20	%	Ripple = peak / average
Output power	32.5…40	W	Full output

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

Logistical data

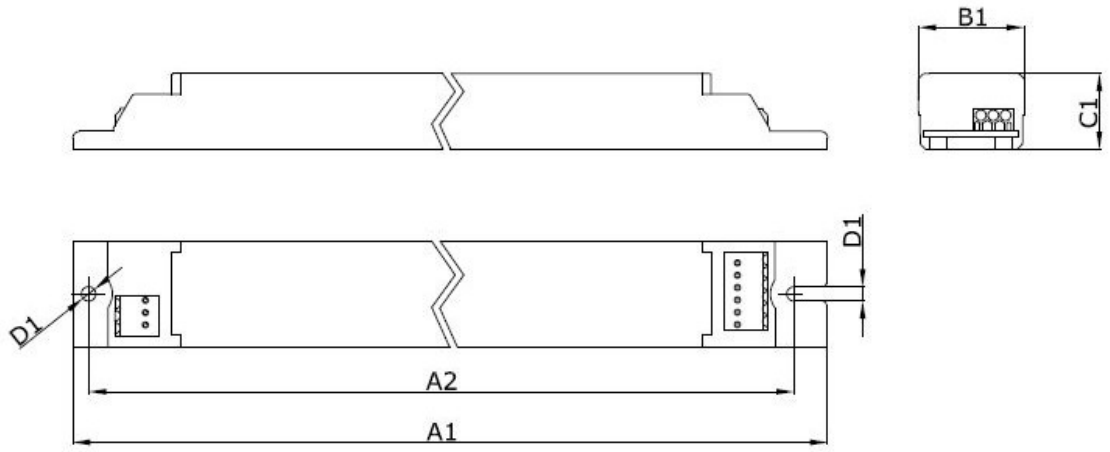
Specification item	Value
Product name	Xitanium 40W 0.28A 142V 230V
Order code	
Logistic code 12NC	9290 008 05100
EAN3	
Pieces per box	

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	240	mm	Total length of wiring including LED module, one way

Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	280	mm	
Width (B1)	30	mm	
Height (C1)	22	mm	
Fixing hole diameter (D1)	4.1	mm	
Fixing hole distance (A2)	265	mm	
Weight	200	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	75	°C	Maximum temperature measured at T_c-point
Tcase-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)	No	See Design-in guide.	Default output current: ≤ 280 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

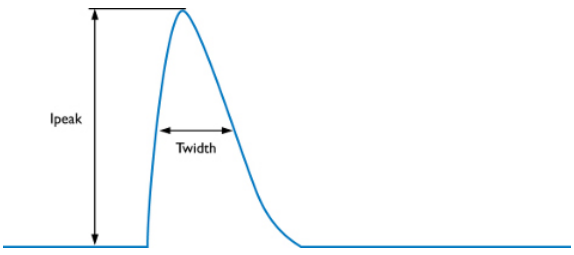
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598

Certificates and standards

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

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	20	A	Input voltage 230V
Inrush current T_{width}	250	µs	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	0.7	mA peak	Acc. IEC61347-1. LED module contribution not included

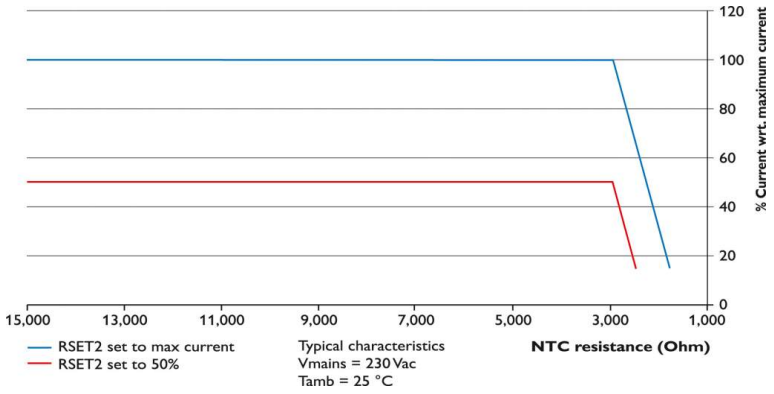
Surge immunity

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

Module Temperature Protection

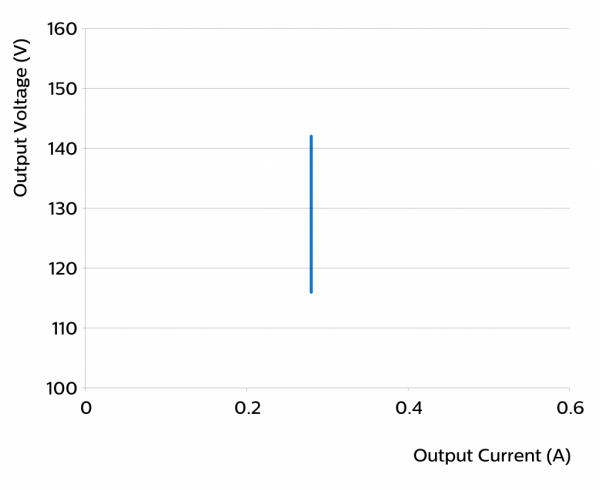
Specification item	Value	Unit	Condition
Advised NTC type	Vishay 15kOhm±2%NTC	238161554153	
	Murata NCP15XW153E03RC	NCP15XW153E03RC	With 390Ω in series
NTC resistance threshold	2966	Ω	Start limiting output current
Corresponding temperature	70	°C	With advised type 238161554153

NTC resistance versus output current

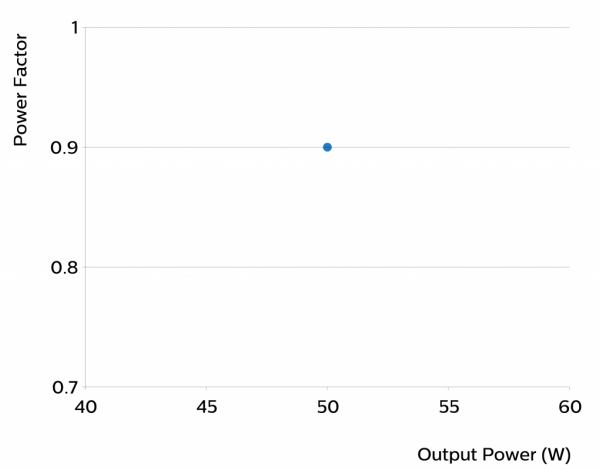


Graphs

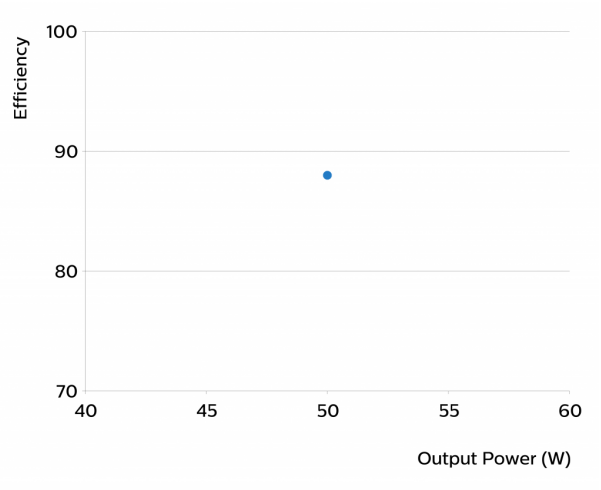
Operating window



Power factor versus output power



Efficiency versus output power



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