PHILIPS

Xitanium

LED driver

Datasheet

Xitanium LED drivers – linear HV non-isolated

Xitanium 75W 0.12A-0.4A 220V 230V

9290 009 50706

Enabling future-proof LED technology

Xitanium LED drivers are designed to operate LED solutions for general lighting applications such as linear lighting, as well as down lighting and spot/accent lighting.

Reliability is enhanced by specific features that protect the connected LED module, e.g. hot wiring, reduced ripple current and thermal de-rating. Most drivers feature central DC operation.

In the coming years LEDs will continue to increase in efficiency, creating generation and complexity challenges for OEMs. With Xitanium LED drivers, flexibility in luminaire design is assured thanks to an adjustable output current. Application-oriented operating windows offer the flexibility required to provide the stable lumen output and light quality levels that lighting specifiers and architects demand.

Benefits

- High reliability underpinned by 5 year warranty
- Future-proof flexibility - application-oriented operating windows enable LED generation and complexity management
- Compatibility - adjustable output current enables operation of various LED solutions from different manufacturers or OEM own designs
- Flicker and noise free dimming with all Touch and DALI LED drivers due to amplitude dimming (AM)

Features

- Up to 95% efficiency, lowest cost and smallest dimensions
- Operating windows - output current can be adjusted via the Philips MultiOne configurator (TD drivers) or with a resistor outside the driver
- Reduced output ripple current and thermal de-rating for increased reliability
- Multiple versions - DALI dimmable & programmable, 1-10V dimmable, and fixed-output;
- All T5 form factors but various lengths
- For the iXt versions. longer life time (100khrs), improved surge and burst (4kV) and Tambient (-40°C to +60°C) specifications

Application

- 17W, 35W, 36W, 60W and 75W LED drivers for office applications
- 100W, 150W and 300W LED drivers for industry, warehouses, public areas, distribution centers and shopping malls

December 2020

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	220…240	V_{ac}	Performance range
Rated input voltage	220	V_{ac}	
Rated input frequency range	50…60	Hz	Performance range
Rated input current	0.35	A	@ max output power @ rated input voltage
Rated input power	80	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	≥ 92	%	@ rated output power @ rated input voltage
Rated input voltage DC range	186…250	V_{dc}	Performance range
Input voltage AC range	202…254	V_{ac}	Operational range
Input frequency AC range	47.5…63	Hz	Operational range
Input voltage DC range	168…275	V_{dc}	Operational range
Isolation input to output	No		

Electrical output data

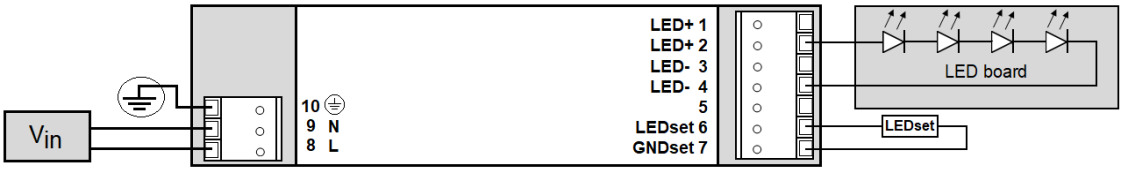
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	100…220	V_{dc}	
Output voltage max.	330	V	Maximum output voltage (rms)
Output current	0.12…0.4	A	
Output current tolerance ±	5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output power	21…75	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

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

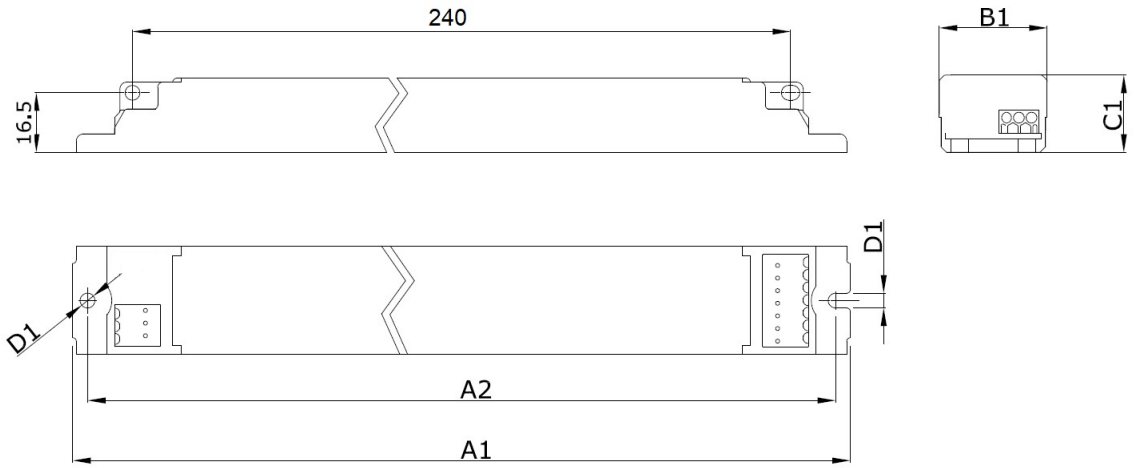


Insulation

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

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	280	mm	
Mounting hole distance (A2)	265	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	185	gram	



Logistical data

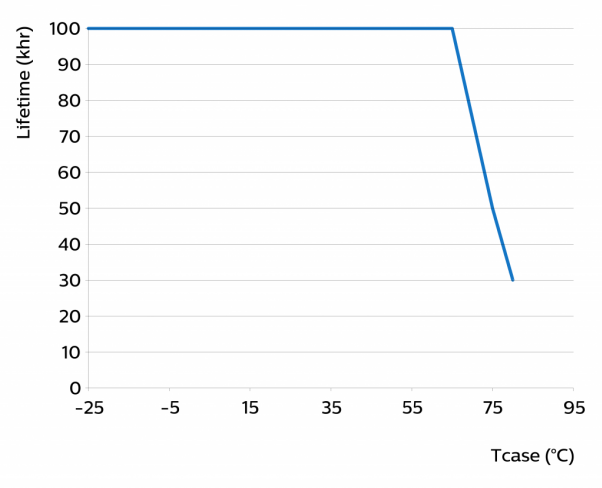
Specification item	Value
Product name	Xitanium 75W 0.12A-0.4A 220V 230V
EOC	871869644002500
Logistic code 12NC	9290 009 50706
EAN1 (GTIN)	8718696440025
EAN3	8718696440032
Pieces per box	24

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	80	°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	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

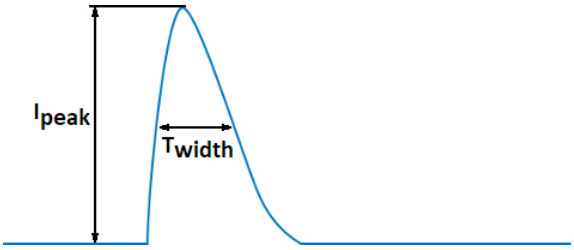
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	LEDset	120 mA	Set the output current via LEDset, do not leave open / short-circuit. See Design-In Guide for resistor value table.
LED Module Temperature Protection (MTP)	No		
Constant Light Output (CLO)	No		
DC emergency (DCemDim)	No		With a DC mains the output current is equal to the AOC value

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
Energy metering	No		
Diagnostics	No		

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	19	A	Input voltage 220V
Inrush current T_{width}	280	µs	Input voltage 220V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 24	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)	0.3	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

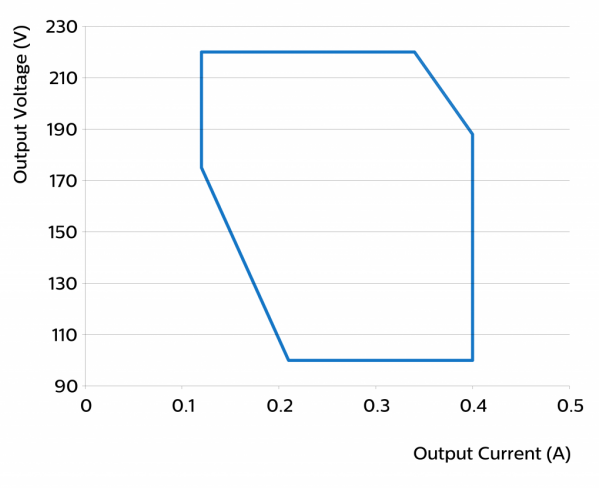
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info

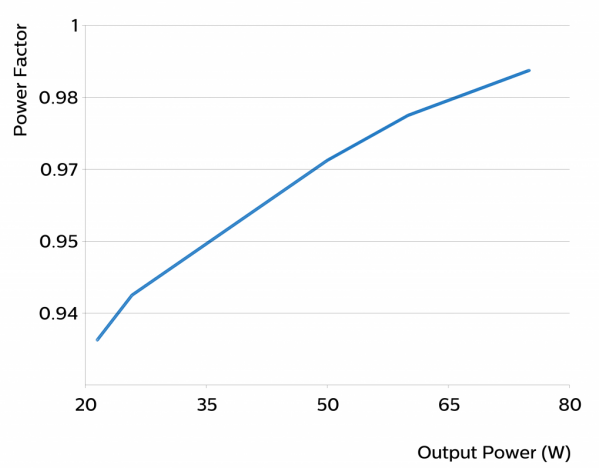
Specification item	Value
Approval marks	BIS / CCC / CE / EAC / EL / ENEC / KC / RCM / TISI / UA
Ingress Protection classification (IP)	20
Application	Indoor Linear
Mounting Type	Built-in

Graphs

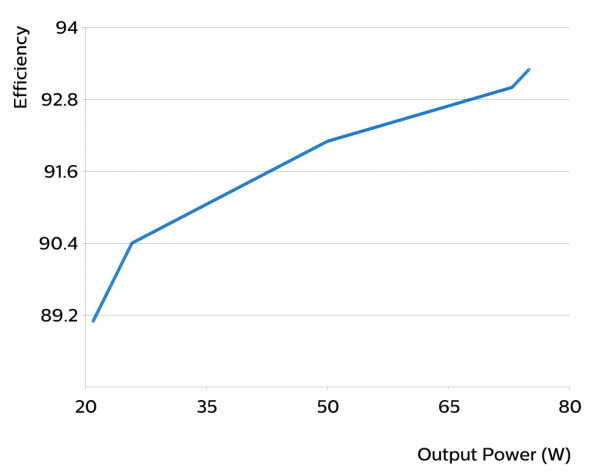
Operating window



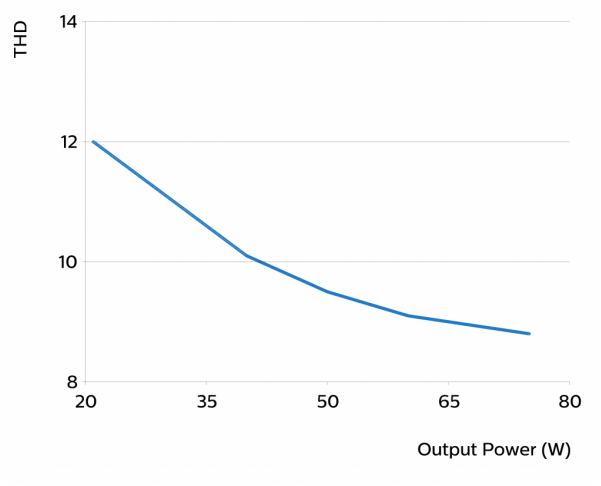
Power factor versus output power



Efficiency versus output power



THD versus output power



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