

# Xtanium LED drivers – linear LV isolated

Xtanium 75W 0.7-2A 54V 1-10V 230V

October 15, 2014



## Enabling future-proof LED technology

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

High reliability underpinned by 5 year warranty, enhanced by specific features that protect the connected LED module, e.g. hot wiring, reduced ripple current and thermal derating. 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 Xtanium 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. And the adjustable output current also enables operation of various LED PCB solutions from different manufacturers.

## Benefits

- High reliability underpinned by 5 year warranty
- Future-proof flexibility - application-oriented operating windows enable LED generation and complexity management
- Compatibility - can also be used for other manufacturers' modules or OEMs' own PCB designs

## Product features

- Simpler approval process and easy design-in
- Operating windows - output current can be adjusted via the Philips MultiOne configurator ('TD' drivers) or with a resistor outside the driver
- Reduced ripple current and thermal derating for increased reliability
- Power ratings: 36W, 55W and 75W
- DALI dimmable & programmable, 1-10V dimmable, and fixed-output versions
- All T5 form factors but various lengths

## Applications

- Offices and industry



# PHILIPS

## Electrical input data

Specification item	Value	Unit	Condition
Nominal input voltage	220...240	V <sub>ac</sub>	
Nominal input frequency	50...60	Hz	
Nominal input current	0.37	A	Input voltage 230 V <sub>ac</sub> , full load
Nominal input power	85	W	Input voltage 230 V <sub>ac</sub> , full load
Power factor	≥ 0.9		Input voltage 230 V <sub>ac</sub> , full load
Total harmonic distortion	≤ 20	%	Input voltage 230 V <sub>ac</sub> , full load
Efficiency	88	%	Input voltage 230 V <sub>ac</sub> , full load, maximum output power
Nominal input voltage DC	186...250	V <sub>dc</sub>	
Nominal input current DC	0.46	A	Input voltage 230 V <sub>dc</sub> , full load
Input voltage AC	202...254	V <sub>ac</sub>	Performance range
Input frequency AC	47.5...63	Hz	Maximum permissible range
Input voltage DC	168...275	V <sub>dc</sub>	Maximum permissible range

## Electrical output data

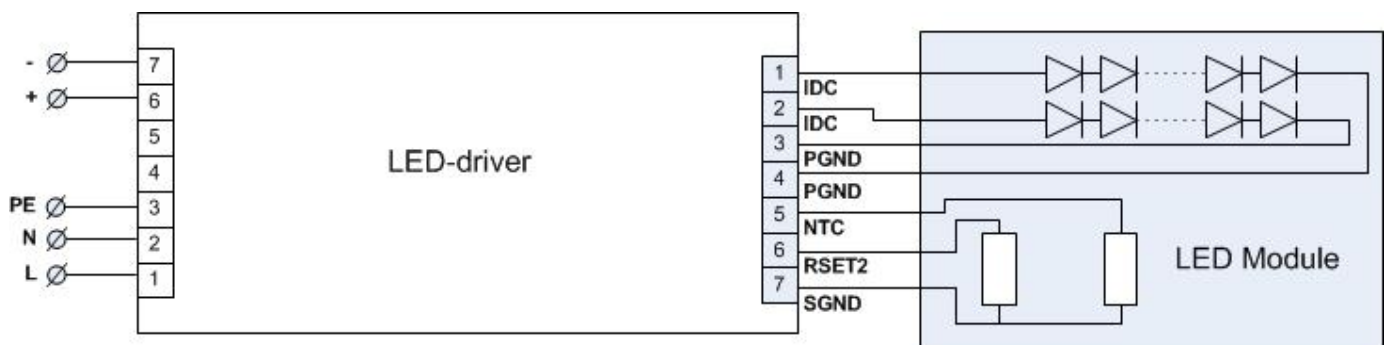
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	27...54	V <sub>dc</sub>	
Output voltage max.	60	V	Peak voltage (RMS) at open load
Output current	0.7...2	A	Full output current setting
Output current tolerance	± 5	%	
Output current ripple	≤ 20	%	Ripple (100Hz) = peak / average
Output power	21...75	W	Full output
Galvanic isolation	SELV		Lamp to mains

## Electrical data controls input

Specification item	Value	Unit	Condition
Control method	1..10		
Dimming range	5...100	%	Default range
Galvanic isolation	Basic		Control input to mains

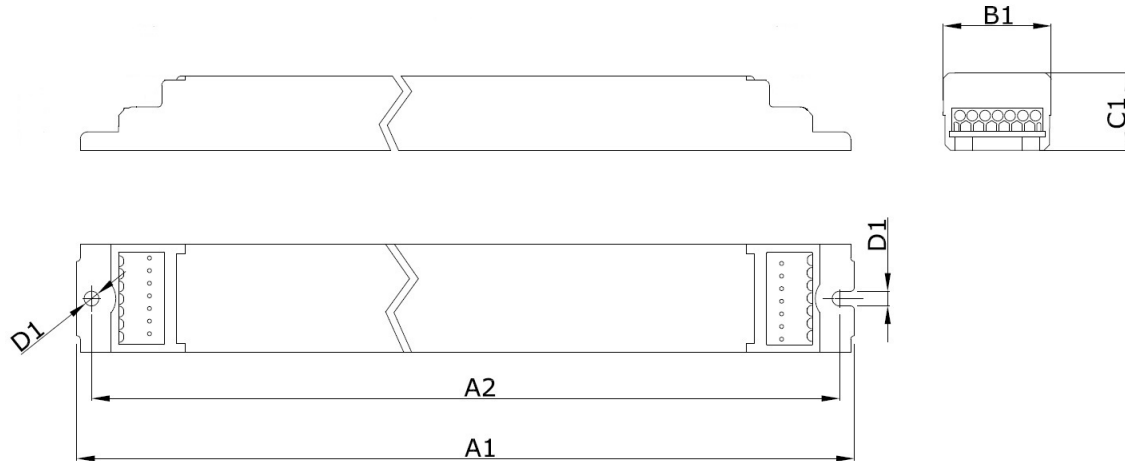
## Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.5...1.5	mm <sup>2</sup>	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 <sup>2</sup>	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)	424	mm	
Width (B1)	30	mm	
Height (C1)	26.5	mm	
Fixing hole diameter (D1)	4.1	mm	
Fixing hole distance (A2)	415	mm	
Weight	379	gram	



## Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+50	°C	
T <sub>case-max</sub>	75	°C	Maximum temperature measured at T <sub>c</sub> -point
T <sub>case-life</sub>	75	°C	Measured at T <sub>c</sub> -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 <sub>c</sub> -point is T <sub>case-life</sub> . Maximum failures = 10%

## Programmable features

Specification item	Value	Remark	Condition
Set output current (AOC)	Rset2	See Design-in guide. Default output current: 0.7 A	
LED module temperature derating (MTP)	Yes		
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		

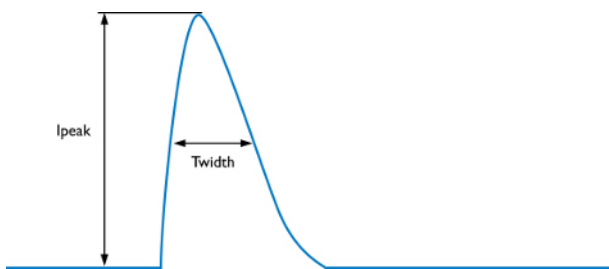
## Certificates and standards

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

## Additional information

### Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$	19.8	A	Input voltage 230V
Inrush current $T_{width}$	280	$\mu s$	Input voltage 230V, measured at 50% $I_{peak}$
Drivers / MCB 16A type B	$\leq 18$	pcs	



### Earth leakage current

Specification item	Value	Unit	Condition
Earth leakage current	0.7	mApk	LED module contribution not included

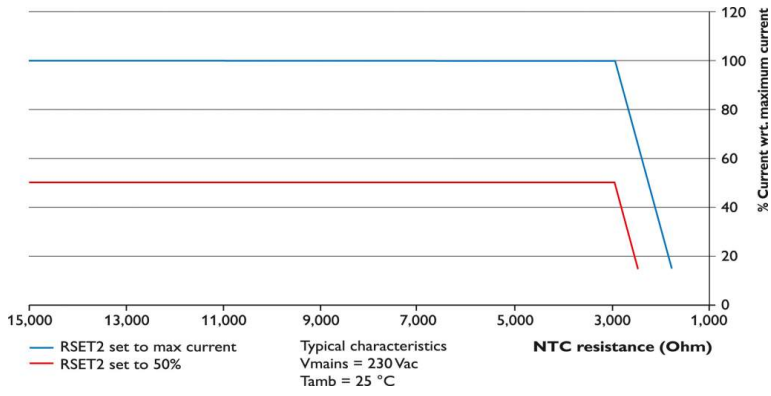
### Surge capability

Specification item	Value	Unit	Condition
Mains surge capability (L-N)	1	kV	
Mains surge capability (L/N-Ground)	2	kV	
Control surge capability (L-N)	1	kV	
Control surge capability (L/N-Ground)	2	kV	

### NTC thermistor

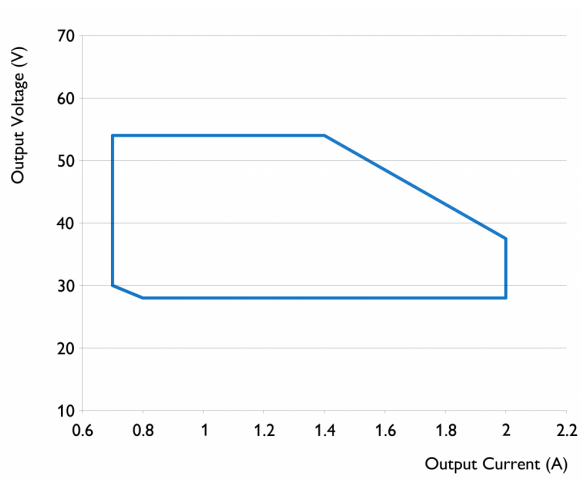
Specification item	Value	Unit	Condition
Advised NTC type	Vishay 15kOhm $\pm$ 2%NTC	238161554153	
	Murata NCP15XW153E03RC	NCP15XW153E03RC	With 390 $\Omega$ in series
NTC resistance threshold	2966	$\Omega$	Start limiting output current
Corresponding temperature	70	$^{\circ}C$	With advised type 238161554153

### NTC resistance versus output current

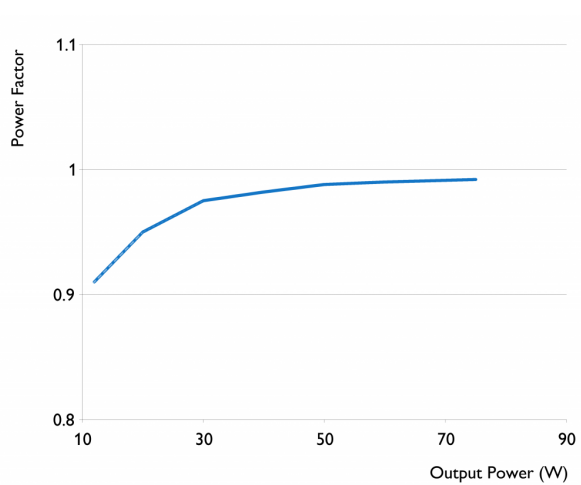


### Graphs

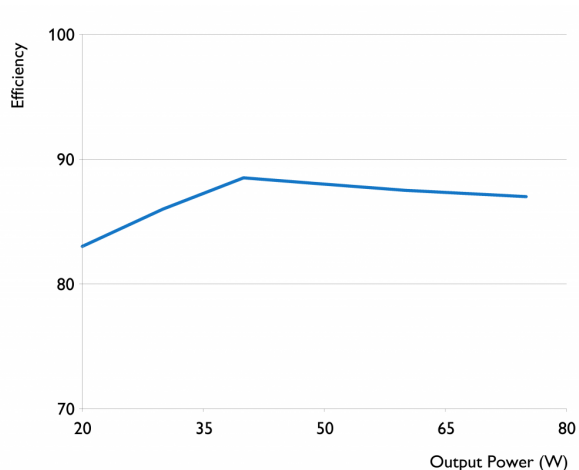
#### Operating window



#### Power factor versus output power



## Efficiency versus output power



## Logistical data

Specification item	Value
Product name	Xitanium 75W 0.7-2A 54V 1-10V 230V
Order code	871829169644500
Logistic code 12NC	9290 008 63503
EAN3	8718291696452
Pieces per box	12



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[www.philips.com/xitanium](http://www.philips.com/xitanium)