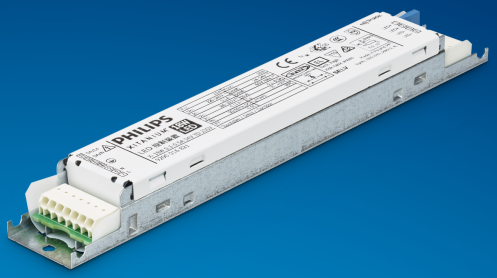
PHILIPS

Xitanium

LED driver



Datasheet

Xitanium isolated DALI dimmable & programmable (SimpleSet)

Xitanium 18W 0.1-0.5A 54V TD 230V

9290 016 82106

Xitanium isolated DALI drivers are ideal for Low Voltage (LV) linear systems.

built on three pillars: quality of light, reliability and flexibility. By using Xitanium LED drivers in your luminaires, you can be sure to offer your customers high quality of light without visual flicker and stroboscopic effects. The reliability of your complete lighting system is enhanced as our drivers offer specific features that protect the connected LED module, including reduced ripple current. Finally, 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 quality of light
- High reliability
- Future-proof flexibility
- Fast and easy wireless programming with SimpleSet
- Flicker and noise free dimming due to amplitude modulation dimming (AM)

Features

- High efficiency
- Wide operating windows - output current can be adjusted via the Philips MultiOne software or SimpleSet (NFC)
- Reduced ripple current
- SELV

Application

- Offices
- Retail: supermarkets, shopping malls

August 2021

Electrical input data

Specification item	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	0.1	A	@ rated output power @ rated input voltage
Rated input power	21	W	@ 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	86.5	%	@ maximum output power @ rated input voltage @ max. Iout
Rated input voltage DC range	186…250	V_{dc}	Performance range
Input voltage AC range	198…264	V_{ac}	Operational range
Input frequency AC range	47.5…63	Hz	Operational range
Input voltage DC range	168…275	V_{dc}	Operational range
Standby Power	0.3	W	
Isolation input to output	SELV		

Electrical output data

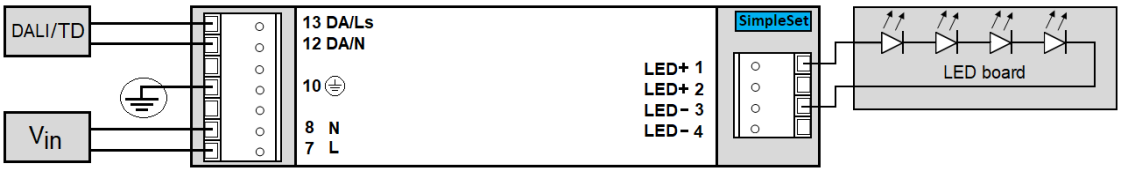
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	24…54	V_{dc}	
Output voltage max.	60	V	Maximum output voltage at open load
Output current	0.1…0.5	A	
Output current tolerance ±	5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output P_{st}^{LM}	≤ 0.03		Within performance operating window
Output SVM	≤ 0.01		Within performance operating window
Output power	6…18	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	DALI, Touch & Dim (TD)		For latest DALI certification status please visit www.digitalilluminationinterface.org/products. See design-in guide for more controllability details.
Dimming range	1…100	%	Output current amplitude dimming.
Isolation controls input to output	SELV		acc. IEC61347-1

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5…1.5 / 20…16	mm² / AWG	WAGO744, solid wire
Input wire strip length	8…9	mm	
Output wire cross-section	0.5…1.5 / 20…16	mm² / AWG	WAGO744, solid wire
Output wire strip length	8…9	mm	
Control wire cross-section	0.5…1.5 / 20…16	mm² / AWG	WAGO744, solid wire
Control wire strip length	8…9	mm	
Maximum cable length	2	m	CISPR15: between driver and LED module

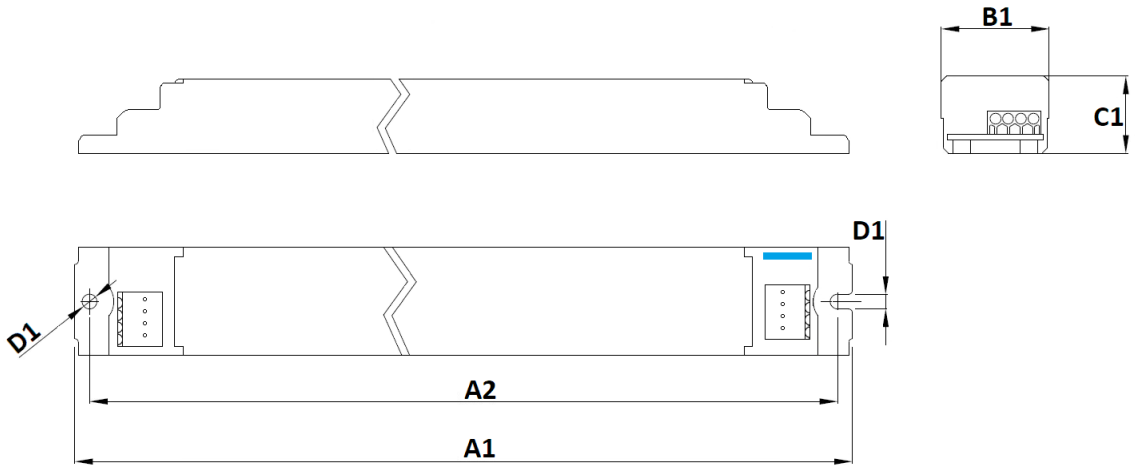


Insulation

Insulation per IEC61347-1	Input	Output	DALI	Housing
Input		SELV	Basic	Basic
Output	SELV		SELV	Basic
DALI	Basic	SELV		Basic
Housing	Basic	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	mm	
Height (C1)	21	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	250	gram	



Logistical data

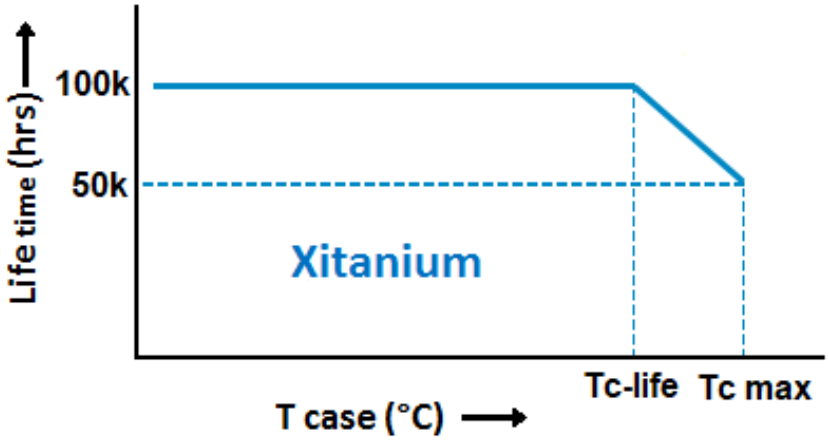
Specification item	Value
Product name	Xitanium 18W 0.1-0.5A 54V TD 230V
EOC	871869969836200
Logistic code 12NC	9290 016 82106
EAN1 (GTIN)	8718699698362
EAN3 (box)	8718699698379
Pieces per box	20

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	85	°C	Life time 50khrs;
Tcase-life	75	°C	Life time 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

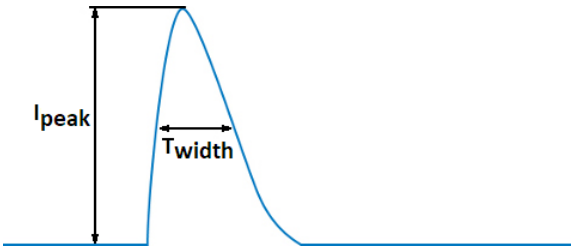
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	Programmable, SimpleSet	100 mA	
Adjustable Light Output (ALO)	Yes	OFF	
Adjustable Light Output (ALO) min level	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
DALI 253 M	Yes	—	
Touch & Dim (TD)	Yes	ON	
Corridor Mode	Yes	ON	Default: T1=55s, T2=12s, T3=30min
Min Dim Level	Yes	1 %	
DC emergency (DCemDim)	Yes	ON	Default 15%, EOFx range = 1 .. 100% (EOFx = DCemDIM level)
DALI control supported at DC operation	Yes	OFF	
OEM Write Protection (OWP)	Yes	OFF	
Luminaire Info (DALI part 251)	Yes	—	

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 (DALI part 252)	Yes		Accuracy 10%
Diagnostics	Yes		
Diagnostics (DALI part 253)	Yes		

Inrush current

Specification item	Value	Unit	Condition
Inrush current	20.4	A	Input voltage 230V
Inrush peak width	195	µs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 24	pcs	Indicative value



Please refer to the driver design in guide if you use other MCB-types.

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

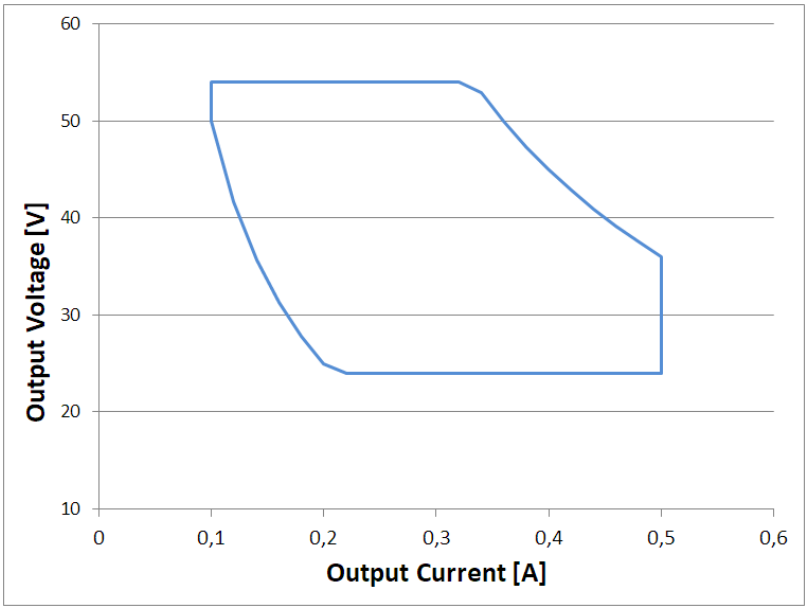
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge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

Application Info

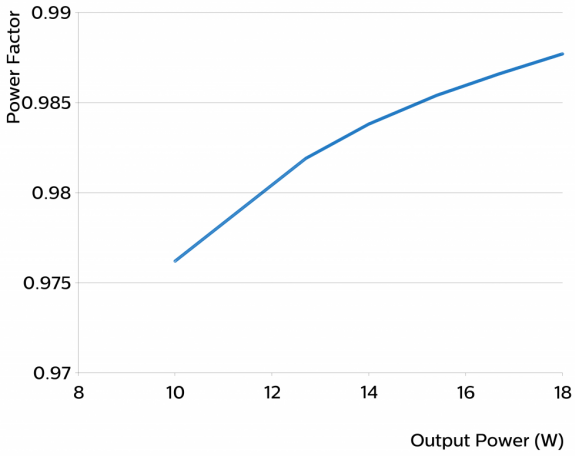
Specification item	Value
Approval marks	CCC / CE / DALI 2 / EL / ENEC / RCM / SELV
Ingress Protection classification (IP)	20
Application	Indoor Linear
Mounting Type	Built-in

Graphs

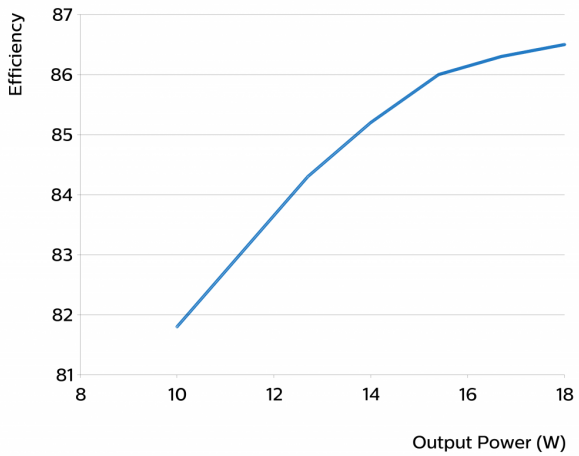
Operating window



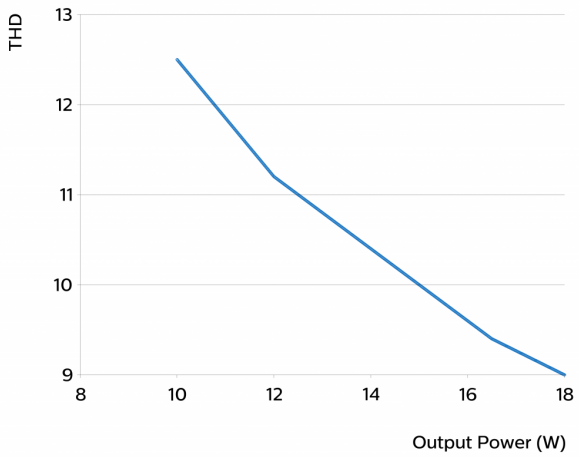
Power factor versus output power



Efficiency versus output power



THD versus output power



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