

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium non-iso MasterConnect wireless controlled

Xitanium 60W 0.15-0.5A 220V MC21 230V

9290 016 94006

Xitanium non-isolated DALI drivers are ideal for High Voltage (HV) linear systems and stand on four pillars: quality of light, reliability, flexibility and wireless control connectivity

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 our drivers is based on in-depth electronics knowledge and extensive testing.

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
- Flicker and noise free dimming due to amplitude modulation dimming (AM)
- MasterConnect connectivity

Features

- Configurable operating windows (AOC) via SimpleSet (MultiOne)
- Adjustable Light Output (ALO)
- Constant Light Output (CLO)
- Dimming supported during DC operation (DCemDim)
- Energy Reporting

Application

- Offices
- Healthcare
- Education
- Indoor parking areas
- Retail: supermarkets, shopping malls
- Industry

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	220...240	V _{ac}	Nominal range
Rated input voltage	230	V _{ac}	
Rated input frequency range	50...60	Hz	Nominal range
Rated input current	0.3	A	@ rated output power @ rated input voltage
Rated input power	66	W	@ rated output power @ rated input voltage
Power factor	0.99		@ rated output power @ rated input voltage
Total harmonic distortion	8	%	@ rated output power @ rated input voltage
Efficiency	92	%	@ rated output power @ rated input voltage @ max. U _{out}
Rated input voltage DC range	186...250	V _{dc}	Nominal range
Rated input current DC range	0.36	A _{dc}	Nominal range
Input voltage AC range	198...264	V _{ac}	Operational range
Input frequency AC range	45...66	Hz	Operational range
Input voltage DC range	168...275	V _{dc}	Operational range
Standby Power	0.39	W	
Isolation input to output	No		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	50...220	V _{dc}	
Output voltage max.	250	V	Maximum output voltage (rms)
Output current	0.15...0.5	A	
Output current min programmable	150	mA	
Output current min dimming	3.3	mA	Dimming is possible through the Wireless Zigbee interface
Output current tolerance ±	5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 4	%	
Output P _{st} ^{LM}	≤ 0.06		In performance window
Output SVM	≤ 0.03		In performance window
Output power	17...60	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Wireless BLE, Wireless Zigbee		ZigBee & BLE. Please refer to design-in guide at www.philips.com/oem for more controllability details.
Dimming range	1...100	%	Output current amplitude dimming. 1% dimming, minimum physical current = 3.3mA

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	Wiring distance between driver and LED module

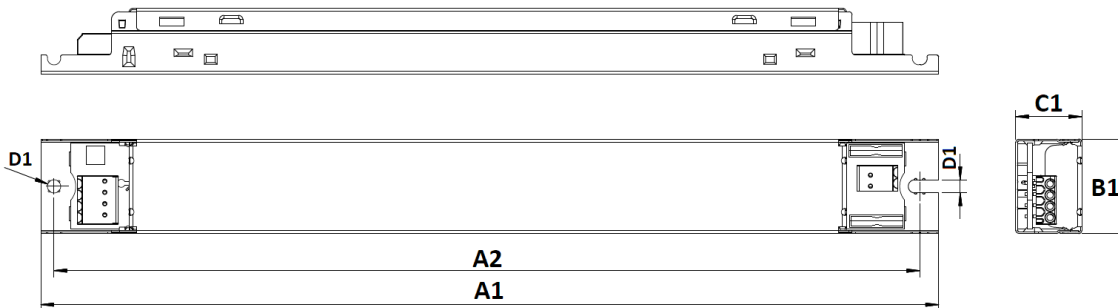


Insulation

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

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	280	mm	
Mounting hole distance (A2)	270	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	180	gram	



Logistical data

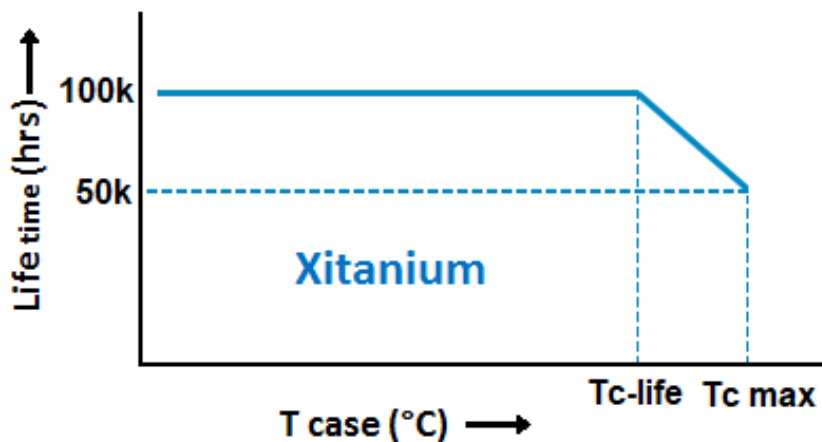
Specification item	Value
Product name	Xitanium 60W 0.15-0.5A 220V MC21 230V
EOC	871869978257300
Logistic code 12NC	9290 016 94006
EAN1 (GTIN)	8718699782573
EAN3 (box)	8718699782580
Pieces per box	24

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	75	°C	Lifetime 50khrs;
Tcase-life	65	°C	Lifetime 100khrs; measured at T _c -point
Maximum housing temperature	110	°C	In case of a failure. Thermal protection: 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%
Mains switching cycles	> 100,000	switches	See Design-in guide for detailed explanation



Storage temperature and humidity

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

Programmable features

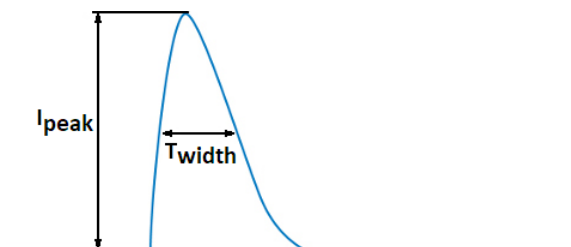
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	SimpleSet, Wireless	150 mA	
Adjustable Light Output (ALO)	Yes	OFF	
Adjustable Light Output (ALO) min level	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
DALI 253 M	Yes	—	
Min Dim Level	Yes	1 %	
DC emergency (DCemDim)	Yes	ON	Default 15%, EOFx range = 1 .. 100% (EOFx = DCemDIM level). No external DC rated mains fuse required.
DALI control supported at DC operation	Yes	OFF	
OEM Write Protection (OWP)	Yes	OFF	
Luminaire Info (DALI part 251)	Yes	—	
Tx Power	Yes	10 dBm	

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
Output Overvoltage Detection	Yes	
Energy metering (DALI part 252)	Yes	
Diagnostics	Yes	
Diagnostics (DALI part 253)	Yes	

Inrush current

Specification item	Value	Unit	Condition
Inrush current	19	A	Input voltage 230V
Inrush peak width	230	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)	0.5	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

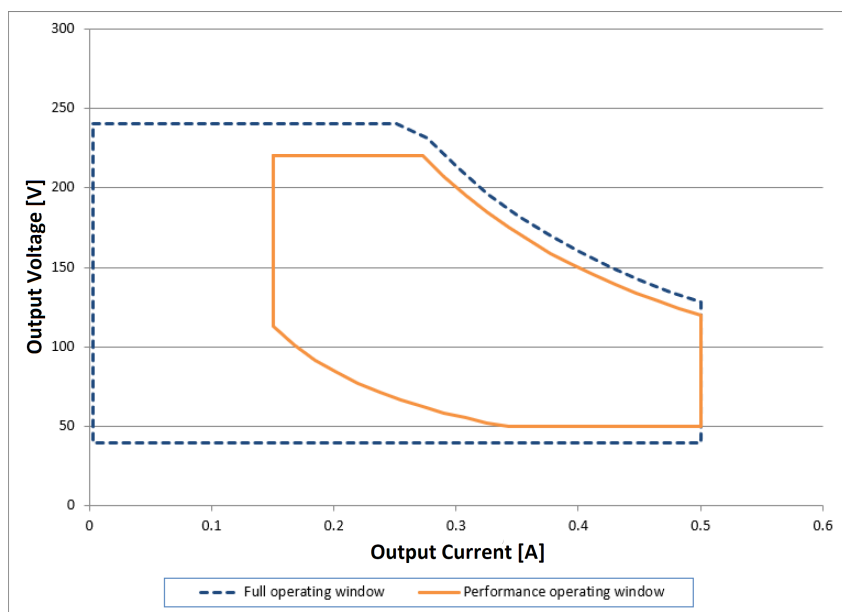
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	L- N Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	L/N - PE Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info

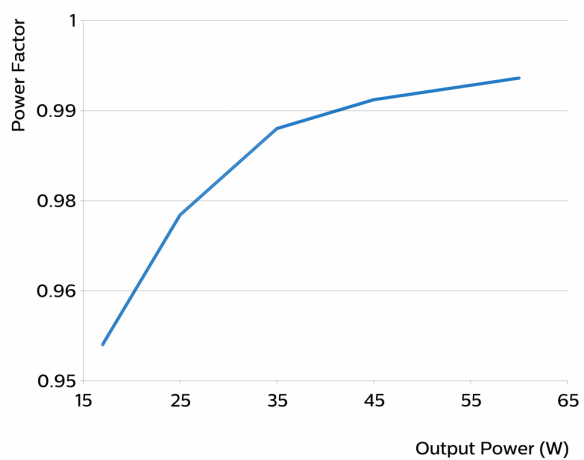
Specification item	Value
Approval marks	CCC / CE / EAC / EL / ENEC / RCM / UA / WEEE
Ingress Protection classification (IP)	20
Application	Indoor Linear
Mounting Type	Built-in

Graphs

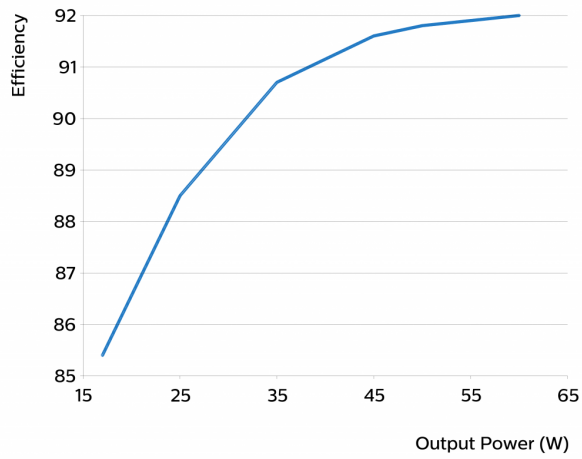
Operating window



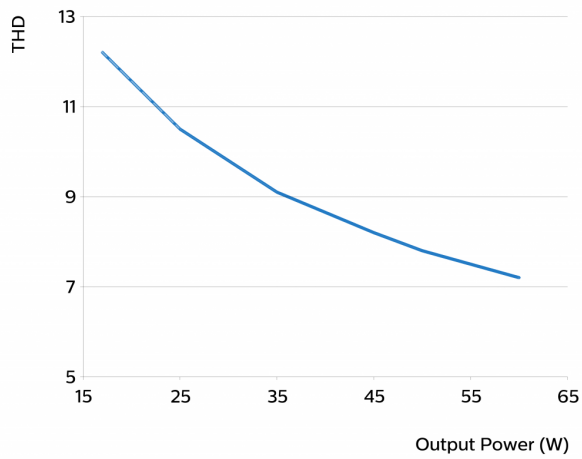
Power factor versus output power



Efficiency versus output power



THD versus output power



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