PHILIPS

Xitanium

LED driver

Datasheet

Xitanium non-iso MasterConnect wireless controlled

Xi 60W 0.15-0.5A 220V MC21 230V G2

9290 039 69306

Xitanium non-isolated wireless 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.

Features

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

Benefits

- High quality of light
- High reliability
- Future-proof flexibility
- Flicker and noise free dimming due to amplitude modulation dimming (AM)
- MasterConnect connectivity

Application

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

September 2024

Logistical data

Specification item	Value
Product name	Xi 60W 0.15-0.5A 220V MC21 230V G2
EOC	872016929477600
Logistic code 12NC	9290 039 69306
EAN1 (GTIN)	8720169294776
EAN3 (box)	8720169294783
Pieces per box	24
Weight	180 gram

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	50…60	Hz	Nominal range
Rated input current	0.3	A	@ rated output power @ rated input voltage
Rated input power	66.0	W	@ rated output power @ rated input voltage
Power factor performance range	≥ 0.99		@ rated output power @ rated input voltage
Total harmonic distortion	8	%	@ rated output power @ rated input voltage
Efficiency	92.6	%	@ rated output power @ rated input voltage @ max. Uout
Rated input voltage DC	186…250	V_{dc}	Nominal range
Rated input current DC	0.36	A_{dc}	Nominal range
Input voltage AC	198…264	V_{ac}	Operational range
Input frequency AC	45…66	Hz	Operational range
Input voltage DC	168…275	V_{dc}	Operational range
Standby Power (no load)	0.24	W	No load means: LED's are connected and not burning.
Isolation input to output	No		

Electrical output data

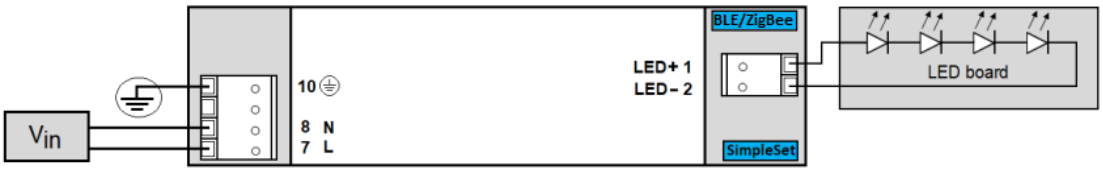
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	50…220	V_{dc}	
Output voltage max.	250	V	Maximum output voltage (rms)
Output current	150…500	mA	
Output current min programmable	150	mA	
Min output current	3.3	mA	Dimming is possible through the Wireless Zigbee interface
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 4	%	
Output P_{st}^{LM}	≤ 0.8		In performance window
Output SVM	≤ 0.3		In performance window
Output power	0.2…60.6	W	
Minimum performance output power	17	W	Power factor > 0.9 and THD < 20%

Control interfaces

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

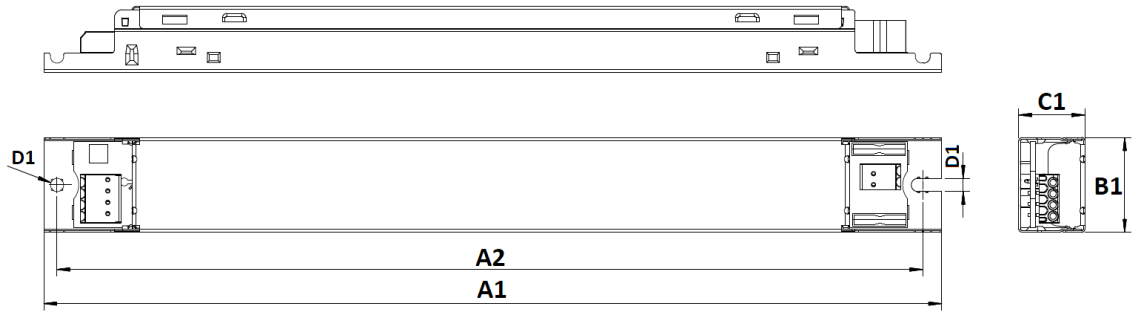


Isolation

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	195	gram	

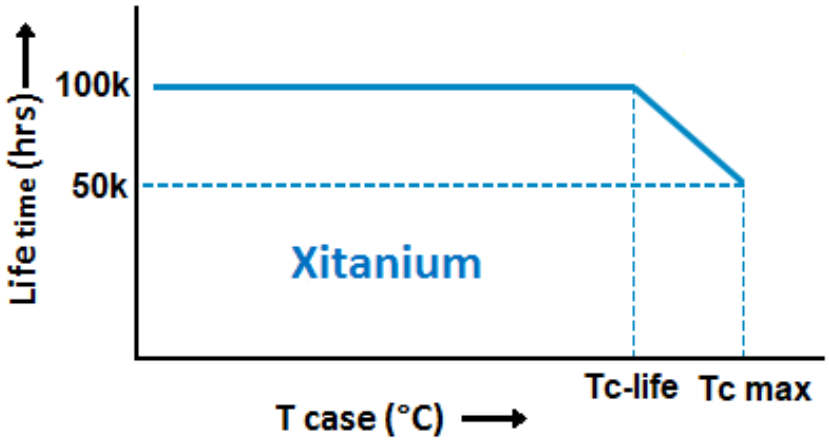


Operational temperatures and humidity

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



Maximum failures = 10%

Temperature [°C]	Lifetime	Unit	Condition
75	50000	hr	
70	71000	hr	
65	100000	hr	Temperature measured @Tc point
60	>100000	hr	
55	>100000	hr	

Storage temperature and humidity

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

Programmable features

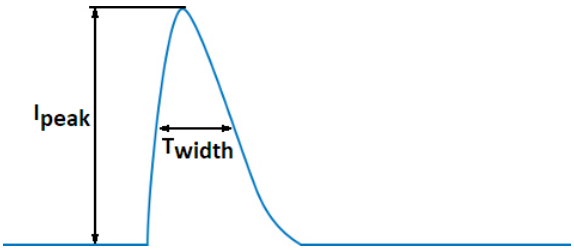
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	SimpleSet	150 mA	
Adjustable Light Output (ALO)	Yes	OFF	
Adjustable Light Output (ALO) min level	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
Min Dim Level	Yes	1 %	
DC emergency (DCemDim)	Yes	ON	Default 15%, EOFx 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		
Luminaire maintenance (DALI part 253)	Yes		
Tx Power	Yes	10 dBm	

Non-programmable 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 (DALI part 253)	Yes		
Diagnostics via Signify tool	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 @230V AC	≤ 24	pcs	Input voltage 230V



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

If several mini circuit breakers are used directly side-by-side (without distance pieces) a correction factor of 80% has to be applied to the rated current

Driver touch current / protective conductor current / earth leakage 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

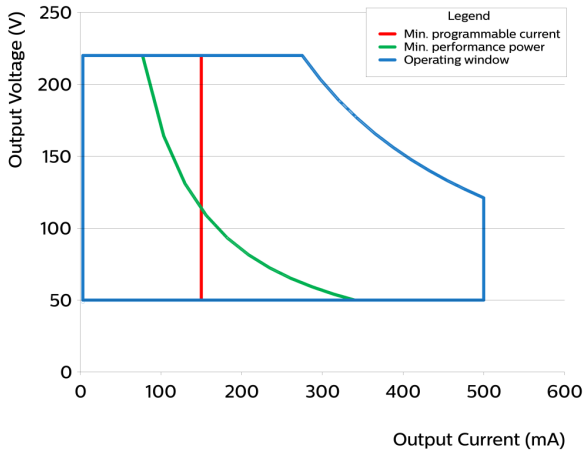
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	L- N Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	L/N - PE Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info (Approbation)

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

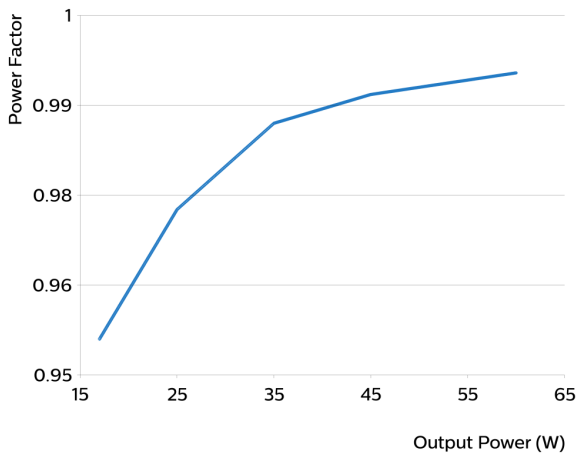
Graphs

Operating window

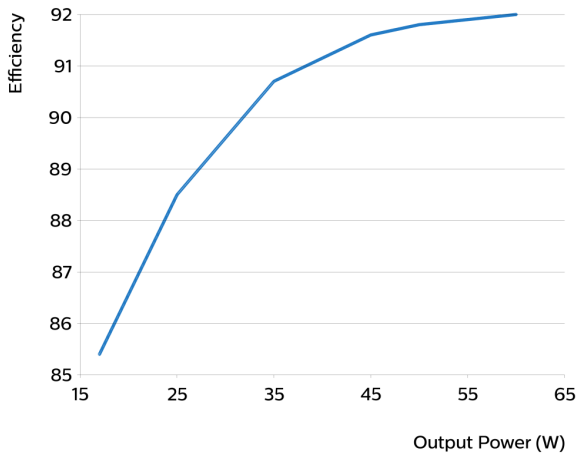


Type	Output current (mA)	Min. output voltage (V)	Max. output voltage (V)	Max. output power (W)
Xi 60W 0.15-0.5A 220V MC21 230V G2	150	50	220	33
Xi 60W 0.15-0.5A 220V MC21 230V G2	200	50	220	44
Xi 60W 0.15-0.5A 220V MC21 230V G2	250	50	220	55
Xi 60W 0.15-0.5A 220V MC21 230V G2	300	50	201	60.55
Xi 60W 0.15-0.5A 220V MC21 230V G2	350	50	173	60.55
Xi 60W 0.15-0.5A 220V MC21 230V G2	400	50	151	60.55
Xi 60W 0.15-0.5A 220V MC21 230V G2	450	50	134	60.55
Xi 60W 0.15-0.5A 220V MC21 230V G2	500	50	121	60.55

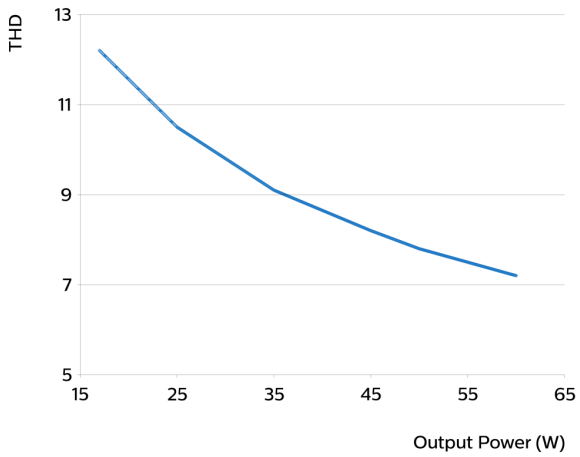
Power factor versus output power



Efficiency versus output power



THD versus output power



Notes

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CmBacktrace 1.3

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Date of release: September 3, 2024 v1

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