

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium isolated DALI dimmable & programmable (iSet)

Xitanium 75W 0.7-2.0A 54V TD 230V G2

9290 016 96106

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

They offer ease of design-in and make the approbation process easier. The Xitanium range is 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
- Flicker and noise-free dimming due to amplitude modulation dimming (AM)

Features

- Configurable operating windows (AOC) via DALI or with iSet (resistor on the primary side of the driver with the same values as LEDset)
- Adjustable Light Output (ALO)
- Constant Light Output (CLO)
- Corridor Mode (CM)
- Dimming supported during DC operation (DCemDim))
- Touch and Dim (TD)
- OEM Write Protection (OWP)
- Memory Bank 1 Extension / Luminaire Data (DALI part 251)
- Energy Reporting (DALI part 252)
- Diagnostics & Maintenance (DALI part 253)
- SELV

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}	Performance range
Rated input voltage	230	V _{ac}	
Rated input frequency range	50...60	Hz	Performance range
Rated input current	0.38	A	@ full output power @ rated input voltage
Rated input power	83	W	@ rated output power @ rated input voltage
Power factor	0.98		@ rated output power @ rated input voltage
Total harmonic distortion	4	%	@ rated output power @ rated input voltage
Efficiency	90	%	@ full output power @ rated input voltage @ max. I _{out}
Rated input voltage DC range	186...250	V _{dc}	Performance range
Rated input current DC range	0.45	A _{dc}	Performance 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	0.31	W	
Isolation input to output	SELV		

Electrical output data

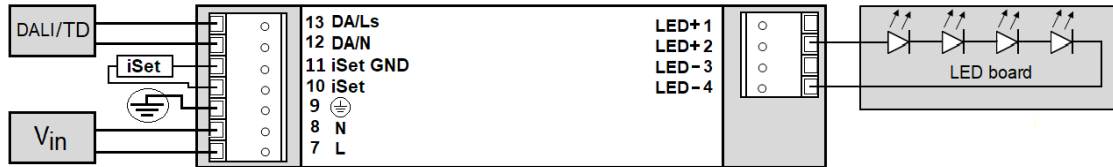
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	27...54	V _{dc}	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	0.7...2	A	
Output current tolerance ±	5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output P _{st} ^{LM}	≤ 0.1		In entire operating window
Output SVM	≤ 0.01		In entire operating window
Output power	21...75	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Corridor Mode, DALI, Touch & Dim (TD)		Output current amplitude dimming. Please refer to design-in guide at www.philips.com/oem for more controllability details.
Dimming range	1...100	%	>1400mA 1% dimming; < 1400mA min. current 14mA
Isolation controls input to output	Double		acc. IEC61347-1

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	
Control wire cross-section	0.5...1.5 / 20...16	mm ² / AWG	WAGO744, solid wire
Control wire strip length	8...9	mm	
Maximum cable length	2	m	CISPR15: between driver and LED module
Loop Through	Output		

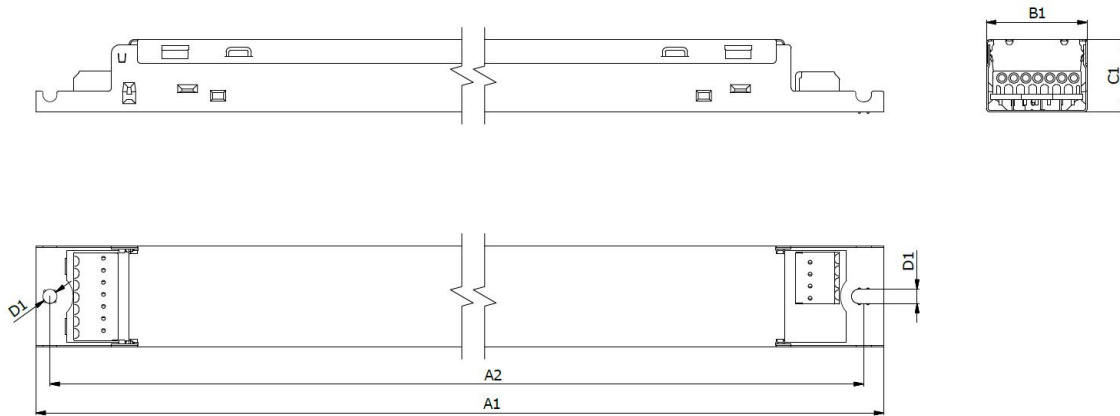


Insulation

Insulation per IEC61347-1	Input	Output	DALI	iSet	Housing
Input		SELV	Basic	No	Basic
Output	SELV		SELV	SELV	Basic
DALI	Basic	SELV		Basic	Basic
iSet	No	SELV	Basic		Basic
Housing	Basic	Basic	Basic	Basic	

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	350	mm	
Mounting hole distance (A2)	360	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	270	gram	



Logistical data

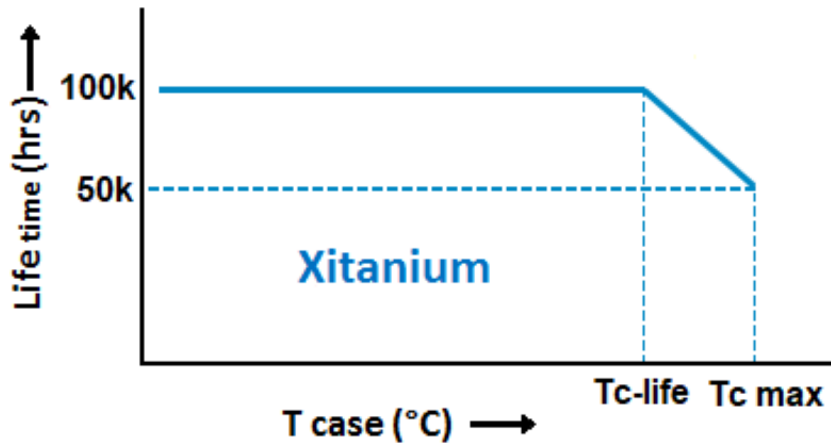
Specification item	Value
Product name	Xitanium 75W 0.7-2.0A 54V TD 230V G2
EOC	871951428788400
Logistic code 12NC	9290 016 96106
EAN1 (GTIN)	8719514287884
EAN3 (box)	8719514287877
Pieces per box	24

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+50	°C	Higher ambient temperature allowed as long as T _{case-max} is not exceeded
T _{case-max}	75	°C	Maximum temperature measured at T _{case-point}
T _{case-life}	65	°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	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

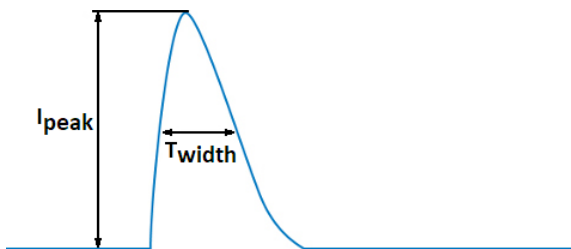
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	iSet, Programmable	700 mA	iSet interface is not mains-isolated; see design-in guide
NTC on LEDset	No		
Adjustable Light Output (ALO)	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
DALI 253 M	Yes	—	
Touch & Dim (TD)	Yes	ON	
Corridor Mode	Yes	ON	Default: T1=55s, T2=12s, T3=30min
Min Dim Level	Yes	1 %	
DC emergency (DCemDim)	Yes	ON	Default: AOC = 15%. EOFx = 1 ... 100%. No external DC rated fuse required. Internal fuse rating: T1A 250VAC/DC
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	24/220	A/ μ s	Input voltage 230V
Drivers / MCB 16A type B	≤ 15	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)	0.4	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

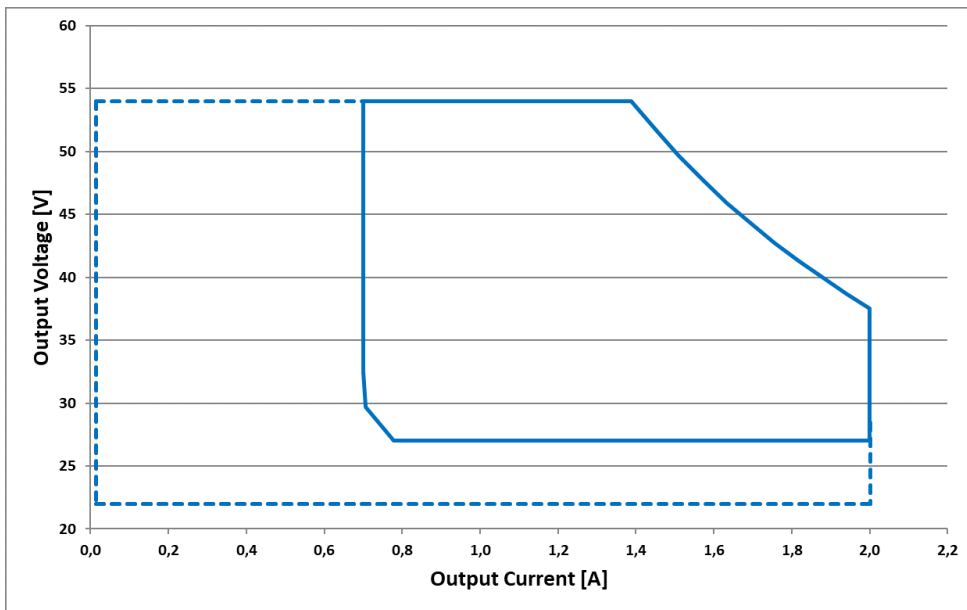
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge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

Application Info

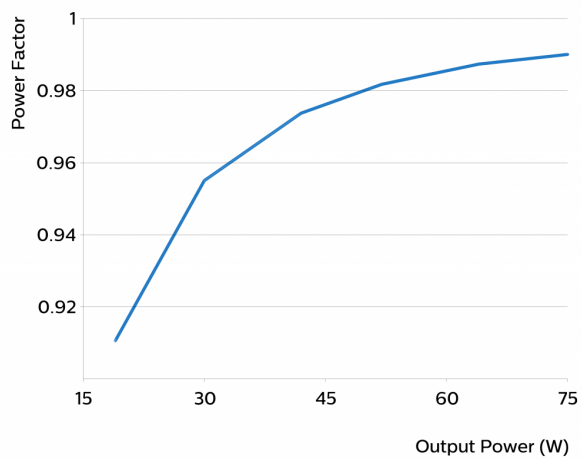
Specification item	Value
Approval marks	CCC / CE / DALI 2 / EAC / EL / ENEC / SELV / UA / WEEE
Ingress Protection classification (IP)	20
Noise and hum dB(A)	20
Application	Indoor Linear
Mounting Type	Built-in

Graphs

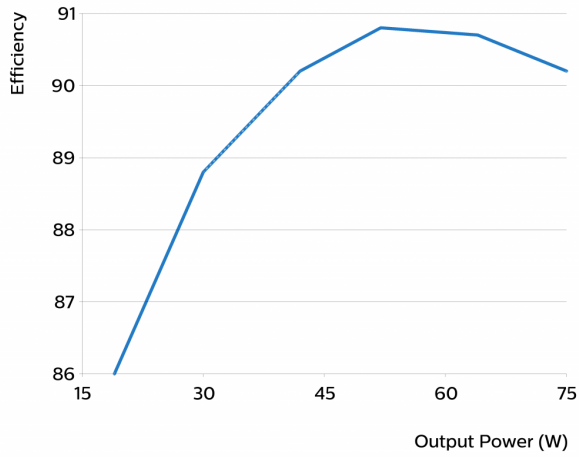
Operating window



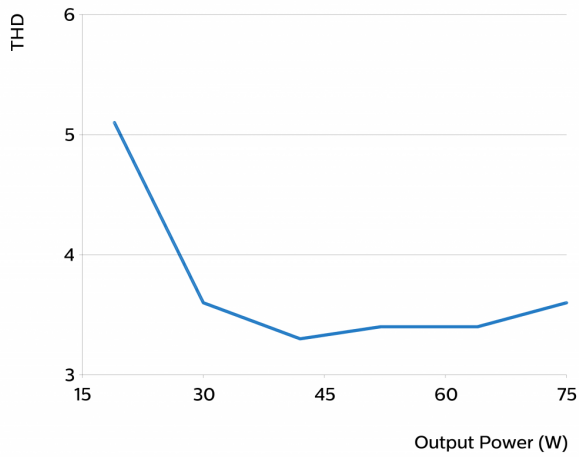
Power factor versus output power



Efficiency versus output power



THD versus output power



Notes

Warning: the iSet interface does not support a remote-mounted resistor. Do not use a LED module-based resistor for iSet. Connect an iSet resistor locally at the driver iSet interface instead.



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