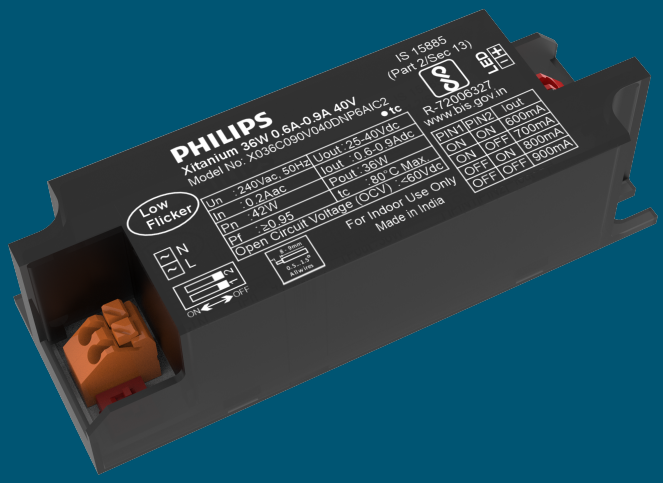
xitanium

Datasheet

Xitanium isolated DALI dimmable & programmable (iSet)

Xitanium 36W 0.3-1.0A 54V TD 230V G2
9290 016 96006



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)

Application

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

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

Logistical data

Specification item	Value
Product name	Xitanium 36W 0.3-1.0A 54V TD 230V G2
EOC	871951428786000
Logistic code 12NC	9290 016 96006
EAN1 (GTIN)	8719514287860
EAN3 (box)	8719514287853
Pieces per box	24
Weight	260 gram

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	50...60	Hz	Performance range
Rated input current	0.19	A	@ full output power @ rated input voltage
Rated input power	41.0	W	@ rated output power @ rated input voltage
Power factor performance range	≥ 0.98		@ rated output power @ rated input voltage@ rated output power @ rated input voltage
Total harmonic distortion	6	%	@ rated output power @ rated input voltage
Efficiency	88.0	%	@ full output power @ rated input voltage @ max. Iout
Rated input voltage DC	186...250	V_{dc}	Performance range
Rated input current DC	0.22	A_{dc}	Performance 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)	0.31	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	300...1000	mA	
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output P_{st}^{LM}	≤ 0.3		In entire operating window
Output SVM	≤ 0.1		In entire operating window
Output power	10.0...36.0	W	

Control interfaces

Specification item	Value	Unit	Condition
Control method	Corridor Mode, DALI, TD		Output current amplitude dimming. Please refer to design-in guide at www.philips.com/oem for more controllability details.
Dimming range	1...100	%	>700mA 1% dimming; < 700mA min. current 7mA
Isolation controls input to output	Double		acc. IEC61347-1

Wiring and Connections

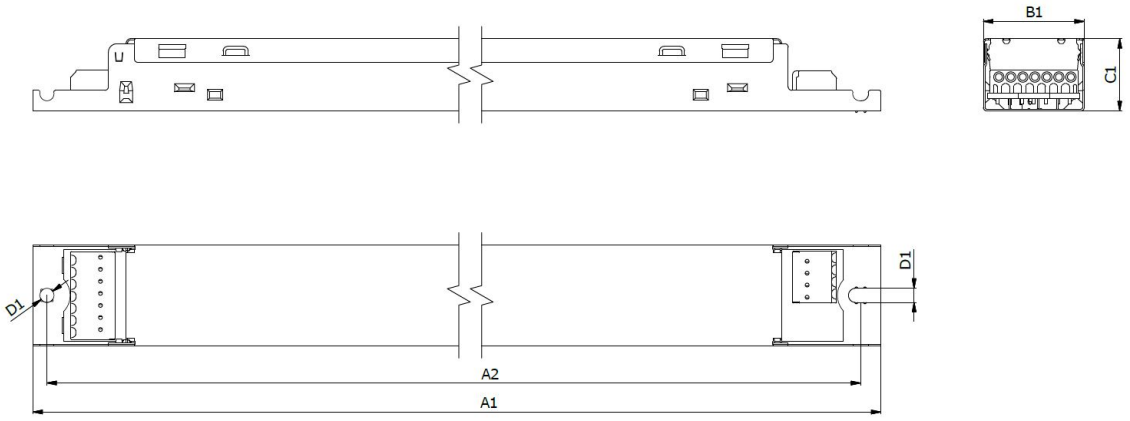
Specification item	Value	Unit	Type
Input wire cross-section	0.5...1.5 / 20...16	mm² / AWG	WAGO744, solid wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.5...1.5 / 20...16	mm² / AWG	WAGO744, solid wire
Output wire strip length	8...9	mm	
Control wire cross-section	0.5...1.5 / 20...16	mm² / AWG	WAGO744, solid wire
Control wire strip length	8...9	mm	
Maximum cable length	2	m	CISPR15: total length of wiring incl. LED module
Loop Through	Output		

Isolation

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)	360	mm	
Mounting hole distance (A2)	350	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	260	gram	

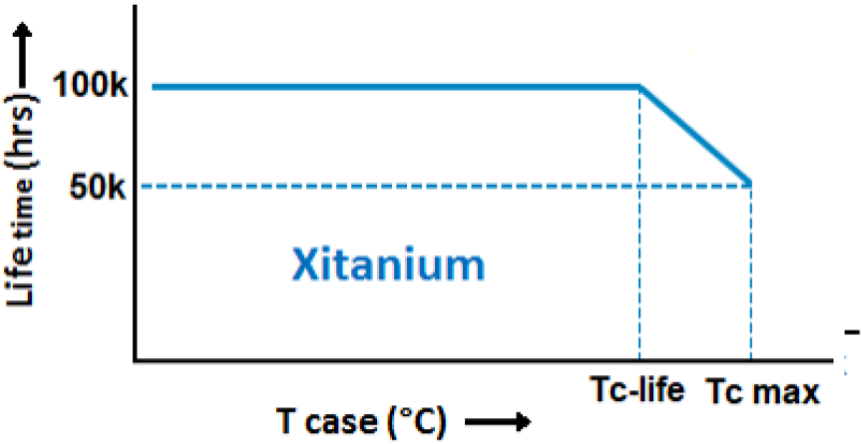


Operational temperatures and humidity

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	Maximum temperature measured at T_{case}-point
Tcase-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%



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

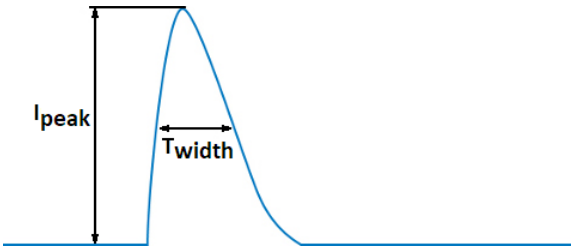
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	iSet, Programmable	300 mA	iSet interface is not mains-isolated; see design-in guide
NTC on LEDset	No		
Adjustable Light Output (ALO)	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
Touch & Dim (TD)	Yes	ON	
Corridor 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		
Luminaire maintenance (DALI part 253)	Yes		

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
Energy metering (DALI part 252)	Yes	Accuracy 10%
Diagnostics (DALI part 253)	Yes	
Diagnostics via Signify tool	Yes	

Inrush current

Specification item	Value	Unit	Condition
Inrush current	16.5	A	Input voltage 230V
Inrush peak width	180	µs	Input voltage 230V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 42	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 piece

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)	0.4	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

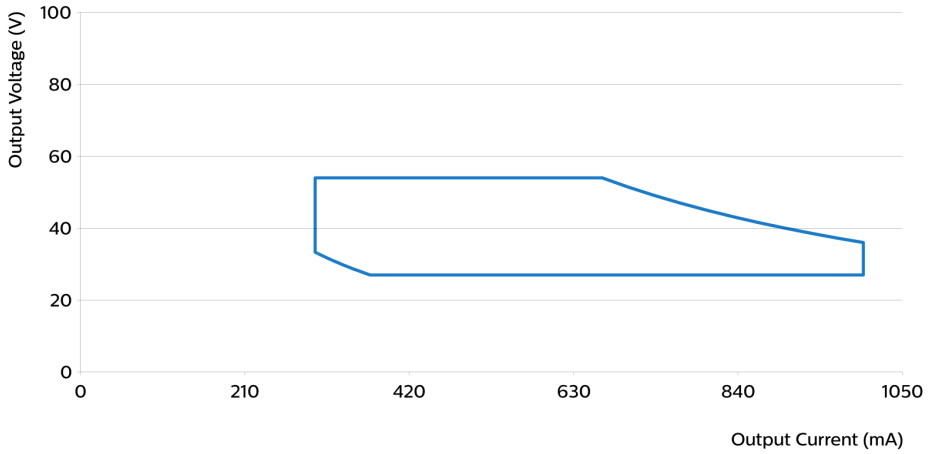
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge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

Application Info (Approbation)

Specification item	Value
Approval marks and Certifications	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

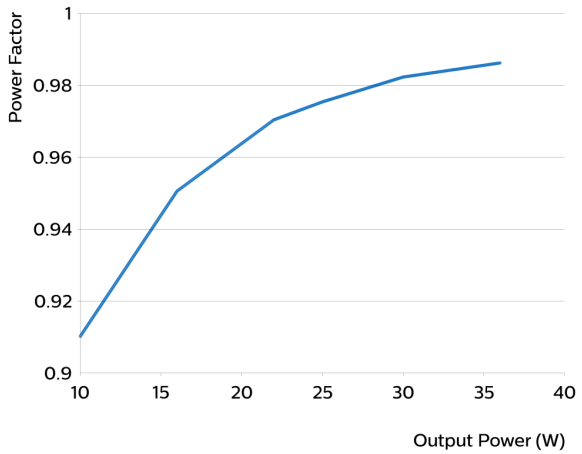
Graphs

Operating window

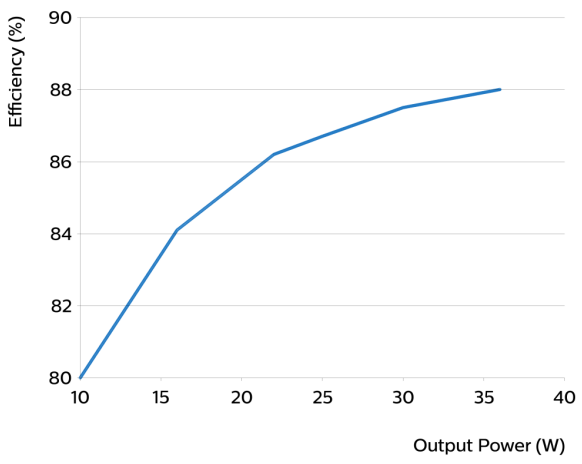


Type	Output current (mA)	Min. output voltage (V)	Max. output voltage (V)	Max. output power (W)
Xitanium 36W 0.3-1.0A 54V TD 230V G2	300	33	54	16.2
Xitanium 36W 0.3-1.0A 54V TD 230V G2	350	28	54	18.9
Xitanium 36W 0.3-1.0A 54V TD 230V G2	400	27	54	21.6
Xitanium 36W 0.3-1.0A 54V TD 230V G2	450	27	54	24.3
Xitanium 36W 0.3-1.0A 54V TD 230V G2	500	27	54	27
Xitanium 36W 0.3-1.0A 54V TD 230V G2	550	27	54	29.7
Xitanium 36W 0.3-1.0A 54V TD 230V G2	600	27	54	32.4
Xitanium 36W 0.3-1.0A 54V TD 230V G2	650	27	54	35.1
Xitanium 36W 0.3-1.0A 54V TD 230V G2	700	27	51	36
Xitanium 36W 0.3-1.0A 54V TD 230V G2	750	27	48	36
Xitanium 36W 0.3-1.0A 54V TD 230V G2	800	27	45	36
Xitanium 36W 0.3-1.0A 54V TD 230V G2	850	27	42	36
Xitanium 36W 0.3-1.0A 54V TD 230V G2	900	27	40	36
Xitanium 36W 0.3-1.0A 54V TD 230V G2	950	27	37	36
Xitanium 36W 0.3-1.0A 54V TD 230V G2	1000	27	36	36

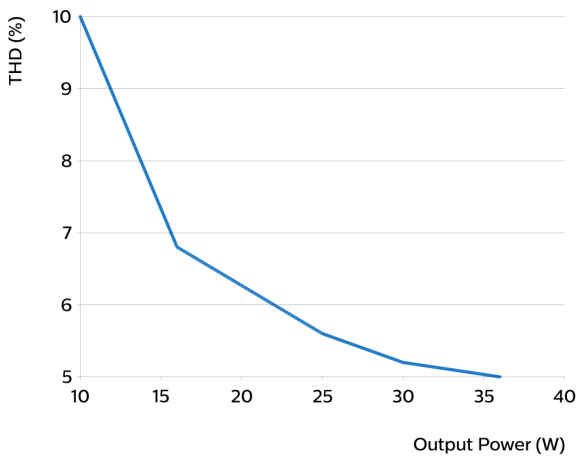
Power factor versus output power



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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