

Xitanium non-isolated DALI dimmable & programmable iXt

Xitanium 300W 0.5-1.4A 300V iXt TD 230V
9290 016 96606



Xitanium non-isolated DALI drivers stand 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 Industry Xtreme drivers offer longer lifetime, high surge specifications and a wide ambient temperature range.

Finally, application-oriented operating windows offer the flexibility required to provide the stable lumen output and light quality levels that are required in demanding industrial applications.

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)

Application

- Offices
- Retail: supermarkets, shopping malls
- Indoor industry applications: warehouses, distribution centers, cold storage, manufacturing

Features

- High efficiency
- Wide operating windows - output current can be adjusted via the Philips MultiOne software, SimpleSet (NFC) or LEDset (resistor)
- Reduced ripple current
- Industry Xtreme (iXt) drivers offer longer life time, higher surge specifications and a wide T-ambient range

Logistical data

Specification item	Value
Product name	Xitanium 300W 0.5-1.4A 300V iXt TD 230V
EOC	871951430544100
Logistic code 12NC	9290 016 96606
EAN1 (GTIN)	8719514305441
EAN3 (box)	8719514305458
Pieces per box	12
Weight	470 gram

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	202...254	V _{ac}	Performance range
Rated input voltage	230	V _{ac}	
Rated input frequency	47.5...63	Hz	Performance range
Rated input current	1.43	A	@ rated output power @ rated input voltage
Rated input power	315.0	W	@ rated output power @ rated input voltage
Power factor performance range	≥ 0.99		@ rated output power @ rated input voltage@ rated output power @ rated input voltage
Total harmonic distortion	8	%	@ rated output power @ rated input voltage
Efficiency	95.0	%	@ rated output power @ rated input voltage @ max. I _{out}
Rated input voltage DC	186...250	V _{dc}	Performance range
Rated input current DC	≤ 1.69	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)	0.23	W	
Isolation input to output	No		

Electrical output data

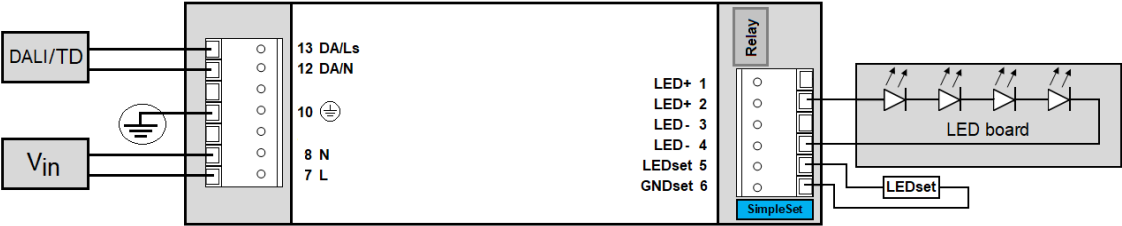
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	100...300	V _{dc}	
Output voltage max.	330	V	Maximum output voltage (rms)
Output current	500...1400	mA	
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 4	%	
Output P _{st} ^{LM}	≤ 0.3		
Output SVM	≤ 0.1		
Output power	85.0...300.0	W	

Control interfaces

Specification item	Value	Unit	Condition
Control method	DALI, TD		DALI parts: 101, 102, 207, 251, 252, 253. See design-in guide at www.philips.com/oem for more controllability details.
Dimming range	1...100	%	lower-25°C and higher+50°C dimming to be set to
Isolation controls input to output	Basic		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	Total length of wiring including LED module, one way

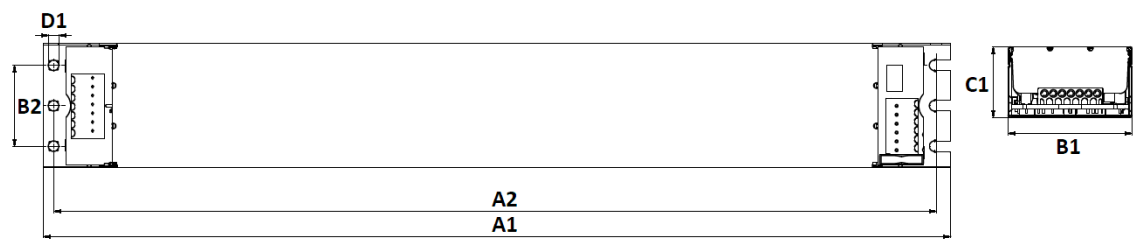


Isolation

Insulation per IEC61347-1	Input	Output+LEDset	DALI	Housing
Input	-	No	Basic	Basic
Output+LEDset	No	-	Basic	Basic
DALI	Basic	Basic	-	-
Housing	Basic	Basic	Basic	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	360	mm	
Mounting hole distance (A2)	350	mm	
Width (B1)	50	mm	
Width (B2)	32	mm	
Height (C1)	28	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	470	gram	

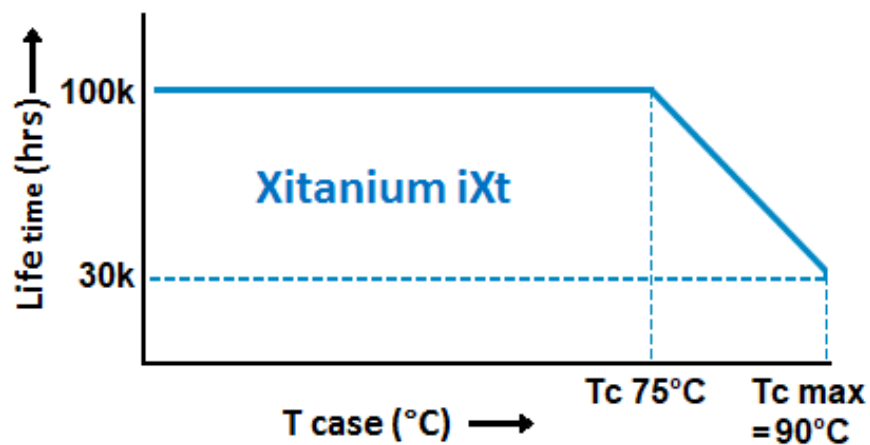


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+60	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	90	°C	lifetime 30khrs;
Tcase-life	75	°C	lifetime 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%
Mains switching cycles	> 100,000	switches	See Design-in guide for detailed explanation



Maximum failures = 10%

Temperature [°C]	Lifetime	Unit	Condition
90	50000	hr	Temperature measured @Tc point
82.5	71000	hr	
75	100000	hr	
70	>100000	hr	
65	>100000	hr	

Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+85	°C	Non-condensing
Relative humidity	5...95	%	

Programmable features

Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	LEDset, Programmable, SimpleSet	500 mA	
LED Module Temperature Protection (MTP)	No		
NTC on LEDset	Yes	OFF	
Adjustable Light Output (ALO)	Yes	OFF	
Constant Light Output (CLO)	Yes	OFF	
Adjustable Start-up Time (AST)	Yes	0 s	Max AST time = 30000 seconds
Touch & Dim (TD)	Yes	ON	
Corridor Mode	Yes	OFF	Default: T1=55s, T2=12s, T3=30min
Min Dim Level (%)	Yes	1 %	
DC emergency (DCemDim)	Yes	ON	Current output decreased to 15%
DALI control supported at DC operation	Yes	OFF	
OEM Write Protection (OWP)	Yes	OFF	
DALI 102	Yes		Programmable via SimpleSet
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
Output Overvoltage Detection	Yes	
Energy metering (DALI part 252)	Yes	
Diagnostics via Signify tool	Yes	

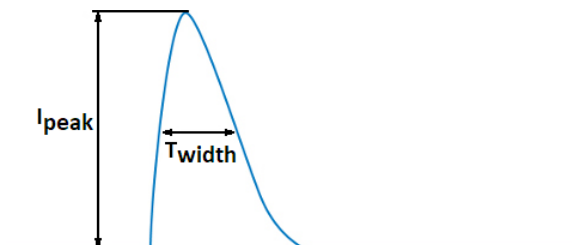
Inrush current

Specification item	Value	Unit	Condition
Inrush current	15.3	A	Input voltage 230V
Inrush peak width	61	μs	Input voltage 230V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 8	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)	0.5	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

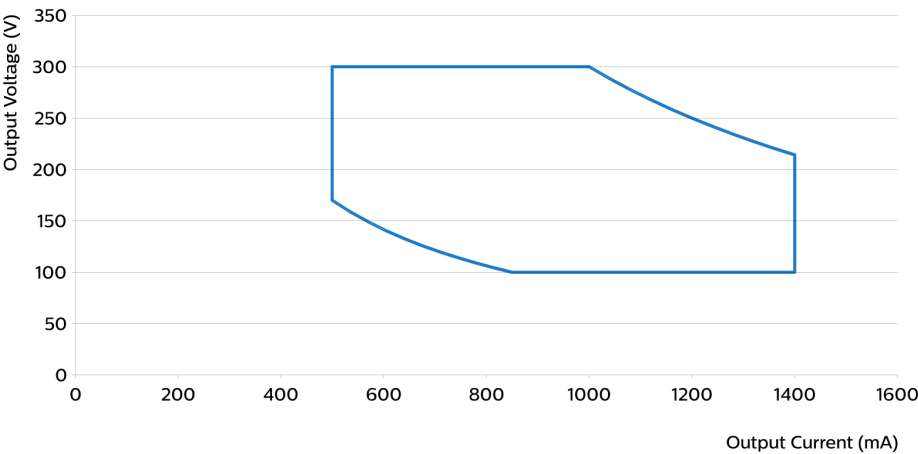
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	2	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	4	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge 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 / EL / ENEC / RCM / WEEE
Ingress Protection classification (IP)	20
Noise and hum dB(A)	20
Application	Indoor Linear
Mounting Type	Built-in

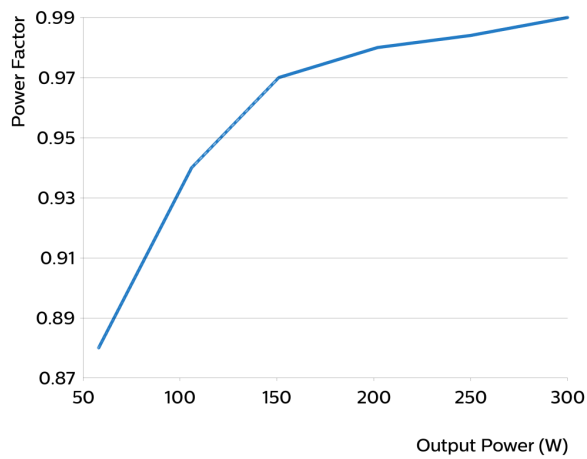
Graphs

Operating window

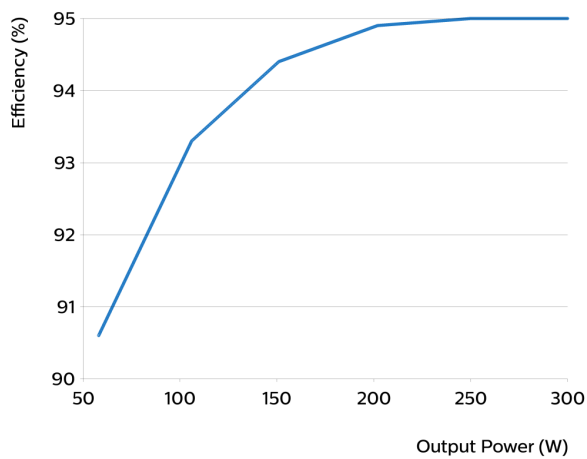


Type	Output current (mA)	Min. output voltage (V)	Max. output voltage (V)	Max. output power (W)
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	500	170	300	150
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	550	154	300	165
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	600	141	300	180
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	650	130	300	195
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	700	121	300	210
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	750	113	300	225
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	800	106	300	240
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	850	100	300	255
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	900	100	300	270
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	950	100	300	285
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	1000	100	300	300
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	1050	100	285	300
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	1100	100	272	300
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	1150	100	260	300
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	1200	100	250	300
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	1250	100	240	300
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	1300	100	230	300
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	1350	100	222	300
Xitanium 300W 0.5-1.4A 300V iXt TD 230V	1400	100	214	300

Power factor versus output power



Efficiency versus output power



THD versus output power

