Xitanium

Datasheet

Xitanium LED Panel drivers

Xitanium 44W 0.7-1.05A 42V 1-10V 230V I
9290 028 82280

Optimizing Performance

Xitanium LED drivers are designed to operate LED solutions for general lighting applications such as linear lighting in offices, public buildings as well as industrial and retail environments. Xitanium LED drivers with single current output offer industry leading performance and reliability at optimized cost. They are ideal for high volume applications while delivering to specific requirements. These drivers offer the same level of performance as Xitanium adjustable-current linear drivers to ensure high quality of light but, with a specific current setting. In addition, the isolated drivers offer ease of design-in and simpler approbation process.

Xitanium LED drivers are based on Philips experience and knowledge from conventional fluorescent technology. The reliability of the LED solution is further enhanced by specific features that protect the connected LED module, such as reduced ripple current.

Benefits

- High reliability underpinned by 5 year warranty
- Assurance of camera-friendly performance
- Optimized performance at specific output current setting
- Enable simple approbation process to luminaires

Features

- Low output current tolerance
- Long lifetime 50,000 hours lifetime
- Low ripple output current (4%)

Application

- Office
- Public areas
- For luminaires of protection class II

Logistical data

Specification item	Value
Product name	Xitanium 44W 0.7-1.05A 42V 1-10V 230V I
Logistic code 12NC	9290 028 82280
Pieces per box	24
Weight	154 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	0.21	A	@ rated output power @ rated input voltage
Rated input power	49.5	W	@ rated output power @ rated input voltage
Power factor performance range	≥ 0.90 C		@ rated output power @ rated input voltage@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	88.0	%	@ rated output power @ rated input voltage
Input voltage AC	198...264	V_{ac}	Operational range
Input frequency AC	45...66	Hz	Operational range
Standby Power (no load)	0.48	W	
Isolation input to output	Double		

Electrical output data

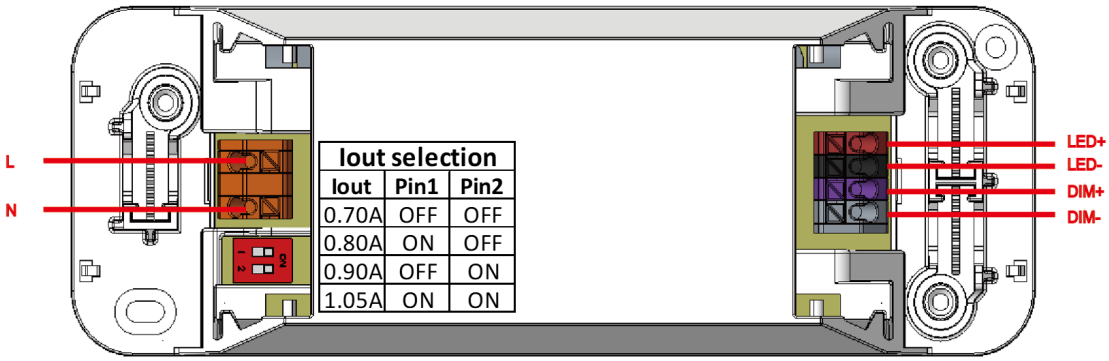
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	30...42	V_{dc}	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	700 / 1050	mA	
Min output current	30	mA	
Output current tolerance ±	8	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 15	%	
Output P_{st}^{LM}	≤ 1.0		
Output SVM	≤ 1.6		
Output power	21.0...44.0	W	
Rated output power	44.0	W	

Control interfaces

Specification item	Value	Unit	Condition
Control method	1-10V		
Dimming range	5...100	%	Default range
Isolation controls input to output	Basic		acc. IEC61347-1

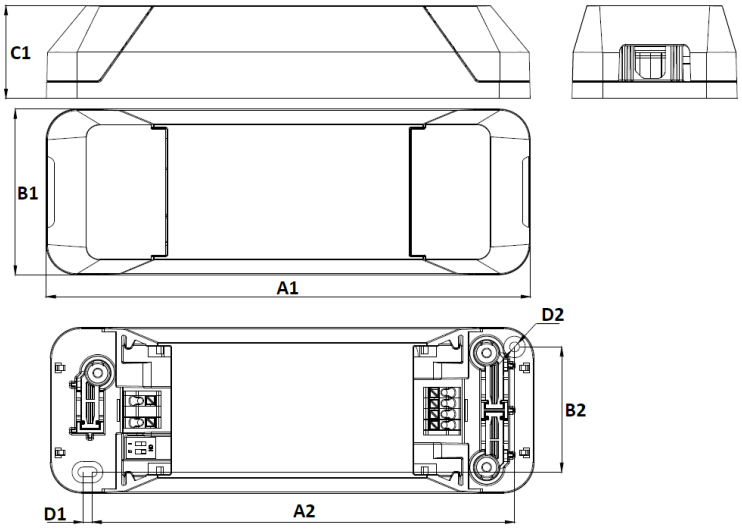
Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5...1.5	mm² / AWG	solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.5...1.5	mm² / AWG	solid / stranded wire
Output wire strip length	8.5...9.5	mm	
Control wire cross-section	0.5...1.5	mm² / AWG	solid / stranded wire
Control wire strip length	8.5...9.5	mm	
Maximum cable length	0.6	m	Total length of wiring including LED module, one way



Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	157	mm	± 0.5
Mounting hole distance (A2)	137	mm	± 0.5
Width (B1)	56.3	mm	± 0.3
Width (B2)	40.5	mm	± 0.3
Height (C1)	30	mm	± 0.5
Mounting hole diameter (D1)	3	mm	± 0.1
Mounting hole diameter (D2)	3.2	mm	± 0.1
Weight	154	gram	

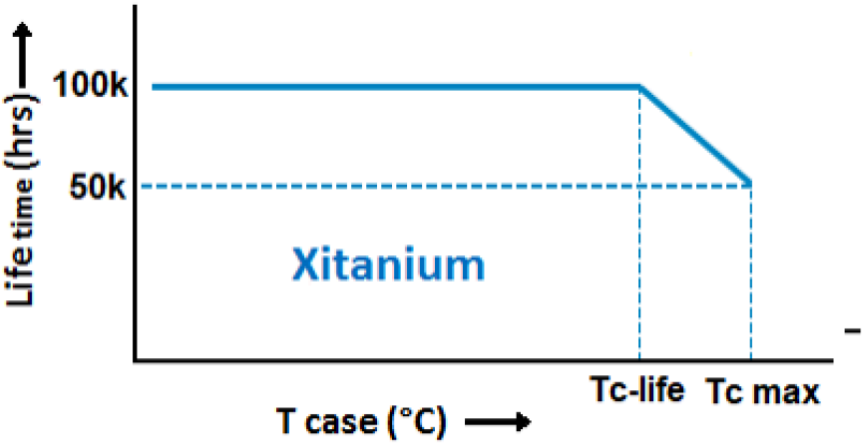


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+45	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	85	°C	Maximum temperature measured at T_{case}-point
Tcase-life	75	°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	50,000	hours	Measured temperature at Tcase-point is Tcase-life. Maximum failures = 10%



Maximum failures = 10%

Temperature [°C]	Lifetime	Unit	Condition
85	25000	hr	
80	35000	hr	
75	50000	hr	Temperature measured @Tc point
70	>50000	hr	
65	>50000	hr	

Storage temperature and humidity

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

Programmable features

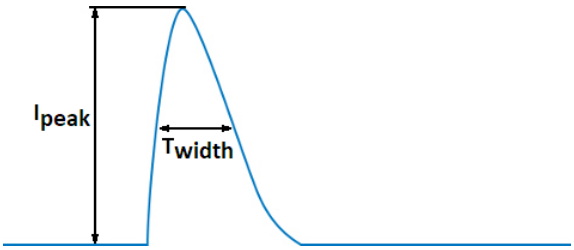
Specification item	Available	Default setting	Condition
LED Module Temperature Protection (MTP)	No		
Constant Light Output (CLO)	No		
1-10V	Yes		
DC emergency (DCemDim)	No		

Non-programmable features

Specification item	Value	Condition
Open load protection	Yes	Automatic recovering
Short circuit protection	Yes	Automatic recovering
Over power protection	Yes	
Hot wiring	No	
Suitable for fixtures with protection class	II	per IEC60598

Inrush current

Specification item	Value	Unit	Condition
Inrush current	15.6	A	Input voltage 230V
Inrush peak width	281	µs	Input voltage 230V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 25	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 Touch Current (ins. Class II)	0.7	mA peak	Acc. IEC61347-1. LED module contribution not included

Surge immunity

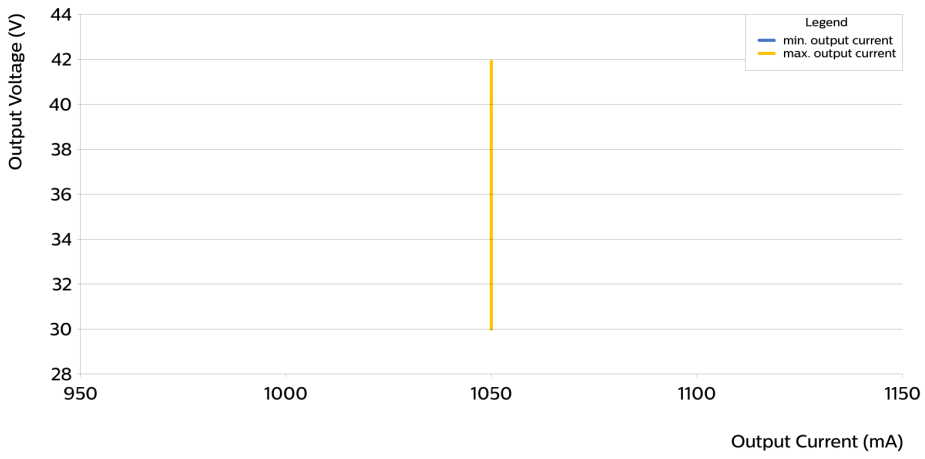
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm 1.2/50us,8/20us
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge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

Application Info (Approbation)

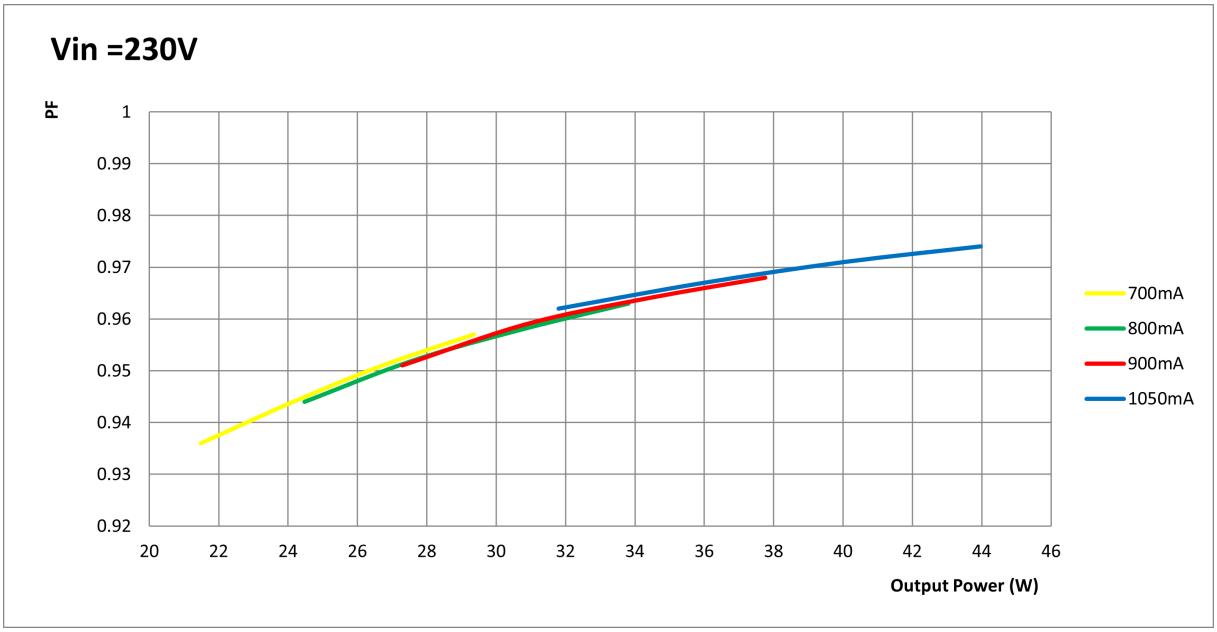
Specification item	Value
Approval marks and Certifications	CB / CCC / CE / ENEC / RCM / TISI
Ingress Protection classification (IP)	20
Application	Indoor Linear
Mounting Type	Built-in / Independent

Graphs

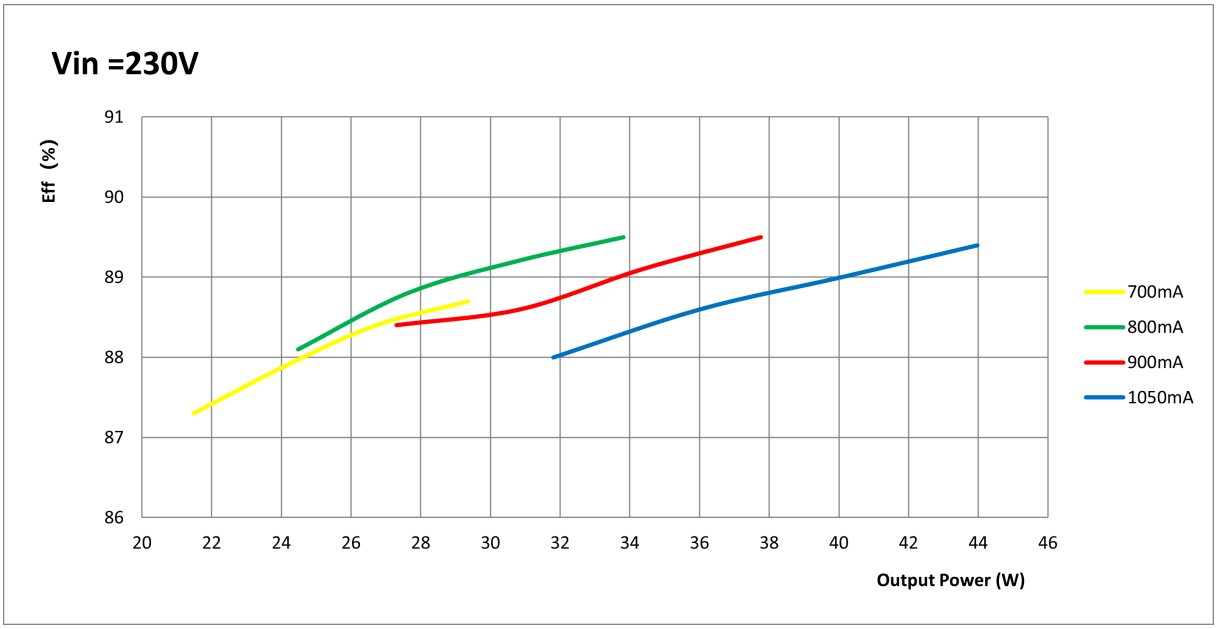
Operating window



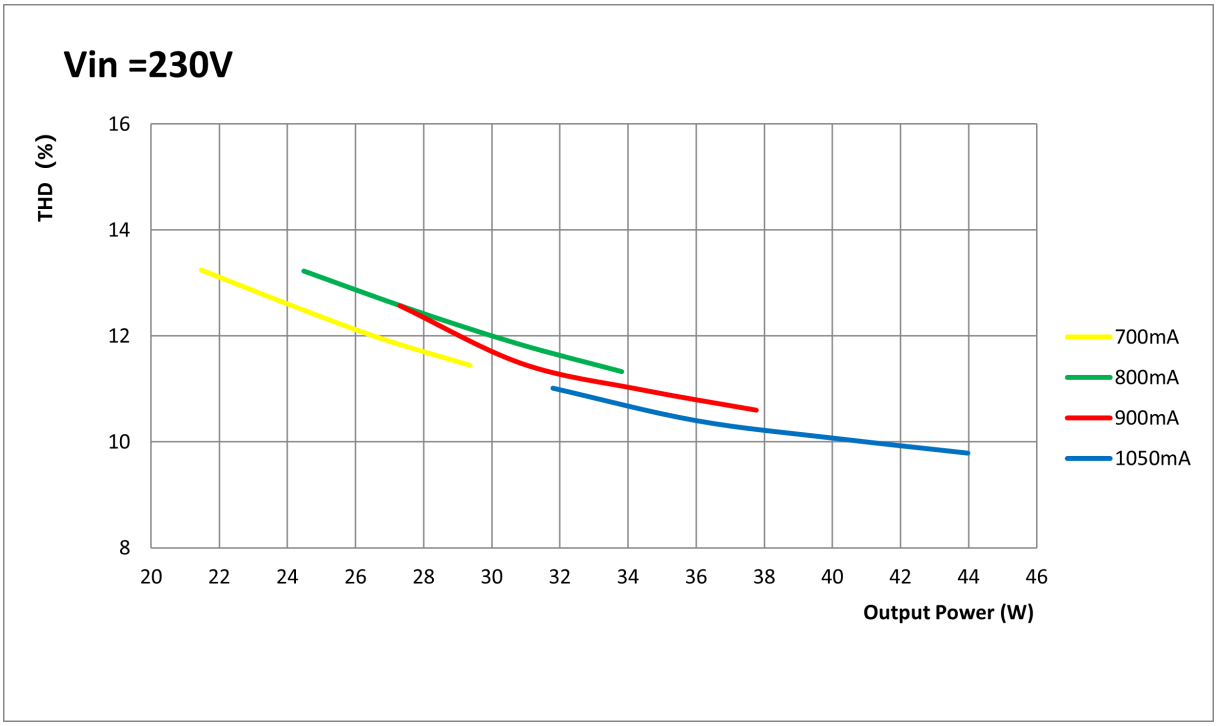
Power factor versus output power



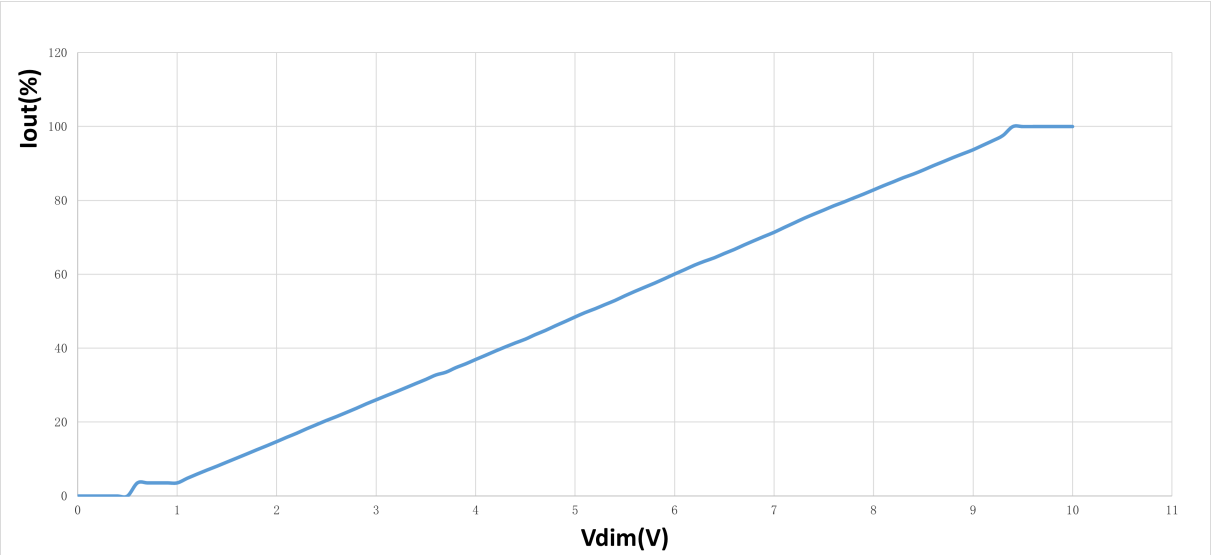
Efficiency versus output power



THD versus output power



I_{out} as function of 1-10V interface



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