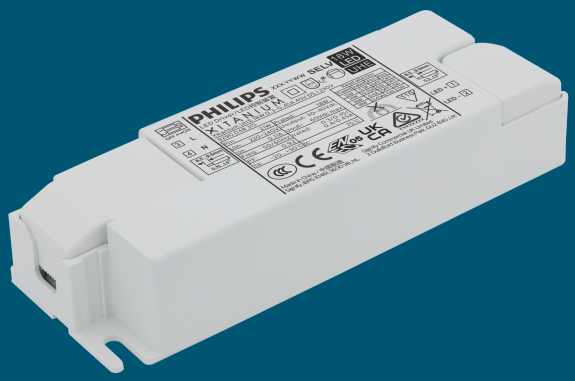
xitanium



Datasheet

Xitanium UHE drivers

Xitanium UHE 18W 0.3-0.45A 40V DS I 230V
9290 048 31501

Single current LED drivers for essential lighting applications.
Xitanium LED UHE drivers are designed to fulfill the market needs for high efficiency and reliable performance. Xitanium drivers have common features such as low ripple output current, adjustable output current by dip switch and 100,000 hours lifetime. They are specifically designed to ensure great EMI performance, high robustness and safe usage.

Benefits

- Various Iout choice for high volume application
- Comfort for eyes and assurance of camera-friendly performance
- Easy to manage stock with dip switch
- Independent-version housing design for stand-alone installations

Features

- Efficiency up to 93%
- 100,000 hours lifetime @Tc-life
- 4 output currents by dip switch
- SELV output for simpler approval process and easy design-in
- Low ripple output current

Application

- Public buildings (airports, cinemas, theaters, exhibition halls)
- Retail (supermarkets, shops)
- Office

Logistical data

Specification item	Value
Product name	Xitanium UHE 18W 0.3-0.45A 40V DS I 230V
Logistic code 12NC	9290 048 31501
Pieces per box	64
Weight	89 gram

Electrical input data

Specification item	Value	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	0.11		A	@ rated output power @ rated input voltage
Rated input power	21.0		W	@ rated output power @ rated input voltage
Power factor	0.92			@maximum output power @ rated input voltage
Total harmonic distortion	20		%	@ rated output power @ rated input voltage
Efficiency	92.5...93.0	93.0...94.0	%	@ maximum output power
Input voltage AC	198...264		V_{ac}	Operational range
Input frequency AC	45...66		Hz	Operational range
Isolation input to output	Reinforced			

Electrical output data

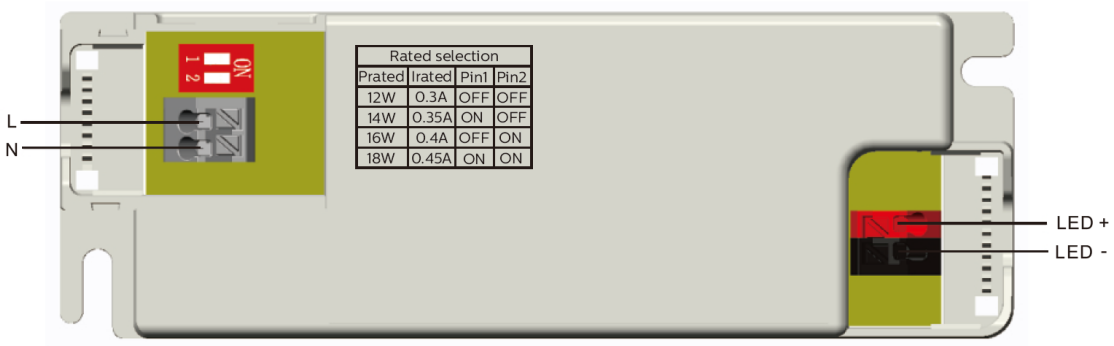
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	30...40	V_{dc}	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	300 / 350 / 400 / 450	mA	
Output current tolerance ±	8	%	@full load
Output current ripple LF	≤ 1	%	Ripple = peak to average < 3kHz
Output current ripple HF	≤ 15	%	Ripple = peak to average total
Output P_{st}^{LM}	≤ 0.3		In entire operating window
Output SVM	≤ 0.1		In entire operating window
Output power	9.0...18.0	W	
Rated output power	18.0	W	

Control interfaces

Specification item	Value	Unit	Condition
Control method	Fixed		

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.75...1.5 / 18...16	mm² / AWG	solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.2...1.5 / 24...16	mm² / AWG	DA250 (pitch 3.5 mm), solid / stranded wire
Output wire strip length	8.5...9.5	mm	
Maximum cable length	0.6	m	Total length of wiring including LED module, one way



Rated selection

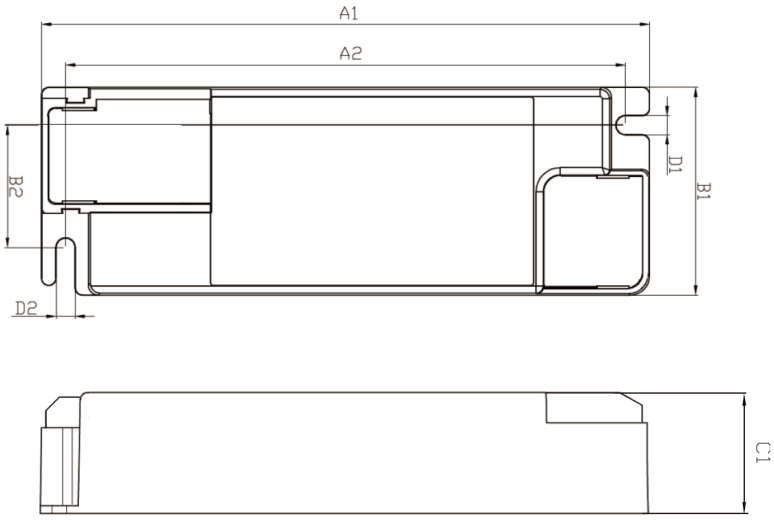
Prated	Irated	Pin1	Pin2
12W	0.3A	OFF	OFF
14W	0.35A	ON	OFF
16W	0.4A	OFF	ON
18W	0.45A	ON	ON

Isolation

Insulation per IEC61347-1	Input	Output	Housing
Input	-	Reinforced	Reinforced
Output	Reinforced	-	Basic
Housing	Reinforced	Basic	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	125.8	mm	
Mounting hole distance (A2)	115.8	mm	
Width (B1)	43	mm	
Width (B2)	25.3	mm	
Height (C1)	25	mm	
Mounting hole diameter (D1)	3.9	mm	
Mounting hole diameter (D2)	3.9	mm	
Weight	89	gram	
Housing color	white		

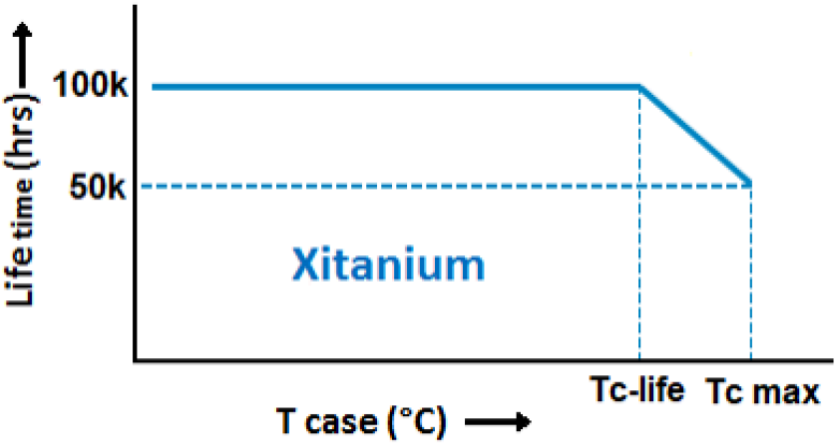


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+50	°C	
Tcase-max	75	°C	Lifetime 50khrs@Tc max.
Tcase-life	65	°C	Lifetime 100khrs@Tc max -10°C measured at Tc-point 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 Tcmax - 10 degrees. Maximum failures = 10%
Driver lifetime Tcmax	50,000	hours	Measured temperature at Tcase-point is Tc-max. Maximum failures = 10%



Maximum failures = 10%

Maximum failures = 10%

Storage temperature and humidity

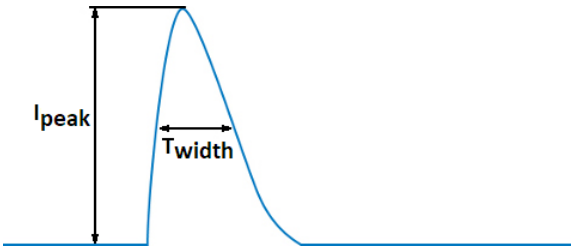
Specification item	Value	Unit	Condition
Ambient temperature	-25...+85	°C	
Relative humidity	5...95	%	Non-condensing

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	II	per IEC60598

Inrush current

Specification item	Value	Unit	Condition
Inrush current	30.97	A	Input voltage 230V
Inrush peak width	112	µs	Input voltage 230V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 38	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 Touch Current (ins. Class II)	0.7	mA peak	Acc. IEC61347-1. LED module contribution not included

Surge immunity

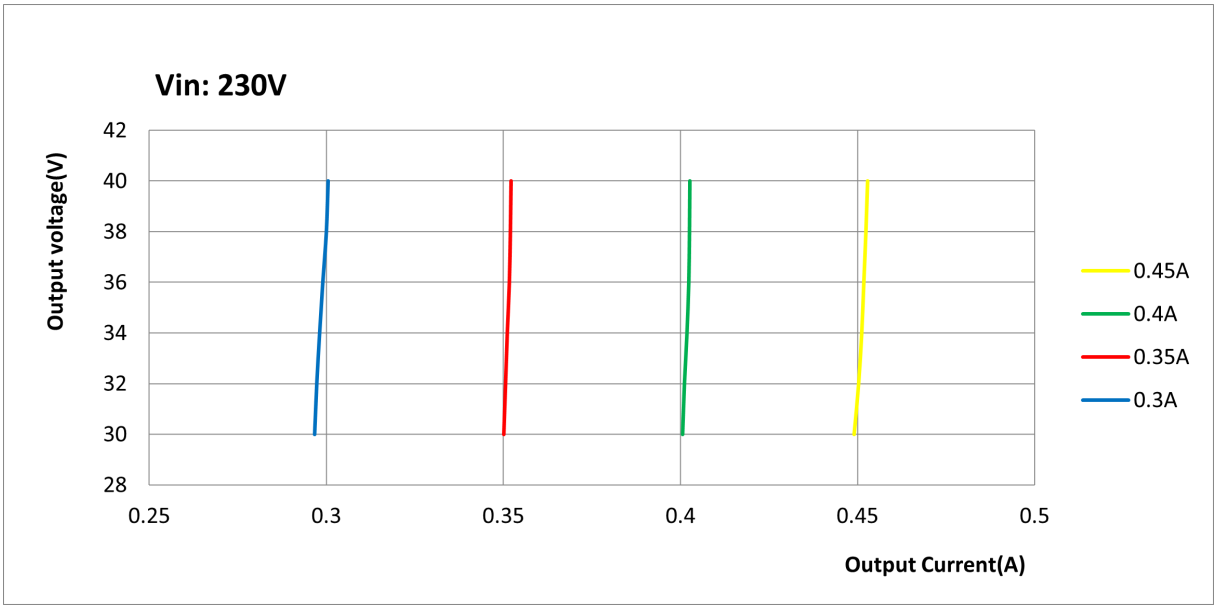
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info (Approbation)

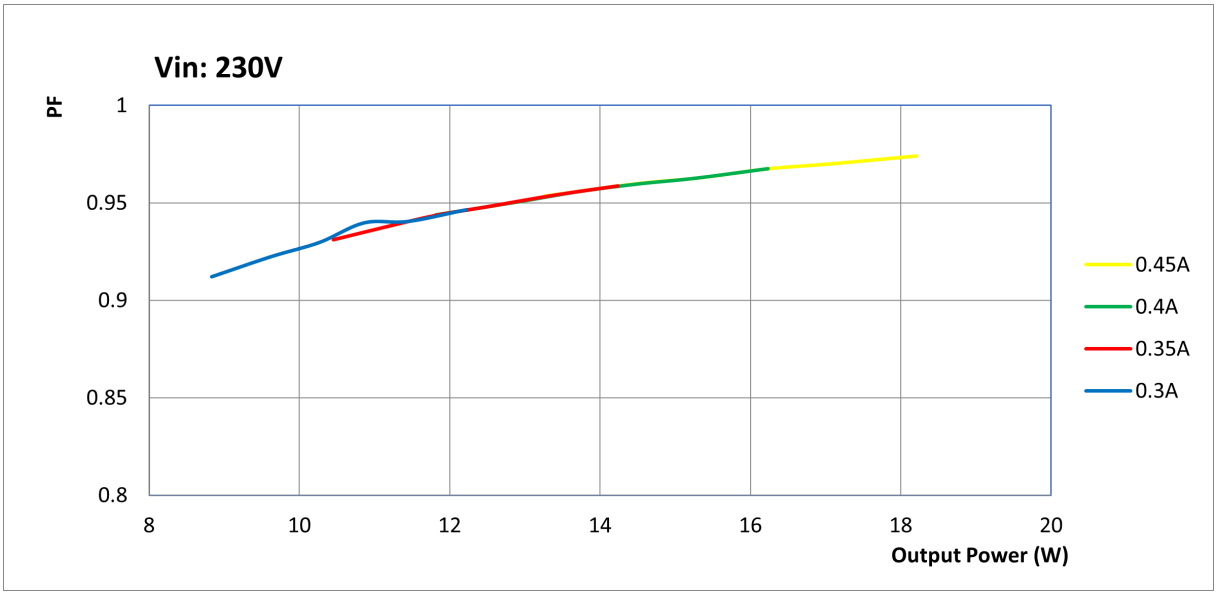
Specification item	Value
Approval marks and Certifications	CB / CCC / CE / ENEC / RCM / SELV / TISI / UKCA
Ingress Protection classification (IP)	20
Noise and hum dB(A)	20
Application	Indoor Linear
Mounting Type	Independent

Graphs

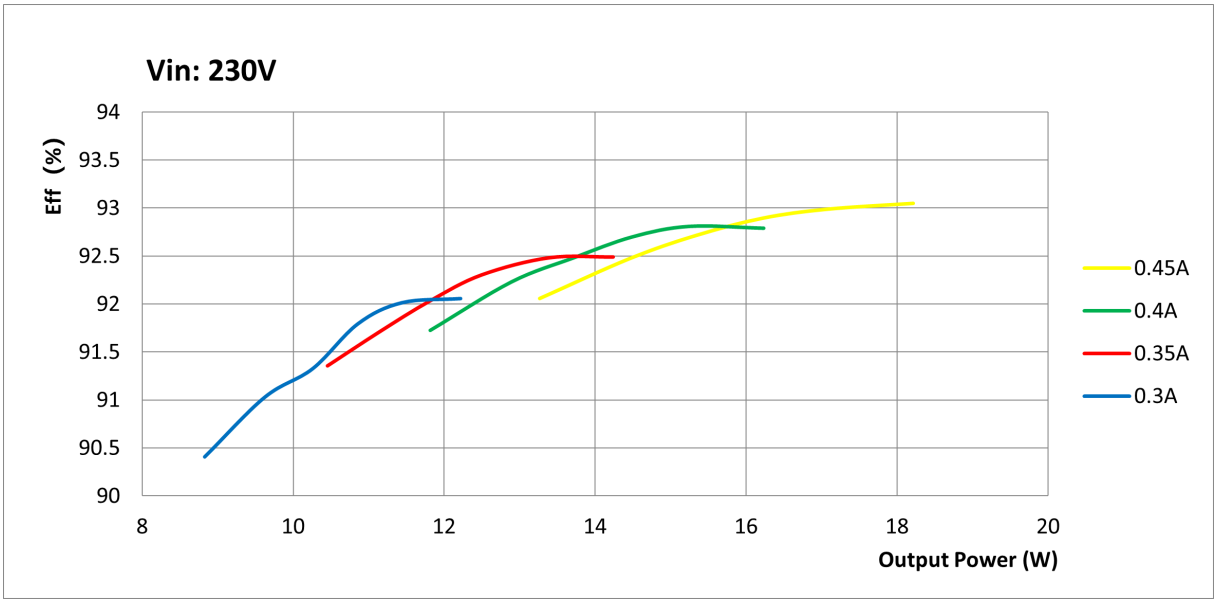
Operating window



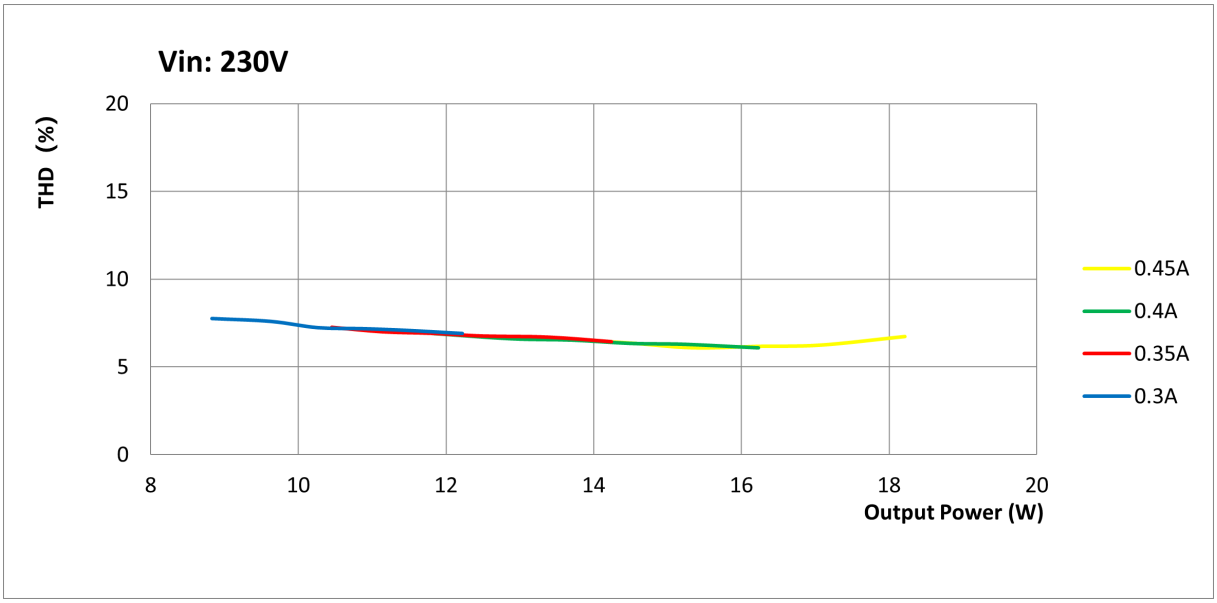
Power factor versus output power



Efficiency versus output power



THD versus output power



Notes

Electrical Specifications:
1) All the specifications are typical and at 25°C Ta unless specified otherwise.
2) Efficiency will not below 92.0% @ max rated output power.

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