

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium non-isolated Dip Switch Aux+Dim driver

Xi 65W 200-350mA 185V DS 230V DIM AUX

9290 038 67080

Philips Xitanium non-isolated Dip Switch Aux+Dim drivers have 4 output currents, and provide AUX output power 5V and 12V to power an external sensor, without the need for an additional power pack. These drivers offer the same level of flexibility and performance as Xitanium adjustable output current linear drivers and ensure the same high quality of light as well. In general, Xitanium drivers have common features such as low ripple output current, adjustable output current by dip switch and 50,000 hours lifetime at Tc max. They are specifically designed to ensure great EMI performance, high robustness and safe usage.

Features

- Class I application
- Low Ripple less than 4%
- High efficiency
- 50,000 hours lifetime @ Tc-life
- Optional AUX output power 5V and 12V

Benefits

- Provides options for different luminaire designs
- Comfortable for the eyes
- Energy saving
- Peace of mind with proven reliability

Application

- Waterproof lighting
- Recessed, surface and suspended linear lighting

Logistical data

Specification item	Value
Product name	Xi 65W 200-350mA 185V DS 230V DIM AUX
Logistic code 12NC	9290 038 67080
Pieces per box	20

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	0.32	A	@ rated output power @ rated input voltage
Rated input power	70.0	W	@ rated output power @ rated input voltage
Power factor performance range	0.9 C		@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Total harmonic distortion, best value	6	%	
Efficiency	94.0	%	typical value @ 230V, full output power
Input voltage AC	198...264	V _{ac}	Operational range
Input frequency AC	45...66	Hz	Operational range
Standby Power (W)	0.50	W	
Isolation input to output	No		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	120...185	V _{dc}	
Output voltage max.	350	V	Maximum output voltage (rms)
Output current	200 / 250 / 300 / 350	mA	Select output current via the dipswitch
Output current tolerance ±	8	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz.
Output current ripple HF	≤ 15	%	
Output P _{st} ^{LM}	≤ 0.6		In entire operating window
Output SVM	≤ 0.1		In entire operating window
Output power	24.0...64.7	W	
Rated output power	64.7	W	

Control interfaces

Specification item	Value	Unit	Condition
Control method	PWM		PWM: 3.3/5/10V.
Dimming range	10...100	%	Dim to off
Selectable AUX power supply	5 12	V V	240mA, max power: 1.2W 100mA, max power: 1.2W

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5...1.5 / 20...16	mm² / AWG	solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.5...1.5 / 20...16	mm² / AWG	solid / stranded wire
Output wire strip length	8.5...9.5	mm	
AUX dim connector			PH2.0, 3P
Maximum cable length	2	m	Total length of wiring including LED module, one way

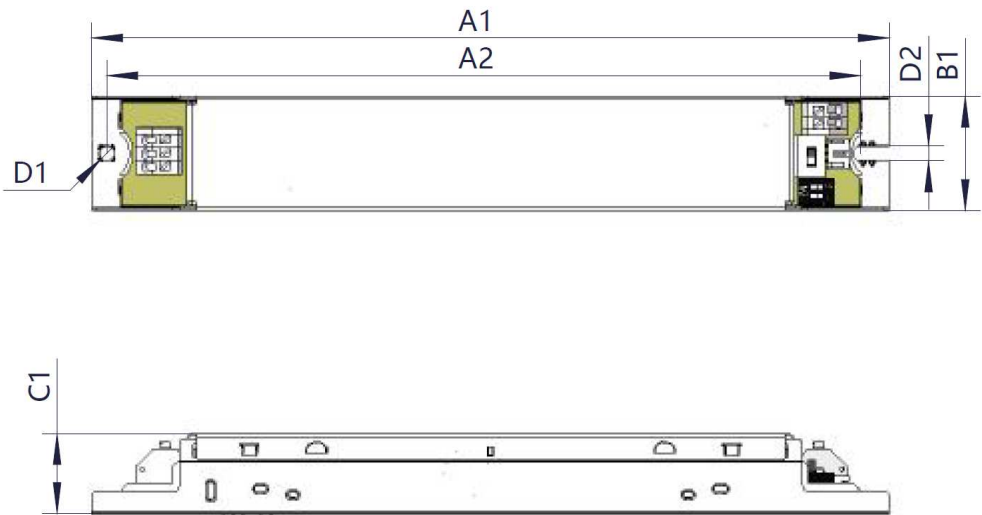


Isolation

Insulation per IEC61347-1	Input	Output	AUX+PWM dim	Housing
Input	-	No	No	Basic
Output	No	-	No	Basic
AUX+PWM dim	No	No	-	Basic
Housing	Basic	Basic	Basic	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	210	mm	
Mounting hole distance (A2)	198.5	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Mounting hole diameter (D1)	4	mm	
Mounting hole diameter (D2)	4	mm	
Weight	143	gram	

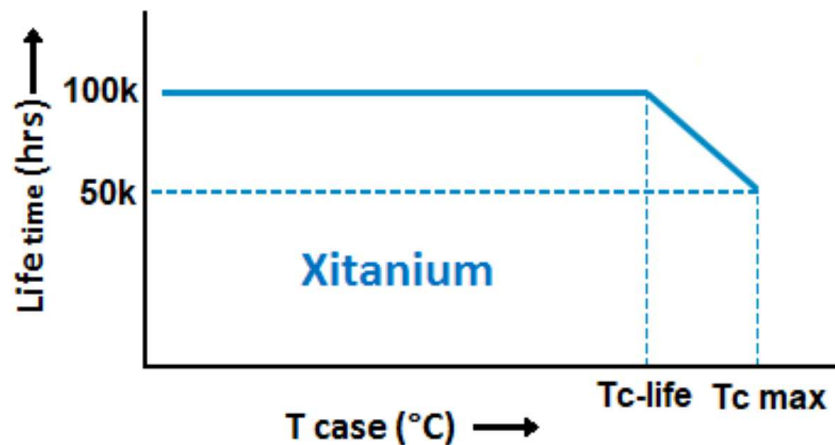


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+50	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	85	°C	Maximum temperature measured at Tcase-point
Tcase-life	75	°C	Measured at Tcase-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
85	50000	hr	
80	71000	hr	
75	100000	hr	Temperature measured @Tc point
70	>100000	hr	
65	>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)	DipSwitch	350 mA	Manual set the output current, see wiring diagram for an overview
Set Adjustable AUX Power Supply Voltage	Slide Switch	12 V	

Non-programmable features

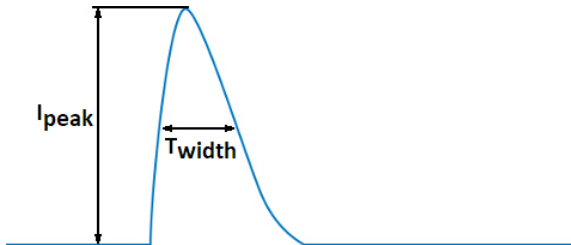
Specification item	Value		Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598

Inrush current

Specification item	Value	Unit	Condition
Inrush current	53.2	A	Input voltage 230V
Inrush peak width	186	μs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 11	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

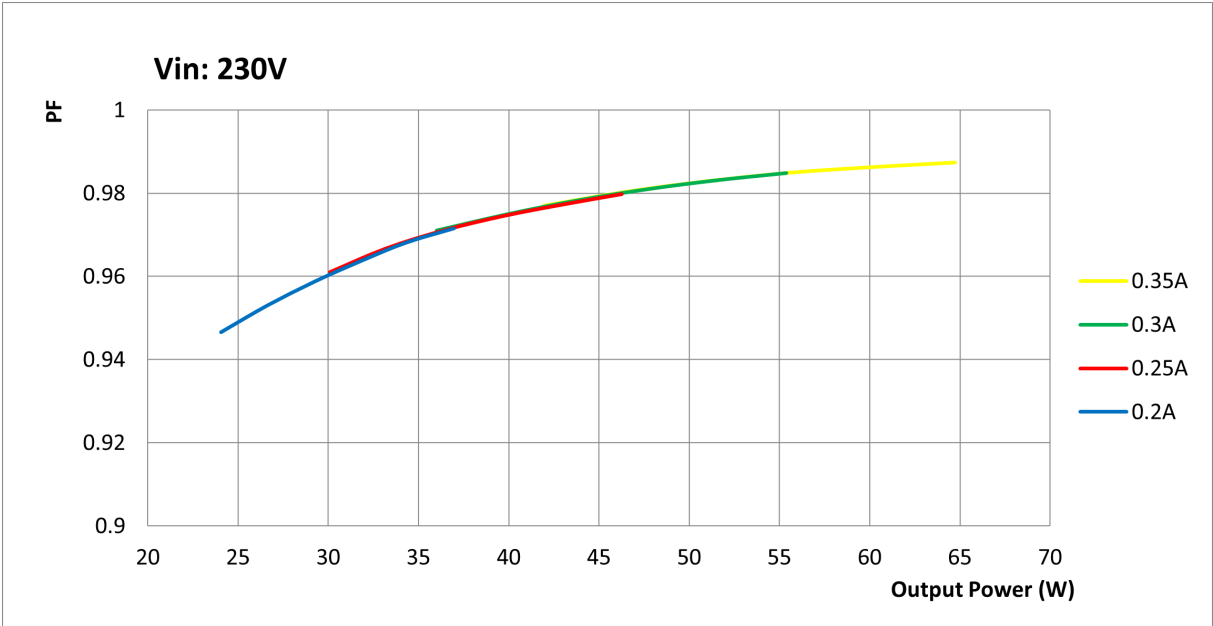
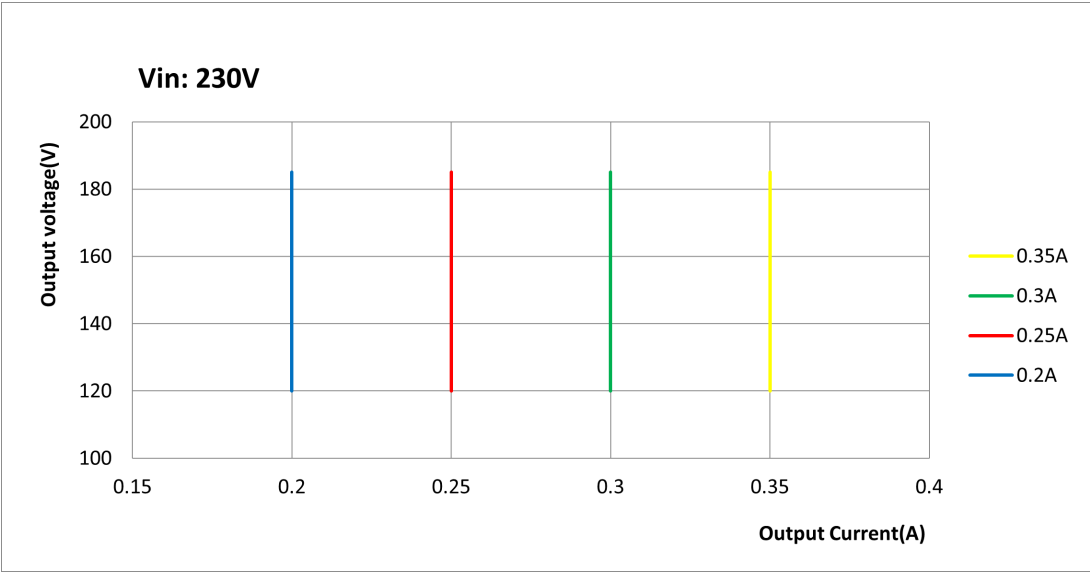
Specification item	Value	Unit	Condition
Typical Protective Conductor Current (ins. Class I)	0.5	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

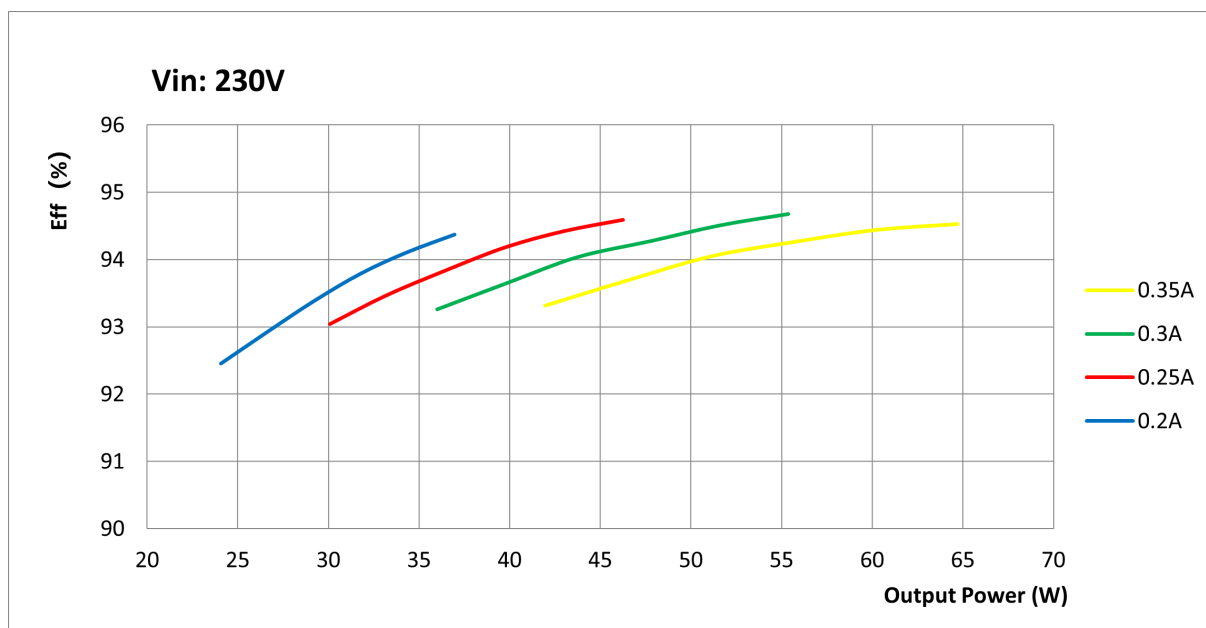
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info (Approbation)

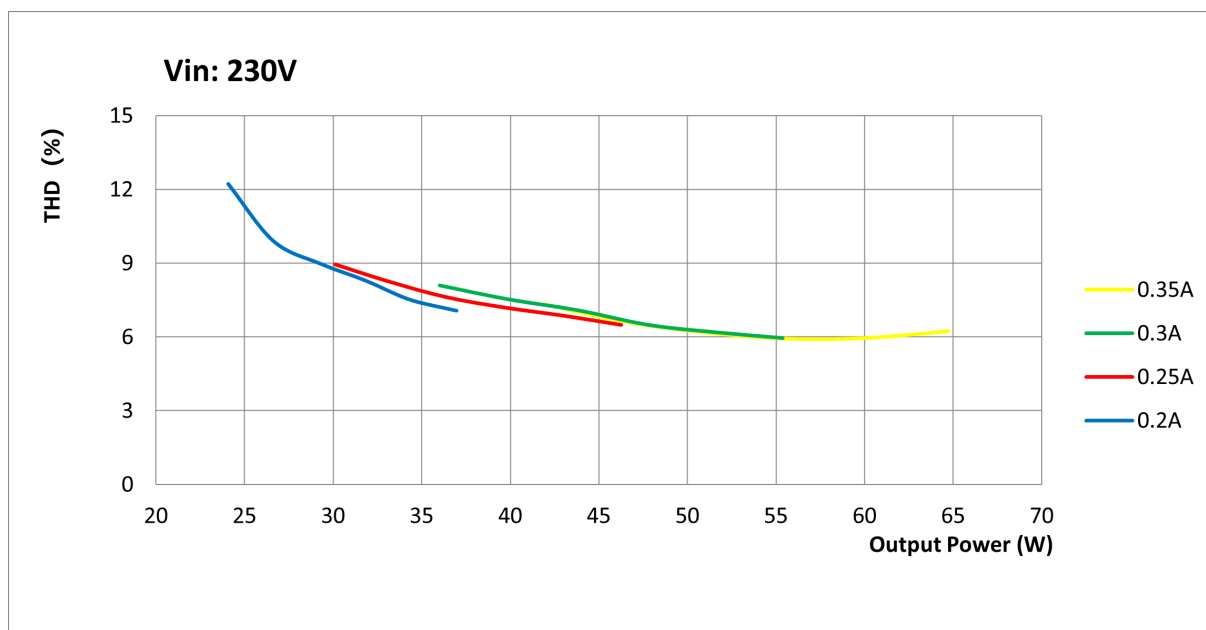
Specification item	Value
Approval marks and Certifications	CCC / CE / EAC / ENEC / RCM / UA / UKCA
Application	Indoor Linear
Mounting Type	Built-in



Efficiency versus output power



THD versus output power



Notes

1. AUX and PWM dimming ports are non-isolation with input and output ports. This port must not be exposed and luminaire design should guarantee it.
2. Sensor is connected to AUX and PWM dimming port. And sensor should be placed within luminaire.
3. Sensor can't be plugged out when luminaire is power on. Must power it off first, then plug out sensor connectors.



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