

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium Round Shape Highbay LED Drivers

Xi RHB 150W 0.37-0.62A 1-10V DS TWE 132S

9290 039 24880

Xitanium Round Shape Highbay (RHB) LED Drivers are designed to deliver reliable and efficient LED drivers in industrial applications.

Features

- Adjustable Output Current (AOC) via DipSwitch
- Surge protection: 4/6kV (DM/CM)
- 50,000 hours lifetime @Tc life
- IP65
- High efficiency: 95%
- 1-10V dimming

Benefits

- Enables flexibility in the application and SKU reduction
- Low maintenance cost and peace of mind in extreme conditions
- Enable high efficiency to luminaire and save energy
- Enables more application possibilities

Application

- Highbay industrial lighting
- Warehouse lighting

Logistical data

Specification item	Value
Product name	Xi RHB 150W 0.37-0.62A 1-10V DS TWE 132S
Logistic code 12NC	9290 039 24880
Pieces per box	10
Weight	760 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	50...60	Hz	Performance range
Rated input current	0.72	A	@ rated output power @ rated input voltage
Max. input current	2	A	@ rated output power @ minimum performance input voltage
Rated input power	158.0	W	@ rated output power @ rated input voltage
Power factor	0.95		@ rated output power @ rated input voltage
Total harmonic distortion	15	%	@ rated output power @ rated input voltage
Efficiency	95.0	%	@ rated output power @ rated input voltage @max. U _{out}
Input voltage AC	100...305	V _{ac}	Operational range
Input frequency AC	47...63	Hz	Operational range
Standby Power (W)	< 0.5	W	@ rated output power @ rated input voltage, dim to off

Electrical output data

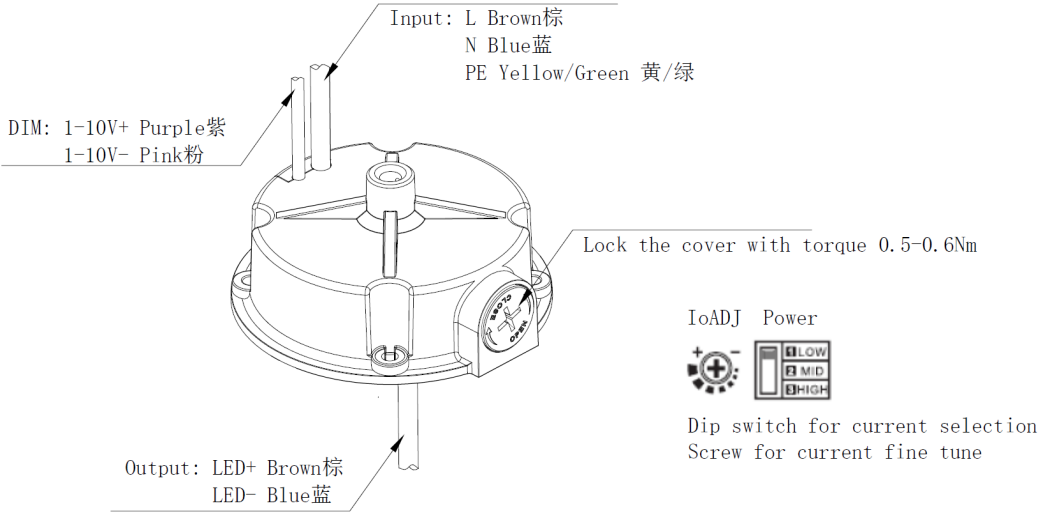
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	180...260	V _{dc}	
Output voltage max.	310	V	Maximum output voltage (rms)
Output current	370 / 500 / 620	mA	
Output current tolerance ±	8	%	@full load
Output current ripple LF	≤ 5	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 15	%	
Output P _{st} ^{LM}	≤ 0.3		In entire operating window
Output SVM	≤ 0.1		In entire operating window
Rated output power	150.0	W	

Control interfaces

Specification item	Value	Unit	Condition
Control method	1-10V		Output current amplitude dimming, 1-10V acc. IEC60929
Dimming range	10...100	%	Dim to off when dimming voltage <0.5V.

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	1	mm ²	3x 1.0mm ² stranded wires
Output wire cross-section	1	mm ²	2x 1.0mm ² stranded wires
Control wire cross-section	0.33	mm ²	2x 0.33mm ² stranded wires
Maximum cable length	2	m	Total length of wiring including LED module, one way

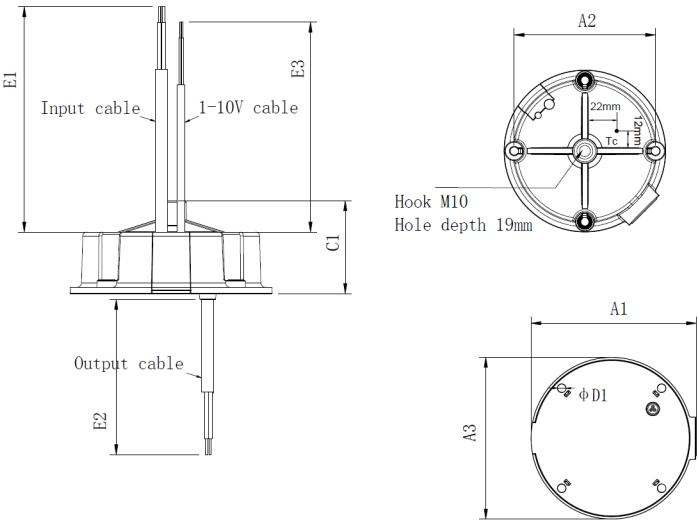


Isolation

Insulation per IEC61347-1	Mains	Output	1-10V	PE
Mains	-	Non	Reinforced	Basic
Output	Non	-	Reinforced	Basic
1-10V	Reinforced	Reinforced	-	Basic
PE	Basic	Basic	Basic	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	133	mm	
Mounting hole distance (A2)	113	mm	
Length (A3)	130	mm	
Height (C1)	60	mm	
Mounting hole diameter (D1)	6.5	mm	
Input cable length (E1)	300	mm	
Output cable length (E2)	200	mm	
Control cable length (E3)	280	mm	
Weight	760	gram	

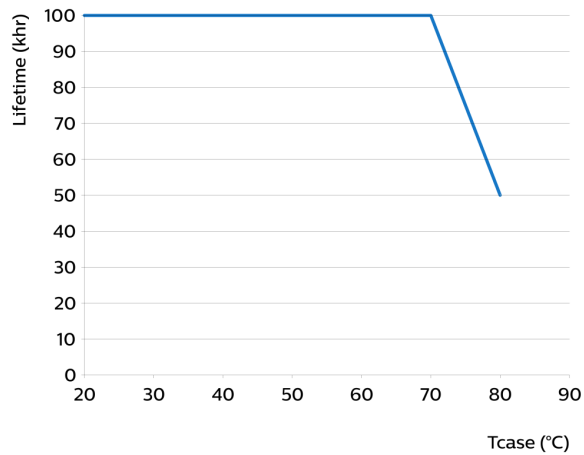


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+60	°C	Ta<60°C @Vin=230V and 90% load
Tcase-max	90	°C	Maximum temperature measured at T _{case} -point
Tcase-life	80	°C	@Vin=230V and 90% load, 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	50,000	hours	Measured temperature at Tcase-point is Tc life @Vin=230V and 90% load. Maximum failures = 10%



Maximum failures = 10%

Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+80	°C	
Relative humidity	5...95	%	Non-condensing

Programmable features

Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	DipSwitch	620 mA	

Non-programmable features

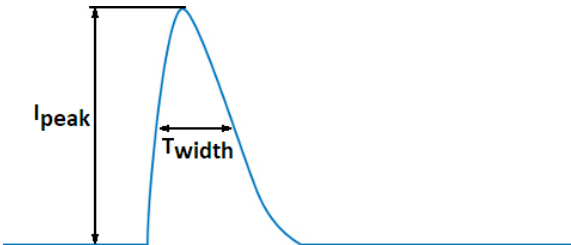
Specification item	Value		Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	No		
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598
Overtemperature protection	Yes		Automatic recovering

Inrush current

Specification item	Value	Unit	Condition
Inrush current	58	A	Input voltage 230V
Inrush peak width	177	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)	1	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

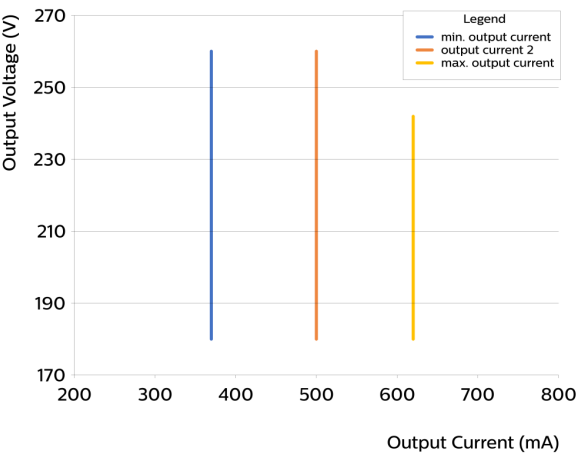
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	4	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	6	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info (Approbation)

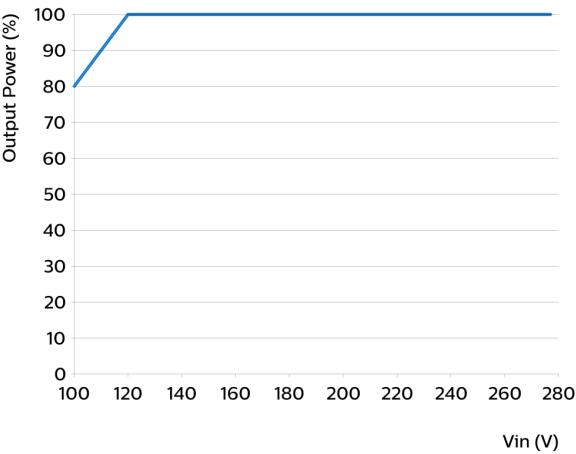
Specification item	Value
Approval marks and Certifications	CB / CE / ENEC / UKCA
Ingress Protection classification (IP)	65
Mounting Type	Independent

Graphs

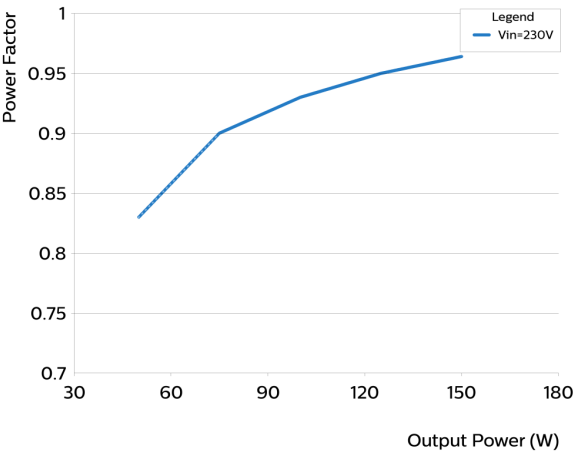
Operating window



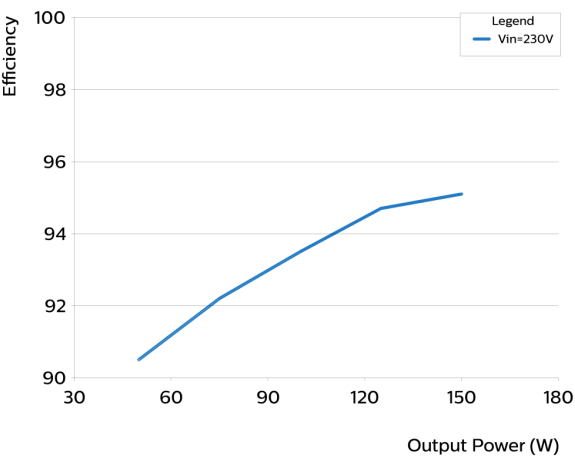
Load versus input voltage



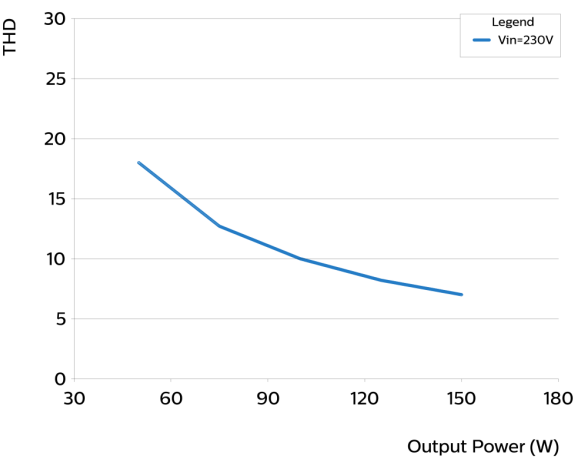
Power factor versus output power



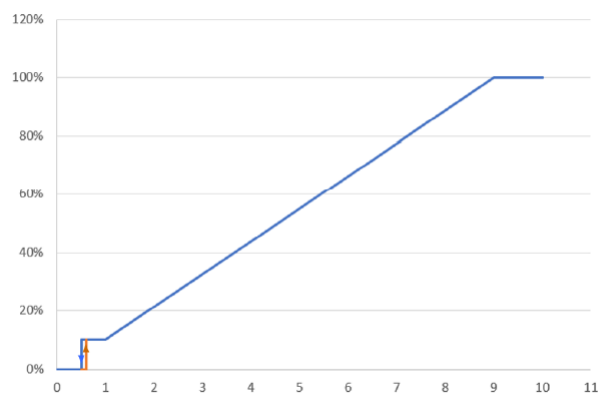
Efficiency versus output power



THD versus output power



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



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