

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium Mini Dali DS

Xi 40W/m 0.9-1.05A 42V DS S TD 230V

9290 034 25280

Enabling future-proof LED technology

Philips Xitanium LED Point drivers are designed to operate with LED COB solutions used both in built-in and independent applications such as down light, spot light and track light. Xitanium drivers have common features such as low ripple output current, adjustable output current by dip switch and 50,000 hours lifetime. They are specifically designed to ensure great EMI performance, high robustness and safe usage.

Benefits

- Dali 2.0 enables wired digital controls
- Provides options for different luminaire designs
- Great EMI performance for easy design-in
- Enables minimization of luminaire
- Selectable output current enables flexibility
- Peace of mind with proven reliability

Features

- Dali 2.0 with 1-100% dimming
- Class I and II application
- Low Ripple less than 4%
- Small size with Mini Shape
- 4 output currents by Dip switch
- 50,000 hours lifetime

Application

- Down lighting
- Spot lighting
- Track lighting

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 range	50...60	Hz	Performance range
Rated input current	0.21	A	@ full output power @ rated input voltage
Rated input power	48	W	@ full output power @ rated input voltage
Nominal Power factor	0.96		@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	88	%	@ full output power @ rated input voltage @ max. U _{out}
Input voltage AC range	198...264	V _{ac}	Operational range
Input frequency AC range	47.5...63	Hz	Operational range
Standby Power	0.50	W	
Isolation input to output	SELV		

Electrical output data

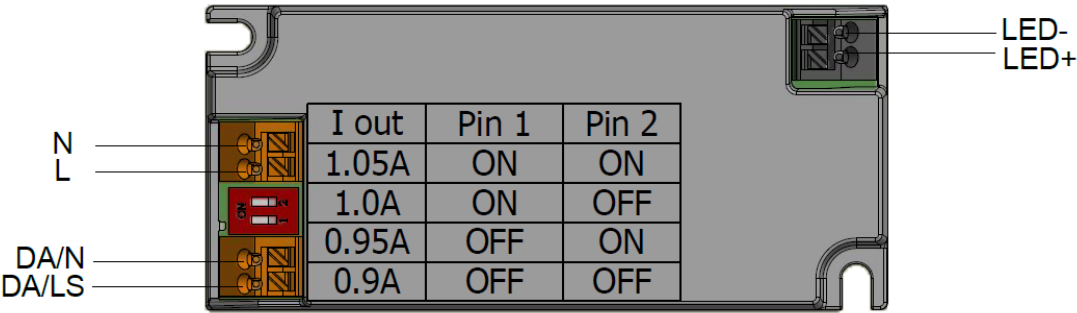
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	30...42	V _{dc}	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	0.9 / 0.95 / 1 / 1.05	A	
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 15	%	
Output P _{st} ^{LM}	≤ 0.1		In entire operating window
Output SVM	≤ 0.1		In entire operating window
Output power	27...40	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Corridor Mode, DALI, Touch & Dim (TD)		See design-in guide at www.philips.com/oem for more controllability details.
Dimming range	1...100	%	Default range
Isolation controls input to output	Reinforced		acc. IEC61347-1

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5...1.5 / 20...16	mm ² / AWG	Type 250, solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.5...1.5 / 20...16	mm ² / AWG	Type 250, solid / stranded wire
Output wire strip length	8.5...9.5	mm	
Control wire cross-section	0.5...1.5 / 20...16	mm ² / AWG	Type 250, 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

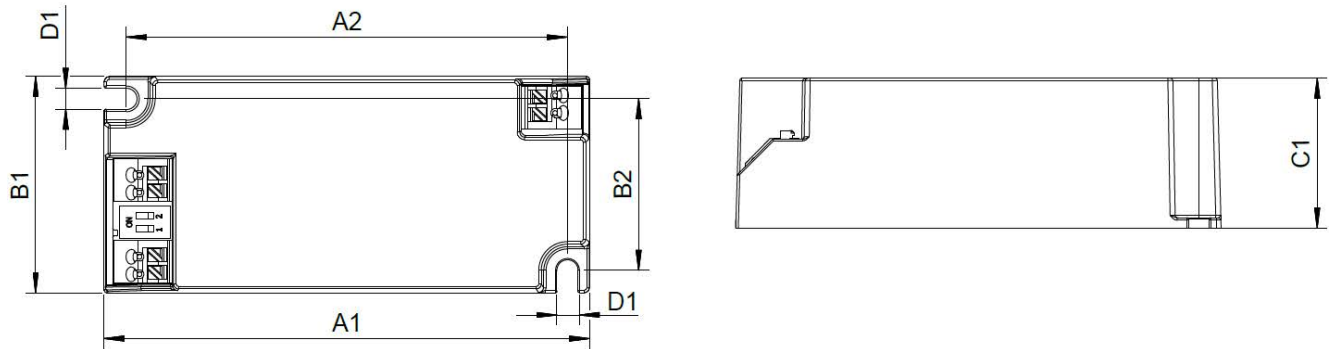


Isolation

Insulation per IEC61347-1	Input	Output	DALI
Input	-	SELV	Basic
Output	SELV	-	Reinforced
DALI	Basic	Reinforced	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	97.2	mm	
Mounting hole distance (A2)	88.3	mm	
Width (B1)	43.2	mm	
Width (B2)	34.3	mm	
Height (C1)	30	mm	
Mounting hole diameter (D1)	4.2	mm	
Weight	120	gram	
Housing color	white		



Logistical data

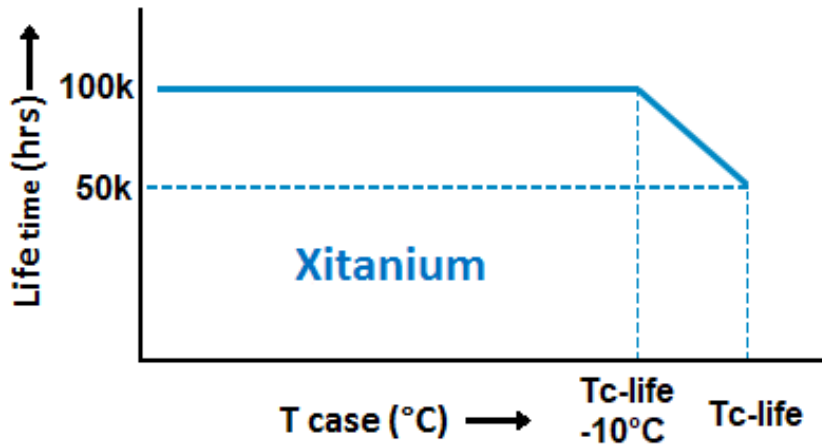
Specification item	Value
Product name	Xi 40W/m 0.9-1.05A 42V DS S TD 230V
Logistic code 12NC	9290 034 25280
Pieces per box	40

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	80	°C	Maximum temperature measured at T _{case} -point
Tcase-life	80	°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%
Driver lifetime	100,000	hours	Measured temperature at Tcase-point is Tcase-life -10 degrees. Maximum failures = 10%



Storage temperature and humidity

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

Programmable features

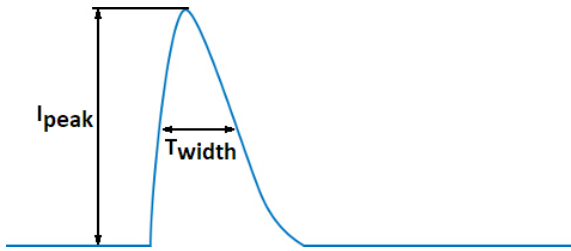
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	DipSwitch	900 mA	
Adjustable Light Output (ALO)	Yes		
Constant Light Output (CLO)	Yes		
Touch & Dim (TD)	Yes	ON	Factory default setting: ON
Corridor Mode	Yes	ON	Default: T1=55s, T2=12s, T3=30min
Min Dim Level	Yes		
DC emergency (DCemDim)	No		Light output is 100%
OEM Write Protection (OWP)	Yes	OFF	

Features

Specification item	Value		Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Suitable for fixtures with protection class	I and II		per IEC60598

Inrush current

Specification item	Value	Unit	Condition
Inrush current	16.5	A	Input voltage 230V
Inrush peak width	177	μs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 36	pcs	Indicative value at 230V



Please refer to the driver design in guide if you use other MCB-types.

Driver touch current / protective conductor current / earth leakage current

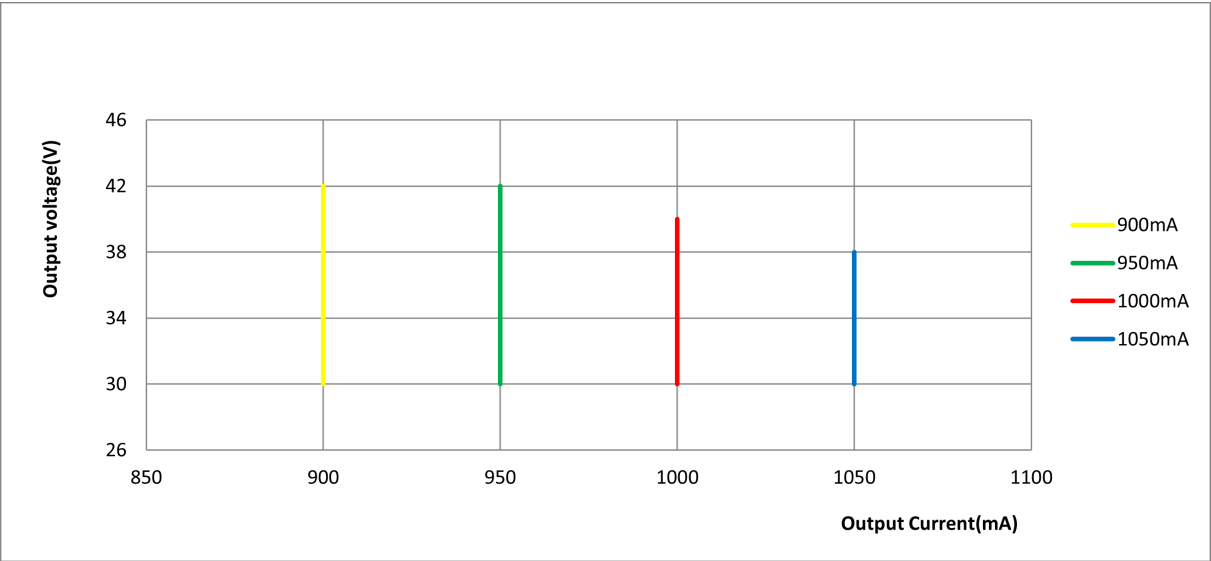
Specification item	Value	Unit	Condition
Typical Touch Current (ins. Class II)	0.7	mA peak	Acc. IEC61347-1. LED module contribution not included

Surge immunity

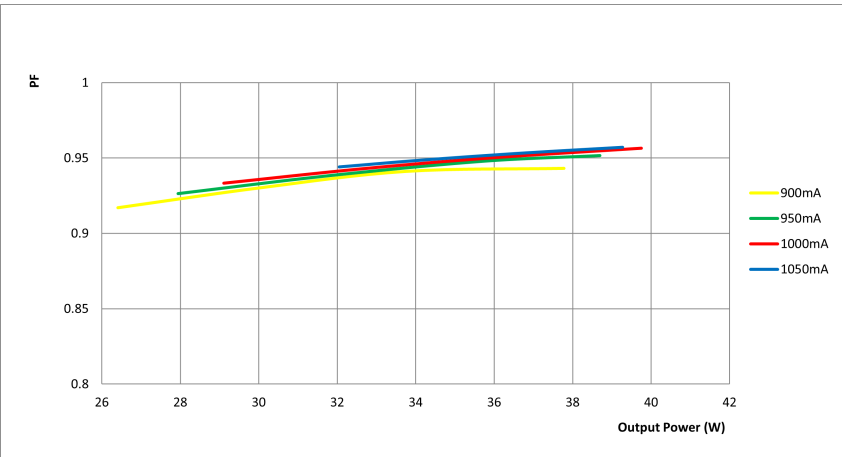
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
Control surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Control surge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

Application Info

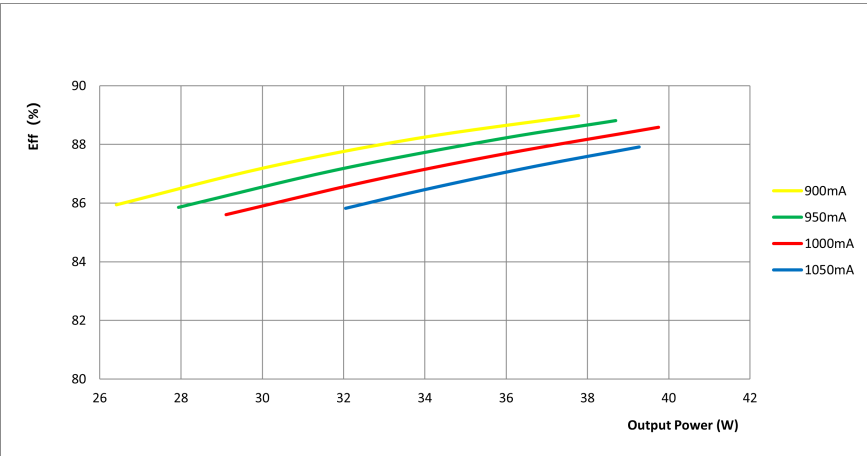
Specification item	Value
Approval marks and Certifications	BIS / CB / CCC / CE / DALI 2 / EAC / ENEC / RCM / SELV / TISI / UKCA
Ingress Protection classification (IP)	20
Application	Indoor Point
Mounting Type	Built-in



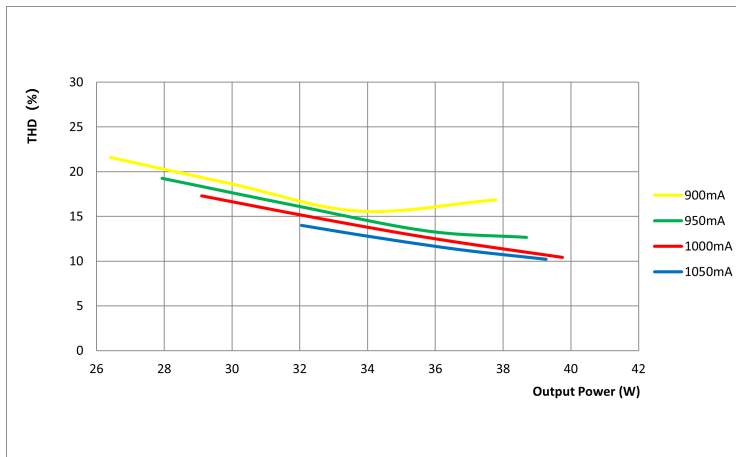
Power factor versus output power



Efficiency versus output power



THD versus output power



Notes

Electrical Specifications:

All the specifications are typical and at 25°C Ta unless specified otherwise.



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