

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium track adaptor drivers 1C G2

Xi 20W/a 0.35/0.5A 40V 1CW 230V

Xi 20W/a 0.35/0.5A 40V 1CG 230V

Xi 20W/a 0.35/0.5A 40V 1CB 230V

Affordable and reliable LED Drivers

Philips Xitanium LED Point drivers are designed to operate with LED COB solutions used in built-in applications such as 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.

Features

- Class I application
- Low Ripple less than 3%
- 1 Circuit 3 Wire track system
- 2 output currents
- 50,000 hours lifetime

Benefits

- Great EMI performance for easy design-in
- Simplify track light luminaire design
- Compatible with most popular tracks
- Selectable output current enables flexibility
- Peace of mind with proven reliability

Application

- 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	0.08 / 0.10	A	@ rated output power @ rated input voltage
Rated input power	16.5 / 23	W	@ rated output power @ rated input voltage
Power factor	0.9		@max output power@rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	87.0	%	@max output power@rated input voltage
Input voltage AC range	198...264	V _{ac}	operational range
Input frequency AC range	47.5...63	Hz	operational range
Isolation input to output	Reinforced (SELV)		

Electrical output data

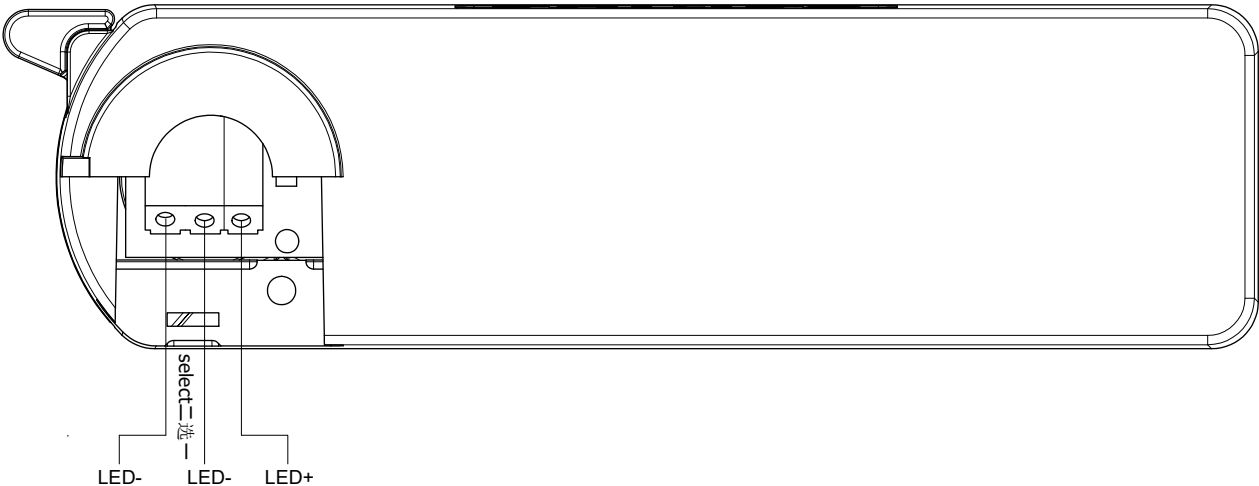
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	30...40	V _{dc}	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	0.35 / 0.5	A	
Output current tolerance	± 8	%	
Output current ripple LF	≤ 3	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 15	%	
Output P _{St} ^{LM}	≤ 0.1		In entire operating window
Output SVM	≤ 0.1		In entire operating window
Output power	10.5...14 / 15...20	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		
Galvanic Isolation	No		

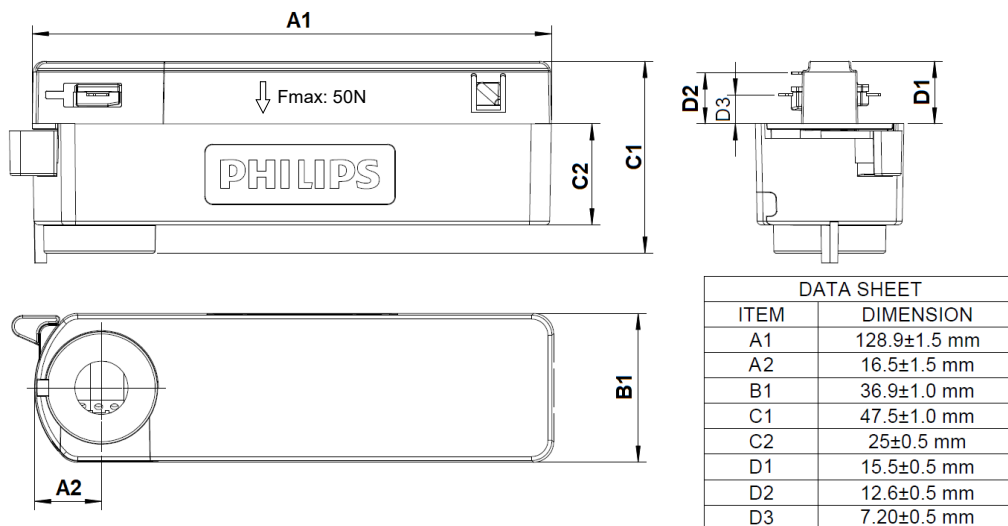
Wiring and Connections

Specification item	Value	Unit	Type
Output wire cross-section	0.2...0.75 / 24...18	mm ² / AWG	Molex 104188, solid wire
Output wire strip length	7.5...8.5	mm	
Maximum cable length	0.3	m	Total length of wiring including LED module, one way



Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	128.9	mm	
Mounting hole distance (A2)	16.5	mm	
Width (B1)	36.9	mm	
Height (C1)	47.5	mm	
Height (C2)	25	mm	
Mounting hole diameter (D1)	15.5	mm	
Mounting hole diameter (D2)	12.6	mm	
Weight	110	gram	



Logistical data

Specification item	Value
Product name	Xi 20W/a 0.35/0.5A 40V 1CW 230V
Logistic code 12NC	9290 034 53780
Pieces per box	80

Specification item	Value
Product name	Xi 20W/a 0.35/0.5A 40V 1CB 230V
Logistic code 12NC	9290 034 54180
Pieces per box	80

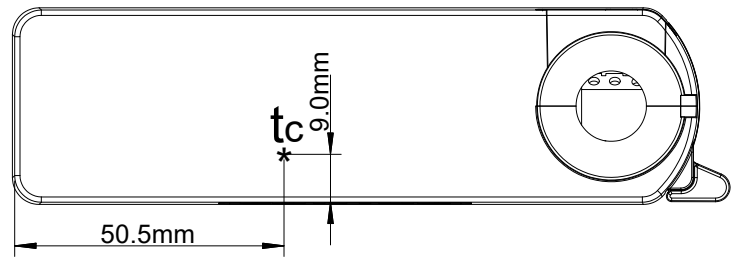
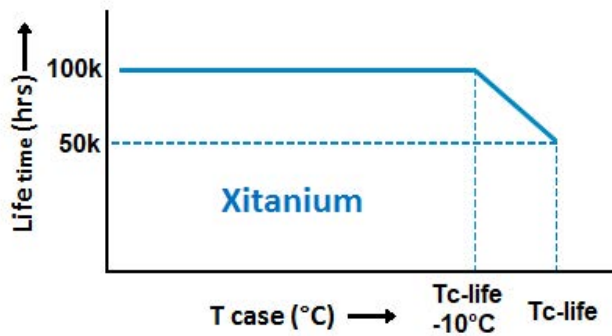
Specification item	Value
Product name	Xi 20W/a 0.35/0.5A 40V 1CG 230V
Logistic code 12NC	9290 034 54580
Pieces per box	80

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+35	°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	85	°C	Measured at T _{case} -point
Maximum housing temperature	130	°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%



Storage temperature and humidity

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

Programmable features

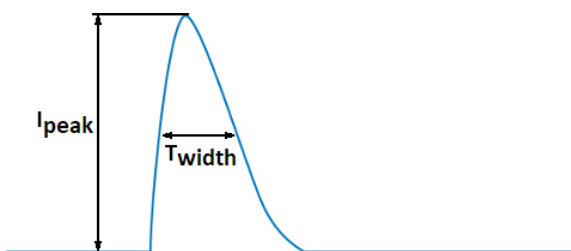
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)		See Design-in guide	Default output current: = 350/500 mA
LED Module Temperature Protection (MTP)	No		
Driver Temperature Limit (DTL)	No		
Constant Lumen Over Lifetime (CLO)	No		
DC emergency dimming (DCemDim)	No		
Corridor mode	No		

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
Energy metering	No		
Diagnostics	No		

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	15.2	A	Input voltage 230V
Inrush current T_{width}	242	μ s	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 32	pcs	Indicative value



MCB	Rating	Relative number of LED drivers
B	4A	25%
B	6A	40%
B	10A	63%
B	13A	81%
B	16A	100% (stated in datasheet)
B	20A	125%
B	25A	156%
B	32A	200%
B	40A	250%
C	4A	42%
C	6A	63%
C	10A	104%
C	13A	135%
C	16A	170%
C	20A	208%
C	25A	260%
C	32A	340%
C	40A	415%

Driver touch current / protective conductor 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

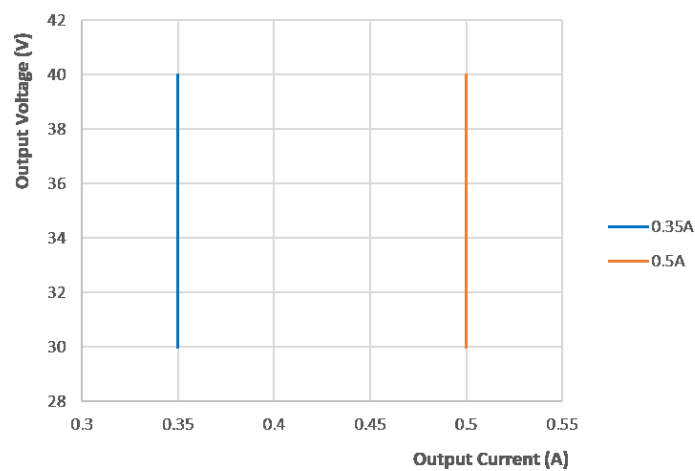
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info

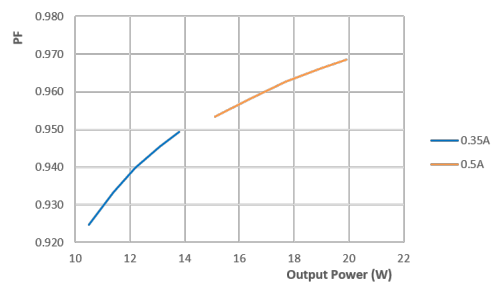
Specification item	Value
Approval marks	CB / CE / CQC / ENEC / TISI
Ingress Protection classification (IP)	20

Graphs

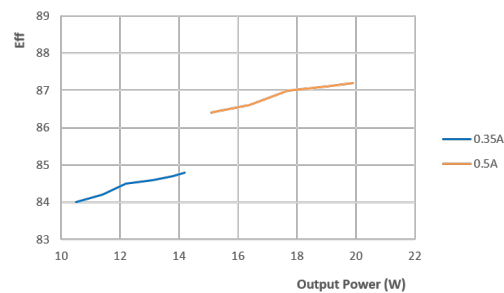
Operating window



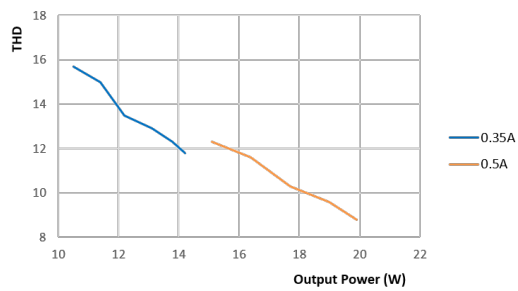
Power factor versus output power



Efficiency versus output power



THD versus output power



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