

PHILIPS

Xitanium

LED driver



Datasheet

Xitanium track adaptor drivers (3C)

Xitanium 20W/a 0.35/0.5A 40V 3CB 230V

9290 014 76106

Affordable and reliable LED Drivers

Affordable LED driver range offering Philips reliability. The Xitanium track driver range is compatible with COB and mid-power LEDs from any LED manufacturer.

Benefits

- Driver design based on Philips experience and knowledge of conventional fluorescent and HID technologies
- Various power ratings matching common lumen packages/applications
- Track adaptor housing design for compact track luminaire designs

Features

- Compact size
- Specific, optimized dual-output current choice
- Long lifetime
- Low output current ripple, low input current THD
- Suitable for 3-phase track systems
- Available in white, black and grey housing color

Application

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

Electrical input data

Specification item	Value	Value	Unit	Condition
Rated input voltage range	220...240	220...240	V _{ac}	Performance range
Rated input voltage	230	230	V _{ac}	
Rated input frequency range	50...60	50...60	Hz	Performance range
Rated input current	0.11	0.08	A	@ full output power @ rated input voltage
Rated input power	25	18	W	@ rated output power @ rated input voltage
Power factor	0.9	0.9		@ full output power @ rated input voltage
Total harmonic distortion	20	20	%	@ rated output power @ rated input voltage
Efficiency	84	84	%	@ 230V full load
Input voltage AC range	202...254	202...254	V _{ac}	Safety operational range
Input frequency AC range	47.5...63	47.5...63	Hz	Safety operational range
Isolation input to output	SELV	SELV		

Electrical output data

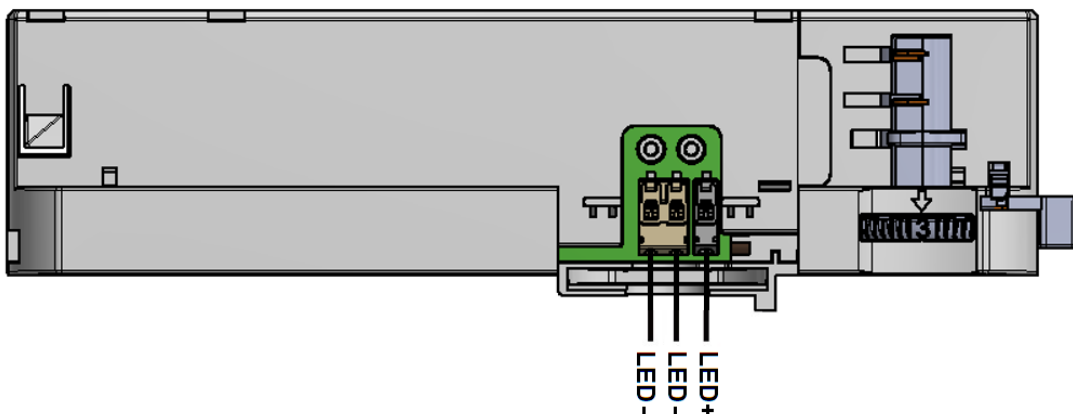
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	30...40	V _{dc}	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	0.35 / 0.5	A	Manually selectable between 350 and 500mA
Output current tolerance ±	8	%	At Vin =230VAC, Vout=36V
Output current ripple LF	≤ 3	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 15	%	
Output power	10.5...20	W	350mA: 10.5...14W; 500mA: 15...20W

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

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. Stranded wire supported from 0.45mm ² and up
Output wire strip length	7.5...8.5	mm	
Maximum cable length	0.3	m	Total length of wiring including LED module, one way

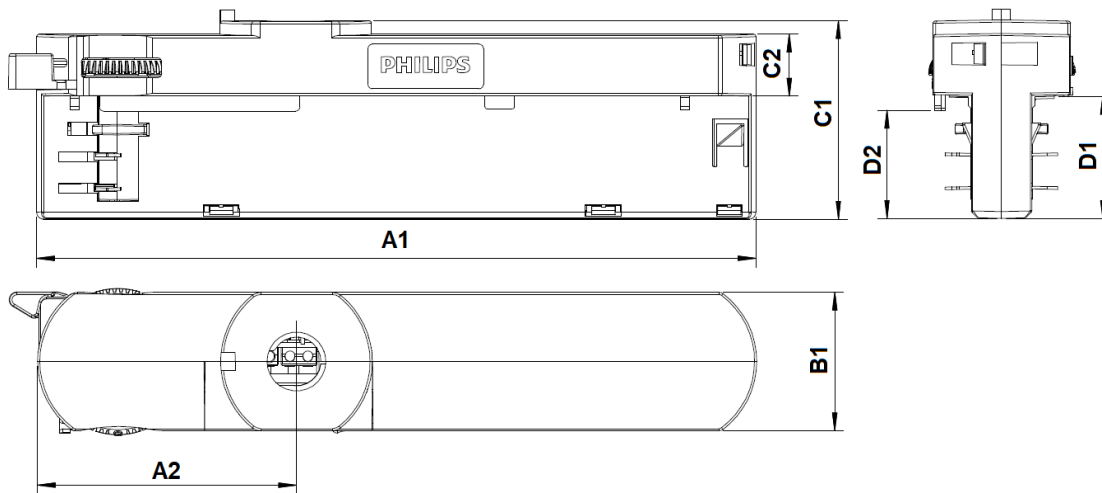


Insulation

Insulation per IEC61347-1	Input	Output
Input		SELV
Output	SELV	

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	161.5	mm	± 1.5
Mounting hole distance (A2)	58.1	mm	± 1.5
Width (B1)	31	mm	± 1
Width (B2)	33.8	mm	± 1
Height (C1)	44.4	mm	± 1
Height (C2)	13.9	mm	± 0.5
Mounting hole diameter (D1)	27.3	mm	± 0.5
Mounting hole diameter (D2)	24.4	mm	± 0.5
Weight	120	gram	
Housing color	Black (RAL 9005)		



Logistical data

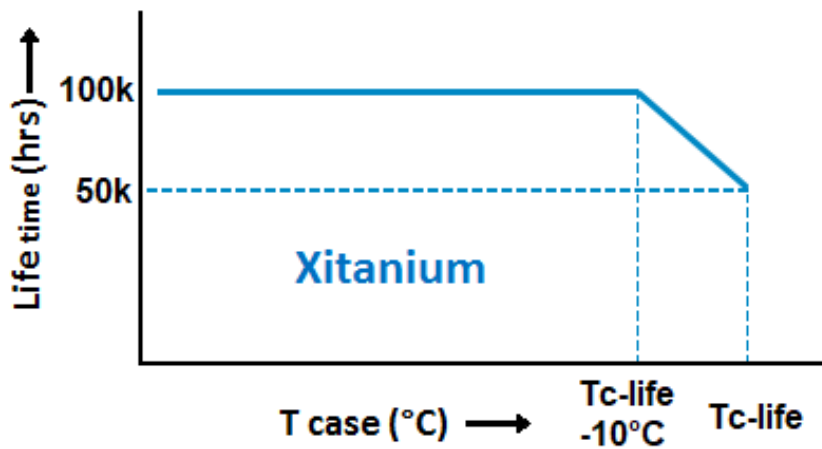
Specification item	Value
Product name	Xitanium 20W/a 0.35/0.5A 40V 3CB 230V
EOC	694793916541400
Logistic code 12NC	9290 014 76106
EAN1 (GTIN)	6947939165414
EAN3	6947939165421
Pieces per box	20

Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+35	°C	Higher ambient temperature allowed as long as T _{case-max} is not exceeded
T _{case-max}	85	°C	Maximum temperature measured at T _{case-point}
T _{case-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%
Mains switching cycles	> 3	switches	See Design-in guide for detailed explanation



Storage temperature and humidity

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

Programmable features

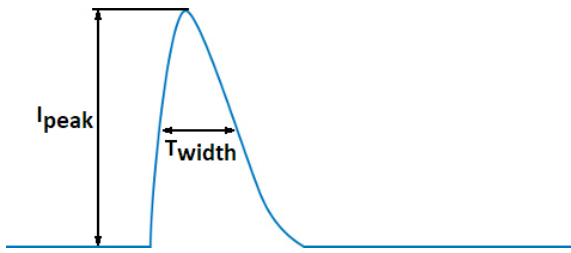
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	Manual	350 mA	Select the output current by wiring the right connector port (LED-)

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 I_{peak}	12	A	Input voltage 230V
Inrush current T_{width}	200	μ s	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 40	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

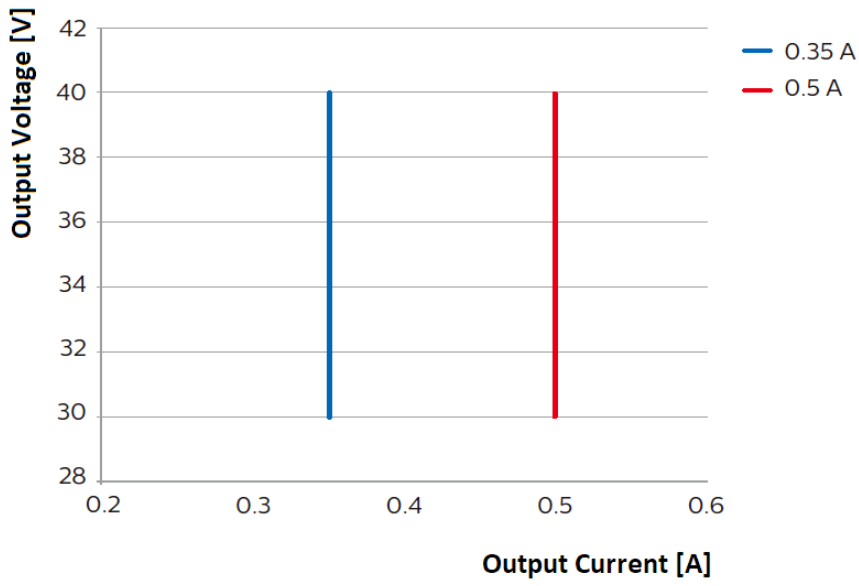
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info

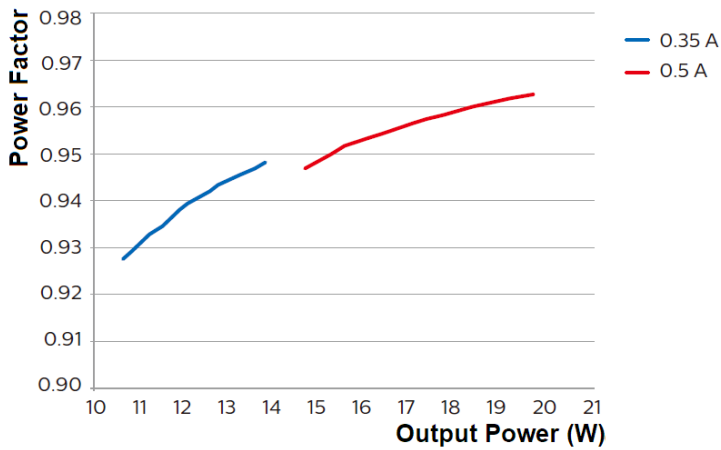
Specification item	Value
Approval marks	CE / CQC / ENEC / RCM / SELV
Ingress Protection classification (IP)	20
Application	Indoor Point
Mounting Type	Track mounting

Graphs

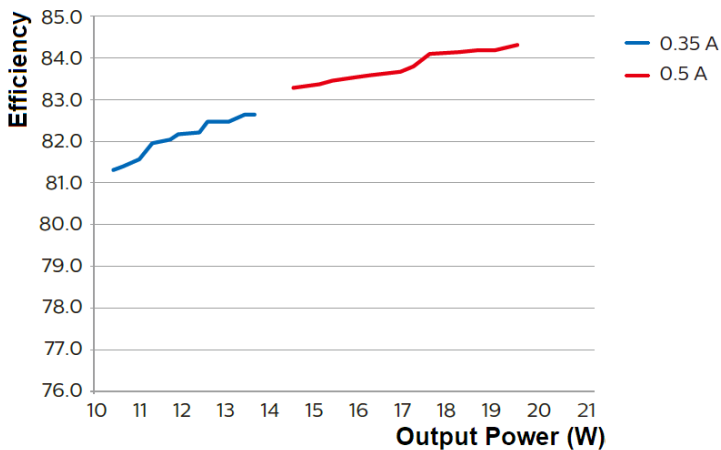
Operating window



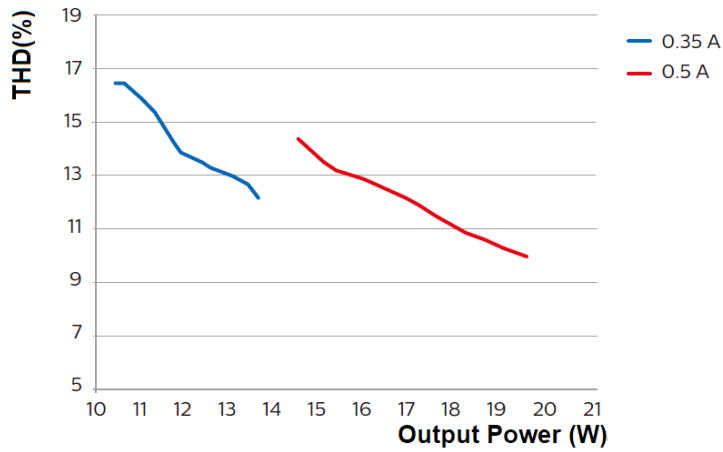
Power factor versus output power



Efficiency versus output power



THD versus output power



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