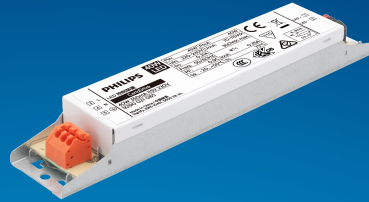


PHILIPS

CertaDrive

LED driver



Datasheet

CertaDrive LED drivers – Linear HV non-isolated

CertaDrive 40W 350mA 115V 230V

9290 021 08580

Fixed current/voltage LED drivers for high volume LED propositions

The CertaDrive LED drivers are designed to fulfill the market need for essential lighting. The CertaDrive LED drivers offer basic specifications such as specific current and voltage settings, optimal to operate CertaFlux LED modules. Life time of the driver is set at 50,000 hours. Philips will extend the portfolio of CertaDrive LED drivers to match high volume CertaFlux LED line propositions as well as high volume opportunities of other LED board manufactures.

Benefits

- Design freedom
- Optimized to operate CertaFlux LED lines
- 3-years warranty

Features

- Small dimensions
- Specific current and voltage
- 50,000 hours life time
- Fast Time to Market

Application

- Waterproof luminaires
- Recessed, surface and suspended luminaires in offices
- High bay luminaires

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	@ rated output power @ rated input voltage
Rated input power	45	W	@ rated output power @ rated input voltage
Power factor	0.9		@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	≥ 90	%	@ full power @ rated input voltage
Input voltage AC range	202...254	V _{ac}	Operational range
Input frequency AC range	47.5...63	Hz	Operational range
Isolation input to output	No		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	70...115	V _{dc}	
Output voltage max.	300	V	Peak voltage at open load
Output current	0.35	A	Full output current setting
Output current tolerance	± 8	%	
Output current ripple LF	≤ 30	%	Ripple = peak / average, < 3kHz, R _d ≥50Ω
Output power	24.5...40	W	Full output

Electrical data controls input

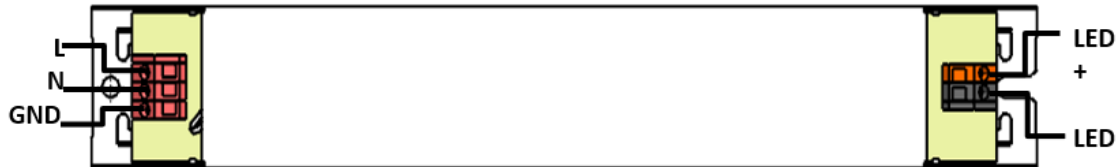
Specification item	Value	Unit	Condition
Control method			
Isolation controls input to output	No		

Logistical data

Specification item	Value
Product name	CertaDrive 40W 350mA 115V 230V
EOC	871869970328800
Logistic code 12NC	9290 021 08580
Pieces per box	50

Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.5...1.5	mm ²	Type250, solid / stranded wire
	16...20	AWG	Type250, solid / stranded wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.5...1.5	mm ²	Type250, solid / stranded wire
	16...20	AWG	Type250, solid / stranded wire
Output wire strip length	8...9	mm	
Maximum cable length	4000	mm	Total length of wiring including LED module, one way

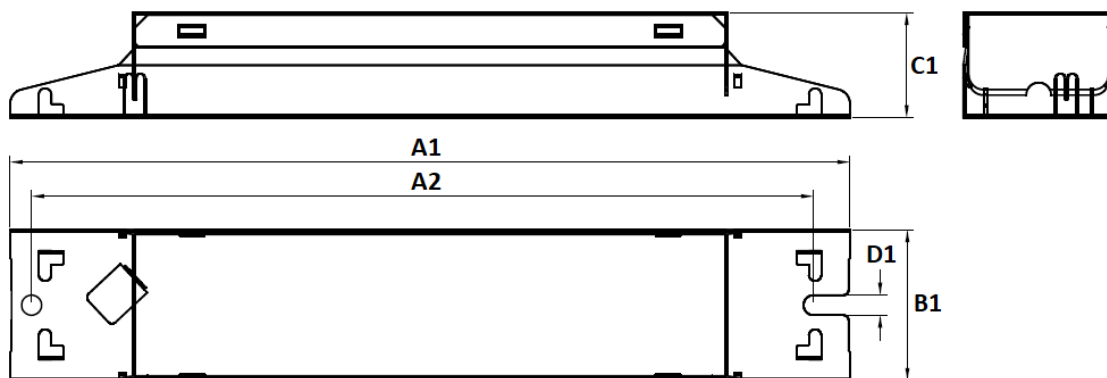


Insulation

Insulation	Input	Output
Input		Non
Output	Non	

Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	168	mm	
Width (B1)	30.2	mm	
Height (C1)	21	mm	
Fixing hole diameter (D1)	4	mm	
Fixing hole distance (A2)	156.4	mm	
Weight	115	gram	

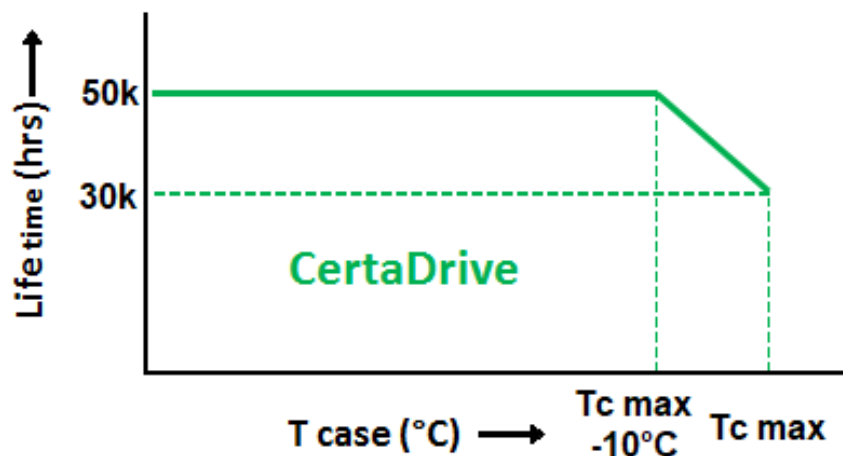


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+50	°C	Higher ambient temperature allowed as long as T _{case-max} is not exceeded
T _{case-max}	75	°C	Maximum temperature measured at T _{case-point}
T _{case-life}	65	°C	Measured at T _{case-point}
Maximum housing temperature	110	°C	In case of a failure
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	Value	Remark	Condition
Set Adjustable Output Current (AOC)		See Design-in guide.	Default output current: = 350 mA
LED Module Temperature Protection (MTP)	No		
Constant Lumen Over Lifetime (CLO)	No		
DC emergency Dimming (DCemDim)	No		
Corridor mode	No		
Energy metering	No		
Diagnostics	No		

Features

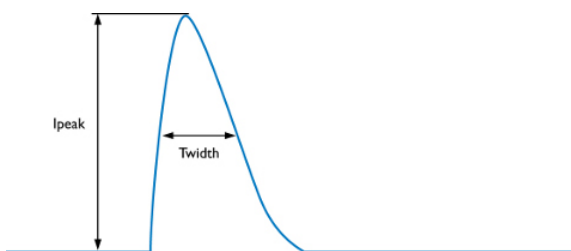
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598

Certificates and standards

Specification item	Value
Approval marks	C-tick / CB / CCC / CE / ENEC / KC / TISI
Ingress Protection classification (IP)	20

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	5.56	A	Input voltage 230V
Inrush current T_{width}	47	μs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 45	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

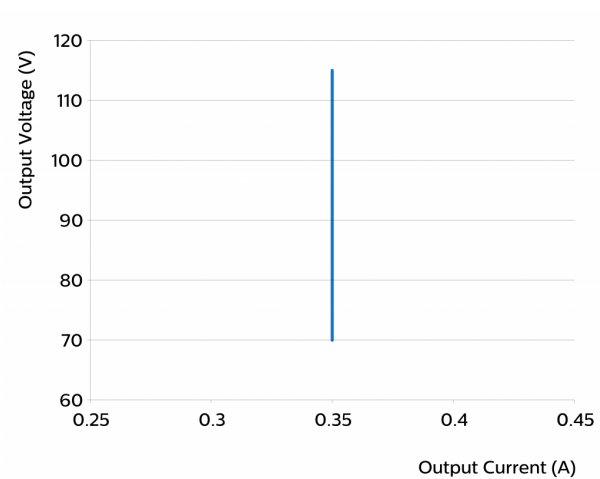
Specification item	Value	Unit	Condition
Typical touch current (ins. Class II)	0.7	mA peak	Acc. IEC61347-1. LED module contribution not included

Surge immunity

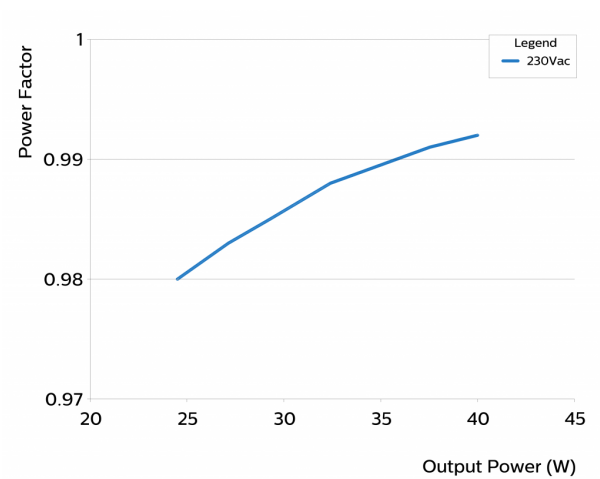
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Graphs

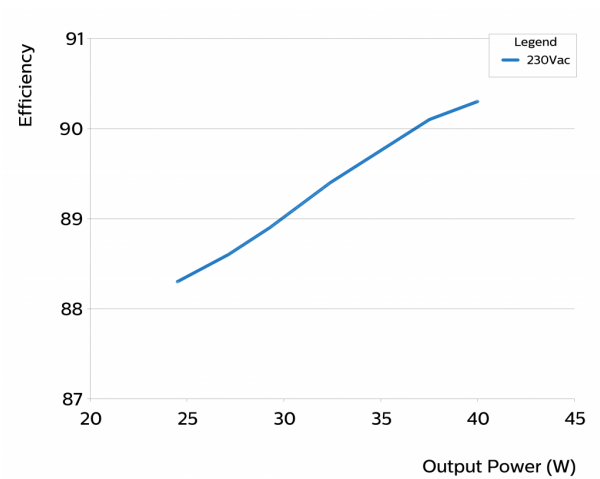
Operating window



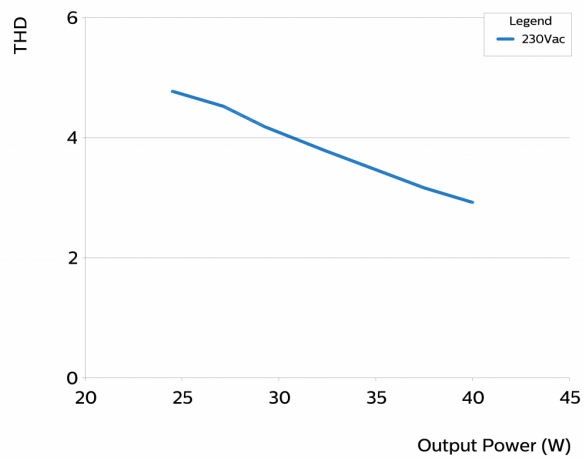
Power factor versus output power



Efficiency versus output power



THD versus output power



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Date of release: June 13, 2019 v12

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