PHILIPS

CertaDrive

LED driver

Datasheet

CertaDrive LED drivers – Linear HV non-isolated

CertaDrive 30W 350mA 82V 230V

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

November 2016

Electrical input data

Specification item	Value	Unit	Condition
Nominal input voltage	220…240	V_{ac}	performance range
Nominal input frequency	50…60	Hz	
Nominal input current	0.16	A	@230V @ full load
Input voltage	230	V_{ac}	
Nominal input power	33	W	@230V @ full load
Power factor	≥ 0.9		@ full load. See graph.
Total harmonic distortion	≤ 20	%	@ full load. See graph.
Efficiency	90	%	@230V @ full load
Nominal input voltage DC	186…250	V_{dc}	
Nominal input current DC	0.16	A	Input voltage 230 V_{dc}, full load
Input voltage AC	202…254	V_{ac}	Operational range
Input frequency AC	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	57…82	V_{dc}	
Output voltage max.	340	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
Output power	29	W	Full output

Electrical data controls input

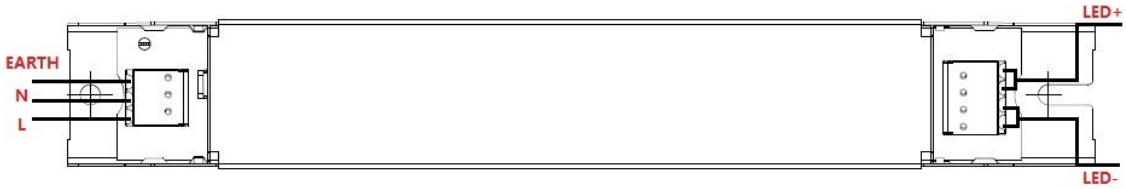
Specification item	Value	Unit	Condition
Control method	Fixed		

Logistical data

Specification item	Value
Product name	CertaDrive 30W 350mA 82V 230V
Order code	99954600
Logistic code 12NC	9290 009 34806
EAN3	8718291999577
Pieces per box	20

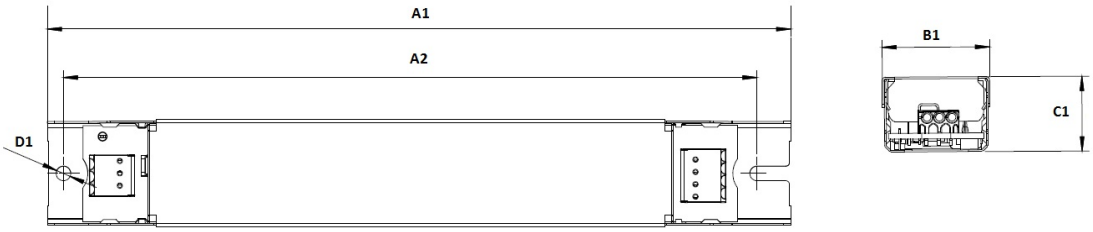
Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.5…1.5	mm^2	WAGO744, solid wire
	16…20	AWG	WAGO744, solid wire
Input wire strip length	8…9	mm	
Output wire cross-section	0.5…1.5	mm^2	WAGO744, solid wire
	16…20	AWG	WAGO744, solid wire
Output wire strip length	8…9	mm	
Maximum cable length	600	mm	Total length of wiring including LED module, one way



Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	209	mm	
Width (B1)	30	mm	
Height (C1)	21.5	mm	
Fixing hole diameter (D1)	4.1	mm	
Fixing hole distance (A2)	195	mm	
Weight	140	gram	



Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20…+50	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded.
Tcase-max	75	°C	for 30K Hrs lifetime
Tcase-life	65	°C	for 50K Hrs lifetime Measured at T_c-point
Maximum housing temperature	110	°C	In case of a failure
Relative humidity	10…90	%	Non-condensing

Storage temperature and humidity

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

Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	50,000	hours	Measured temperature at T_{case}-point is T_{case}-life. Maximum failures = 10%

Programmable features

Specification item	Value	Remark	Condition
Set output current (AOC)	No	See Design-in guide.	Default output current: = 350 mA
LED module temperature derating (MTP)	No		
Constant Lumen Over Lifetime (CLO)	No		
DC emergency dimming (DCemDIM)	No		
Corridor mode	No		
Energy metering	No		
Diagnostics	No		

Features

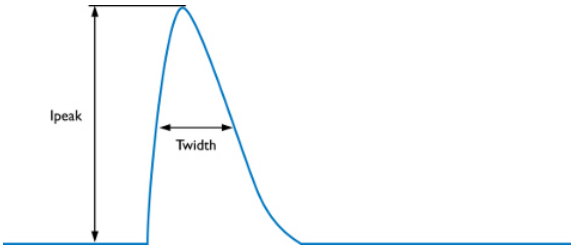
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598

Certificates and standards

Specification item	Value
Approval marks	CCC / CE / ENEC
Ingress Protection classification	20

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	5.3	A	Input voltage 230V
Inrush current T_{width}	70	µs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 24	pcs	



MCB	Rating	Relative number of LED drivers
B	10A	63%
B	13A	81%
B	16A	100% (stated in datasheet)
B	20A	125%
B	25A	156%
C	10A	104%
C	13A	135%
C	16A	170%
C	20A	208%
C	25A	260%

Driver touch current

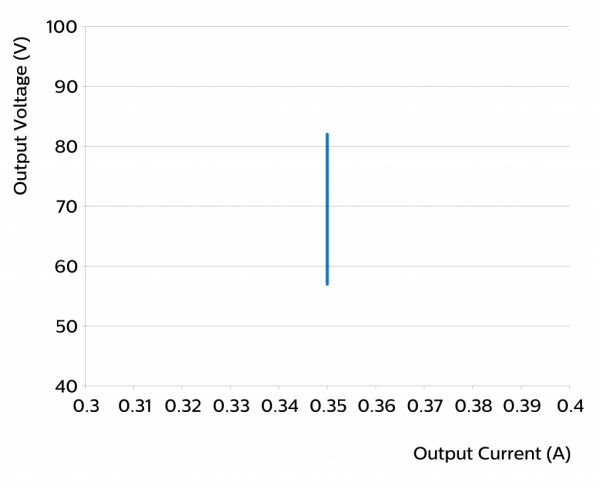
Specification item	Value	Unit	Condition
Typical touch current	< 0.7	mA peak	Acc. IEC61347-1. LED module contribution not included

Surge immunity

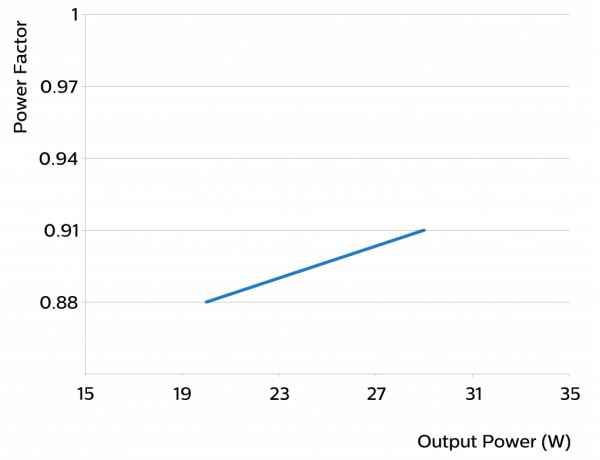
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us
DALI surge immunity (comm. mode)		kV	DALI - L/N/Ls acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Graphs

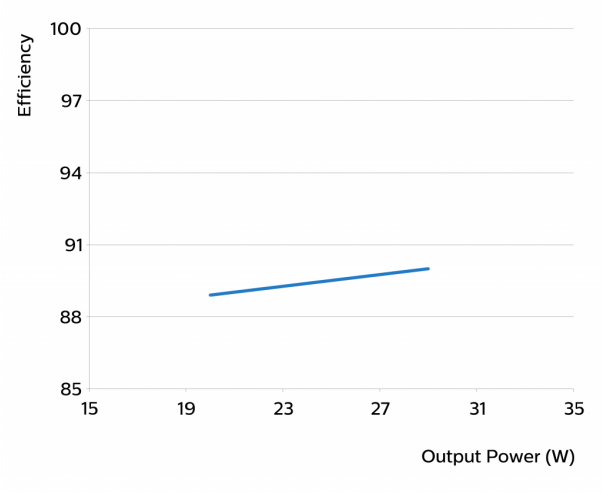
Operating window



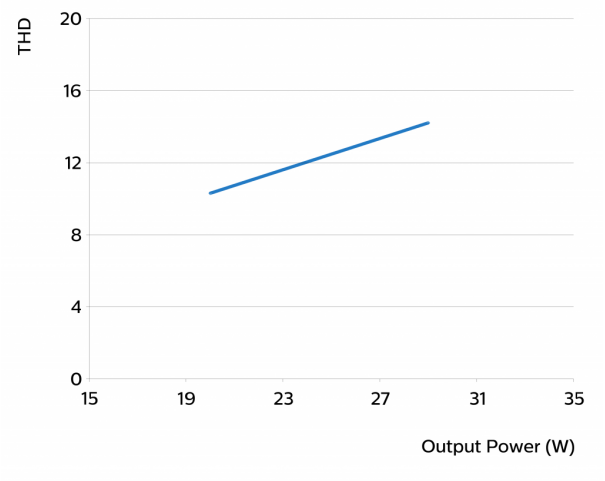
Power factor versus output power



Efficiency versus output power



THD versus output power



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