

**PHILIPS**

CertaDrive

LED driver



## Datasheet

# CertaDrive Linear Isolated LED Drivers Single Current

CertaDrive 27W 0.5A 54V 230V

### Single current LED drivers for essential lighting applications.

CertaDrive LED drivers are designed to fulfill the market need for essential lighting with reliable performance. The CertaDrive LED drivers offer basic specifications with specific current and voltage settings which are easy to use for high volume applications. The CertaDrive range is optimal to operate mid-power LEDs from different manufacturers.

#### Benefits

- Low profile LED-drivers enabling ample luminaire design freedom
- Easy to use
- Design optimized to meet essential lighting needs

#### Features

- SELV output for simpler approval process and easy design-in
- Specific current and voltage
- 50,000 hours life time
- All T5 form factors but various lengths
- Fast Time to Market

#### Application

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

## Electrical input data

Specification item	Value	Unit	Condition
Nominal input voltage	220...240	V <sub>ac</sub>	performance range
Nominal input frequency	50...60	Hz	
Nominal input current	0.15	A	@230V @ full load
Input voltage	230	V <sub>ac</sub>	
Nominal input power	31.2	W	@230V @ full load
Power factor	≥ 0.9		@ full load. See graph.
Total harmonic distortion	≤ 20	%	@ full load. See graph.
Efficiency	85	%	@230V @ full load
Input voltage AC	202...254	V <sub>ac</sub>	Operational range
Input frequency AC	47.5...63	Hz	Maximum permissible range
Isolation Input to Output	SELV		

## Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	36...54	V <sub>dc</sub>	
Output voltage max.	60	V	Peak voltage at open load
Output current	0.5	A	Full output current setting
Output current tolerance	± 8	%	
Output current ripple LF	≤ 30	%	Ripple = peak / average
Output power	18...27	W	Full output

## Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

## Logistical data

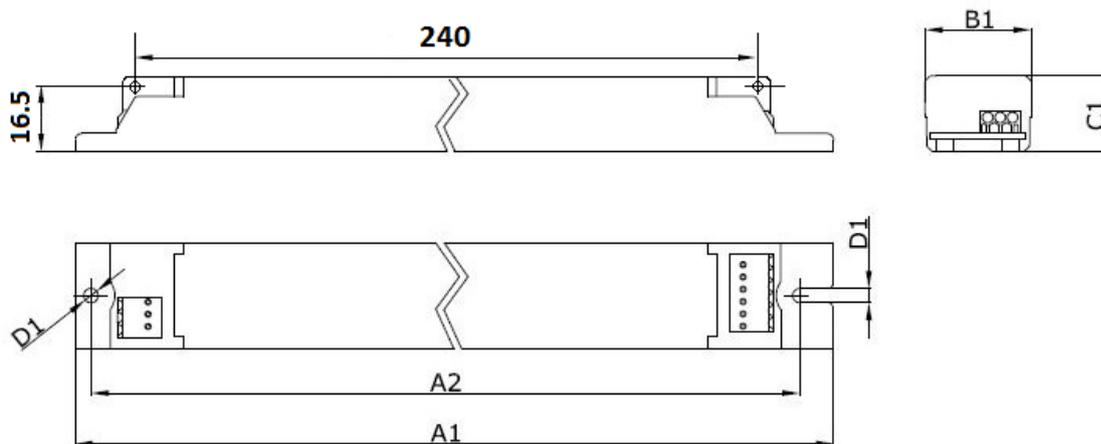
Specification item	Value
Product name	CertaDrive 27W 0.5A 54V 230V
Order code	
Logistic code 12NC	9290 014 11280
EAN3	
Pieces per box	24

## Wiring & Connections

Specification item	Value	Unit	Condition
Input wire cross-section	0.5...1.5	mm <sup>2</sup>	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 <sup>2</sup>	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)	280	mm	
Width (B1)	30	mm	
Height (C1)	21	mm	
Fixing hole diameter (D1)	4.1	mm	
Fixing hole distance (A2)	265	mm	
Weight	170	gram	



## Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+50	°C	Higher ambient temperature allowed as long as T <sub>case-max</sub> is not exceeded.
T <sub>case-max</sub>	75	°C	Maximum temperature measured at T <sub>case</sub> -point
T <sub>case-life</sub>	65	°C	Measured at T <sub>case</sub> -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: $\leq 500$ mA
LED module temperature derating (MTP)	No		
Constant Lumen Over Lifetime (CLO)	No		
DC emergency dimming (DCemDIM)	No		

## Features

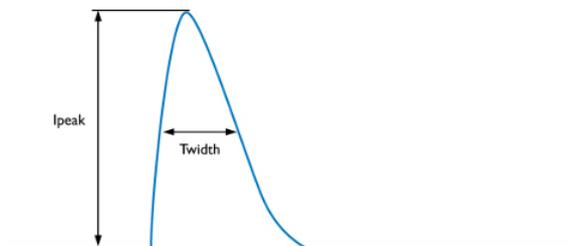
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I		per IEC60598

## Certificates and standards

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

## Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$	5.3	A	Input voltage 230V
Inrush current $T_{width}$	51	$\mu$ s	Input voltage 230V, measured at 50% $I_{peak}$
Drivers / MCB 16A type B	$\leq 50$	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

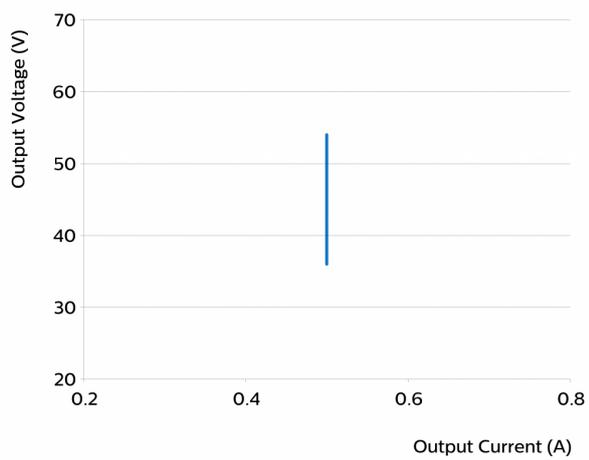
Specification item	Value	Unit	Condition
Typical touch current	0.7	mA peak	Acc. IEC61347-1. LED module contribution not included

## 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

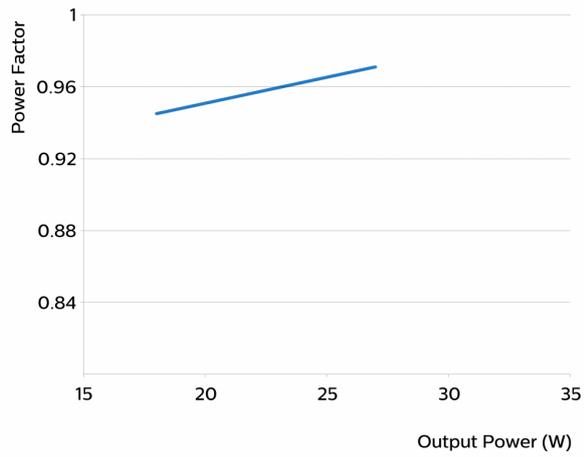
## Graphs

### Operating window



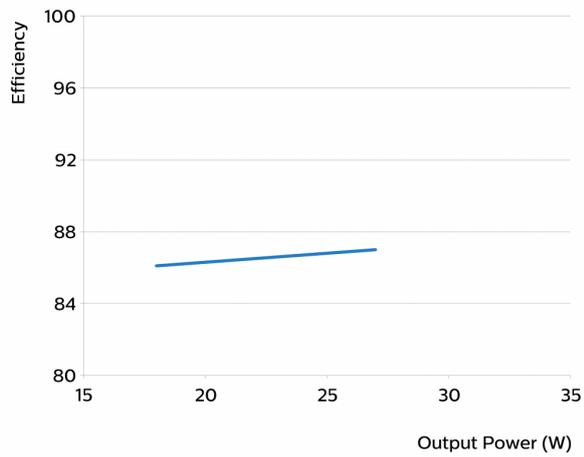
## Power factor versus output power

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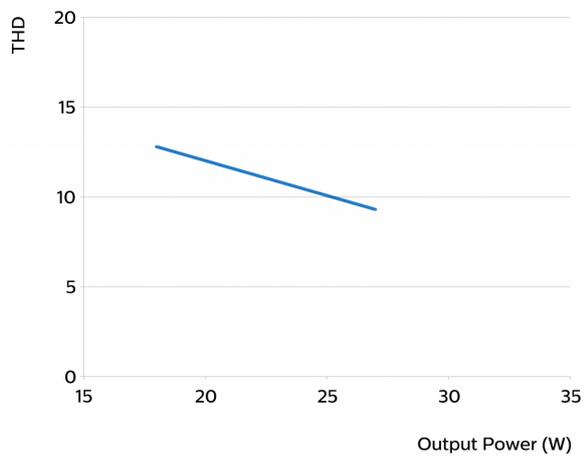
## Efficiency versus output power

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## THD versus output power

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