PHILIPS

CertaDrive

LED driver



Datasheet

CertaDrive Linear Non-isolated LED Drivers Single Current

CertaDrive 60W 0.7A 85V 230V

9290 016 13306

Single current LED drivers for essential lighting applications

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 as well as to support high volume opportunities of other LED board manufacturers. Lifetime of the driver is set at 50,000 hours.

Benefits

- Low profile drivers enabling ample luminaire design freedom
- Optimized to operate CertaFlux LED modules

Features

- High voltage output for highest efficiency, low cost and 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

March 2021

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	0.285	A	@ full output power @ rated input voltage
Max. input current	0.345	A	@ max output power @186Vdc input voltage
Rated input power	65	W	@ full 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	92	%	@ max.output power @ rated input voltage
Rated input voltage DC range	186…250	V_{dc}	Performance range
Input voltage AC range	202…254	V_{ac}	Operational range
Input frequency AC range	47.5…63	Hz	Operational range
Input voltage DC range	186…250	V_{dc}	Operational range
Isolation input to output	No		

Electrical output data

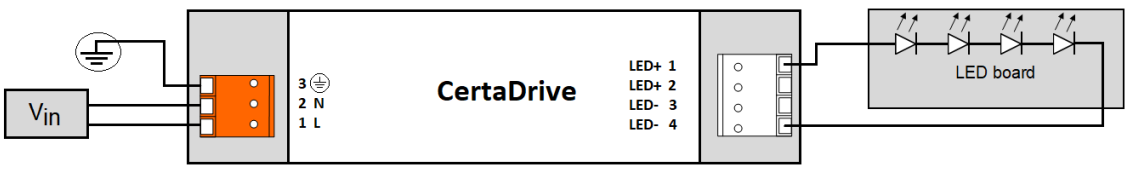
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	56…85	V_{dc}	
Output voltage max.	99	V	Maximum output voltage (rms)
Output current	0.7	A	Fixed output current
Output current tolerance ±	8	%	
Output current ripple LF	≤ 30	%	Ripple = peak / average, < 3kHz
Output power	39…60	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5…1.5 / 20…16	mm^2 / AWG	WAGO744, solid wire
Input wire strip length	8…9	mm	
Output wire cross-section	0.5…1.5 / 20…16	mm^2 / AWG	WAGO744, solid wire
Output wire strip length	8…9	mm	
Maximum cable length	0.6	m	Total length of wiring including LED module, one way. For longer wiring please double check EMI behavior of luminaire.

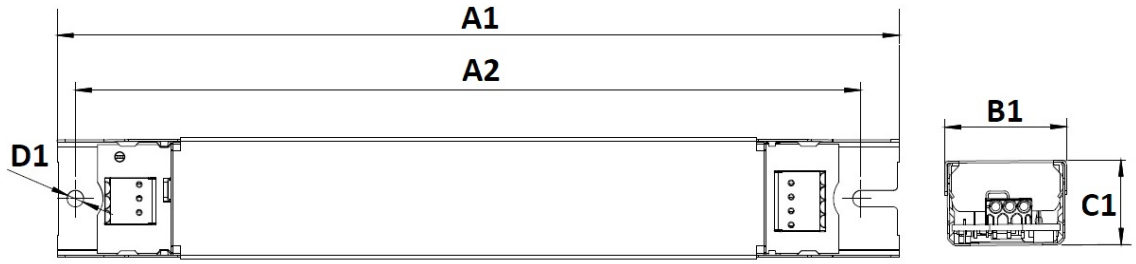


Insulation

Insulation per IEC61347-1	Input	Output	Housing
Input		Non	Basic
Output	Non		Basic
Housing	Basic	Basic	

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	209	mm	
Mounting hole distance (A2)	195	mm	
Width (B1)	30	mm	
Height (C1)	21.5	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	146	gram	



Logistical data

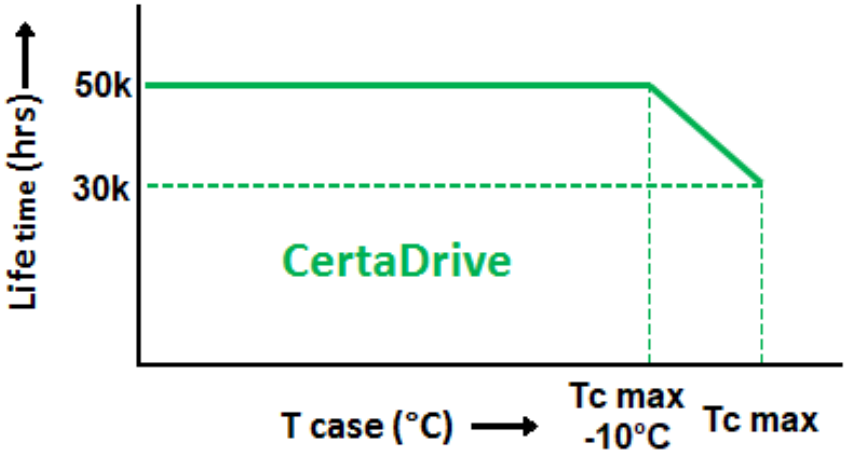
Specification item	Value
Product name	CertaDrive 60W 0.7A 85V 230V
EOC	871869678018300
Logistic code 12NC	9290 016 13306
EAN1 (GTIN)	8718696780183
EAN3 (box)	8718696780190
Pieces per box	20

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	80	°C	Maximum temperature measured at T_{case}-point
Tcase-life	70	°C	Measured at T_{case}-point
Maximum housing temperature	110	°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

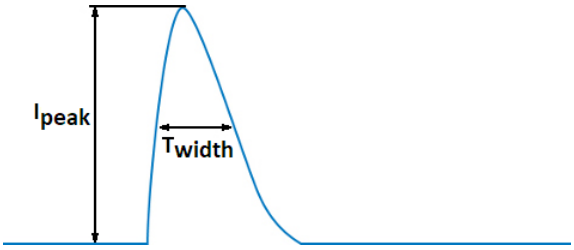
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	No	700 mA	Fixed output current
LED Module Temperature Protection (MTP)	No		
Constant Light Output (CLO)	No		
DC emergency (DCemDim)	No		

Features

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

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	10	A	Input voltage 230V
Inrush current T_{width}	60	µs	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 24	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 Protective Conductor Current (ins. Class I)	0.5	mA rms	Acc. IEC60598-1. LED module contribution not included

Surge immunity

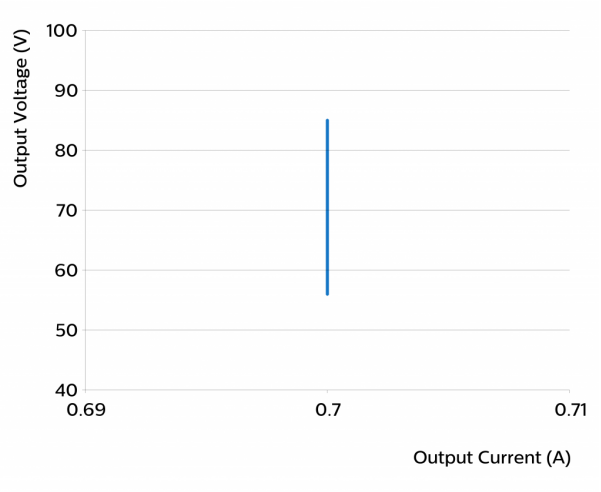
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm 1.2/50us,8/20us

Application Info

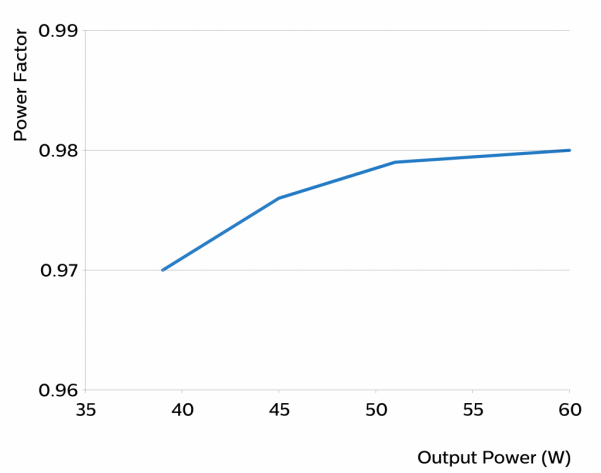
Specification item	Value
Approval marks	CE / EL / ENEC
Ingress Protection classification (IP)	20
Application	Indoor Linear
Mounting Type	Built-in

Graphs

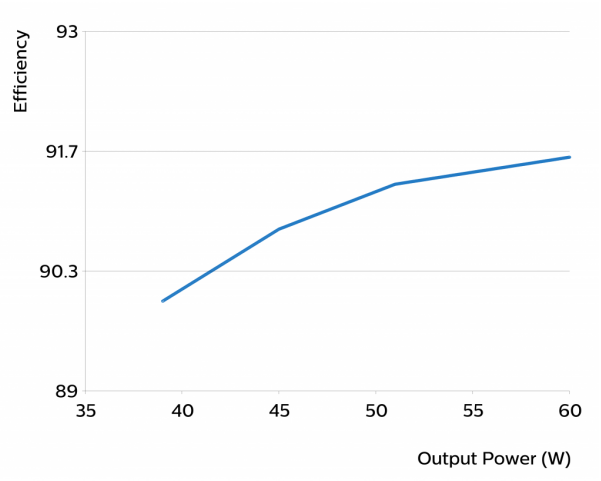
Operating window



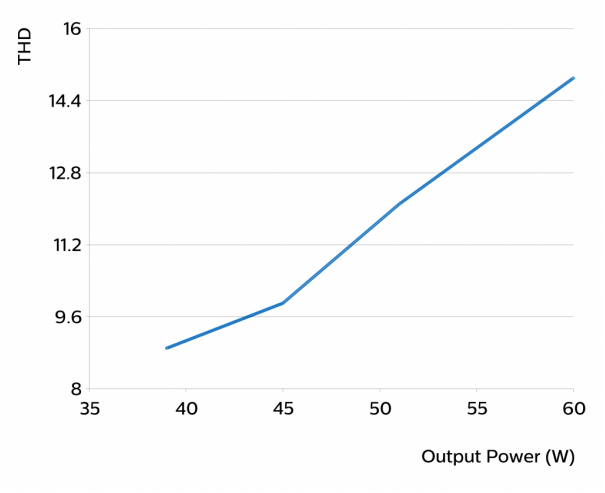
Power factor versus output power



Efficiency versus output power



THD versus output power



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