

PHILIPS

CertaDrive

LED driver



Datasheet

CertaDrive Linear Isolated LED Drivers Single Current

CertaDrive 54W 0.9/1.05A 51V DS 230V

9290 021 41480

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
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	0.26	A	@ rated output power @ rated input voltage
Rated input power	61	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	89	%	@ rated output power @ rated input voltage @max. U _{out}
Input voltage AC range	202...254	V _{ac}	Operational range
Input frequency AC range	47.5...63	Hz	Operational range
Isolation input to output	SELV		

Electrical output data

Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	23...51	V _{dc}	
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	0.9/1.05	A	
Output current tolerance	± 8	%	
Output current ripple LF	≤ 30	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 30	%	
Output P _{st} ^{LM}	≤ 0.05		In entire operating window
Output SVM	≤ 1.69		In entire operating window
Output power	20.7...53.5	W	

Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		
Isolation controls input to output	SELV		acc. IEC61347-1

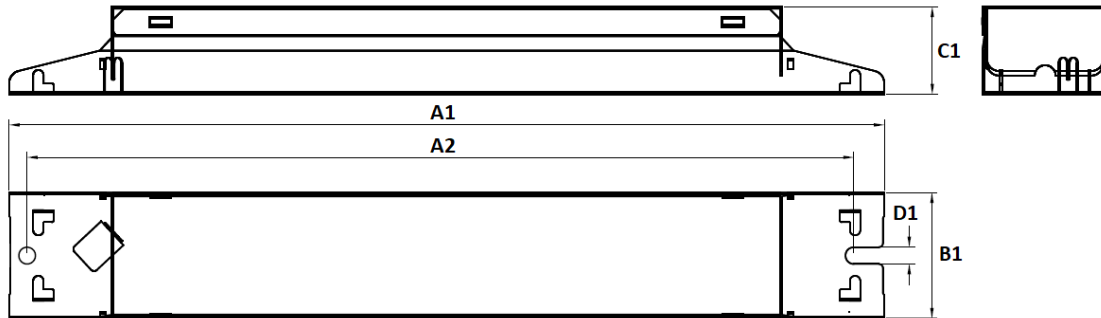
Wiring and Connections

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	2000	mm	Total length of wiring including LED module, one way



Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	210	mm	
Width (B1)	30.2	mm	
Height (C1)	21	mm	
Fixing hole diameter (D1)	4	mm	
Fixing hole distance (A2)	198.4	mm	
Weight	156	gram	



Logistical data

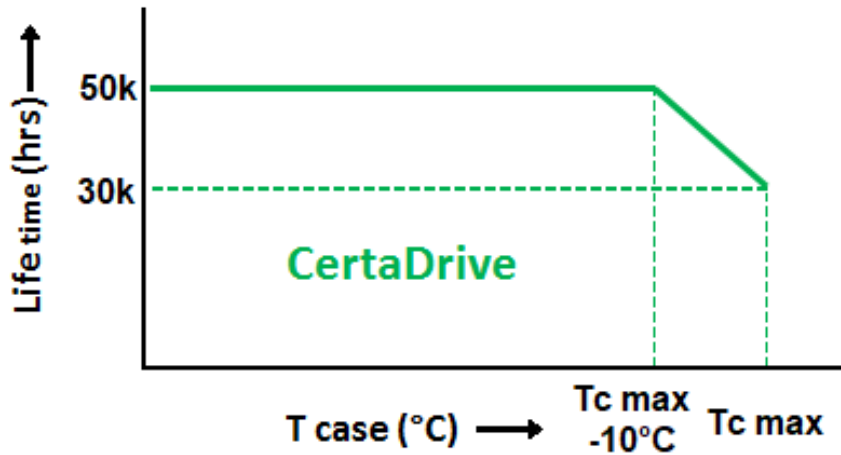
Specification item	Value
Product name	CertaDrive 54W 0.9/1.05A 51V DS 230V
Logistic code 12NC	9290 021 41480
Pieces per box	50

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, 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

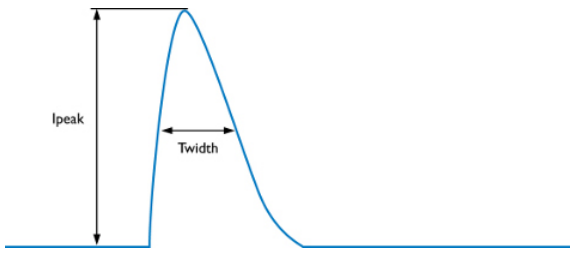
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	No	900 mA	
LED Module Temperature Protection (MTP)	No		
Constant Lumen Over Lifetime (CLO)	No		
DC emergency dimming (DCemDim)	No		

Features

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

Inrush current

Specification item	Value	Unit	Condition
Inrush current I_{peak}	16.5	A	Input voltage 230V
Inrush current T_{width}	113	μ s	Input voltage 230V, measured at 50% I_{peak}
Drivers / MCB 16A type B	≤ 38	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%

Surge immunity

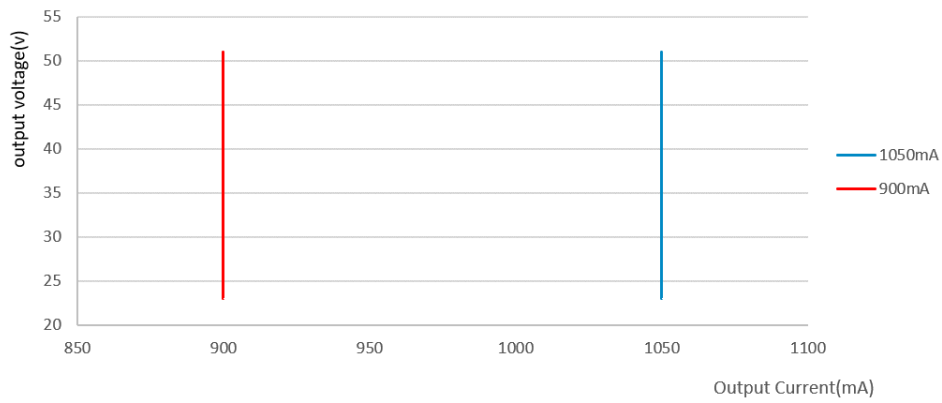
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm 1.2/50us,8/20us

Application Info

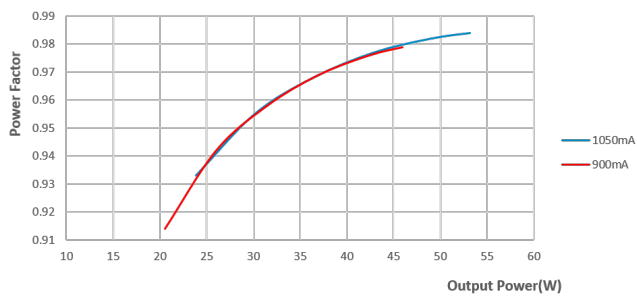
Specification item	Value
Approval marks	CB / CCC / CE / ENEC / RCM / SELV / TISI
Ingress Protection classification (IP)	20

Graphs

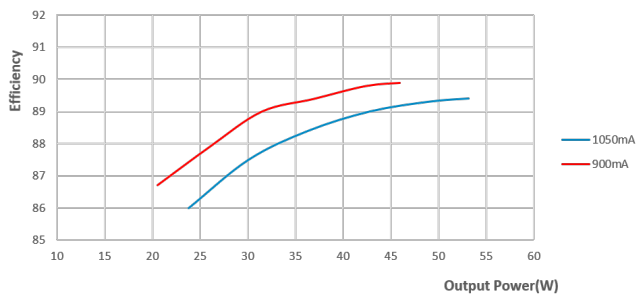
Operating window



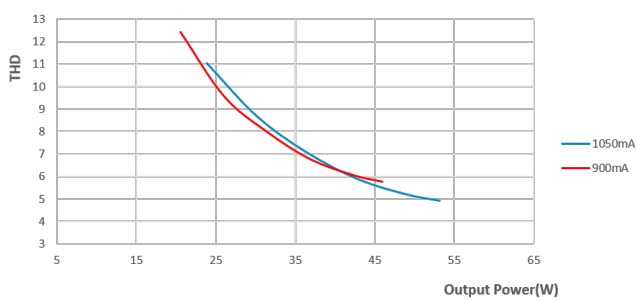
Power factor versus output power



Efficiency versus output power



THD versus output power





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