

# PHILIPS

## CertaDrive

Switching power supply



## Datasheet

### CertaDrive SPS 200W 24VDC

9290 028 89580

CertaDrive switch power supply is single output type AC/DC power supply. It uses semi-potted aluminum case which protecting rain splash and dust. This product has CQC/CB/SELV certifications which is suitable for wide applications.

#### Benefits

- 30,000 hours lifetime with 3 years warranty
- Design against rain splash
- Cooling by free air convection
- SELV isolation

#### Features

- Over voltage protection
- Short circuit protection
- Over power protection
- Over temperature protection

#### Application

- Area and flood lighting
- LED strip lighting

## Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	200...240	V <sub>ac</sub>	Performance range
Rated input voltage	230	V <sub>ac</sub>	
Rated input frequency range	50...60	Hz	Performance range
Rated input current	2	A	@ rated output power @ rated input voltage
Rated input power	225	W	@ rated output power @ rated input voltage
Power factor	0.6		@ rated output power @ rated input voltage
Total harmonic distortion	140	%	@ rated output power @ rated input voltage
Efficiency	89	%	@ rated output power @ rated input voltage
Input voltage AC range	180...264	V <sub>ac</sub>	Safety operational range
Input frequency AC range	47...63	Hz	Safety operational range
Isolation input to output	SELV		

## Electrical output data

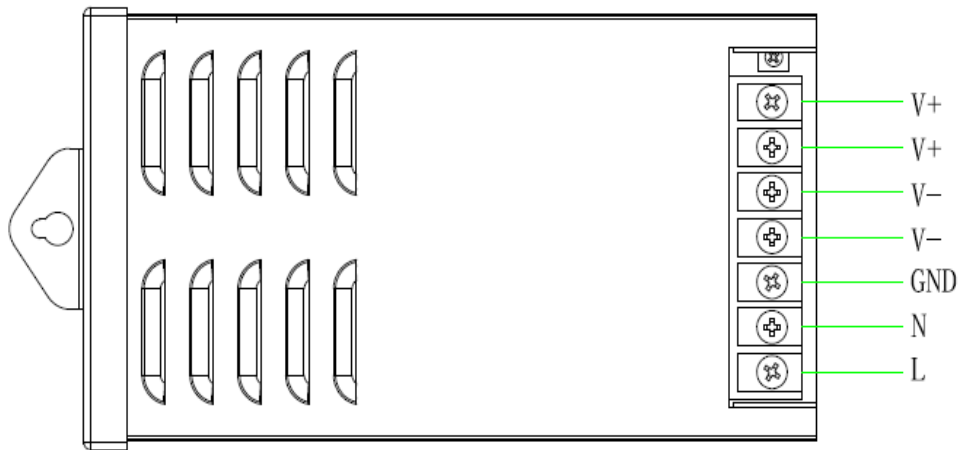
Specification item	Value	Unit	Condition
Regulation method	Constant Voltage		
Output voltage	24	V <sub>dc</sub>	
Adjustable output voltage range	21.6 ... 26.4	V <sub>dc</sub>	
Output current	8.3	A	
Output voltage ripple	≤ 150	mV <sub>pp</sub>	With a 0.1uF and 47uF parallel capacitor
Output power	200	W	
Line regulation	0.5	%	
Load regulation	0.5	%	
Output voltage tolerance	1	%	
Turn-on delay	≤ 1.5	s	@ rated output power @ rated input voltage
Hold-up time	≥ 20	ms	@ rated output power @ rated input voltage

## 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...3 / 12...22	mm <sup>2</sup> / AWG	Connector HD9500, solid / stranded wire
Input wire strip length	9...10	mm	
Output wire cross-section	0.5...3 / 12...22	mm <sup>2</sup> / AWG	Connector HD9500, solid / stranded wire
Output wire strip length	9...10	mm	

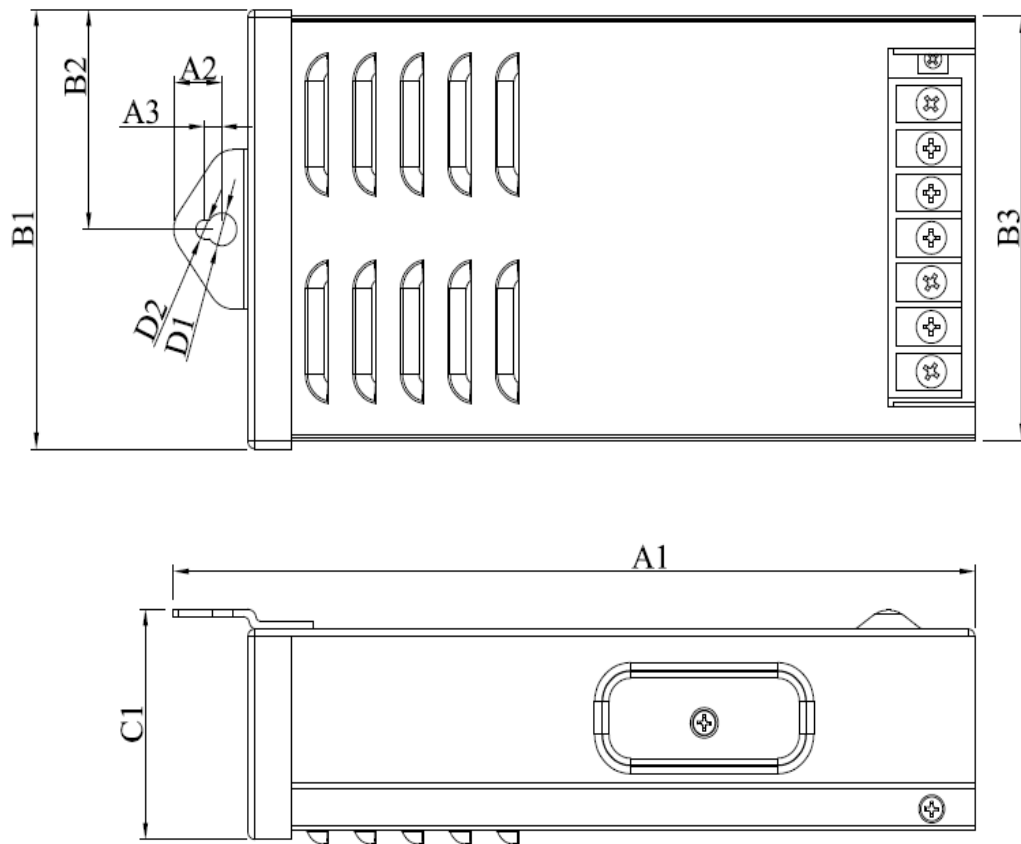


## Insulation

Insulation per IEC62368-1	Input	Output	Housing/PE
Input		SELV	Basic
Output	SELV		Basic
Housing/PE	Basic	Basic	

## Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	185.5	mm	
Length (A2)	10.9	mm	
Length (A3)	4	mm	
Width (B1)	93.5	mm	
Width (B2)	46.8	mm	
Width (B3)	90.2	mm	
Height (C1)	50	mm	
Mounting hole diameter (D1)	8	mm	
Mounting hole diameter (D2)	4.5	mm	
Weight	600	gram	



## Logistical data

Specification item	Value
Product name	CertaDrive SPS 200W 24VDC
Logistic code 12NC	9290 028 89580
Pieces per box	20

## Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-30...+60	°C	Refer to output load derating curve
Relative humidity	20...90	%	Non-condensing

Note: 1. According to GB4943.1, the power supply is only suitable for safe use in areas below 2000 meters above sea level  
2. The power supply meets EMI standards, but as part of the terminal equipment system, EMI testing needs to be carried out in the terminal equipment system

## Lifetime

Specification item	Value	Unit	Condition
Driver MTBF	200,000	hours	MIL-217 method, at Ta=25°C
Driver Lifetime	30,000	hours	Measured at Ta=40°C, full load. Maximum failures = 10%

## Storage temperature and humidity

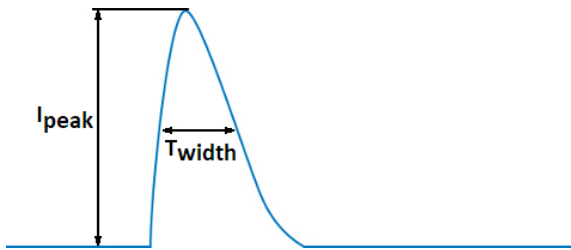
Specification item	Value	Unit	Condition
Ambient temperature	-30...+85	°C	
Relative humidity	10...95	%	Non-condensing

## Features

Specification item	Value		Condition
Over voltage protection	Yes		U <sub>out</sub> = 27.6...32.4V. Hiccup mode, automatic recovering
Short circuit protection	Yes		Hiccup mode, automatic recovering
Over power protection	Yes		110...160%, automatic recovering
Overtemperature protection	Yes		Automatic recovering

## Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$	90	A	Input voltage 230V
Inrush current $T_{width}$	1300	$\mu s$	Input voltage 230V, measured at 50% $I_{peak}$
Drivers / MCB 16A type B	1	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), output to GND	0.7	mA peak	Acc. IEC62368-1. LED module contribution not included.

## Surge immunity

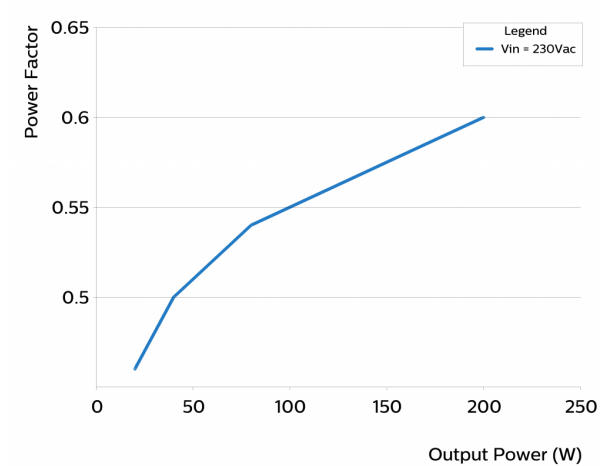
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	2	kV	L-N acc. IEC61000-4-5. 2 Ohm
Mains surge immunity (comm. mode)	4	kV	L/N-PE, acc. IEC61000-4-5. 12 Ohm

## Application Info

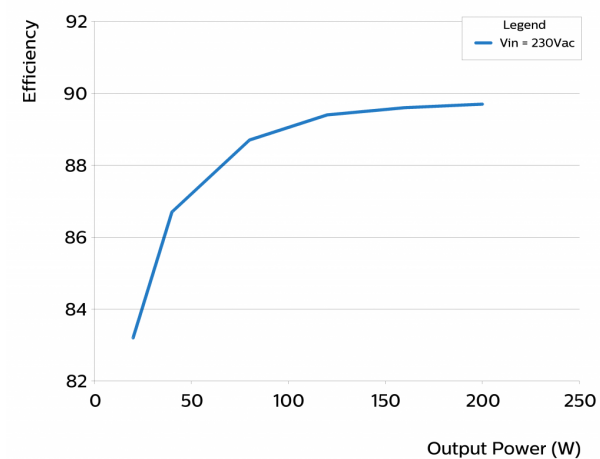
Specification item	Value
Approval marks	CQC / CB / SELV
Ingress Protection classification (IP)	20

Graphs

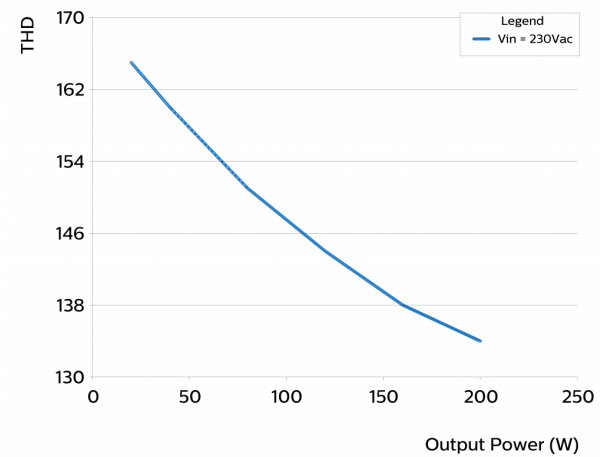
Power factor versus output power



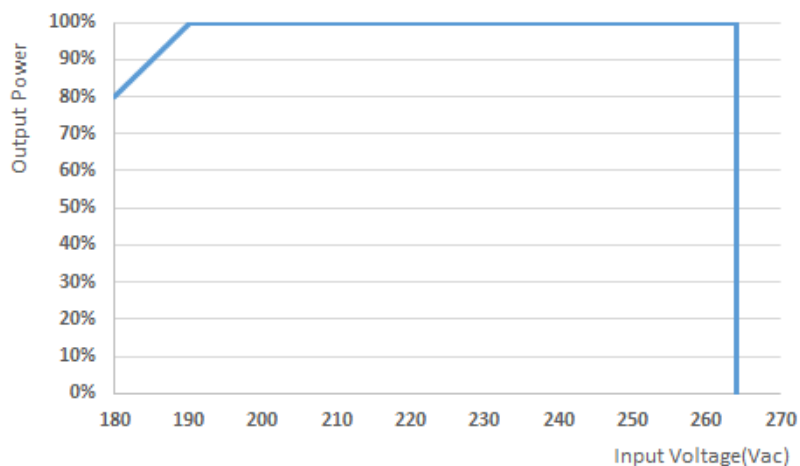
Efficiency versus output power



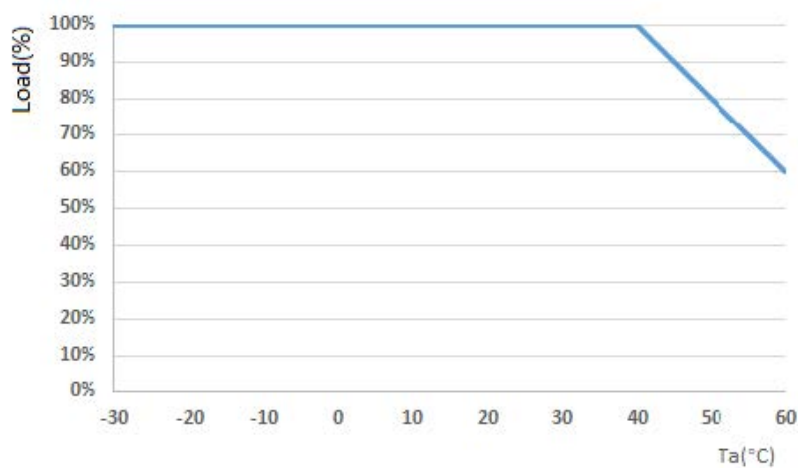
THD versus output power



## Output power versus input voltage



## Output load derating curve



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