ESSENTIAL-PS/1AC/24DC/480W/EE - Power supply

2910588

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Primary-switched ESSENTIAL edition power supply for DIN rail mounting, input: 1-phase, output: 24 V DC/480 W

Your advantages

- Worldwide use thanks to the wide range input and international approval package
- Fast installation, thanks to easy DIN rail mounting
- Greater availability, thanks to fanless convention cooling

Commercial data

Item number	2910588
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CMB313
Product key	CMB313
GTIN	4055626463391
Weight per piece (including packing)	1,489 g
Weight per piece (excluding packing)	1,480 g
Customs tariff number	85044095
Country of origin	IN

Technical data

Input data

AC operation

Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC
Derating	< 100 V (1 %/V)
Input voltage range AC	85 V AC ... 264 V AC
Input voltage range DC	120 V DC ... 375 V DC
Voltage type of supply voltage	AC
Inrush current	typ. 40 A (115 V AC)
	typ. 80 A (230 V AC)
AC frequency range	47 Hz ... 63 Hz
Mains buffering time	typ. 10 ms (115 V AC)
	typ. 16 ms (230 V AC)
Current consumption	5.4 A (115 V AC)
	2.7 A (230 V AC)
Nominal power consumption	523.27 VA
Protective circuit	Transient surge protection; Varistor
Typical response time	1000 ms
Input fuse	10 A (fast blow, internal)
Discharge current to PE	< 1 mA (264 V AC)

Output data

Efficiency	85 % (115 V AC)
	88 % (230 V AC)
Output characteristic	HICCUP
Nominal output voltage	24 V DC ±2 %
Setting range of the output voltage (U_{Set})	22 V DC ... 28 V DC (max. power ≤ 480 W)
Nominal output current (I_N)	20 A
Derating	> 40 °C (1.67 % / °C, 115 V AC)
	> 50 °C (2.5 % / °C, 230 V AC)
Max. capacitive load	8000 µF
Active current limitation	109% - 130% of the max. output power (in the event of short circuit)
Control deviation	≤ 1 % (change in load, static 10 % ... 90 %)
	typ. ± 2 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage ±10 %)
Residual ripple	< 120 mV_{PP} (-10 °C ... +70 °C)
	< 240 mV_{PP} (-20 °C ... -10 °C)
Output power	480 W
Maximum no-load power dissipation	5 W (115 V AC)
	4 W (230 V AC)

Power loss nominal load max.	50 W (115 V AC)
	40 W (230 V AC)
Fuse protection (secondary side)	electronic

Connection data

Input

Connection method	Screw connection
Conductor cross-section, rigid min.	0.823 mm²
Conductor cross-section, rigid max.	8.365 mm²
Conductor cross-section flexible min.	0.823 mm²
Conductor cross-section flexible max.	8.365 mm²
Conductor cross-section AWG min.	18
Conductor cross-section AWG max.	8
Stripping length	11 mm
Tightening torque, min	1 Nm
Tightening torque max	1.02 Nm

Output

Connection method	Screw connection
Conductor cross-section, rigid min.	0.832 mm²
Conductor cross-section, rigid max.	8.365 mm²
Conductor cross-section flexible min.	0.832 mm²
Conductor cross-section flexible max.	8.365 mm²
Conductor cross-section AWG min.	18
Conductor cross-section AWG max.	8
Stripping length	7 mm
Tightening torque, min	1 Nm
Tightening torque max	1.02 Nm

Signaling

Types of signaling	LED
Operating voltage display	Green LED

Signal output

Status display	"DC OK" LED green

Electrical properties

Number of phases	1
Insulation voltage input/output	3 kV AC
Insulation voltage output / PE	0.5 kV AC
Insulation voltage input / PE	2 kV AC

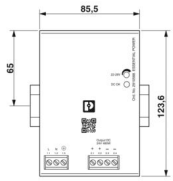
Product properties

Product family	ESSENTIAL POWER
MTBF (Telcordia SR-332)	> 700000 h

Insulation characteristics

Protection class	I (with PE connection)
Degree of pollution	2

Dimensions

Dimensional drawing	
Width	85.5 mm
Height	123.6 mm
Depth	128.5 mm

Installation dimensions

Installation distance right/left	10 mm / 10 mm (100 V AC, up to 90% load)
Installation distance top/bottom	50 mm / 50 mm (100 V AC, up to 90% load)

Mounting

Mounting type	DIN rail mounting
With protective coating	no

Material specifications

Housing material	Metal
Housing material	Aluminum
Type of housing	Steel sheet, zinc-plated
Side element version	Aluminum

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Maximum altitude	≤ 5000 m (> 2000 m, Derating: 10 %/1000 m)
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Shock	IEC 60068-2-27, 27, half sinusoidal wave: 50g for 11 ms; 3x per direction, 9x overall
Vibration (operation)	IEC 60068-2-6, sinusoidal waves: 10 Hz ... 500 Hz, 19,6 m/s² (2g peak), 10 min. per cycle, 60 min. in the X direction

Standards and regulations

Standard - Electrical safety	EN 60950-1
Standard – Safety extra-low voltage	EN 60950-1 (SELV)

Approval - requirement of the semiconductor industry with regard to mains voltage dips	SEMI F47 - 0706 (200 V AC)

Approvals

CSA	CSA-C22.2 Nr. 107.1-01
	CSA-C22.2 Nr. 60950-01
UL approvals	UL/C-UL listed UL 508

Conformity/Approvals

SIL in accordance with IEC 61508	0

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
EMC requirements for noise emission	EN 61000-6-3
	EN 61000-6-4
EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2

Noise emission

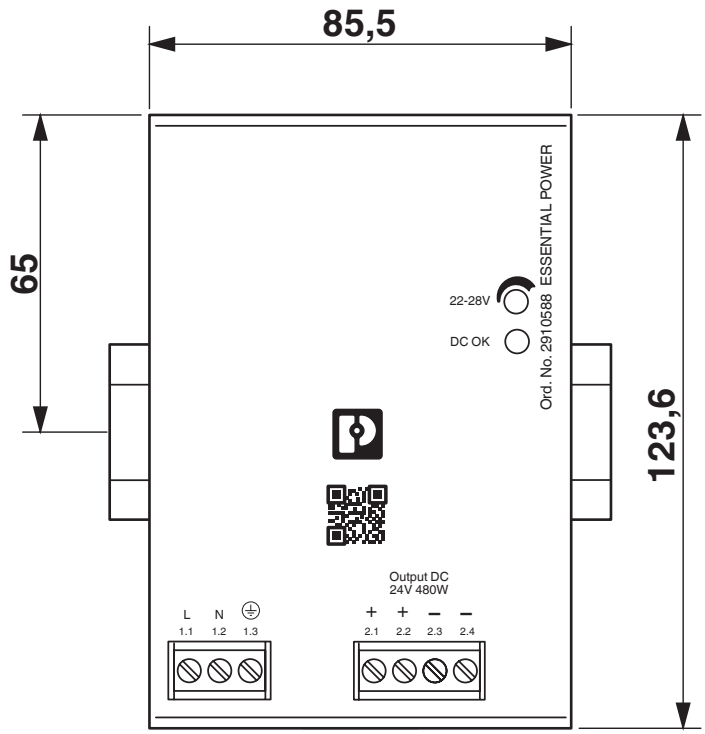
Standards/regulations	EN 55011 (EN 55022) Class B

Emitted interference

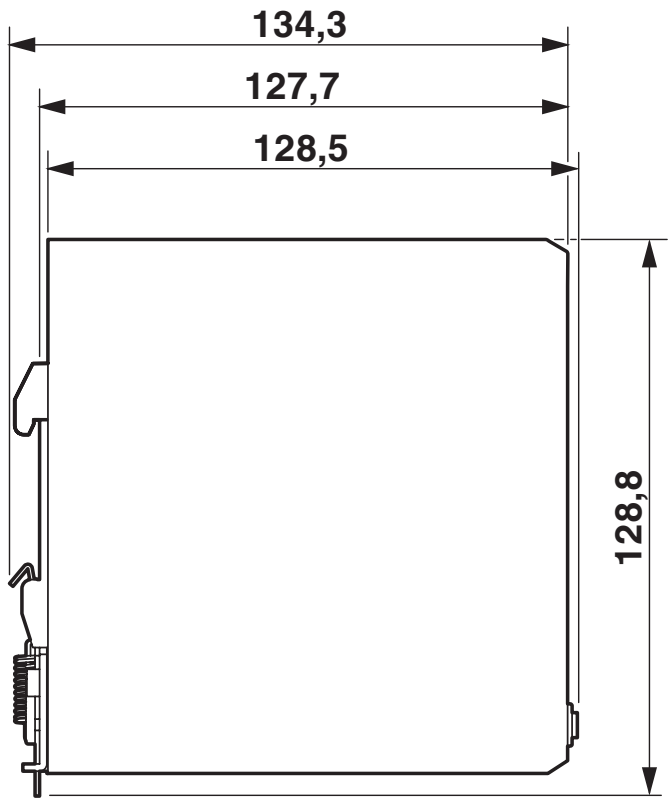
Standards/regulations	EN 61000-6-3

Drawings

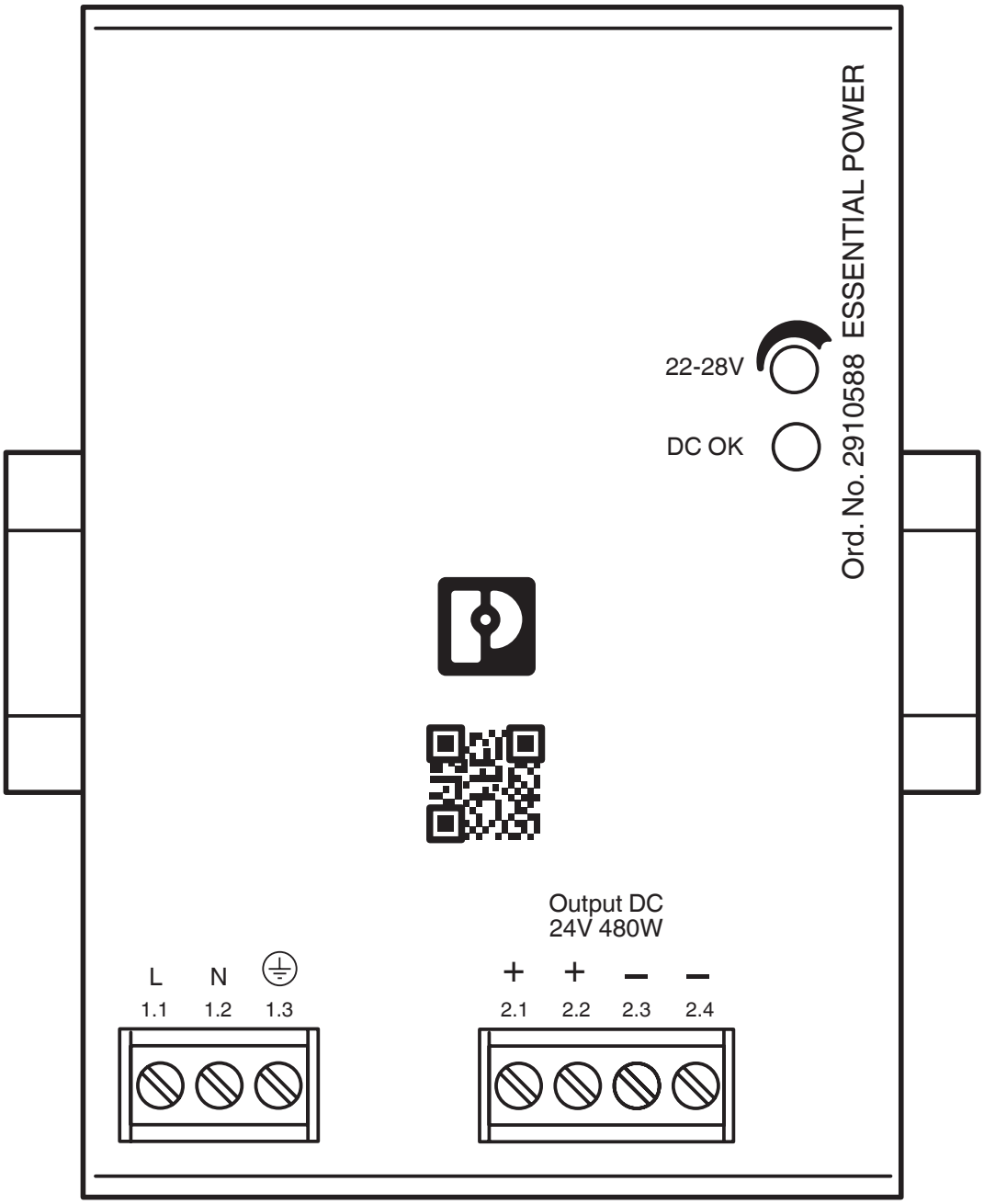
Dimensional drawing



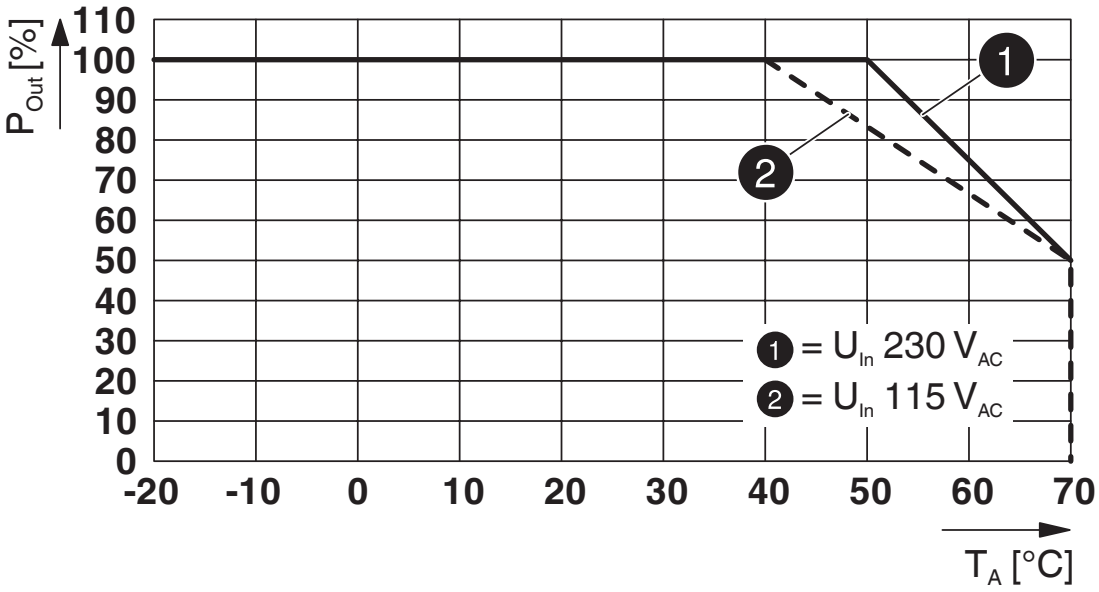
Dimensional drawing



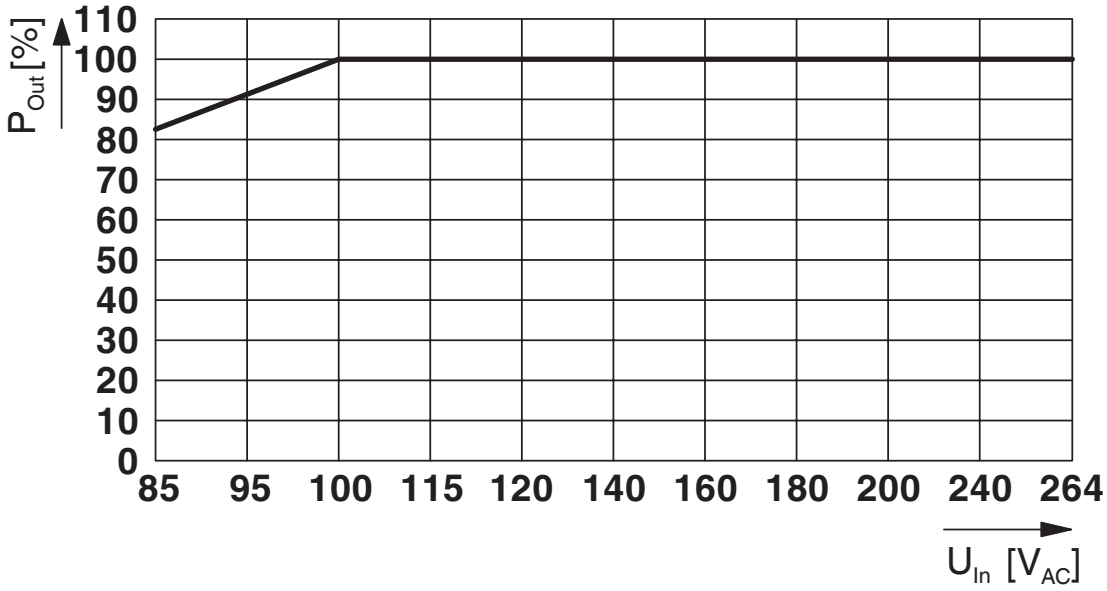
Schematic diagram



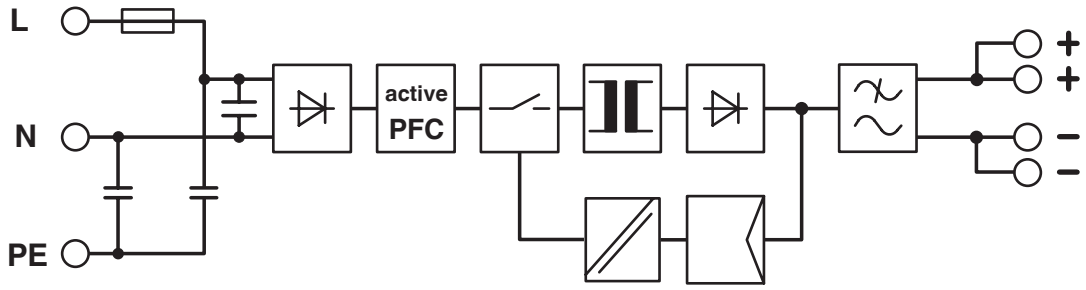
Diagram



Diagram



Block diagram



Approvals

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cULus Listed
Approval ID: E211944-20170721

cULus Listed
Approval ID: E123528-20170721

Classifications

ECLASS

ECLASS-13.0	27040701
ECLASS-15.0	27040701

ETIM

ETIM 9.0	EC002540

UNSPSC

UNSPSC 21.0	39121000

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-10
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)

EF3.1 Climate Change

CO2e kg	45.188 kg CO2e

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