Power supply unit - STEP-PS/ 1AC/12DC/3 - 2868570

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Primary-switched STEP POWER power supply for DIN rail mounting, input: 1-phase, output: 12 V DC/3 A

Product Description

STEP POWER power supplies for installation distributors
The STEP POWER power supply range was developed especially for building automation. The low idling losses and high degree of efficiency ensure maximum energy efficiency. They allow flexible use and can be snapped onto the DIN rail or screwed onto an even surface.

Why buy this product

- Flexible mounting by simply snapping onto the DIN rail or screwing onto a level surface
- Reliable power supply thanks to high MTBF (mean time between failures) of more than 500,000 hours and U/I characteristic curve
- Energy savings thanks to maximum energy efficiency and incredibly low idling losses

RoHS

Key Commercial Data

Packing unit	1 STK
GTIN	4 046356 309578
GTIN	4046356309578
Weight per Piece (excluding packing)	225.500 g
Custom tariff number	85044030
Country of origin	Poland

Technical data

Dimensions

Width	54 mm
Height	90 mm
Depth	61 mm

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Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 55° C derating : 2.5%/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Noise immunity	EN 61000-6-2:2005

Input data

Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC
	95 V DC ... 250 V DC
AC frequency range	45 Hz ... 65 Hz
Frequency range DC	0 Hz
Current consumption	0.6 A (120 V AC)
	0.3 A (230 V AC)
Nominal power consumption	42.3 W
Inrush surge current	< 15 A (typical)
Power failure bypass	> 26 ms (120 V AC)
	> 160 ms (230 V AC)
Input fuse	3.15 A (slow-blow, internal)
Choice of suitable circuit breakers	6 A ... 16 A (Characteristics B, C, D, K)
Type of protection	Transient surge protection
Protective circuit/component	Varistor

Output data

Nominal output voltage	12 V DC ±1 %
Setting range of the output voltage (U_{Set})	10 V DC ... 16.5 V DC (> 12 V DC, constant capacity restricted)
Nominal output current (I_N)	3 A (-25°C ... 55°C)
	3.3 A (-25 °C ... 40 °C permanent)
Output current I_{max}	4.9 A
Derating	55 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	yes
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 2 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage ±10 %)
Residual ripple	< 40 mV_{PP} (20 MHz)
Output power	36 W
Typical response time	< 0.5 s

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Peak switching voltages nominal load	< 35 mV_{PP} (20 MHz)
Maximum power dissipation in no-load condition	< 0.5 W
Power loss nominal load max.	6.4 W

General

Net weight	0.19 kg
Operating voltage display	Green LED
Efficiency	> 85 % (for 230 V AC and nominal values)
Insulation voltage input/output	4 kV AC (type test)
	3.75 kV AC (routine test)
Insulation voltage input / PE	3.5 kV AC (type test)
	2 kV AC (routine test)
Insulation voltage output / PE	500 V DC (routine test)
Protection class	II (in closed control cabinet)
	> 1689000 h (40 °C)
Degree of protection	IP20
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Alignable: 0 mm horizontally, 30 mm vertically

Connection data, input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	6.5 mm
Screw thread	M3

Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	6.5 mm

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Connection data, output

Screw thread	M3

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Noise immunity	EN 61000-6-2:2005
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-2
Contact discharge	4 kV (Test Level 2)
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m
Frequency range	1.4 GHz ... 2 GHz
Test field strength	3 V/m
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-4-5
	EN 61000-6-3
	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Voltage	10 V (Test Level 3)
Standards/regulations	EN 61000-4-11
Standard - Safety of transformers	EN 61558-2-16
Standard - Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard – Safety extra-low voltage	IEC 60950-1 (SELV) and EN 60204-1 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment	EN 50178
Standard – Limitation of mains harmonic currents	EN 61000-3-2
Shipbuilding approval	Germanischer Lloyd (EMC 1), ABS, NK
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950-1
	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
	NEC Class 2 as per UL 1310
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.

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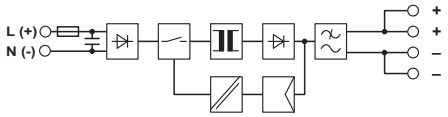
Low Voltage Directive	Conformance with LV directive 2006/95/EC
Information technology equipment - safety (CB scheme)	CB Scheme
Rail applications	EN 50121-4

Environmental Product Compliance

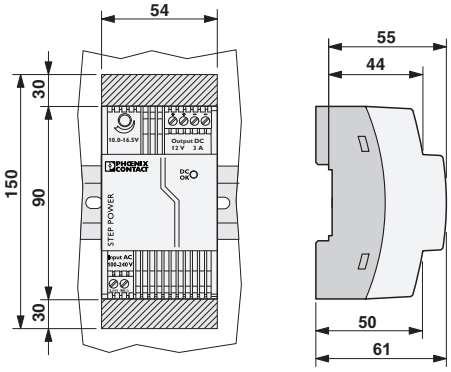
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration”

Drawings

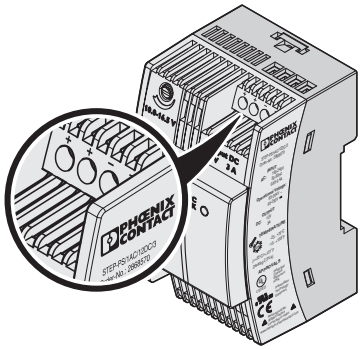
Block diagram



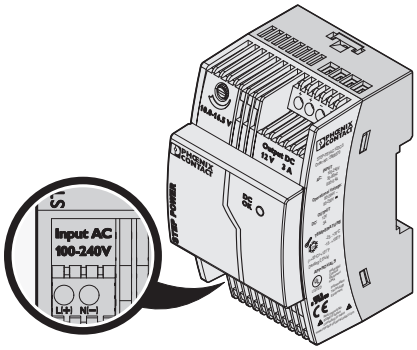
Dimensional drawing



Schematic diagram



Schematic diagram



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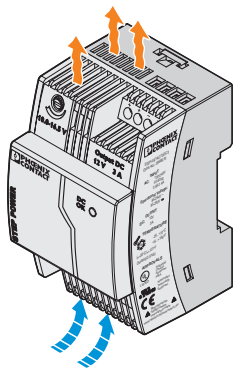
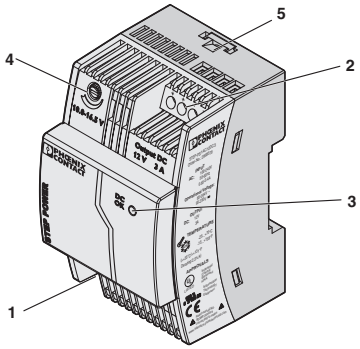


Schematic diagram



Classifications

eCl@ss

eCl@ss 4.0	27040702
eCl@ss 4.1	27040702
eCl@ss 5.0	27242213
eCl@ss 5.1	27242213
eCl@ss 6.0	27049002
eCl@ss 7.0	27049002
eCl@ss 8.0	27049002
eCl@ss 9.0	27040701

ETIM

ETIM 2.0	EC001039
ETIM 3.0	EC001039
ETIM 4.0	EC002540
ETIM 5.0	EC002540
ETIM 6.0	EC002540

UNSPSC

UNSPSC 6.01	30211502
UNSPSC 7.0901	39121004
UNSPSC 11	39121004
UNSPSC 12.01	39121004
UNSPSC 13.2	39121004

Approvals

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Approvals

Approvals

UL Recognized / UL Listed / cUL Recognized / cUL Listed / GL / NK / IECEE CB Scheme / EAC / EAC / ABS / cULus Recognized / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

UL Recognized	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 214596
UL Listed	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
cUL Recognized	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 214596
cUL Listed	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
GL	http://exchange.dnv.com/tari/	59365-08 HH
NK	http://www.classnk.or.jp/hp/en/	09A024
IECEE CB Scheme	http://www.iecee.org/	DK-36104-M1-UL

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Approvals

EAC		EAC-Zulassung
EAC		RU C-DE.A*30.B.01082
ABS	http://www.eagle.org/eagleExternalPortalWEB/	08-HG383002-3-PDA
cULus Recognized	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	
cULus Listed		