

## Power supply unit - STEP-PS/ 1AC/24DC/2.5 - 2868651

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Primary-switched STEP POWER power supply for DIN rail mounting, input: 1-phase, output: 24 V DC/2.5 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

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



### Key Commercial Data

Packing unit	1 STK
Weight per Piece (excluding packing)	320.000 g
Custom tariff number	85044030
Country of origin	Germany

### Technical data

#### Dimensions

Width	72 mm
Height	90 mm
Depth	61 mm

#### 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

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### Ambient conditions

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	0.8 A (120 V AC)
	0.4 A (230 V AC)
Inrush surge current	< 15 A (typical)
Power failure bypass	> 20 ms (120 V AC)
	> 100 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	24 V DC ±1 %
Setting range of the output voltage ( $U_{Set}$ )	22.5 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)
Nominal output current ( $I_N$ )	2.5 A (-25°C ... 55°C)
	2.75 A (-25 °C ... 40 °C permanent)
Output current $I_{max}$	4.4 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	< 80 mV <sub>PP</sub> (20 MHz)
Output power	60 W
Typical response time	< 0.5 s
Peak switching voltages nominal load	< 40 mV <sub>PP</sub> (20 MHz)
Maximum power dissipation in no-load condition	< 0.7 W
Power loss nominal load max.	9.9 W

### General

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### General

Net weight	0.27 kg
Operating voltage display	Green LED
Efficiency	> 86 % (for 230 V AC and nominal values)
Insulation voltage input/output	4 kV AC (type test)
	3.75 kV AC (routine test)
Protection class	II (in closed control cabinet)
	> 1061000 h (40°C)
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 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
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 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	6.5 mm
Screw thread	M3

### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
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
	EN 61000-4-3

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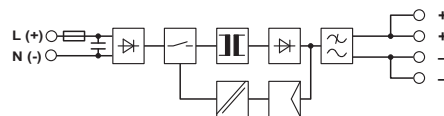
## Technical data

### Standards and Regulations

	EN 61000-4-4
	EN 61000-4-5
	EN 61000-4-6
	EN 61000-4-11
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, LR, RINA, NK, DNV, BV
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950
	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 $\pm 2.5$ mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.
Low Voltage Directive	Conformance with LV directive 2006/95/EC
Information technology equipment - safety (CB scheme)	CB Scheme
Rail applications	EN 50121-4

## Drawings

Block diagram



## Classifications

eCl@ss

eCl@ss 4.0	27040702
eCl@ss 4.1	27040702

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## Classifications

### eCl@ss

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

### UNSPSC

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

## Approvals

### Approvals

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#### Approvals

UL Recognized / cUL Recognized / UL Listed / cUL Listed / LR / GL / BV / NK / RINA / BSH / IECCE CB Scheme / EAC / EAC / UL Recognized / cUL Recognized / DNV GL / cULus Recognized / cULus Listed


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#### Ex Approvals

UL Listed / cUL Listed / cULus Listed


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### Approval details

UL Recognized  <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> FILE E 214596
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cUL Recognized  <http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm> FILE E 214596

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LR <http://www.lr.org/en> 08/20069 E3

GL <http://www.gl-group.com/newbuilding/approvals/index.html> 59365-08 HH

BV [http://www.veristar.com/wps/portal/lut/pl\\_s\\_7\\_0\\_A/7\\_0\\_RIM](http://www.veristar.com/wps/portal/lut/pl_s_7_0_A/7_0_RIM) 21005-B0 BV

NK <http://www.classnk.or.jp/hp/en> 08A039

RINA <http://www.rina.org/en/index.aspx> ELE466308CS/001

BSH <http://www.bsh.de/de/index.jsp> Nr. 581

IECEE CB Scheme  <http://www.iecee.org/> DK-11098-M1

EAC EAC-Zulassung

EAC 7500651.22.01.00242


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DNV GL <https://www.dnvgl.com/> TAE000014W

cULus Recognized  <http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

cULus Listed 