


**STEP-PS/ 1AC/12DC/3**

Order No.: 2868570

<http://eshop.phoenixcontact.co.uk/phoenix/treeViewClick.do?UID=2868570>

DIN rail power supply unit 12 V DC/3 A, primary switched-mode, 1-phase



| Commercial data          |  |
|--------------------------|--|
| EAN                      | <br>4 046356 309578 |
| Pack                     | 1  |
| Customs tariff           | 85044081   |
| Country of Origin        | DE   |
| Catalog page information | Page 607 (IF-2011)   |

## Product notes

WEEE/RoHS-compliant since:  
04/02/2008

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## Product description

**STEP POWER power supply units – for building automation**

The new STEP POWER generation of compact power supply units is particularly suitable for installation distributors and flat control panels thanks to its design. The power supply units are available with 24 V DC output voltage in various performance classes and widths and with the special voltages 5, 12, 15 and 48 V DC. Their high degree of efficiency and the low standby losses make for high power efficiency.

## Technical data

### Input data

|                              |                              |
|------------------------------|------------------------------|
| Nominal input voltage        | 100 V AC ... 240 V AC        |
| AC input voltage range       | 85 V AC ... 264 V AC         |
| DC input voltage range       | 95 V DC ... 250 V DC         |
| AC frequency range           | 45 Hz ... 65 Hz              |
| DC frequency range           | 0 Hz                         |
| Current consumption          | Approx. 0.6 A (120 V AC)     |
|                              | Approx. 0.3 A (230 V AC)     |
| 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) |
| Permissible backup fuse      | B6                           |
|                              | B10                          |
|                              | B16                          |
| Type of protection           | Transient surge protection   |
| Protective circuit/component | Varistor                     |

### Output data

|                                      |  |
|--------------------------------------|--|
| Nominal output voltage               | 12 V DC $\pm$ 1%                                 |
| Setting range of the output voltage  | 10 V DC ... 16.5 V DC (> 12 V constant capacity) |
| Output current                       | 3 A (-25°C ... 55°C)                             |
|                                      | 3.3 A (-25 °C ... 40 °C permanent)               |
|                                      | 4.9 A (maximum output current)                   |
| 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 $\pm$ 10%)      |
| Residual ripple                      | < 40 mV <sub>PP</sub> (20 MHz)                   |
| Peak switching voltages nominal load | < 35 mV <sub>PP</sub> (20 MHz)                   |
| Maximum power dissipation idling     | < 0.5 W  |
| Power loss nominal load max.         | 6.4 W  |

**General data**

|  |  |
|--|--|
| Width  | 54 mm  |
| Height   | 90 mm  |
| Depth  | 61 mm  |
| Net weight   | 0.2 kg   |
| Operating voltage display  | Green LED                                      |
| Efficiency   | > 85 % (for 230 V AC and nominal values)       |
| Insulation voltage input/output  | 4 kV AC (type test)<br>2 kV AC (routine test)  |
| Degree of protection   | IP20   |
| Protection class   | II   |
| MTBF (IEC 61709, SN 29500)   | > 500000 h (IEC 61709)                         |
| Ambient temperature (operation)  | -25 °C ... 70 °C (> 55° C derating)            |
| Ambient temperature (storage/transport)  | -40 °C ... 85 °C                               |
| Max. permissible relative humidity (operation)   | ≤ 95 % (at 25 °C, no condensation)             |
| Mounting position  | horizontal DIN rail NS 35, EN 60715            |
| Assembly instructions  | Can be aligned: horizontal 0 cm, vertical 3 cm |
| Electromagnetic compatibility  | Conformance with EMC Directive 2004/108/EC     |
| Noise immunity   | EN 61000-6-2:2005                              |
| Low Voltage Directive  | Conformance with LV directive 2006/95/EC       |
| Standard – Electrical equipment of machines  | EN 60204                                       |
| Standard - Safety of transformers  | IEC 61558-2-17                                 |
| Standard - Electrical safety   | IEC 60950-1/VDE 0805 (SELV)                    |
| Shipbuilding approval  | Germanischer Lloyd (EMC 1), ABS, NK            |
| 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 (PELV)         |
| Standard - Safe isolation  | DIN VDE 0100-410<br>DIN VDE 0106-1010          |
| Standard – Protection against electric shock   | DIN 57100-410                                  |
| Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment               | DIN VDE 0106-101                               |
| Standard – Limitation of mains harmonic currents   | EN 61000-3-2                                   |
| Certificate  | CB Scheme                                      |

|                        |   |
|------------------------|---|
| UL approvals           | UL/C-UL listed UL 508   |
|                        | UL/C-UL Recognized UL 60950   |
|                        | NEC Class 2 as per UL 1310  |
|                        | UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D |
| Surge voltage category | III   |

#### 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 stranded min.  | 0.2 mm <sup>2</sup> |
| Conductor cross section stranded max.  | 2.5 mm <sup>2</sup> |
| Conductor cross section AWG/kcmil min. | 24                  |
| Conductor cross section AWG/kcmil 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 stranded min.  | 0.2 mm <sup>2</sup> |
| Conductor cross section stranded max.  | 2.5 mm <sup>2</sup> |
| Conductor cross section AWG/kcmil min. | 24                  |
| Conductor cross section AWG/kcmil max  | 12                  |
| Stripping length                       | 6.5 mm              |

#### Signaling

|                        |                                   |
|------------------------|-----------------------------------|
| Output name            | LED status indicator              |
| Status display         | "DC OK" LED green                 |
| Note on status display | U <sub>OUT</sub> > 10.8 V: LED on |

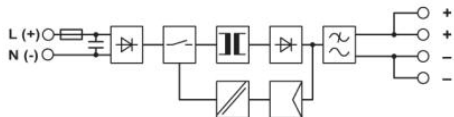
#### Certificates



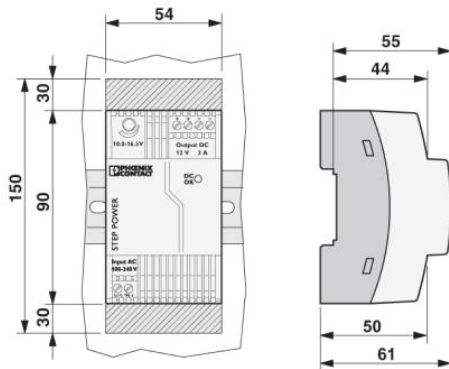
Certification CB, CUL, CUL Listed, GL, NK, UL, UL Listed  
Certification Ex: CUL-EX LIS, UL-EX LIS

## Drawings

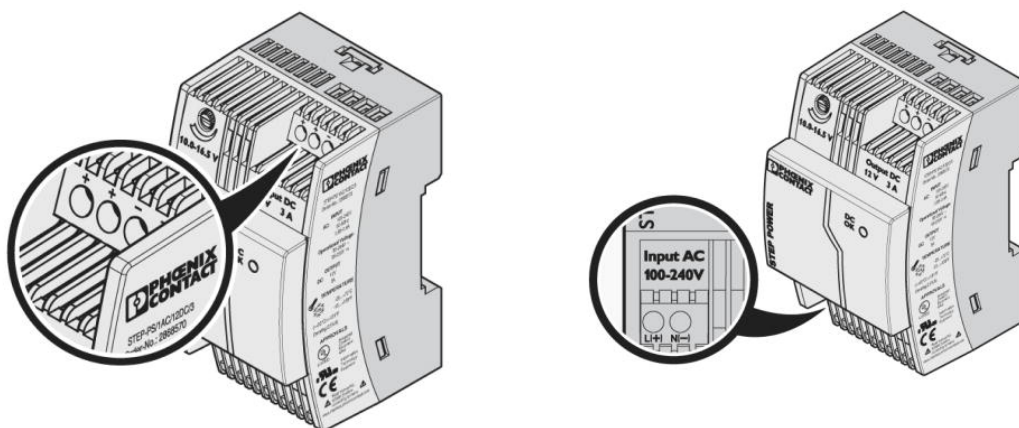
### Block diagram

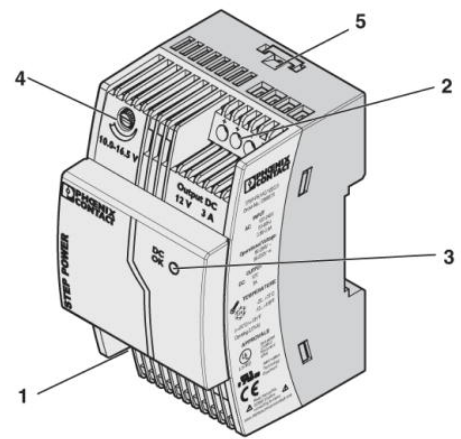
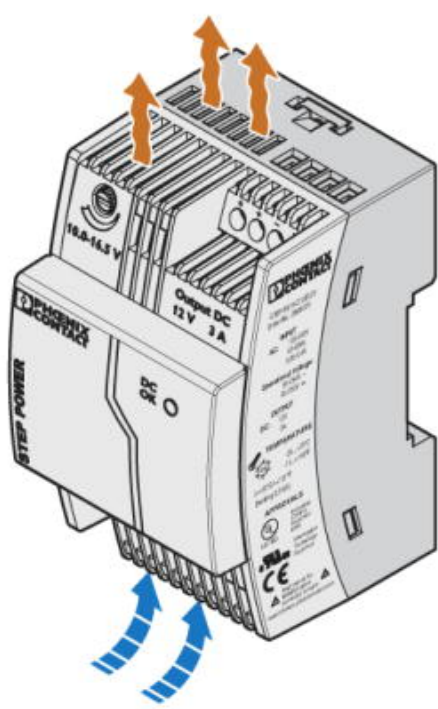


### Dimensioned drawing



### Schematic diagram





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