

# Power supply unit - STEP-PS/ 1AC/24DC/4.2 - 2868664

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DIN rail power supply unit 24 V DC/4.2 A, primary switched-mode, 1-phase.

## Product Description

STEP POWER power supply units – for building automationThe 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.

## Product Features

- 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

package_quantity	1
GTIN	4046356287975

## Technical data

### Dimensions

Width	90 mm
Height	90 mm
Depth	61 mm

### Ambient conditions

Degree of protection	IP20
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)
Noise immunity	EN 61000-6-2:2005

### Input data

Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range AC	85 V AC ... 264 V AC
Input voltage range DC	95 V DC ... 250 V DC

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## Technical data

### Input data

<b>AC frequency range</b>	45 Hz ... 65 Hz
<b>Frequency range DC</b>	0 Hz
<b>Current consumption</b>	1.3 A (120 V AC)
<b>Current consumption</b>	0.8 A (230 V AC)
<b>Inrush surge current</b>	< 15 A (typical)
<b>Power failure bypass</b>	> 20 ms (120 V AC)
<b>Power failure bypass</b>	> 100 ms (230 V AC)
<b>Input fuse</b>	4 A (slow-blow, internal)
<b>Type of protection</b>	Transient surge protection
<b>Protective circuit/component</b>	Varistor

### Output data

<b>Nominal output voltage</b>	24 V DC $\pm$ 1%
<b>Setting range of the output voltage</b>	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)
<b>Output current</b>	4.2 A (-25°C ... 55°C)
<b>Output current</b>	4.4 A (-25 °C ... 40 °C permanent)
<b>Output current</b>	6.5 A (maximum output current)
<b>Derating</b>	55 °C ... 70 °C (2.5%/K)
<b>Connection in parallel</b>	Yes, for redundancy and increased capacity
<b>Connection in series</b>	Yes
<b>Control deviation</b>	< 1 % (change in load, static 10% ... 90%)
<b>Control deviation</b>	< 2 % (change in load, dynamic 10% ... 90%)
<b>Control deviation</b>	< 0.1 % (change in input voltage $\pm$ 10%)
<b>Residual ripple</b>	< 40 mV <sub>pp</sub> (20 MHz)
<b>Peak switching voltages nominal load</b>	< 30 mV <sub>pp</sub> (20 MHz)
<b>Maximum power dissipation NO-Load</b>	< 0.7 W
<b>Power loss nominal load max.</b>	13.2 W

### General

<b>Net weight</b>	0.33 kg
<b>Efficiency</b>	> 88 % (for 230 V AC and nominal values)
<b>Insulation voltage input/output</b>	4 kV AC (type test)
<b>Insulation voltage input/output</b>	3.75 kV AC (routine test)
<b>Protection class</b>	II (in an enclosed control cabinet)
<b>MTBF (IEC 61709, SN 29500)</b>	> 897498 h (According to EN 29500)
<b>Mounting position</b>	horizontal DIN rail NS 35, EN 60715
<b>Assembly instructions</b>	Alignable: 0 mm horizontally, 30 mm vertically
<b>Electromagnetic compatibility</b>	Conformance with EMC Directive 2004/108/EC
<b>Low Voltage Directive</b>	Conformance with LV directive 2006/95/EC
<b>Standard – Electrical equipment of machines</b>	EN 60204
<b>Standard - Electrical safety</b>	IEC 60950-1/VDE 0805 (SELV)
<b>Shipbuilding approval</b>	Germanischer Lloyd (EMC 1), ABS, NK

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### General

<b>Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations</b>	EN 50178/VDE 0160 (PELV)
<b>Standard – Safety extra-low voltage</b>	IEC 60950-1 (SELV) and EN 60204 (PELV)
<b>Standard - Safe isolation</b>	DIN VDE 0100-410
<b>Standard - Safe isolation</b>	DIN VDE 0106-1010
<b>Standard – Protection against electric shock</b>	DIN 57100-410
<b>Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment</b>	DIN VDE 0106-101
<b>Standard – Limitation of mains harmonic currents</b>	EN 61000-3-2
<b>Information technology equipment - safety (CB scheme)</b>	CB Scheme
<b>UL approvals</b>	UL/C-UL listed UL 508
<b>UL approvals</b>	UL/C-UL Recognized UL 60950
<b>UL approvals</b>	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
<b>Surge voltage category</b>	III

### Connection data, input

<b>Connection method</b>	Screw connection
<b>Conductor cross section solid min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section stranded min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	24
<b>Conductor cross section AWG/kcmil max</b>	12
<b>Stripping length</b>	6.5 mm
<b>Screw thread</b>	M3

### Connection data, output

<b>Connection method</b>	Screw connection
<b>Conductor cross section solid min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section stranded min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	24
<b>Conductor cross section AWG/kcmil max</b>	12
<b>Stripping length</b>	6.5 mm

### Signaling

<b>Output name</b>	LED status indicator
<b>Status display</b>	"DC OK" LED green
<b>Note on status display</b>	U <sub>OUT</sub> > 21.5 V: LED lights up

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## 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

### ETIM

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

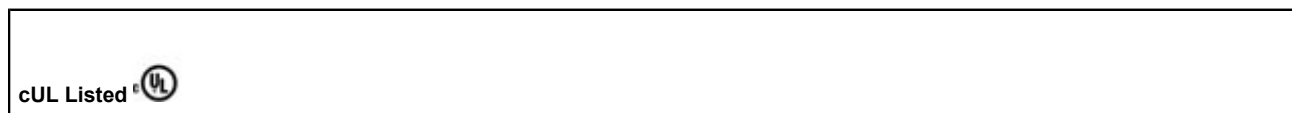
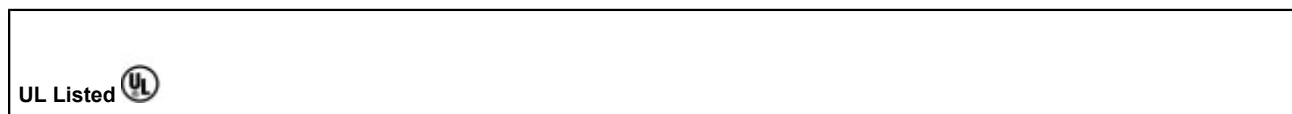
### UNSPSC

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

## approvals

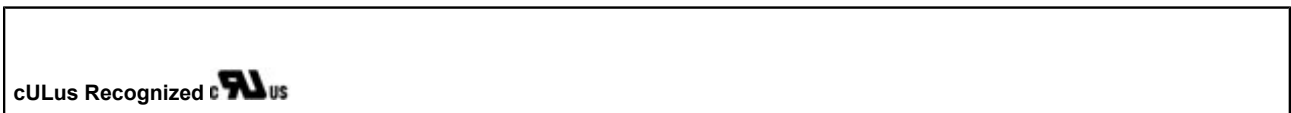
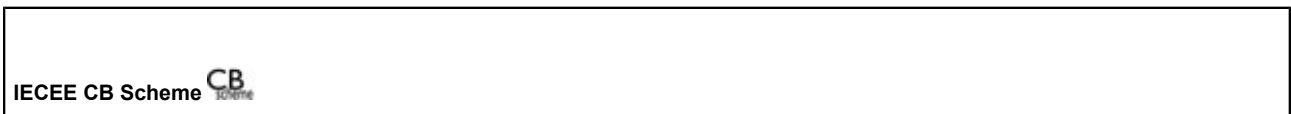
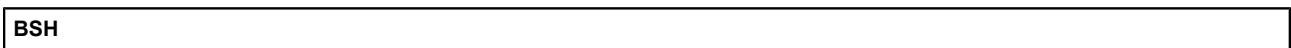
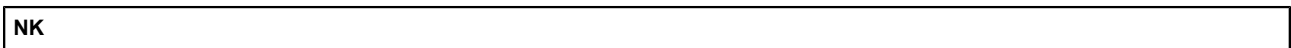
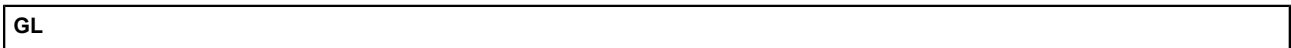
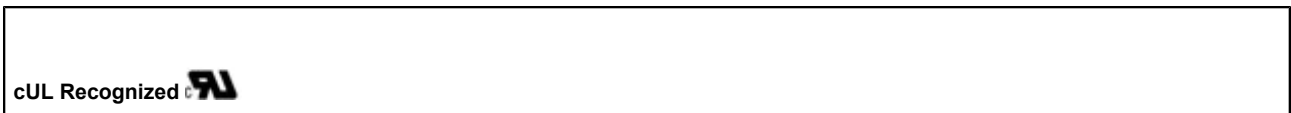
UL Listed / cUL Listed / cULus Listed / UL Recognized / UL Listed / cUL Recognized / cUL Listed / GL / NK / BSH / IECCEB Scheme / cULus Recognized / cULus Listed /

### Approval details



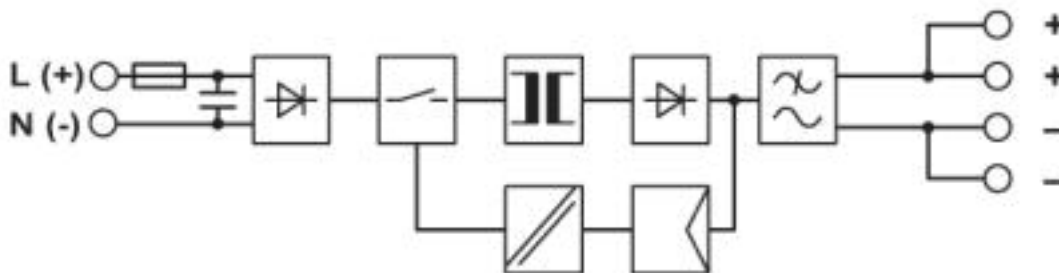
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approvals



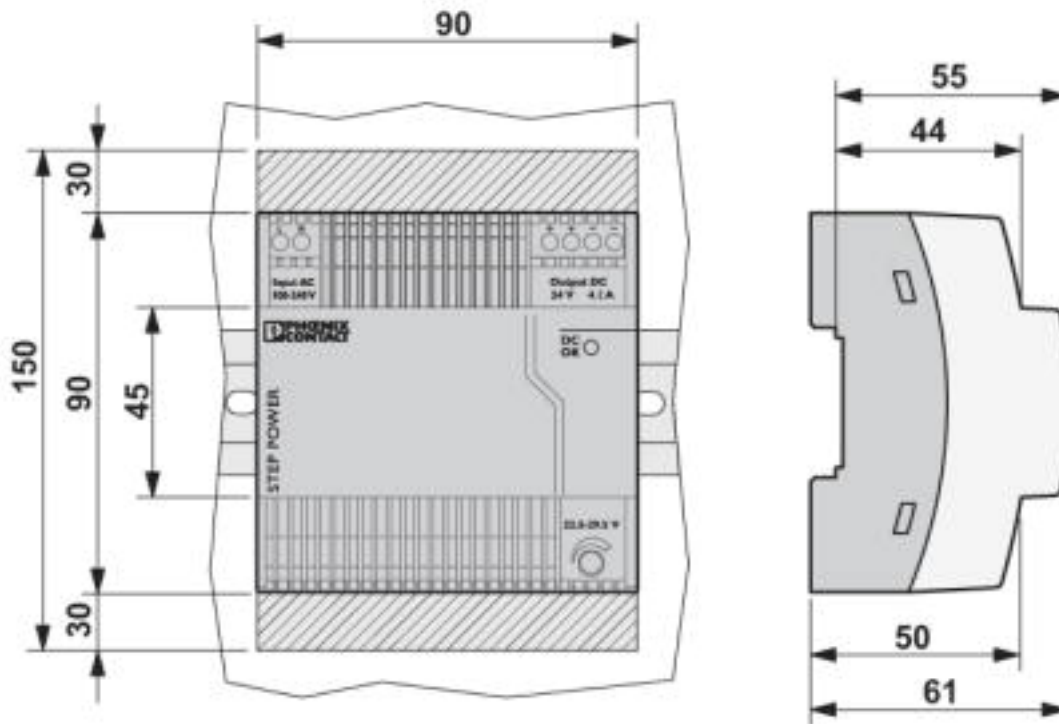
## Drawings

Block diagram



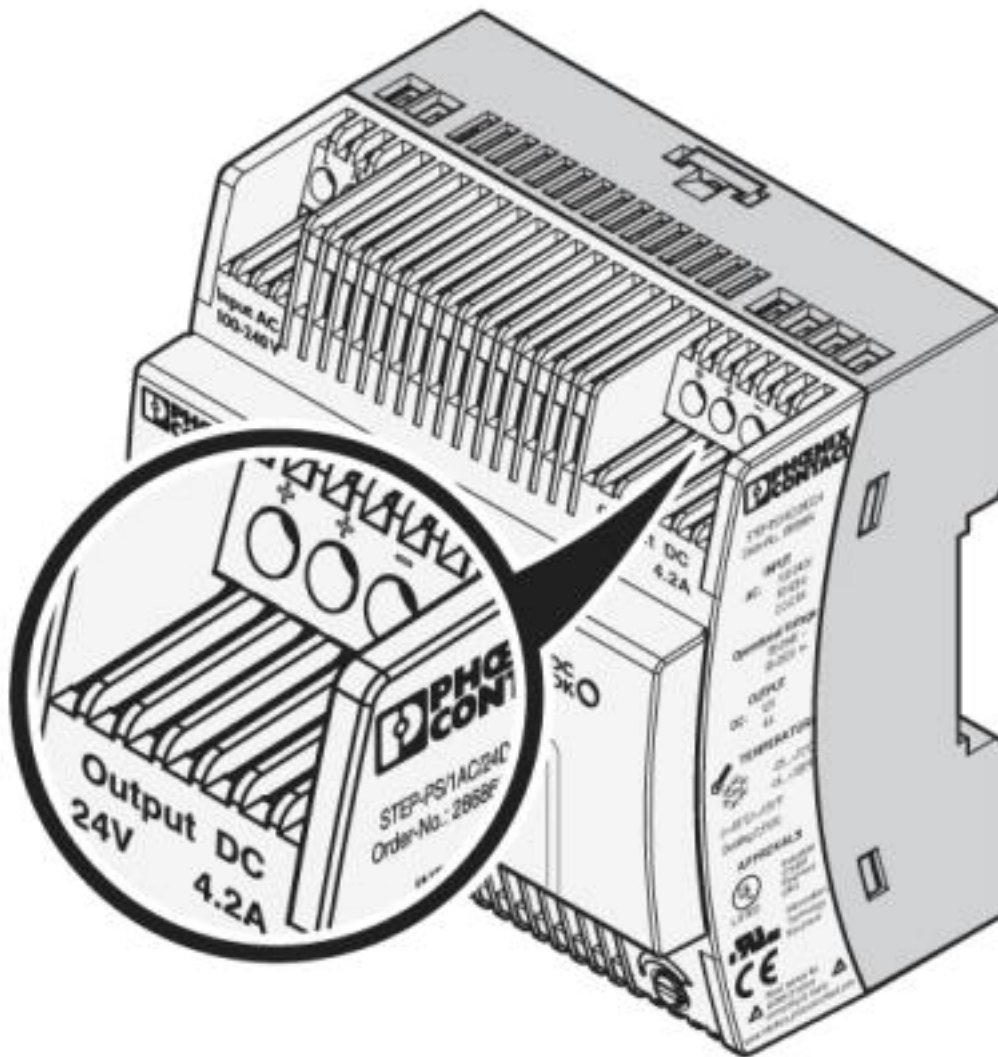
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Dimensioned drawing



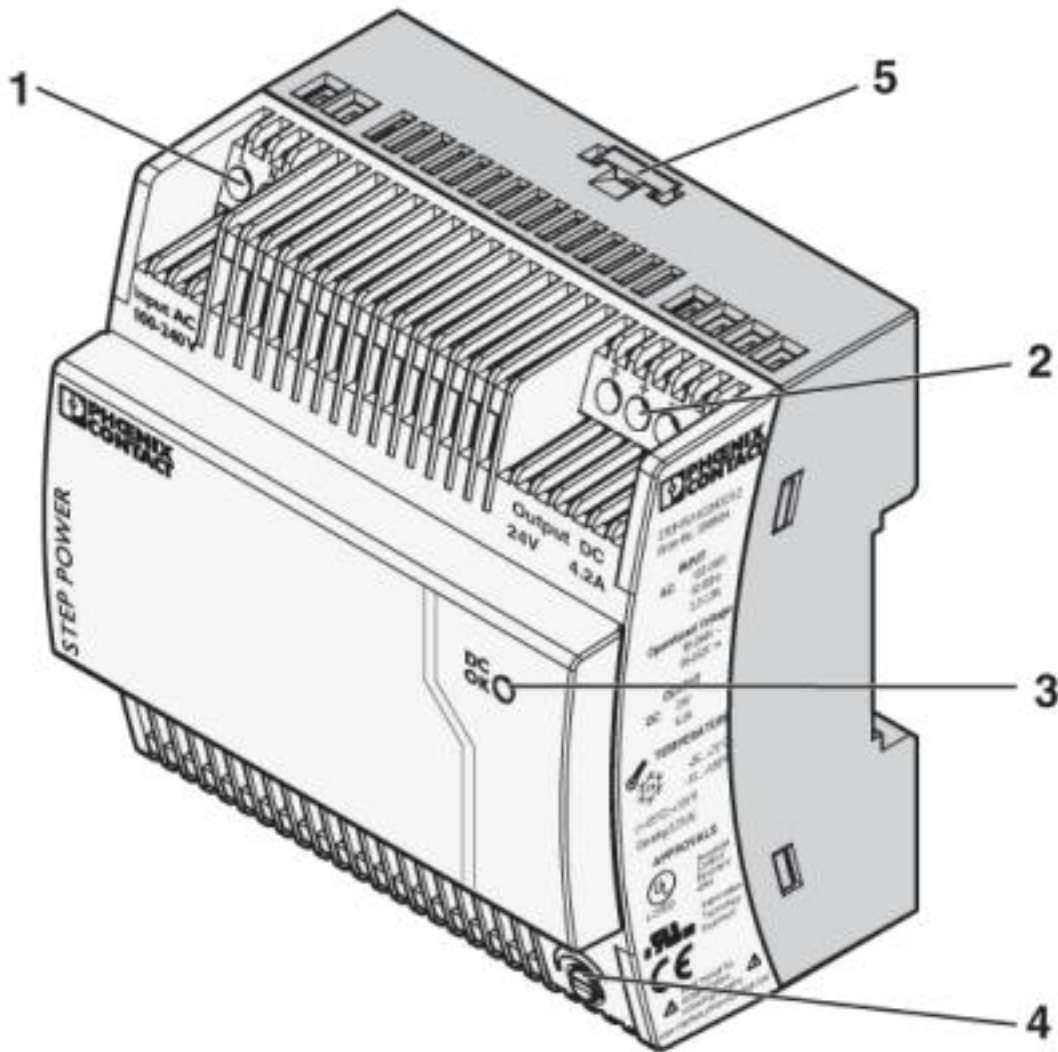
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Schematic diagram



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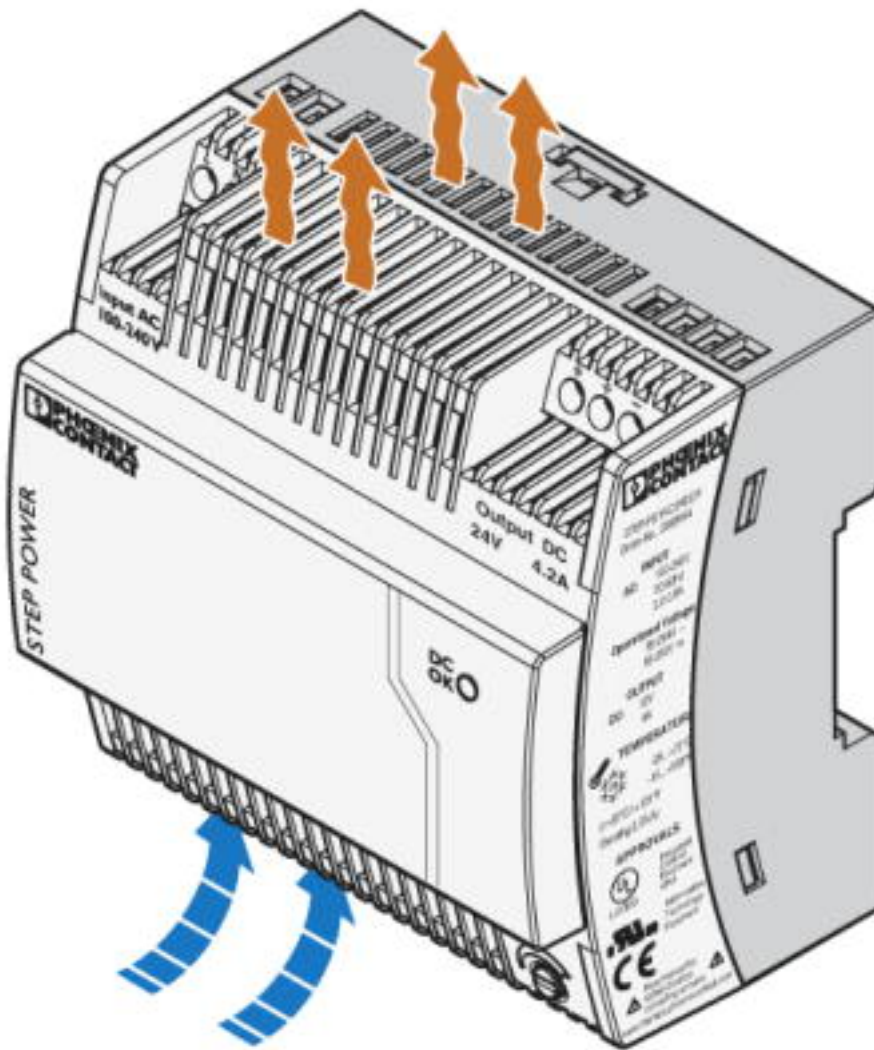
Schematic diagram





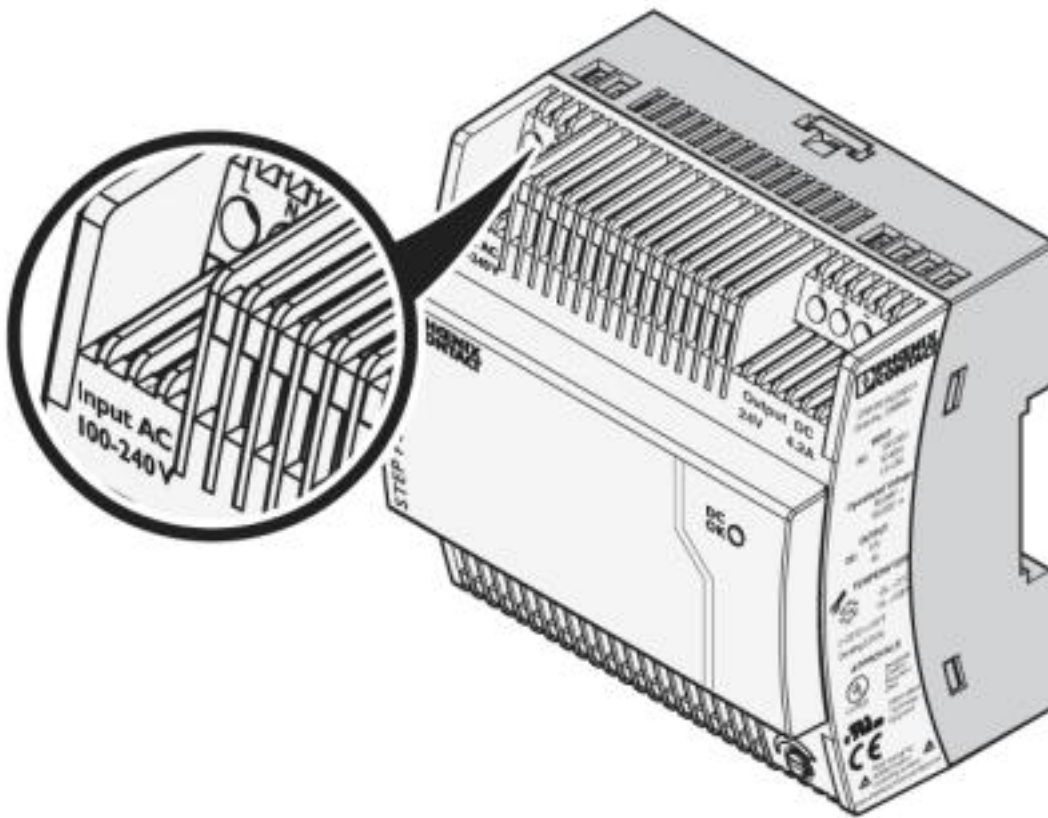
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Schematic diagram



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Schematic diagram



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