

STEP3-PS/1AC/12DC/1.3/PT - Power supply



1170952

<https://www.phoenixcontact.com/us/products/1170952>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Primary-switched power supply unit STEP POWER, Push-in connection, DIN rail or direct mounting, input: 1-phase, output: 12 V DC / 1.3 A

Product description

STEP POWER power supplies for distribution boards. The STEP POWER power supplies with Push-in connection technology are the professional solution for intelligent building automation. The compact devices are economical, space-saving, and flexible in application.

Your advantages

- Energy savings with the highest level of efficiency in no-load and part-load operation (Efficiency Level VI)
- Space savings in the control cabinet due to the narrow design combined with increased performance (up to 100%)
- Approval for household purposes (EN 60335) allows use in domestic applications
- Quick and easy startup with tool-free Push-in connection technology at a 45° angle with double terminal points
- Flexible mounting: Snap onto a DIN rail or screw onto a level surface



Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1170952 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | CM09 |
| Product key | CMPH12 |
| GTIN | 4063151195519 |
| Weight per piece (including packing) | 91.5 g |
| Weight per piece (excluding packing) | 92 g |

STEP3-PS/1AC/12DC/1.3/PT - Power supply



1170952

<https://www.phoenixcontact.com/us/products/1170952>

| | |
|-----------------------|----------|
| Customs tariff number | 85044095 |
| Country of origin | VN |

Technical data

Input data

AC operation

| | |
|--|--|
| Supply system configuration | Star network (TN, TT, IT (PE)) |
| Input voltage range | 100 V AC ... 240 V AC -15 % ... +10 % |
| Typical national grid voltage | 120 V AC 230 V AC |
| Voltage type of supply voltage | AC |
| Inrush current | typ. 27 A (25 °C) |
| Inrush current integral (I^2t) | typ. 0.12 A ² s |
| Frequency range (f_N) | 50 Hz ... 60 Hz \pm 10 % |
| Mains buffering time | typ. 20 ms (120 V AC) typ. 85 ms (230 V AC) |
| Current consumption | 0.3 A (100 V AC) 0.17 A (240 V AC) |
| Switch-on time | typ. 2 s |
| Device mains fuse | 1.25 A internal (device protection), slow-blow |
| Recommended breaker for input protection | 6 A ... 16 A (Characteristics B, C, D, K) |
| Discharge current to PE | < 0.25 mA |

DC operation

| | |
|--------------------------------|--|
| Input voltage range | 110 V DC ... 250 V DC -20 % ... +10 % |
| Voltage type of supply voltage | DC |
| Current consumption | 0.17 A (110 V DC) 0.08 A (250 V DC) |

Output data

| | |
|--|---|
| Efficiency | > 85.5 % (120 V AC) > 86 % (230 V AC) |
| Efficiency Level | VI |
| Nominal output voltage | 12 V DC |
| Nominal output current (I_N) | 1.3 A |
| Short-circuit-proof | yes |
| No-load proof | yes |
| Derating | > 50 °C ... 70 °C (2 % / K) |
| Crest factor | typ. 3.43 typ. 4.5 |
| Output power (P_N) | 15 W |
| Connection in parallel | yes, for increasing power and redundancy with diode |
| Connection in series | yes, for increased output voltage |
| Feedback voltage resistance | \leq 25 V DC |
| Protection against overvoltage at the output (OVP) | < 25 V DC |

1170952

<https://www.phoenixcontact.com/us/products/1170952>

| | |
|--|--|
| Residual ripple | typ. 150 mV _{PP} |
| Control deviation | < 1 % (Static load change 10 % ... 90 %) |
| | < 4 % (Dynamic load change 10 % ... 90 %, (10 Hz)) |
| | < 0.1 % (change in input voltage ±10 %) |
| Rise time | typ. 100 ms (U _{Out} = 10 % ... 90 %) |
| Minimum no-load power dissipation | < 0.1 W (120 V AC) |
| Maximum no-load power dissipation | < 0.1 W (230 V AC) |
| Minimum nominal load power dissipation | < 3.2 W (120 V AC) |
| Power loss nominal load max. | < 3 W (230 V AC) |
| Integrated fuse protection | no |
| Fuse protection (secondary side) | electronic |

Connection data

Input

| | |
|----------|-----|
| Position | 1.x |
|----------|-----|

Connection technology: Positions

| | |
|------------------|----------------------------|
| Position marking | 1.1, 1.2 (L), 1.3, 1.4 (N) |
|------------------|----------------------------|

Conductor connection

| | |
|--|---|
| Connection method | Push-in connection |
| rigid | 0.2 mm ² ... 2.5 mm ² |
| | 1 mm ² (recommended) |
| flexible | 0.2 mm ² ... 2.5 mm ² |
| | 1 mm ² (recommended) |
| flexible with ferrule without plastic sleeve | 0.5 mm ² ... 1.5 mm ² |
| | 1 mm ² (recommended) |
| flexible with ferrule with plastic sleeve | 0.2 mm ² ... 1 mm ² |
| | 1 mm ² (recommended) |
| AWG | 17 |
| | 24 ... 14 (Cu) |
| Stripping length | 10 mm (rigid/flexible) |
| | 10 mm (Ferrule) |

Output

| | |
|----------|-----|
| Position | 2.x |
|----------|-----|

Connection technology: Positions

| | |
|------------------|----------------------------|
| Position marking | 2.1, 2.2 (+), 2.3, 2.4 (-) |
|------------------|----------------------------|

Conductor connection

| | |
|-------------------|---|
| Connection method | Push-in connection |
| rigid | 0.2 mm ² ... 2.5 mm ² |
| | 1 mm ² (recommended) |
| flexible | 0.2 mm ² ... 2.5 mm ² |
| | 1 mm ² (recommended) |

STEP3-PS/1AC/12DC/1.3/PT - Power supply



1170952

<https://www.phoenixcontact.com/us/products/1170952>

| | |
|--|---|
| flexible with ferrule without plastic sleeve | 0.5 mm ² ... 1.5 mm ² |
| | 1 mm ² (recommended) |
| flexible with ferrule with plastic sleeve | 0.2 mm ² ... 1 mm ² |
| | 1 mm ² (recommended) |
| AWG | 17 |
| | 24 ... 14 (Cu) |
| Stripping length | 10 mm |

Signaling

LED signaling

| | |
|--------------------|---|
| Types of signaling | LED |
| Signal threshold | > 0.9 × U _N (U _N = 12 V DC) (LED lights up green) |
| | < 0.9 × U _N (U _N = 12 V DC) (LED off) |

Electrical properties

| | |
|---------------------------------|---------------------------|
| Number of phases | 1 |
| Insulation voltage input/output | 4 kV AC (type test) |
| | 3.75 kV AC (routine test) |

Product properties

| | |
|------------------------------------|---------------------------|
| Product type | Power supply |
| Product family | STEP POWER |
| MTBF (IEC 61709, SN 29500) | > 5880000 h (25 °C) |
| | > 4278000 h (40 °C) |
| | > 3039000 h (50 °C) |
| Environmental protection directive | RoHS Directive 2011/65/EU |
| | WEEE |
| | Reach |

Insulation characteristics

| | |
|-----------------------------------|--------------------------------|
| Protection class | II (in closed control cabinet) |
| Overvoltage category (EN 61010-1) | II (≤ 4000 m) |
| Overvoltage category (EN 62477-1) | III (≤ 2000 m) |
| Degree of pollution | 2 |

Dimensions

Item dimensions

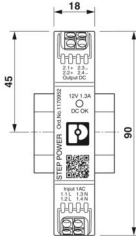
| | |
|--|--|
| Width | 18 mm |
| Height | 90 mm |
| Depth | 61 mm |
| Depth (Device depth (DIN rail mounting)) | 55 mm (Device depth (DIN rail mounting)) |

STEP3-PS/1AC/12DC/1.3/PT - Power supply



1170952

<https://www.phoenixcontact.com/us/products/1170952>

| | |
|---------------------|---|
| Dimensional drawing |  |
| Horizontal pitch | 1 Div. (DIN 43880) |

| | |
|----------------------------------|---------------|
| Installation dimensions | |
| Installation distance right/left | 0 mm / 0 mm |
| Installation distance top/bottom | 30 mm / 30 mm |

Mounting

| | |
|-------------------------|--|
| Mounting type | DIN rail or direct mounting |
| Assembly note | alignable: 0 mm horizontally, 30 mm vertically |
| Mounting position | horizontal DIN rail NS 35, EN 60715 |
| With protective coating | no |

Material specifications

| | |
|--|---|
| Flammability rating according to UL 94 | V0 (Housing, terminal blocks, base latches) |
| Housing material | Plastic |
| Housing material | PC |
| Foot latch material | Polyamid |

Environmental and real-life conditions

| | |
|--|---|
| Ambient conditions | |
| Degree of protection | IP20 IP20 |
| Ambient temperature (operation) | -10 °C ... 70 °C (Derating: > 50 °C; 2 %/K) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Ambient temperature (start-up type tested) | -25 °C |
| Maximum altitude | ≤ 4000 m (> 2000 m, Derating: 10 %/1000 m) |
| Max. permissible relative humidity (operation) | ≤ 95 % (at 25 °C, non-condensing) |
| Shock (operation) | 18 ms, 30g, per spatial direction (IEC 60068-2-27) |
| Vibration (operation) | < 15 Hz, amplitude ±2.5 mm (IEC 60068-2-6) 15 Hz ... 150 Hz, 2.3g, 90 min. |
| Temp code | T4 (-10 ... +70 °C; > 50 °C, Derating: 2 %/K) |

Standards and regulations

| | |
|--------------------------|--------------------------|
| Safety extra-low voltage | |
| Standard designation | Safety extra-low voltage |
| Standards/specifications | IEC 61010-1 (SELV) |

STEP3-PS/1AC/12DC/1.3/PT - Power supply



1170952

<https://www.phoenixcontact.com/us/products/1170952>

Protective extra-low voltage

| | |
|--------------------------|------------------------------|
| Standard designation | Protective extra-low voltage |
| Standards/specifications | IEC 61010-2-201 (PELV) |

Safe isolation

| | |
|--------------------------|----------------|
| Standard designation | Safe isolation |
| Standards/specifications | IEC 61558-2-16 |

Low-voltage power supplies, DC output

| | |
|--------------------------|---------------------------------------|
| Standard designation | Low-voltage power supplies, DC output |
| Standards/specifications | EN 61204-3 |

Safety requirements for electrical equipment for measurement, control, and laboratory use

| | |
|--------------------------|---|
| Standard designation | Safety requirements for electrical equipment for measurement, control, and laboratory use |
| Standards/specifications | IEC 61010-1 |

Household and similar electrical appliances - Safety

| | |
|--------------------------|---|
| Standard designation | Safety of electrical devices for household use and similar purposes |
| Standards/specifications | DIN EN 60335-1 |

Electric vehicle conductive charging system - Part 21-2: EMC requirements for off board electric vehicle charging systems

| | |
|--------------------------|---|
| Standard designation | Electric vehicle conductive charging system - Part 21-2: EMC requirements for off board electric vehicle charging systems |
| Standards/specifications | IEC 61851-21-2 |
| Note | Class B |

Approvals

UL

| | |
|----------------|-----------------------------|
| Identification | UL 1310 Class 2 Power Units |
|----------------|-----------------------------|

UL

| | |
|----------------|---------------------------|
| Identification | UL/C-UL Listed UL 61010-1 |
|----------------|---------------------------|

UL

| | |
|----------------|-------------------------------|
| Identification | UL/C-UL Listed UL 61010-2-201 |
|----------------|-------------------------------|

UL

| | |
|----------------|---|
| Identification | UL/C-UL Listed ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location) |
|----------------|---|

EMC data

| | |
|-------------------------------|--|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Low Voltage Directive | Conformance with Low Voltage Directive 2014/35/EC |
| Interference emission | Interference emission in accordance with EN 61000-6-3 (residential and commercial) and EN 61000-6-4 (industrial) |
| Noise immunity | EN 61000-6-2:2005 |

STEP3-PS/1AC/12DC/1.3/PT - Power supply



1170952

<https://www.phoenixcontact.com/us/products/1170952>

Conducted noise emission

| | |
|-----------------------|------------------------|
| Standards/regulations | EN 55016 |
| | EN 61000-6-3 (Class B) |

Noise emission

| | |
|-----------------------|------------------------|
| Standards/regulations | EN 55016 |
| | EN 61000-6-3 (Class B) |

Harmonic currents

| | |
|-----------------------|------------------------|
| Standards/regulations | EN 61000-3-2 |
| | EN 61000-3-2 (Class A) |

Flicker

| | |
|-----------------------|-----------------|
| Standards/regulations | EN 61000-3-3 |
| Frequency range | 0 kHz ... 2 kHz |

Electrostatic discharge

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-2 |
|-----------------------|--------------|

Electrostatic discharge

| | |
|-------------------|---------------------|
| Contact discharge | 6 kV (Test Level 3) |
| Discharge in air | 8 kV (Test Level 3) |
| Comments | Criterion A |

Electromagnetic HF field

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-3 |
|-----------------------|--------------|

Electromagnetic HF field

| | |
|---------------------|-----------------------|
| Frequency range | 80 MHz ... 1 GHz |
| Test field strength | 10 V/m (Test Level 3) |
| Frequency range | 1 GHz ... 6 GHz |
| Test field strength | 10 V/m (Test Level 3) |
| Comments | Criterion A |

Fast transients (burst)

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-4 |
|-----------------------|--------------|

Fast transients (burst)

| | |
|----------|----------------------------------|
| Input | asymmetrical 4 kV (Test Level 4) |
| Output | asymmetrical 2 kV (Test Level 3) |
| Comments | Criterion A |

Surge voltage load (surge)

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-5 |
|-----------------------|--------------|

Surge voltage load (surge)

| | |
|-------|----------------------------------|
| Input | symmetrical 2 kV (Test Level 4) |
| | asymmetrical 4 kV (Test Level 4) |

STEP3-PS/1AC/12DC/1.3/PT - Power supply



1170952

<https://www.phoenixcontact.com/us/products/1170952>

| | |
|----------|----------------------------------|
| Output | symmetrical 1 kV (Test Level 3) |
| | asymmetrical 2 kV (Test Level 3) |
| Comments | Criterion A |

Conducted interference

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-6 |
|-----------------------|--------------|

Conducted interference

| | |
|-----------------|---------------------|
| Input/Output | asymmetrical |
| Frequency range | 0.15 MHz ... 80 MHz |
| Comments | Criterion A |
| Voltage | 10 V (Test Level 3) |

Voltage dips

| | |
|-----------------------|---------------|
| Standards/regulations | EN 61000-4-11 |
| Voltage | 230 V AC |
| Frequency | 50 Hz |
| Voltage dip | 70 % |
| Number of periods | 25 periods |
| Additional text | Class 3 |
| Comments | Criterion A |
| Voltage dip | 40 % |
| Number of periods | 10 periods |
| Additional text | Class 3 |
| Comments | Criterion A |
| Voltage dip | 0 % |
| Number of periods | 1 period |
| Additional text | Class 3 |
| Comments | Criterion A |

Criteria

| | |
|-------------|--|
| Criterion A | Normal operating behavior within the specified limits. |
| Criterion B | Temporary impairment to operational behavior that is corrected by the device itself. |
| Criterion C | Temporary adverse effects on the operating behavior, which the device corrects automatically or which can be restored by actuating the operating elements. |

STEP3-PS/1AC/12DC/1.3/PT - Power supply

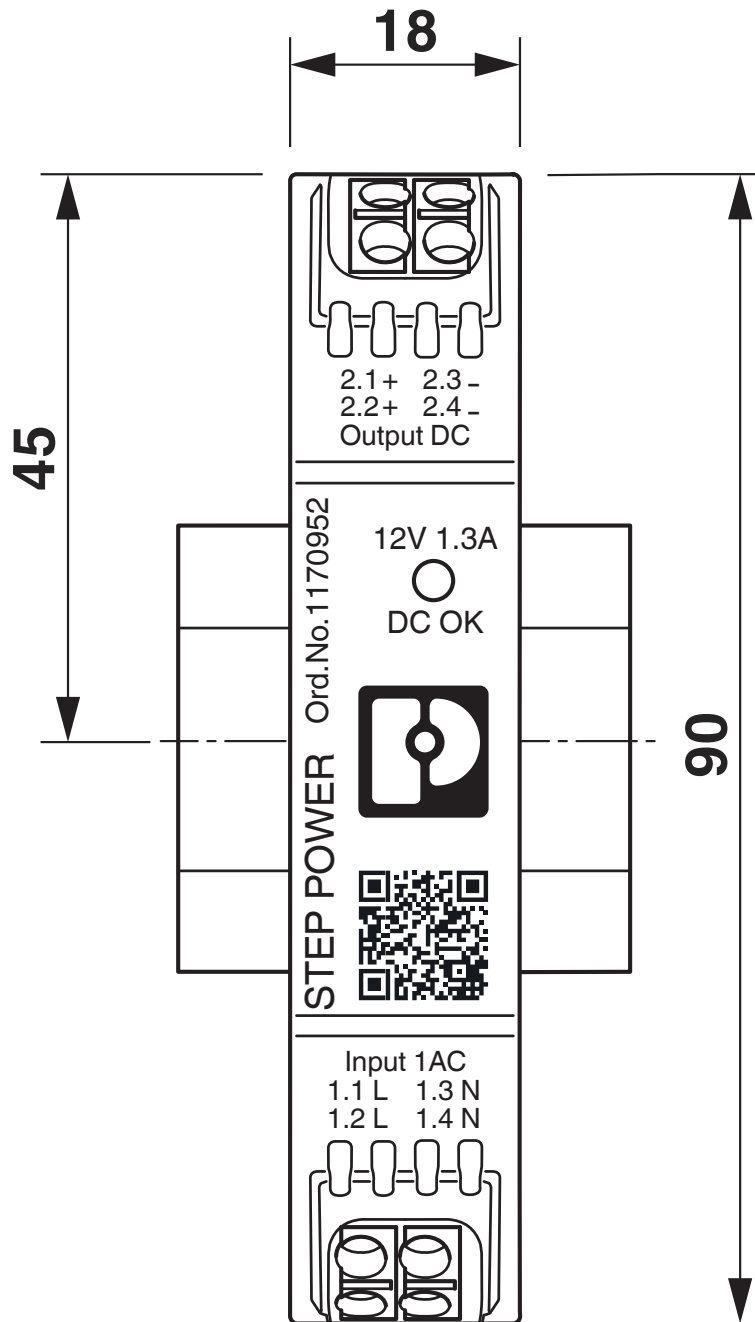


1170952

<https://www.phoenixcontact.com/us/products/1170952>

Drawings

Dimensional drawing

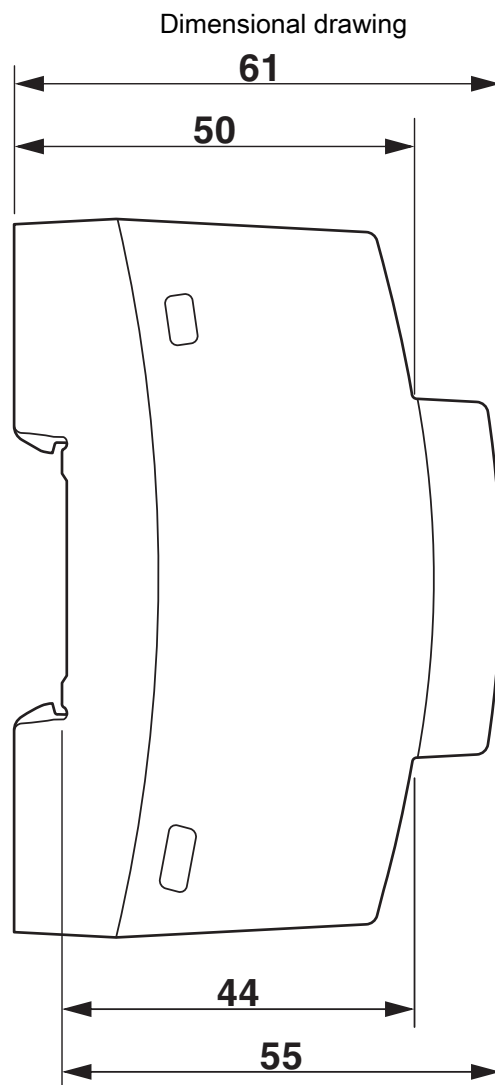


Device dimensions (dimensions in mm)

STEP3-PS/1AC/12DC/1.3/PT - Power supply

1170952

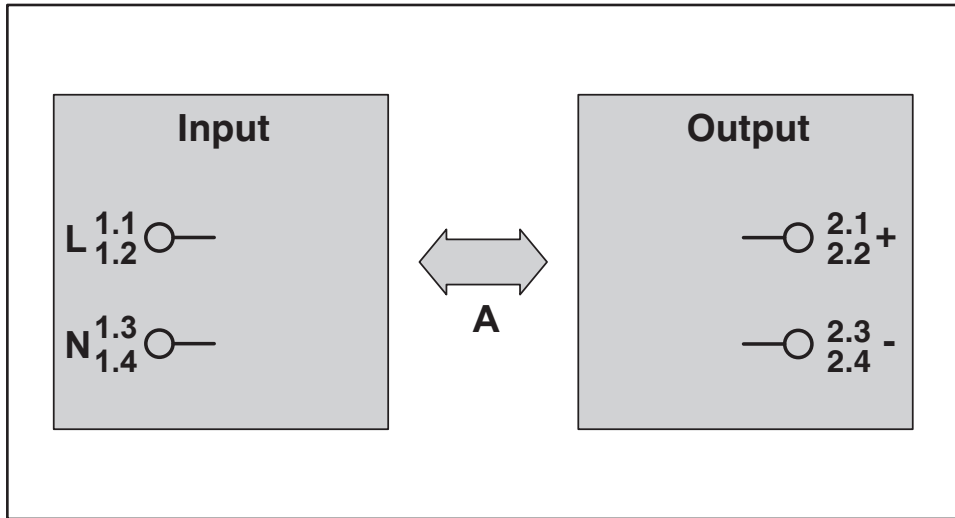
<https://www.phoenixcontact.com/us/products/1170952>



Device dimensions (dimensions in mm)

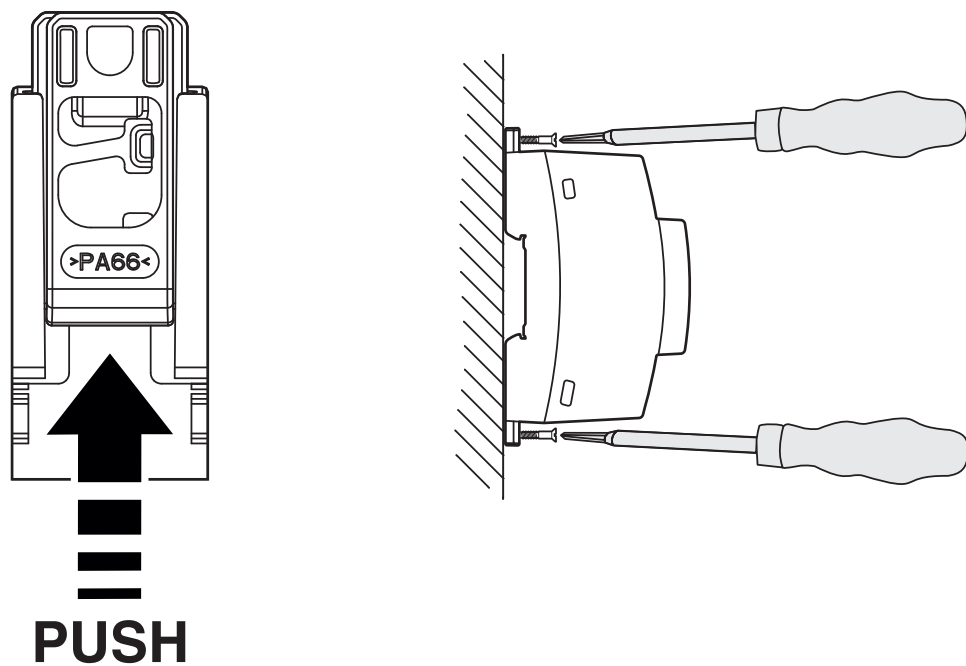
Schematic diagram

Housing

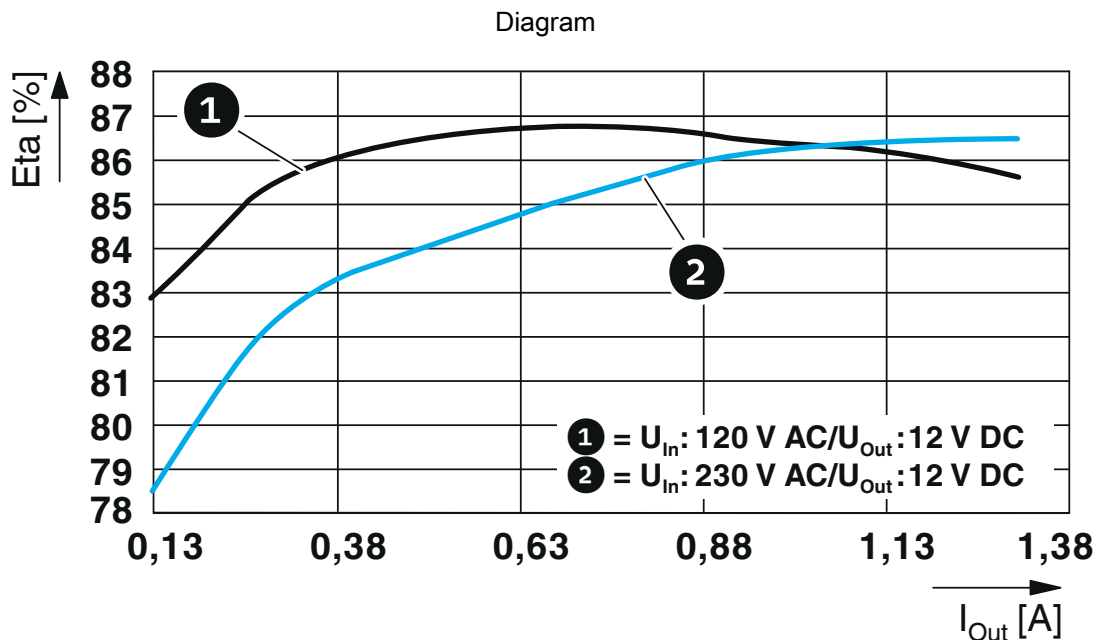


Test sections, insulation voltage

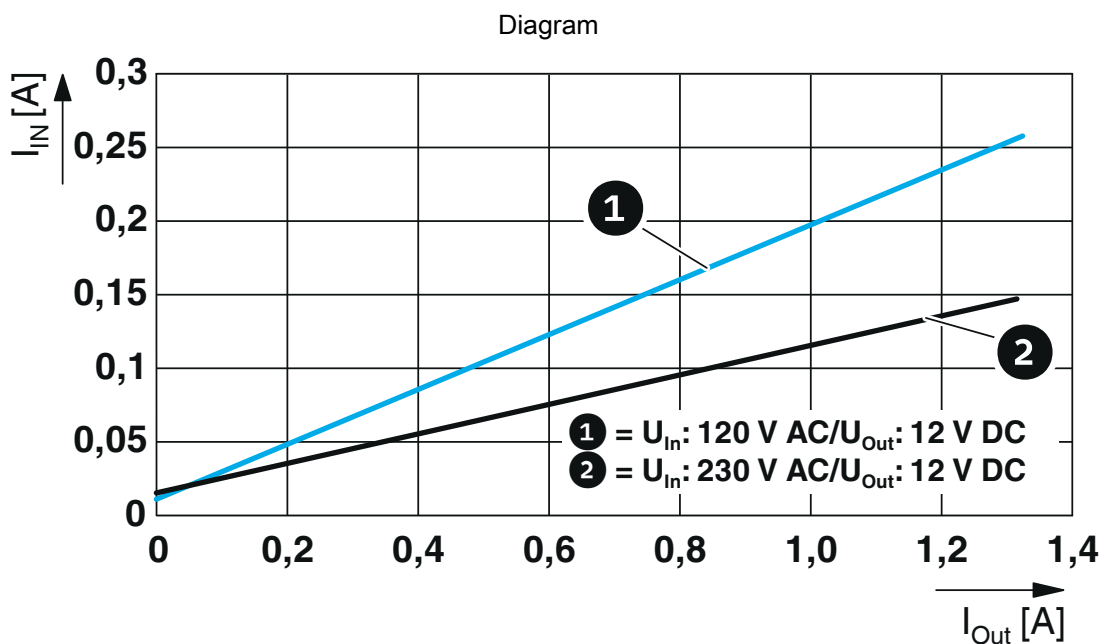
Schematic diagram



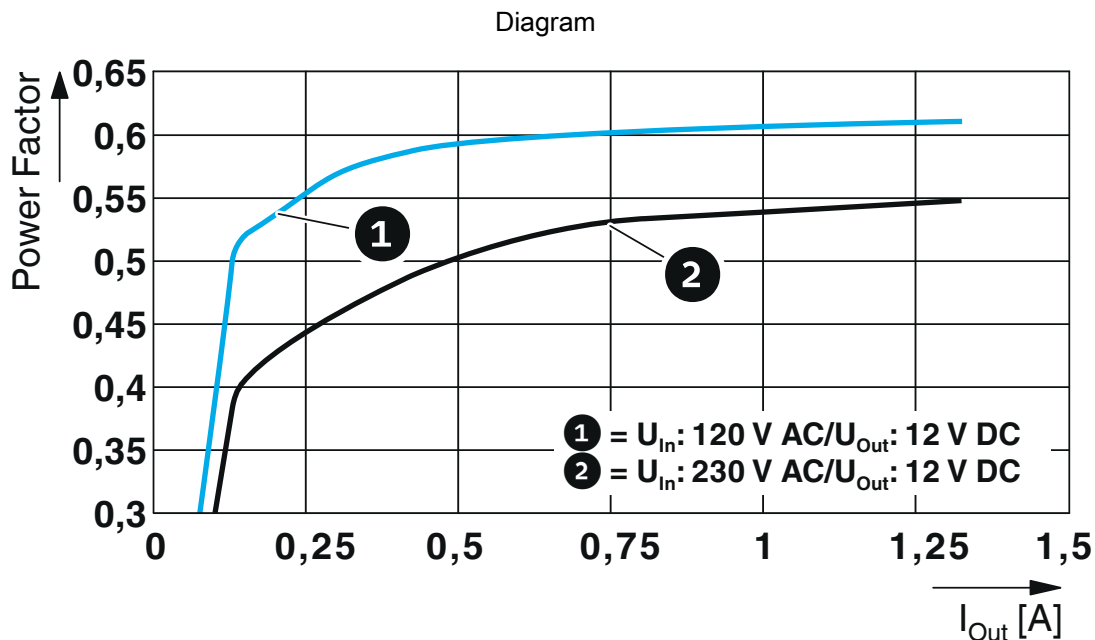
Mounting option



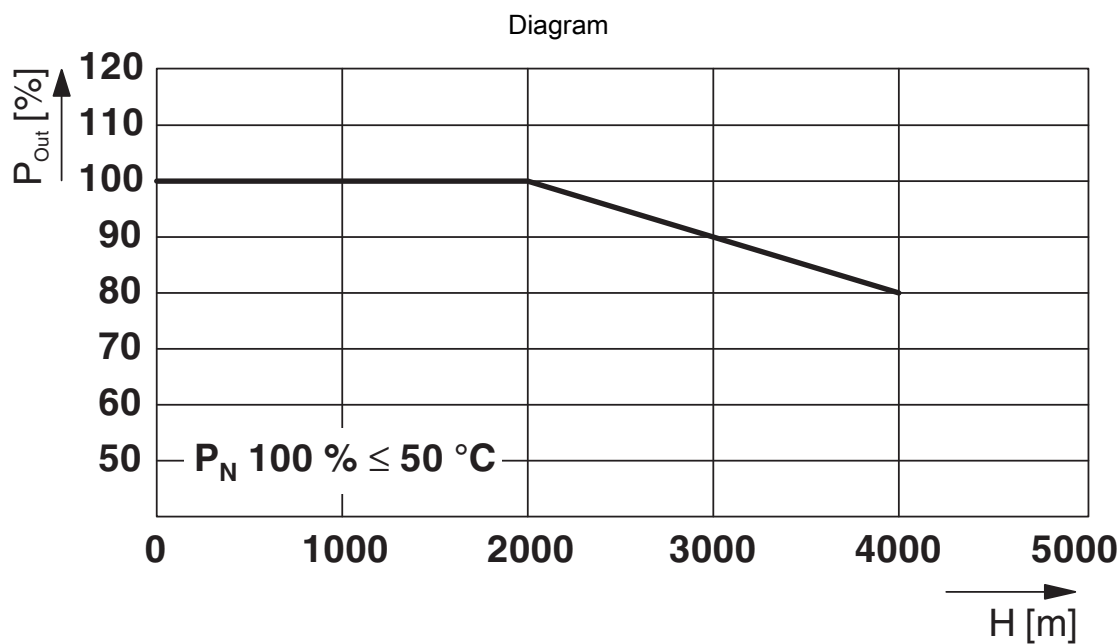
Efficiency



Input current/output current



Power factor



Output power/installation altitude

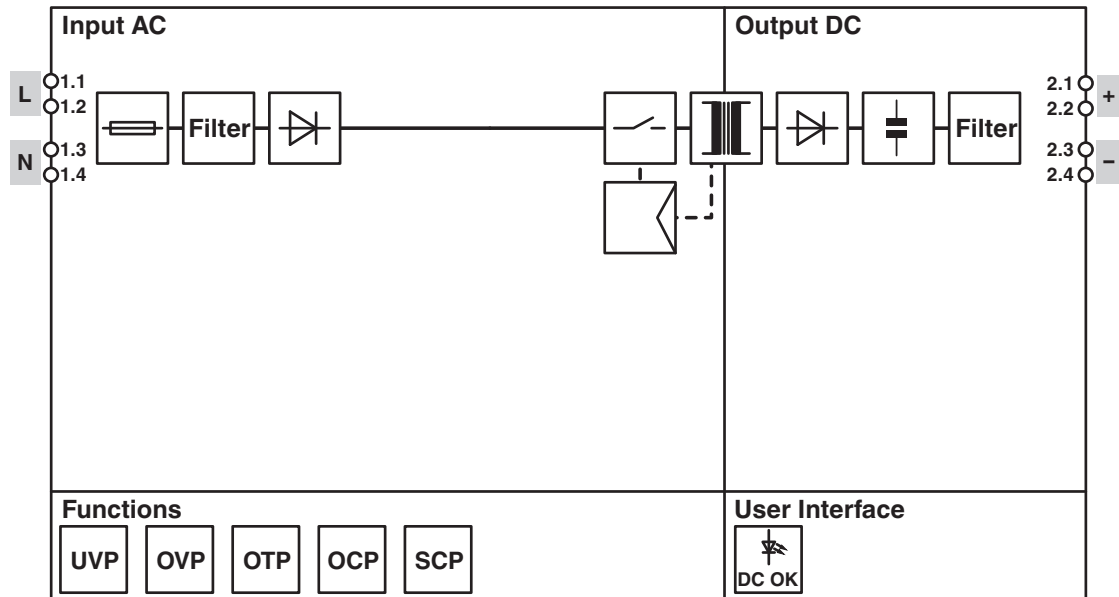
STEP3-PS/1AC/12DC/1.3/PT - Power supply



1170952

<https://www.phoenixcontact.com/us/products/1170952>

Block diagram



Block diagram

STEP3-PS/1AC/12DC/1.3/PT - Power supply



1170952

<https://www.phoenixcontact.com/us/products/1170952>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1170952>



cULus Listed

Approval ID: FILE E 123528



EAC

Approval ID: RU S-DE.BL08.W.00764



EAC

Approval ID: RU S-DE.BL08.W.00764



cULus Listed

Approval ID: FILE E 199827

STEP3-PS/1AC/12DC/1.3/PT - Power supply



1170952

<https://www.phoenixcontact.com/us/products/1170952>

Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27040701 |
| ECLASS-15.0 | 27040701 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC002540 |
|-----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121000 |
|-------------|----------|

1170952

<https://www.phoenixcontact.com/us/products/1170952>

Environmental product compliance

EU RoHS

| | |
|---|--------------|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 6(c), 7(c)-I |

China RoHS

| | |
|--|---|
| Environment friendly use period (EFUP) | EFUP-25 |
| | 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) |
| SCIP | 52701787-8877-4a1a-89c7-b0ad47af08c4 |

EF3.1 Climate Change

| | |
|---------|---------------|
| CO2e kg | 2.655 kg CO2e |
|---------|---------------|

Phoenix Contact 2026 © - all rights reserved
<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com