

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



1483707

<https://www.phoenixcontact.com/pc/products/1483707>

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Primary-switched STEP POWER power supply for DIN rail mounting, input: 1-phase, output: 24 V DC/4.2 A

## Product description

STEP POWER power supplies for distribution boards

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.

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1483707       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Product key                          | CMPS13        |
| GTIN                                 | 4063151911515 |
| Weight per piece (including packing) | 393.4 g       |
| Weight per piece (excluding packing) | 385 g         |
| Customs tariff number                | 85044095      |
| Country of origin                    | VN            |

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## Technical data

### Input data

#### AC operation

|  |   |
|--|---|
| Nominal input voltage range              | 100 V AC ... 240 V AC                           |
| Input voltage range                      | 85 V AC ... 264 V AC<br>95 V DC ... 250 V DC    |
| Input voltage range AC                   | 85 V AC ... 264 V AC                            |
| Input voltage range DC                   | 95 V DC ... 250 V DC                            |
| Voltage type of supply voltage           | AC  |
| Inrush current                           | < 15 A (typical)                                |
| Inrush current integral ( $I^2t$ )       | < 1 A <sup>2</sup> s                            |
| AC frequency range                       | 45 Hz ... 65 Hz                                 |
| Frequency range DC                       | 0 Hz  |
| Mains buffering time                     | typ. 20 ms (120 V AC)<br>typ. 100 ms (230 V AC) |
| Current consumption                      | 1.3 A (120 V AC)<br>0.8 A (230 V AC)            |
| Nominal power consumption                | 196.7 VA  |
| Protective circuit                       | Transient surge protection; Varistor            |
| Power factor (cos phi)                   | 0.58  |
| Typical response time                    | < 0.5 s   |
| Input fuse                               | 4 A (slow-blow, internal)                       |
| Recommended breaker for input protection | 6 A ... 16 A (Characteristics B, C, D, K)       |

### Output data

|  |  |
|--|--|
| Efficiency   | > 88 % (for 230 V AC and nominal values)   |
| Output characteristic                              | U/I  |
| Nominal output voltage                             | 24 V DC  |
| Output current $I_{max}$                           | 6.5 A  |
| Nominal output current ( $I_N$ )                   | 4.2 A (-25 °C ... 55 °C)<br>4.4 A (-25 °C ... 40 °C permanent)   |
| Derating   | 55 °C ... 70 °C (2.5 %/K)  |
| Feedback voltage resistance                        | ≤ 35 V DC  |
| Protection against overvoltage at the output (OVP) | < 35 V DC  |
| Control deviation                                  | < 1 % (change in load, static 10 % ... 90 %)<br>< 2 % (change in load, dynamic 10 % ... 90 %)<br>< 0.1 % (change in input voltage ±10 %) |
| Residual ripple                                    | < 40 mV <sub>PP</sub> (20 MHz)   |
| Output power                                       | 100.8 W  |
| Peak switching voltages nominal load               | < 30 mV <sub>PP</sub> (20 MHz)   |
| Maximum no-load power dissipation                  | < 0.7 W  |
| Power loss nominal load max.                       | 13.2 W   |

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|                        |  |
|------------------------|--|
| Rise time              | < 0.5 s ( $U_{OUT}$ (10 % ... 90 %))       |
| Connection in parallel | yes, for redundancy and increased capacity |
| Connection in series   | yes  |

## Connection data

### Input

|                                       |                     |
|---------------------------------------|---------------------|
| Connection method                     | Screw connection    |
| Conductor cross-section, rigid min.   | 0.2 mm <sup>2</sup> |
| Conductor cross-section, rigid 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                  |
| Tightening torque, min                | 0.5 Nm              |
| Tightening torque max                 | 0.6 Nm              |

### Output

|                                       |                     |
|---------------------------------------|---------------------|
| Connection method                     | Screw connection    |
| Conductor cross-section, rigid min.   | 0.2 mm <sup>2</sup> |
| Conductor cross-section, rigid 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                  |
| Tightening torque, min                | 0.5 Nm              |
| Tightening torque max                 | 0.6 Nm              |

## Signaling

|                           |           |
|---------------------------|-----------|
| Types of signaling        | LED       |
| Operating voltage display | Green LED |

### Signal output: LED status indicator

|                        |                                   |
|------------------------|-----------------------------------|
| Status display         | "DC OK" LED green                 |
| Note on status display | $U_{OUT} > 21.5$ V: LED lights up |

## Electrical properties

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

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## Product properties

|                            |                    |
|----------------------------|--------------------|
| Product family             | STEP POWER         |
| MTBF (IEC 61709, SN 29500) | > 897000 h (40 °C) |

## Insulation characteristics

|                      |                                |
|----------------------|--------------------------------|
| Protection class     | II (in closed control cabinet) |
| Overvoltage category | III                            |
| Degree of pollution  | 2                              |

## Mounting

|                         |     |
|-------------------------|-----|
| With protective coating | yes |
|-------------------------|-----|

## Material specifications

|                  |         |
|------------------|---------|
| Housing material | Plastic |
|------------------|---------|

## Environmental and real-life conditions

### 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   |
| Climatic class                                 | 3K3 (in acc. with EN 60721)  |
| Max. permissible relative humidity (operation) | ≤ 95 % (at 25 °C, non-condensing)  |
| Shock  | 18 ms, 30g, in each space direction (according to IEC 60068-2-27)                          |
| Vibration (operation)                          | < 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)<br>15 Hz ... 150 Hz, 2.3g, 90 min. |
| Temp code                                      | T4A (60 °C)  |

## Standards and regulations

|  |  |
|--|--|
| Rail applications  | EN 50121-4                               |
| Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations | EN 50178/VDE 0160 (PELV)                 |
| Standard – Limitation of mains harmonic currents   | EN 61000-3-2                             |
| Standard - Electrical safety   | IEC 62368-1 (SELV)                       |
| Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment               | EN 50178                                 |
| Standard – Safety extra-low voltage  | IEC 62368-1 (SELV) und EN 60204-1 (PELV) |
| Standard - Safe isolation  | DIN VDE 0100-410                         |
| Standard - Safety of transformers  | EN 61558-2-16                            |

## Approvals

|              |   |
|--------------|---|
| CSA          | CSA-C22.2 No. 107.1-01  |
| 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 T4A |

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(Hazardous Location)

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/1483707>



**IECEE CB Scheme**

Approval ID: NL2-021193

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## Classifications

### ECLASS

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

### ETIM

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

### UNSPSC

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

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## 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) |
|-------------------------------------|----------------------|

### EF3.1 Climate Change

|         |                |
|---------|----------------|
| CO2e kg | 10.197 kg CO2e |
|---------|----------------|

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## Accessories

### PLT-SEC-T3-230-FM-UT - Type 3 surge protection device

2907919

<https://www.phoenixcontact.com/pc/products/2907919>



Type 2/3 surge protection, consisting of protective plug and base element with screw connection. For single-phase power supply network with integrated status indicator and remote signaling. Nominal voltage: 230 V AC/DC

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### PLT-SEC-T3-24-FM-UT - Type 3 surge protection device

2907916

<https://www.phoenixcontact.com/pc/products/2907916>



Type 3 surge protection, consisting of protective plug and base element, with integrated status indicator and remote signaling for single-phase power supply networks. Nominal voltage: 24 V AC/DC

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