

Power supply unit - ESSENTIAL-PS/1AC/24DC/240W/EE - 2910587

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's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Primary-switched ESSENTIAL POWER power supply for DIN rail mounting, input: 1-phase, output: 24 V DC / 240 W

Your advantages

- ✔ Worldwide use thanks to the wide range input and international approval package
- ✔ Fast installation, thanks to easy DIN rail mounting
- ✔ Greater availability, thanks to fanless convection cooling



Key Commercial Data

| | |
|--------------------------------------|---|
| Packing unit | 1 pc |
| GTIN |  4 055626 464404 |
| GTIN | 4055626464404 |
| Weight per Piece (excluding packing) | 966.600 g |
| Custom tariff number | 85044030 |
| Country of origin | Thailand |

Technical data

Dimensions

| | |
|-----------------------------------|----------|
| Width | 60 mm |
| Height | 123.6 mm |
| Depth | 117.6 mm |
| Installation distances left/right | 10 mm |
| Installation distances top/bottom | 50 mm |

Ambient conditions

| | |
|--|-----------------------------------|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -20 °C ... 70 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Max. permissible relative humidity (operation) | ≤ 95 % (at 25 °C, non-condensing) |

Power supply unit - ESSENTIAL-PS/1AC/24DC/240W/EE - 2910587

Technical data

Ambient conditions

| | |
|---------------------|--|
| Degree of pollution | 2 |
| Installation height | ≤ 5000 m (> 2000 m, Derating: 10 %/1000 m) |

Input data

| | |
|------------------------------|-----------------------------|
| Nominal input voltage range | 100 V AC ... 240 V AC |
| Input voltage range | 85 V AC ... 264 V AC |
| AC frequency range | 47 Hz ... 63 Hz |
| Discharge current to PE | < 1 mA (264 V AC) |
| Current consumption | 2.8 A (115 V AC) |
| | 1.4 A (230 V AC) |
| Nominal power consumption | 273.22 VA |
| Inrush current | typ. 20 A (115 V AC) |
| | typ. 40 A (230 V AC) |
| Mains buffering time | typ. 10 ms (115 V AC) |
| | typ. 16 ms (230 V AC) |
| Input fuse | 6.3 A (slow-blow, internal) |
| Type of protection | Transient surge protection |
| Protective circuit/component | Varistor |

Output data

| | |
|---|--|
| Nominal output voltage | 24 V DC ±2 % |
| Setting range of the output voltage (U_{Set}) | 22 V DC ... 28 V DC (max. power ≤ 240 W) |
| Nominal output current (I_N) | 10 A |
| Derating | > 40 °C (1.67 % / °C, 115 V AC) |
| | > 50 °C (2.5 % / °C, 230 V AC) |
| Max. capacitive load | 8000 µF |
| Active current limitation | 105% - 150% of the max. output power (in the event of short circuit) |
| Residual ripple | < 120 mV _{PP} (-10 °C ... +70 °C) |
| | < 240 mV _{PP} (-20 °C ... -10 °C) |
| Output power | 240 W |
| Typical response time | 1000 ms |
| Maximum power dissipation in no-load condition | 4.62 W (115 V AC) |
| | 2.14 W (230 V AC) |
| Power loss nominal load max. | 31.53 W (115 V AC) |
| | 25.44 W (230 V AC) |

General

| | |
|---------------------------------|-----------------|
| Net weight | 0.8 kg |
| Operating voltage display | Green LED |
| Efficiency | 88 % (115 V AC) |
| | 90 % (230 V AC) |
| Insulation voltage input/output | 3 kV AC |

Power supply unit - ESSENTIAL-PS/1AC/24DC/240W/EE - 2910587

Technical data

General

| | |
|--------------------------------|---|
| Insulation voltage input / PE | 2 kV AC |
| Insulation voltage output / PE | 0.5 kV AC |
| Protection class | I (with PE connection) |
| Degree of protection | IP20 |
| MTBF (Telcordia SR-332) | > 700000 h |
| Assembly instructions | alignable: horizontally 10 mm, vertically 50 mm |

Connection data, input

| | |
|----------------------------------|------------------|
| Connection method | Screw connection |
| Conductor cross section AWG min. | 16 |
| Conductor cross section AWG max. | 12 |
| Stripping length | 7 mm |

Connection data, output

| | |
|----------------------------------|------------------|
| Connection method | Screw connection |
| Conductor cross section AWG min. | 16 |
| Conductor cross section AWG max. | 12 |
| Stripping length | 7 mm |

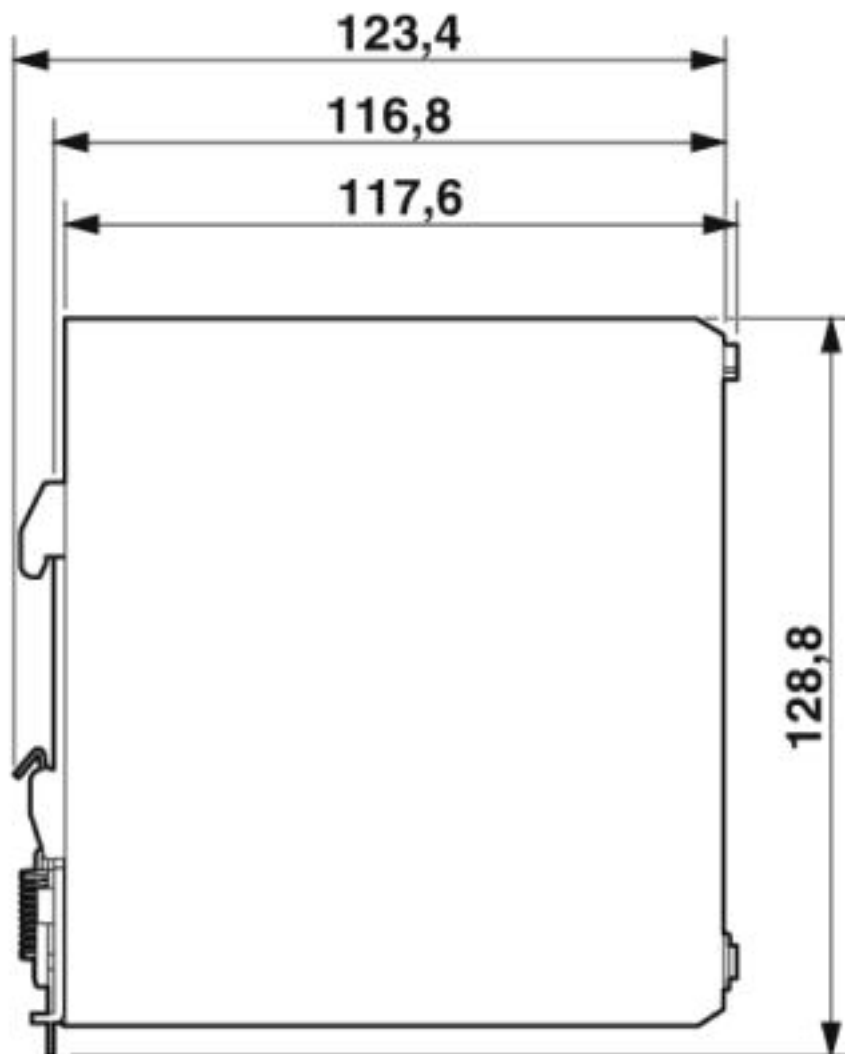
Standards and Regulations

| | |
|--|---|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Noise emission | EN 55011 (EN 55022) Class B |
| Noise immunity | EN 61000-6-2 |
| | EN 61000-6-1 |
| Standards/regulations | EN 61000-6-3 |
| Low Voltage Directive | Conformance with Low Voltage Directive 2014/35/EC |
| Standard - Electrical safety | EN 60950-1 |
| Standard – Safety extra-low voltage | EN 60950-1 (SELV) |
| UL approvals | UL/C-UL listed UL 508 |
| Shock | IEC 60068-2-27, 27, half sinusoidal wave: 50g for 11 ms; 3x per direction, 9x overall |
| Vibration (operation) | IEC 60068-2-6, sinusoidal waves: 10 Hz ... 500 Hz, 19,6 m/s ² (2g peak), 10 min. per cycle, 60 min. in the X direction |
| Approval - requirement of the semiconductor industry with regard to mains voltage dips | SEMI F47 - 0706 (200 V AC) |

Drawings

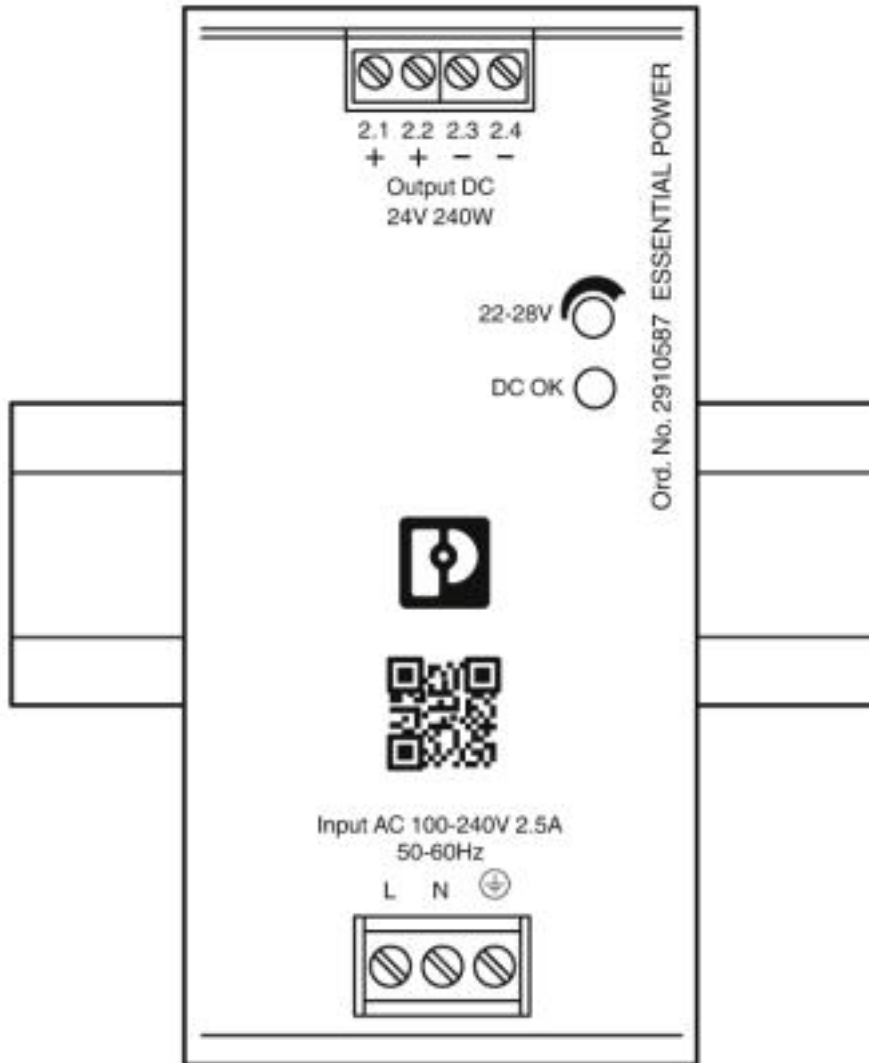
Power supply unit - ESSENTIAL-PS/1AC/24DC/240W/EE - 2910587

Dimensional drawing



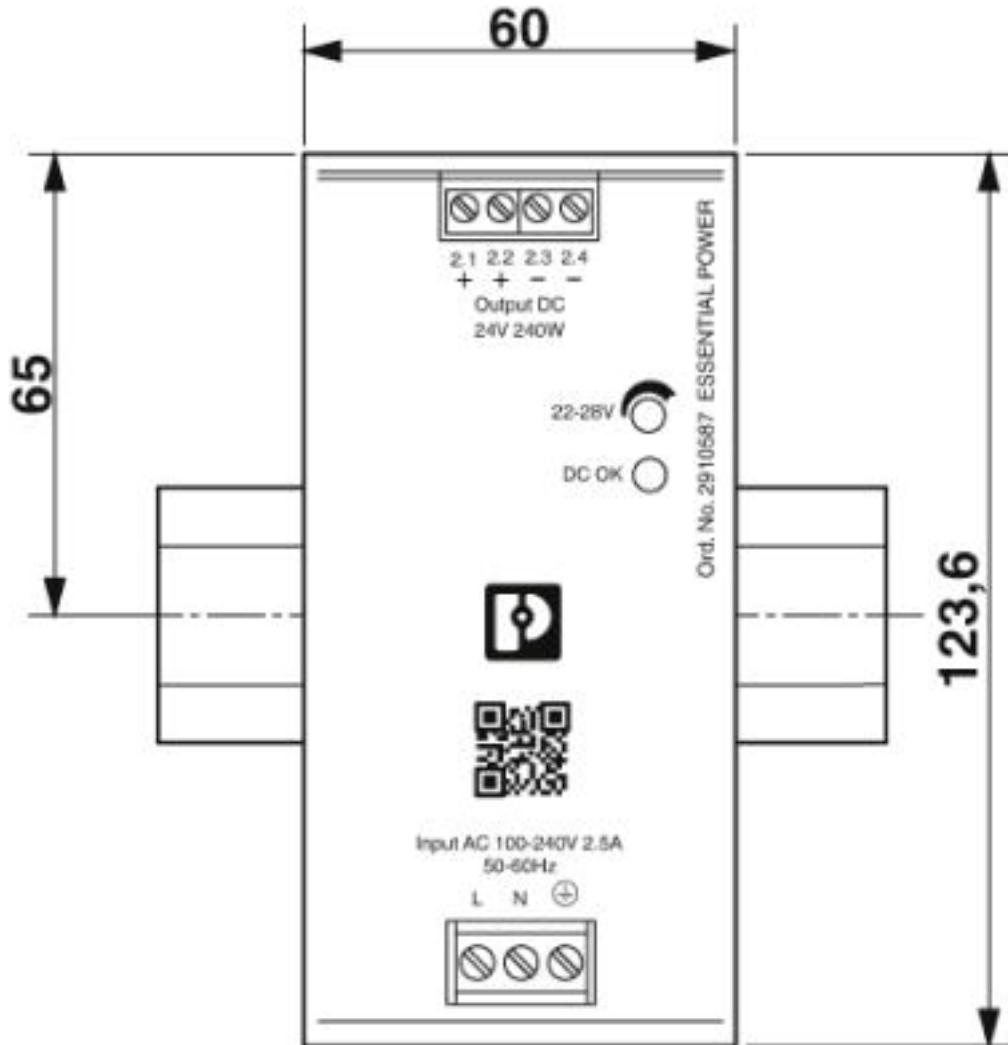
Power supply unit - ESSENTIAL-PS/1AC/24DC/240W/EE - 2910587

Schematic diagram

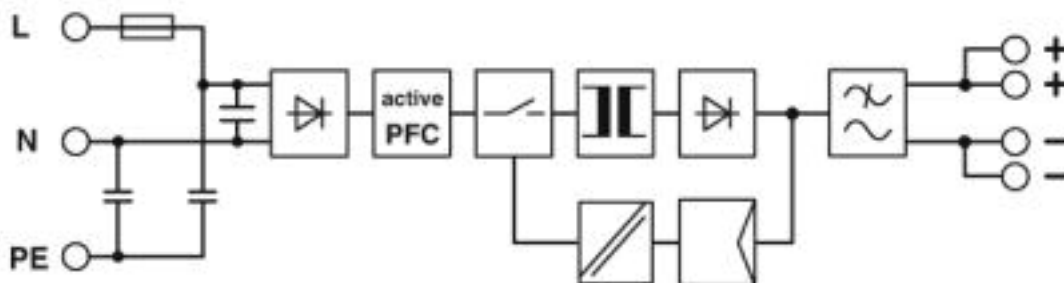


Power supply unit - ESSENTIAL-PS/1AC/24DC/240W/EE - 2910587

Dimensional drawing

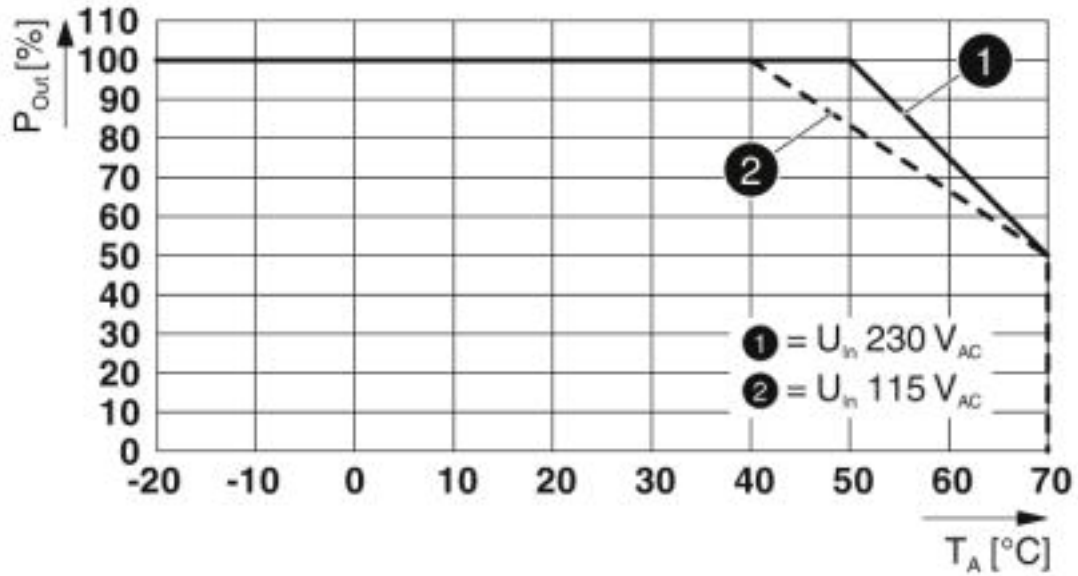


Block diagram

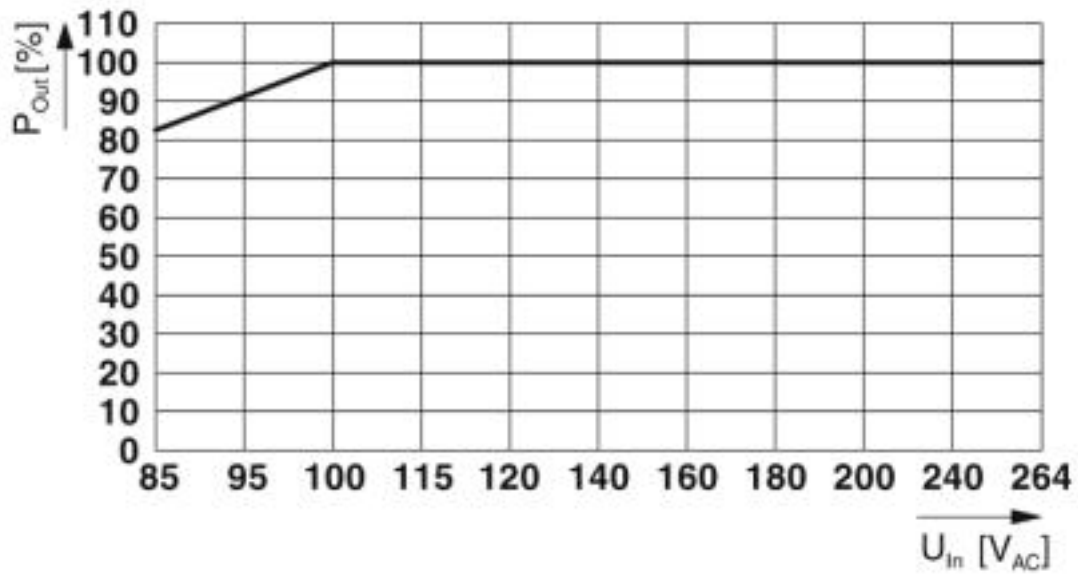


Power supply unit - ESSENTIAL-PS/1AC/24DC/240W/EE - 2910587

Diagram



Diagram



Classifications

eCl@ss

| | |
|------------|----------|
| eCl@ss 5.1 | 27049002 |
| eCl@ss 9.0 | 27040701 |

Approvals

Approvals

Power supply unit - ESSENTIAL-PS/1AC/24DC/240W/EE - 2910587


Approvals

Approvals

EAC

Ex Approvals

Approval details

| | | |
|-----|---|-----------------|
| EAC |  | EAC*DE*08*02578 |
|-----|---|-----------------|

Accessories

Accessories

Device protection

Type 3 surge protection device - PLT-EE-T3-230-FM - 2910544



Pluggable device protection, according to type 3/Class III, for 1-phase power supply networks with separate N and PE (3-conductor system: L1, N, PE) with remote indication contact.

Type 3 surge protection device - PLT-EE-T3-24-FM - 2910540



Pluggable device protection, according to type 3/Class III, for 1-phase power supply networks with separate N and PE (3-conductor system: L1, N, PE) with remote indication contact.
