

Power supply unit - ESSENTIAL-PS/3AC/24DC/240W/EE - 1018291

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Primary-switched ESSENTIAL POWER power supply for DIN rail mounting, input: 3-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 convention cooling



Key Commercial Data

| | |
|--------------------------------------|---|
| Packing unit | 1 pc |
| GTIN |  4 055626 502632 |
| GTIN | 4055626502632 |
| Weight per Piece (excluding packing) | 1,464.000 g |
| Sales Key | CMPB33 |

Technical data

Dimensions

| | |
|----------------------------------|---------------|
| Width | 60 mm |
| Height | 130 mm |
| Depth | 152.5 mm |
| Installation distance right/left | 0 mm / 0 mm |
| Installation distance top/bottom | 50 mm / 50 mm |

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 |
| Max. permissible relative humidity (operation) | ≤ 95 % (at 25 °C, non-condensing) |
| Climatic class | 3K3 (in acc. with EN 60721) |

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Technical data

Ambient conditions

| | |
|---------------------|---|
| Degree of pollution | 2 |
|---------------------|---|

Input data

| | |
|--|-------------------------------|
| Nominal input voltage range | 2x / 3x 400 V AC ... 500 V AC |
| Input voltage range | 3x 320 V AC ... 575 V AC |
| AC frequency range | 45 Hz ... 65 Hz |
| Discharge current to PE | < 3.5 mA |
| Current consumption | 3x 0.6 A (400 V AC) |
| | 3x 0.5 A (480 V AC) |
| Nominal power consumption | 284.4 VA |
| Inrush current | < 15 A |
| Mains buffering time | > 20 ms (3x 400 V AC) |
| Recommended breaker for input protection | 6 A ... 16 A |
| Power factor (cos phi) | 0.59 |
| Type of protection | Transient surge protection |
| Protective circuit/component | Varistor |

Output data

| | |
|--|---|
| Nominal output voltage | 24 V DC \pm 1 % |
| Setting range of the output voltage (U_{Set}) | 22.5 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted) |
| Nominal output current (I_N) | 10 A ($U_{OUT} = 24$ V DC) |
| Derating | 55 °C ... 70 °C (2.5%/K) |
| Connection in parallel | Yes, for redundancy and increased capacity |
| Connection in series | yes |
| Feedback voltage resistance | 35 V DC |
| Protection against overvoltage at the output (OVP) | < 35 V DC |
| Max. capacitive load | unlimited |
| Active current limitation | approx. 15 A |
| 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 | < 10 mV _{PP} |
| Output power | 240 W |
| Typical response time | < 1 s |
| Peak switching voltages nominal load | < 30 mV _{PP} |
| Maximum power dissipation in no-load condition | 7.5 W |
| Power loss nominal load max. | 34 W |

General

| | |
|---------------------------|---|
| Net weight | 1.1 kg |
| Operating voltage display | Green LED |
| Efficiency | 88.5 % (at 400 V AC and nominal values) |

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General

| | |
|---------------------------------|--------------------------|
| MTBF (IEC 61709, SN 29500) | > 700000 h |
| Insulation voltage input/output | 3 kV AC (type test) |
| | 1.5 kV AC (routine test) |
| Insulation voltage output / PE | 500 V DC |
| Degree of protection | IP20 |
| Protection class | I (with PE connection) |

Connection data, input

| | |
|---------------------------------------|---------------------|
| Connection method | Screw connection |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 14 |
| Stripping length | 9 mm |
| Screw thread | M2,5 |

Connection data, output

| | |
|---------------------------------------|---------------------|
| Connection method | Screw connection |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section AWG min. | 16 |
| Conductor cross section AWG max. | 12 |
| Stripping length | 9 mm |
| Screw thread | M2,5 |

Standards and Regulations

| | |
|-------------------------------|---|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Noise emission | EN 55011 (EN 55022) Class B |
| Noise immunity | EN 61000-6-2:2005 |
| Standards/regulations | EN 61000-4-2 |
| Contact discharge | 4 kV (Test Level 2) |
| Standards/regulations | EN 61000-4-3 |
| Frequency range | 80 MHz ... 1 GHz |
| Test field strength | 10 V/m |
| Frequency range | 1.4 GHz ... 2 GHz |
| Test field strength | 3 V/m |
| Standards/regulations | EN 61000-4-4 |
| Comments | Criterion B |

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Technical data

Standards and Regulations

| | |
|--|---|
| Standards/regulations | EN 61000-6-3 |
| | EN 61000-4-6 |
| Frequency range | 0.15 MHz ... 80 MHz |
| Voltage | 10 V (Test Level 3) |
| Standards/regulations | EN 61000-4-11 |
| 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 | 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) |
| | 15 Hz ... 150 Hz, 2.3g, 90 min. |
| Approval - requirement of the semiconductor industry with regard to mains voltage dips | SEMI F47 - 0706 (200 V AC) |

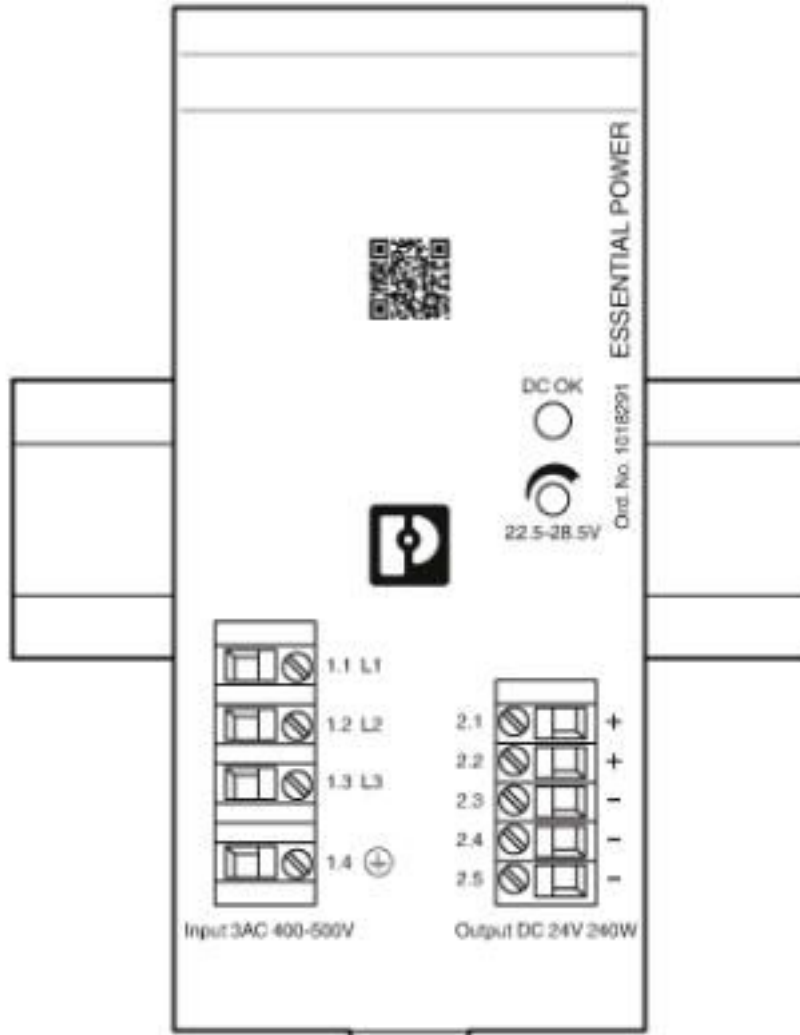
Environmental Product Compliance

| | |
|------------|----------------|
| REACH SVHC | Lead 7439-92-1 |
|------------|----------------|

Drawings

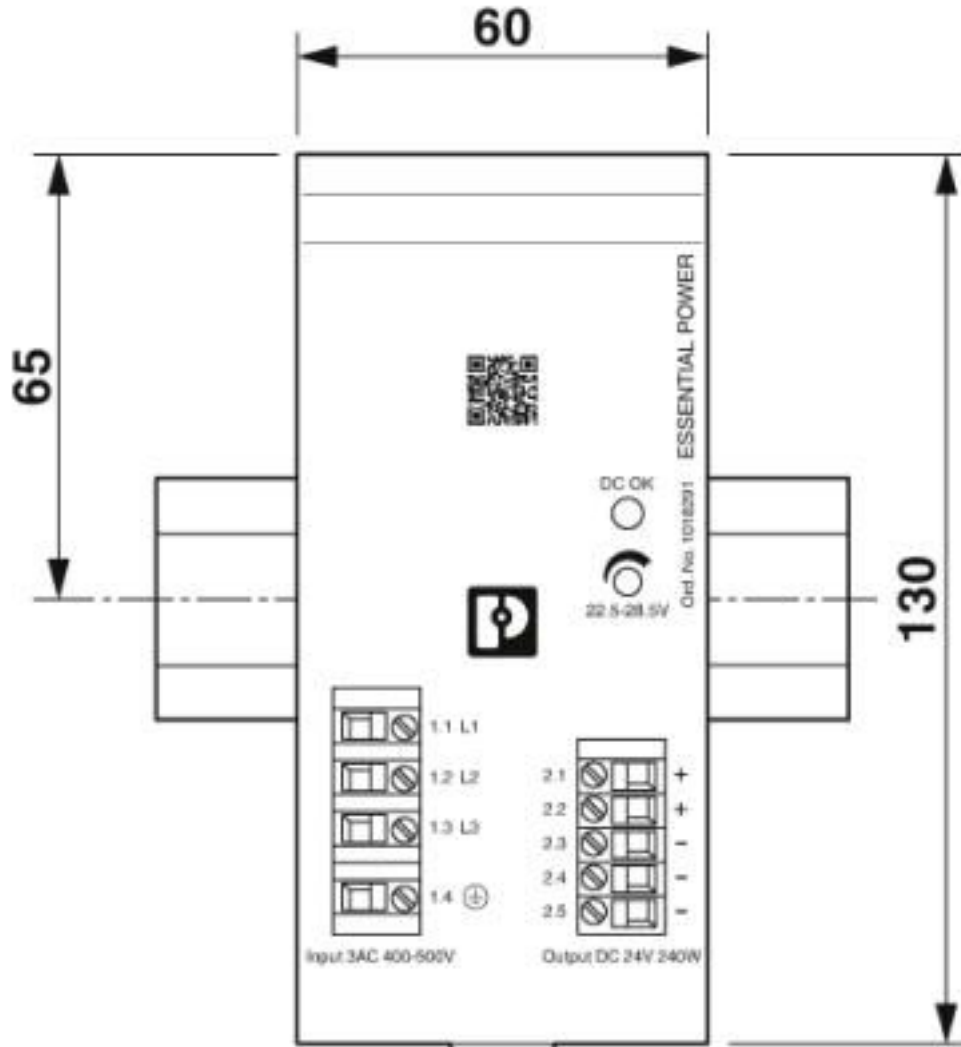
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Schematic diagram

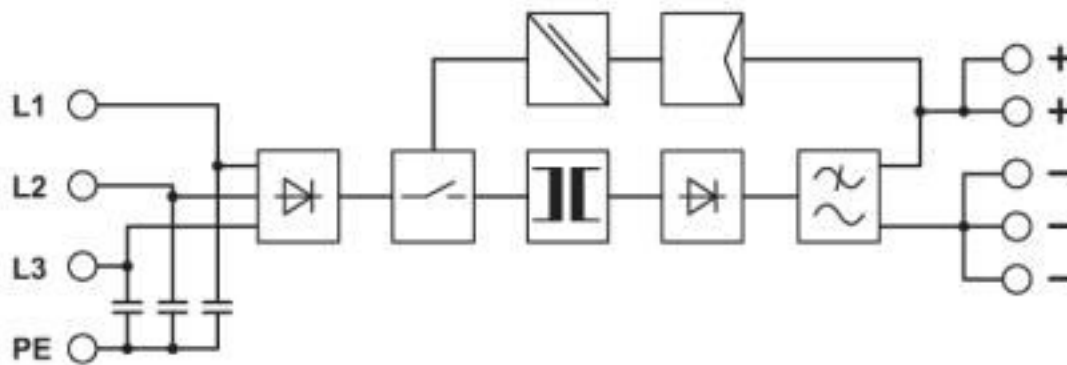


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Dimensional drawing

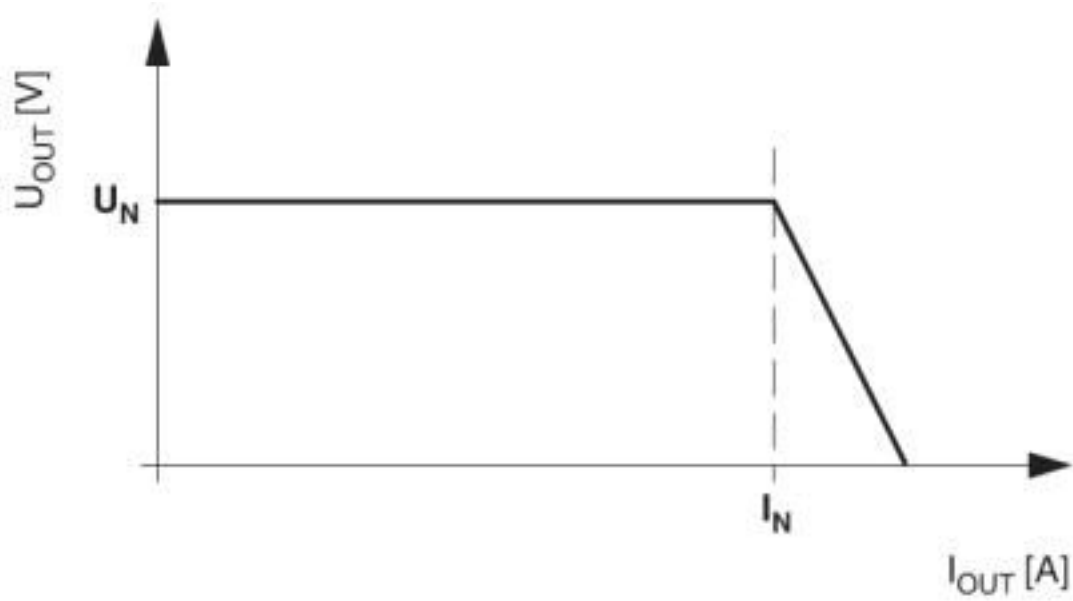


Block diagram

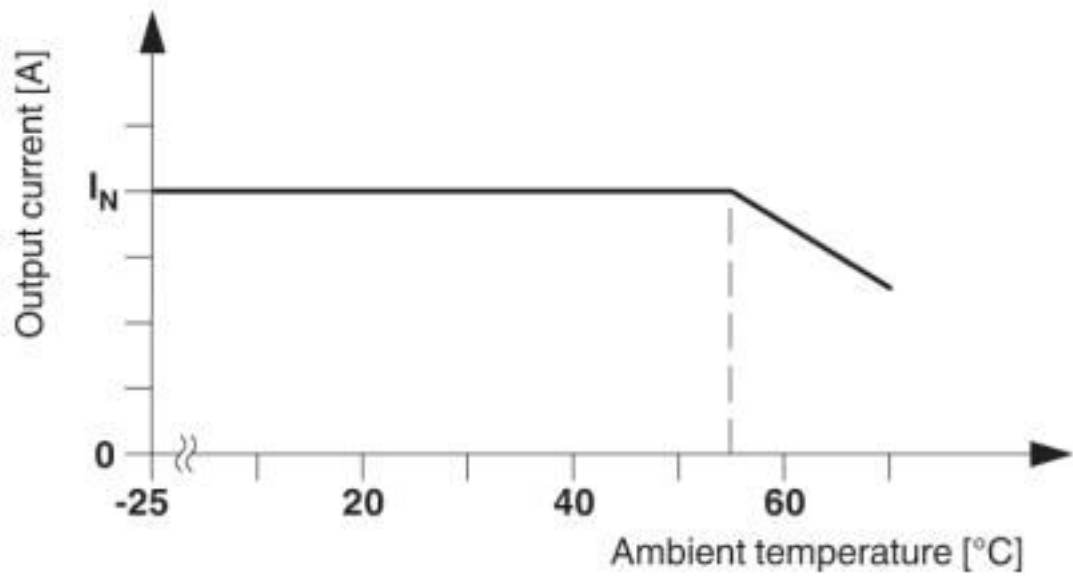


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Diagram

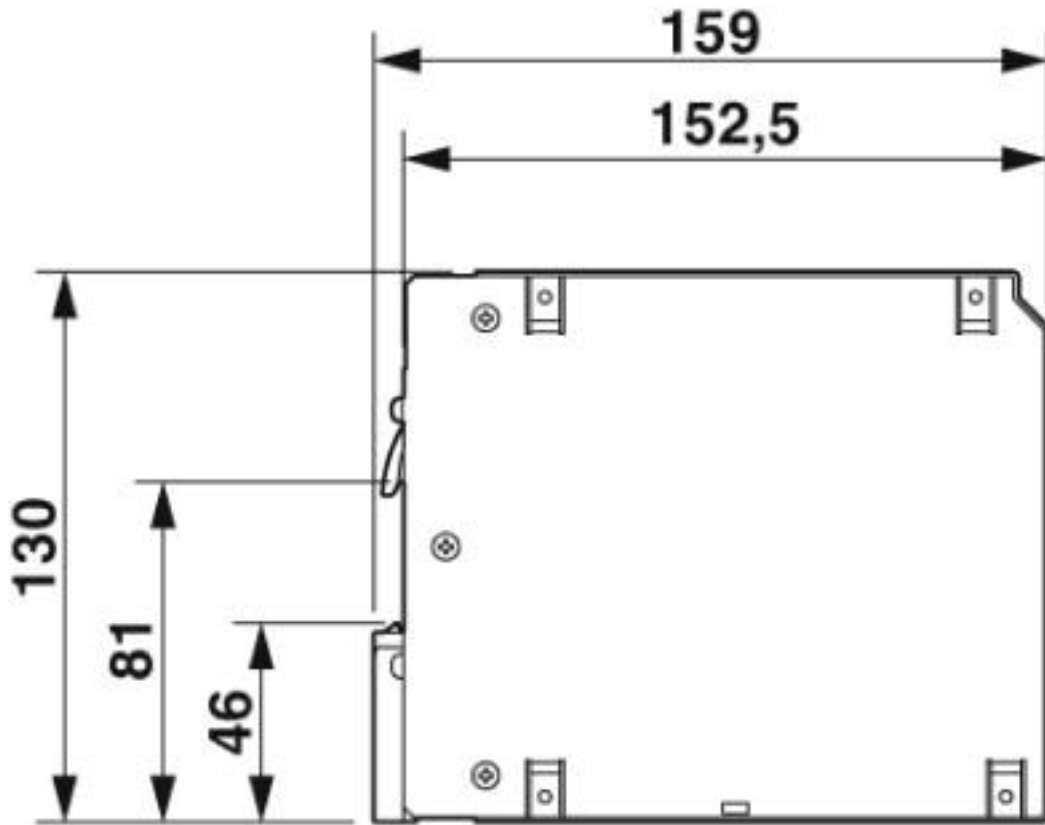


Diagram

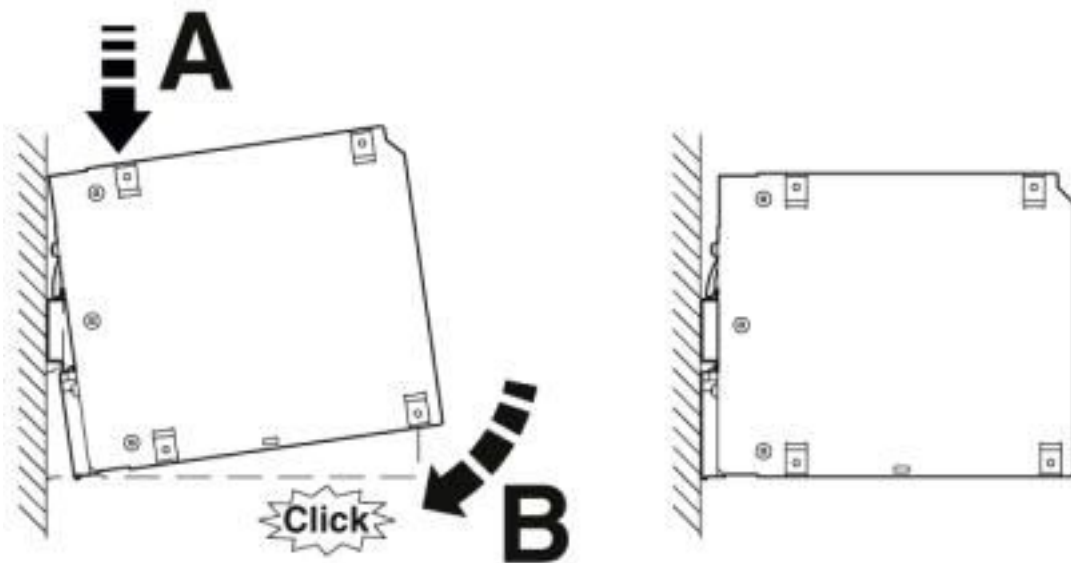


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Dimensional drawing

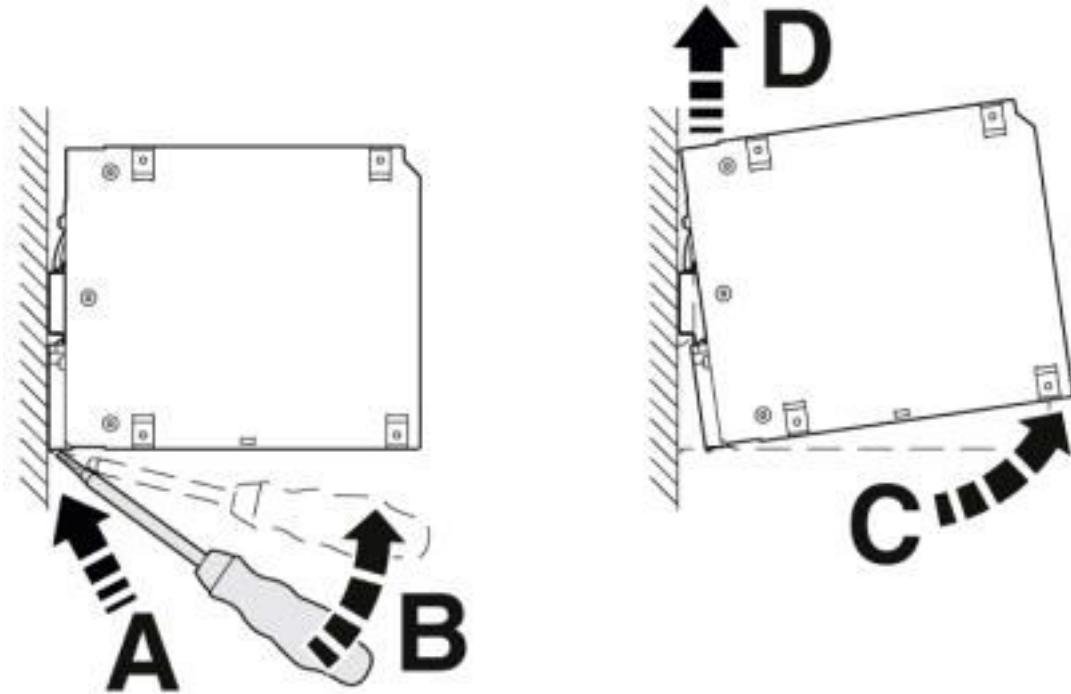


Schematic diagram



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Schematic diagram



Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27040701 |
| eCl@ss 6.0 | 27049000 |
| eCl@ss 7.0 | 27049002 |
| eCl@ss 9.0 | 27040701 |

ETIM

| | |
|----------|----------|
| ETIM 6.0 | EC002540 |
| ETIM 7.0 | EC002540 |

Approvals

Approvals

Approvals

EAC

Ex Approvals

Power supply unit - ESSENTIAL-PS/3AC/24DC/240W/EE - 1018291

Approvals

Approval details

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

Accessories

Accessories

Device protection

Type 3 surge protection device - PLT-SEC-T3-3S-230-FM - 2905230



Plug-in device protection, according to type 3/class III, for 3-phase power supply networks with separate N and PE (5-conductor system: L1, L2, L3, N, PE), with integrated surge-proof fuse and 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.