

UNO2-PS/1AC/12DC/30W/PT - Power supply



1399935

<https://www.phoenixcontact.com/gb/products/1399935>

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Primary-switched power supply unit UNO POWER, Push-in connection, DIN rail mounting, input: 1-phase, output: 12 V DC / 2.5 A, adjustable from 10 V DC ... 18 V DC

Product description

UNO POWER – compact, high-efficiency power supply

The UNO POWER power supplies are the ideal solution for industrial applications where compact design and reliable performance are required. With a high power density and basic functionality, the AC/DC power supply units reliably supply loads with constant load behavior – and at powers ranging from 25 W to 960 W.

The new generation up to 90 W also impresses with Push-in connection technology and an extended input voltage range up to 277 V AC, which makes installation even easier and more flexible.

Your advantages

- Save space in the control cabinet thanks to an extremely narrow overall width
- Save energy, thanks to a high degree of efficiency
- Outdoor installation possible, with a wide temperature range of -25°C ... +70°C

Commercial data

| | |
|--------------------------------------|---|
| Item number | 1399935 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | CMPV12 |
| Product key | CMPV12 |
| GTIN | 4063151784188 |
| Weight per piece (including packing) | 164 g |
| Weight per piece (excluding packing) | 124 g |
| Country of origin | Country of origin will be provided upon delivery. |

Technical data

Input data

AC operation

| | |
|--|---|
| Supply system configuration | TN, TT, IT (PE) |
| Nominal input voltage range | 100 V AC ... 277 V AC |
| Input voltage range | 100 V AC ... 277 V AC -15 % ... +10 % 110 V AC ... 277 V AC ±10 % (UL) |
| Derating | < 100 V AC (1 %/V) |
| Typical national grid voltage | 120 V AC 230 V AC |
| Voltage type of supply voltage | AC |
| Inrush current | typ. 35 A (at 25 °C) |
| Inrush current integral (I^2t) | < 0.4 A ² s |
| Frequency range (f_N) | 50 Hz ... 60 Hz ±10 % |
| Mains buffering time | typ. 22 ms (120 V AC) typ. 92 ms (230 V AC) |
| Current consumption | 0.58 A (100 V AC) 0.28 A (277 V AC) |
| Protective circuit | Transient surge protection; Varistor |
| Switch-on time | typ. 1 s |
| Device mains fuse | 4 A internal (device protection), slow-blow |
| Recommended breaker for input protection | 6 A ... 16 A (Characteristic B, C, D, K or comparable) |
| Discharge current to PE | < 0.25 mA |

DC operation

| | |
|--------------------------------|---|
| Input voltage range | 110 V DC ... 250 V DC ±20 % 125 V DC ... 250 V DC ±10 % (UL) |
| Derating | < 110 V DC (1 %/V) |
| Voltage type of supply voltage | DC |
| Current consumption | 0.3 A (110 V DC) 0.13 A (250 V DC) |

Output data

| | |
|---|---|
| Efficiency | typ. 88.9 % (120 V AC) typ. 89.7 % (230 V AC) |
| Nominal output voltage | 12 V DC |
| Setting range of the output voltage (U_{Set}) | 10 V DC ... 18 V DC (> 12 V DC, constant capacity restricted) |
| Nominal output current (I_N) | 2.5 A |
| Output current range | 1.67 A ... 2.5 A |
| Short-circuit-proof | yes |
| Crest factor | typ. 3.21 (120 V AC) typ. 3.96 (230 V AC) |

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| | |
|--|---|
| Output power (P_N) | 30 W |
| Connection in parallel | yes, for increasing power and redundancy with diode |
| Connection in series | yes, for increased output voltage |
| Feedback voltage resistance | ≤ 25 V DC |
| Protection against overvoltage at the output (OVP) | ≤ 25 V DC |
| Residual ripple | typ. 50 mV _{PP} (with nominal values) |
| Control deviation | < 1 % (change in load, static 10 % ... 90 %) < 3 % (change in load, dynamic 10 % ... 90 %) < 0.1 % (change in input voltage ± 10 %) |
| Rise time | < 1 s ($U_{Out} = 10$ % ... 90 %) |
| Minimum no-load power dissipation | < 0.11 W (120 V AC) |
| Maximum no-load power dissipation | < 0.14 W (230 V AC) |
| Minimum nominal load power dissipation | < 3.8 W (120 V AC) |
| Power loss nominal load max. | < 3.5 W (230 V AC) |
| Short-circuit current | 2.7 A |
| Integrated fuse protection | no |
| Fuse protection (secondary side) | electronic |

Connection data

Input

| | |
|----------------|------------------|
| Position | 1.x |
| Identification | 1.1 (L), 1.2 (N) |

Conductor connection

| | |
|--|--|
| Connection method | Push-in connection |
| rigid | 0.75 mm ² ... 4 mm ² (Push-in connection) 1 mm ² |
| flexible | 0.2 mm ² ... 4 mm ² 1 mm ² |
| flexible with ferrule without plastic sleeve | 0.2 mm ² ... 2.5 mm ² 1 mm ² |
| flexible with ferrule with plastic sleeve | 0.2 mm ² ... 2.5 mm ² 1 mm ² |
| AWG | 24 ... 12 17 |
| Stripping length | 10 mm |

Output

| | |
|----------------|------------------|
| Position | 2.x |
| Identification | 2.1 (+), 2.2 (-) |

Conductor connection

| | |
|-------------------|--|
| Connection method | Push-in connection |
| rigid | 0.75 mm ² ... 4 mm ² (Push-in connection) 1 mm ² |

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| | |
|--|---|
| flexible | 0.2 mm ² ... 4 mm ² |
| | 1 mm ² |
| flexible with ferrule without plastic sleeve | 0.2 mm ² ... 2.5 mm ² |
| | 1 mm ² |
| flexible with ferrule with plastic sleeve | 0.2 mm ² ... 2.5 mm ² |
| | 1 mm ² |
| rigid (AWG) | 24 ... 12 |
| | 17 |
| AWG | 24 ... 12 |
| | 17 |
| Stripping length | 10 mm |

Conductor connection

| | |
|--|--|
| Connection method | Push-in connection |
| rigid | 0.2 mm ² ... 4 mm ² |
| flexible | 0.2 mm ² ... 4 mm ² |
| flexible with ferrule without plastic sleeve | 0.25 mm ² ... 2.5 mm ² |
| flexible with ferrule with plastic sleeve | 0.25 mm ² ... 2.5 mm ² |
| AWG | 24 ... 14 (Cu) |
| Stripping length | 10 mm |

Signaling

LED signaling

| | |
|-----------------------|--|
| Types of signaling | LED DC OK - signal state operation ($U_N = 24 \text{ V DC}$, $I_{Out} = I_N$) |
| Function | Visual operating state display |
| Color | green |
| LED off | Supply voltage input AC not present (Off) |
| LED on (green), DC OK | $U_{OUT} > 0,9 \times U_N$ (On (green), DC OK) |

Electrical properties

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

Product properties

| | |
|----------------------------|---------------------|
| Product family | UNO POWER |
| MTBF (IEC 61709, SN 29500) | > 2690000 h (25 °C) |
| | > 1609000 h (40 °C) |
| | > 890000 h (55 °C) |

Insulation characteristics

| | |
|---------------------|----|
| Protection class | II |
| Degree of pollution | 2 |

Life expectancy (electrolytic capacitors)

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| | |
|-----------------|----------|
| Current | 1.25 A |
| Temperature | 40 °C |
| Time | 201000 h |
| Additional text | 120 V AC |

Life expectancy (electrolytic capacitors)

| | |
|-----------------|----------|
| Current | 1.25 A |
| Temperature | 40 °C |
| Time | 164000 h |
| Additional text | 230 V AC |

Life expectancy (electrolytic capacitors)

| | |
|-----------------|----------|
| Current | 2.5 A |
| Temperature | 40 °C |
| Time | 76000 h |
| Additional text | 120 V AC |

Life expectancy (electrolytic capacitors)

| | |
|-----------------|----------|
| Current | 2.5 A |
| Temperature | 40 °C |
| Time | 71000 h |
| Additional text | 230 V AC |

Life expectancy (electrolytic capacitors)

| | |
|-----------------|----------|
| Current | 1.875 A |
| Temperature | 40 °C |
| Time | 128000 h |
| Additional text | 120 V AC |

Life expectancy (electrolytic capacitors)

| | |
|-----------------|----------|
| Current | 1.875 A |
| Temperature | 40 °C |
| Time | 110000 h |
| Additional text | 230 V AC |

Life expectancy (electrolytic capacitors)

| | |
|-----------------|----------|
| Current | 2.5 A |
| Temperature | 25 °C |
| Time | 216000 h |
| Additional text | 120 V AC |

Life expectancy (electrolytic capacitors)

| | |
|-----------------|----------|
| Current | 2.5 A |
| Temperature | 25 °C |
| Time | 203000 h |
| Additional text | 230 V AC |

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Dimensions

Item dimensions

| | |
|--|--|
| Width | 21 mm |
| Height | 90 mm |
| Depth | 90 mm |
| Depth (Device depth (DIN rail mounting)) | 84 mm (Device depth (DIN rail mounting)) |

Installation dimensions

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

Mounting

| | |
|-------------------|--|
| Mounting type | DIN rail mounting |
| Assembly note | alignable: horizontally: 0 mm, vertically: 30 mm |
| Mounting position | horizontal DIN rail NS 35, EN 60715 |

Material specifications

| | |
|--|----------------------------------|
| Flammability rating according to UL 94 | V0 (Housing, terminal blocks) |
| Housing material | Plastic |
| Housing material | PC |
| Type of housing | Polycarbonate |
| Foot latch material | PBT (polybutylene terephthalate) |

Environmental and real-life conditions

Ambient conditions

| | |
|--|--|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -25 °C ... 70 °C (> 55°C, derating P _{OUT} : 2.5%/K) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Ambient temperature (start-up type tested) | -40 °C |
| Maximum altitude | ≤ 5000 m |
| Maximum altitude (Output power derating) | > 2000 m (Derating P _{OUT} : 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) | 10 Hz ... 56.9 Hz, amplitude ±0.35 mm (IEC 60068-2-6) 59.6 Hz ... 150 Hz, 5g, 20 cycles |
| Temp code | T4 (-25 ... +70 °C; > 55 °C, Derating P _{OUT} : 2,5 %/K) |

Standards and regulations

Overvoltage category

| | |
|------------|---------------|
| EN 61010-1 | II (≤ 5000 m) |
|------------|---------------|

Overvoltage category

| | |
|------------|----------------|
| EN 62477-1 | III (≤ 2000 m) |
|------------|----------------|

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Overvoltage category

| | |
|---------------|---|
| EN 61558-2-16 | III ($\leq \text{I}$ m, U_{IN} : 100 V AC ... 250 V AC, 110 V DC ... 250 V DC) |
| | II (≤ 2000 m) |

Safety of power supply units up to 1100 V (insulation distances)

| | |
|--------------------------|--|
| Standard designation | Safety of power supply units up to 1100 V (insulation distances) |
| Standards/specifications | DIN EN 61558-2-16 |

Electrical safety

| | |
|--------------------------|---|
| Standard designation | Electrical safety |
| Standards/specifications | IEC 61010-2-201 (SELV) |
| Standard designation | Safety for equipment for measurement, control, and laboratory use |
| Standards/specifications | IEC 61010-1 |

Protective extra-low voltage

| | |
|--------------------------|------------------------------|
| Standard designation | Protective extra-low voltage |
| Standards/specifications | IEC 61010-1 (SELV) |
| | IEC 61010-2-201 (PELV) |

Safe isolation

| | |
|--------------------------|-----------------|
| Standard designation | Safe isolation |
| Standards/specifications | IEC 61558-2-16 |
| | IEC 61010-2-201 |

Limitation of harmonic line currents

| | |
|--------------------------|--------------------------------------|
| Standard designation | Limitation of harmonic line currents |
| Standards/specifications | EN 61000-3-2 |

Mains variation/undervoltage

| | |
|--------------------------|------------------------------|
| Standard designation | Mains variation/undervoltage |
| Standards/specifications | SEMI F47 - 0706 (200 V AC) |

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 |
|----------------|-------------------------------|

ANSI/UL 121201

| | |
|----------------|--|
| Identification | PROCESS CONTROL EQUIPEMENT FOR HAZARDOUS LOCATIONS |
|----------------|--|

| | |
|--|---|
| | (EN) • This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D, Hazardous Locations, or non-hazardous locations only. (FR) • Cet appareil convient uniquement pour une utilisation en atmosphères explosibles de classe I, division 2, groupes A, B, C et D ou en atmosphères non explosibles. |
| | (EN) • WARNING: Explosion Hazard - Do not connect or disconnect equipment unless power has been switched off or the area is known to be non-hazardous. (FR) • AVERTISSEMENT : risque d'explosion - ne pas connecter ou déconnecter les équipements sauf si l'alimentation a été coupée ou si la zone est réputée non dangereuse. |
| | (EN) • If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired. (FR) • Si l'équipement est utilisé d'une manière non spécifiée par le fabricant, la protection fournie par cet équipement peut être altérée. |
| | (EN) • This equipment must be installed in a suitable, tool secured/key locked enclosure. (FR) • Cet équipement doit être installé dans un boîtier approprié, verrouillé par une clé ou dont l'ouverture nécessite l'utilisation d'un outil. |

SIQ

| | |
|----------------|--|
| Identification | CB scheme (IEC 61010-1, IEC 61010-2-201) |
|----------------|--|

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) |
| EMC requirements for noise immunity | EN 61000-6-2 |

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) |
| Frequency range | 0 kHz ... 2 kHz |

Flicker

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

Electrostatic discharge

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

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

Surge voltage load (surge)

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

Surge voltage load (surge)

| | |
|----------|------------------------------------|
| Input | 2 kV (Test Level 4 - symmetrical) |
| | 4 kV (Test Level 4 - asymmetrical) |
| Output | 1 kV (Test Level 3 - symmetrical) |
| | 2 kV (Test Level 3 - asymmetrical) |
| 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 % |

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| | |
|-------------------|-------------|
| 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. |

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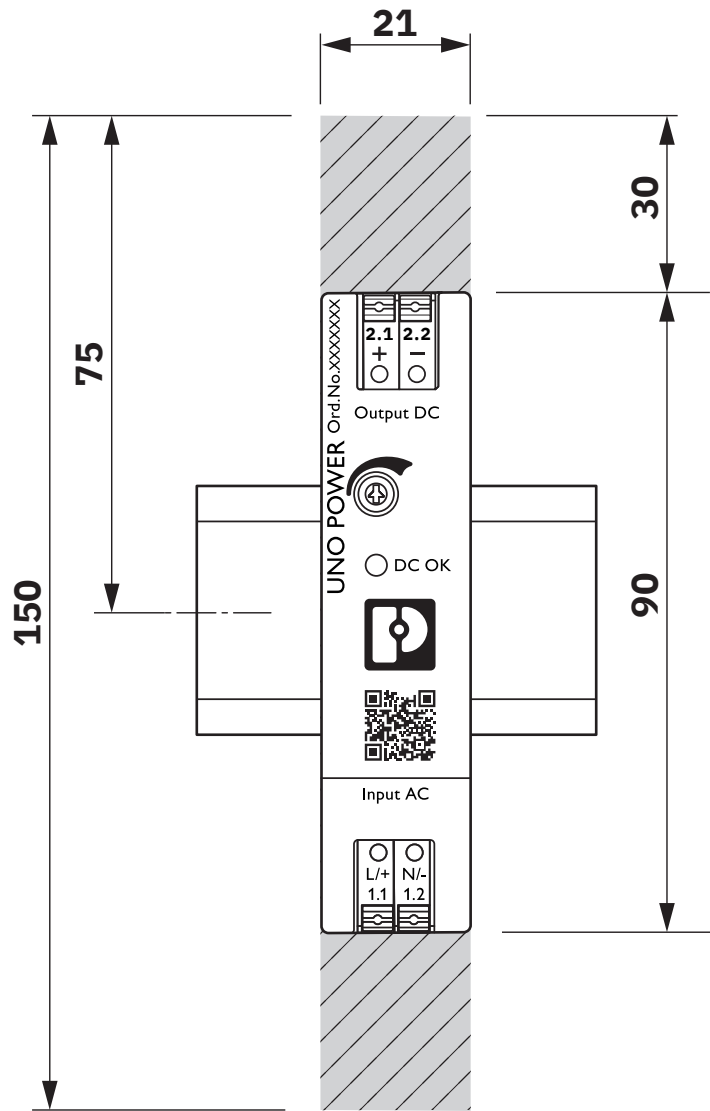


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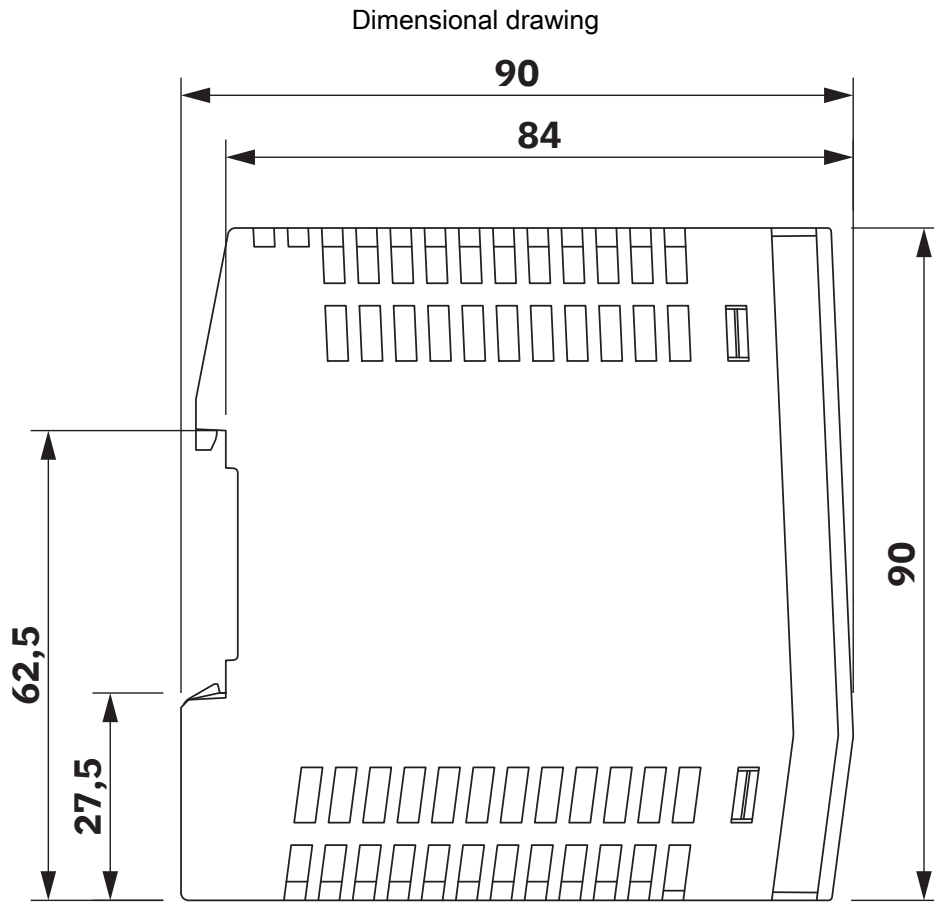
<https://www.phoenixcontact.com/gb/products/1399935>

Drawings

Dimensional drawing



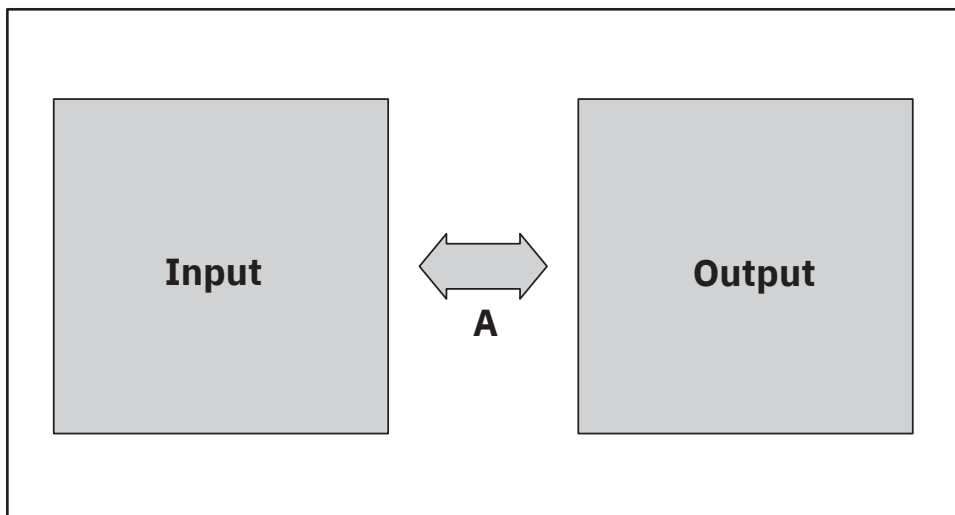
Device dimensions (dimensions in mm)

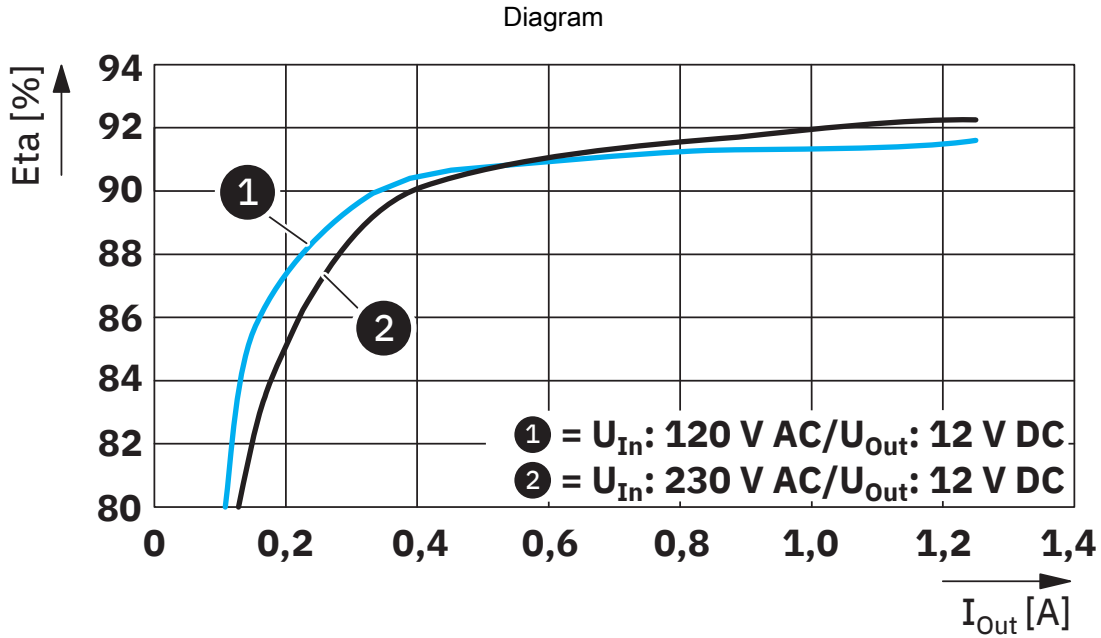


Device dimensions (dimensions in mm)

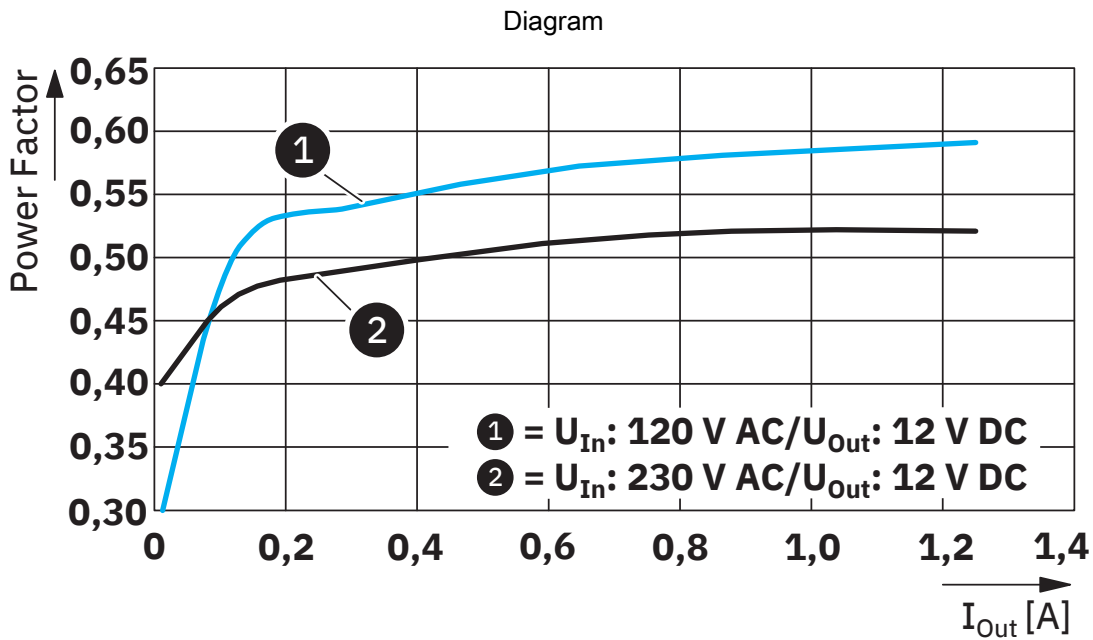
Schematic diagram

Housing



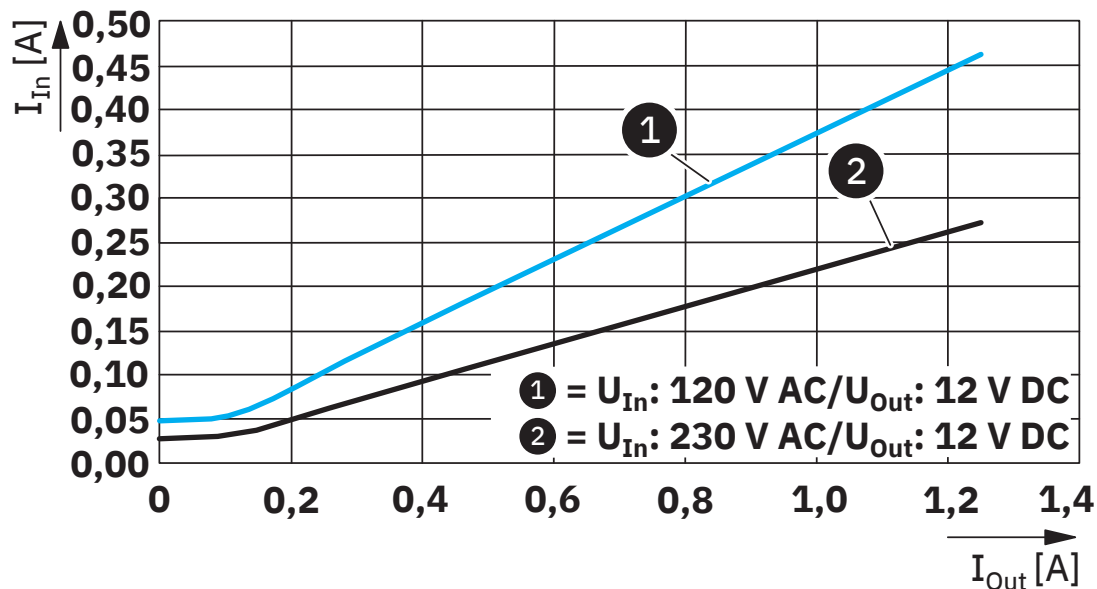


Efficiency



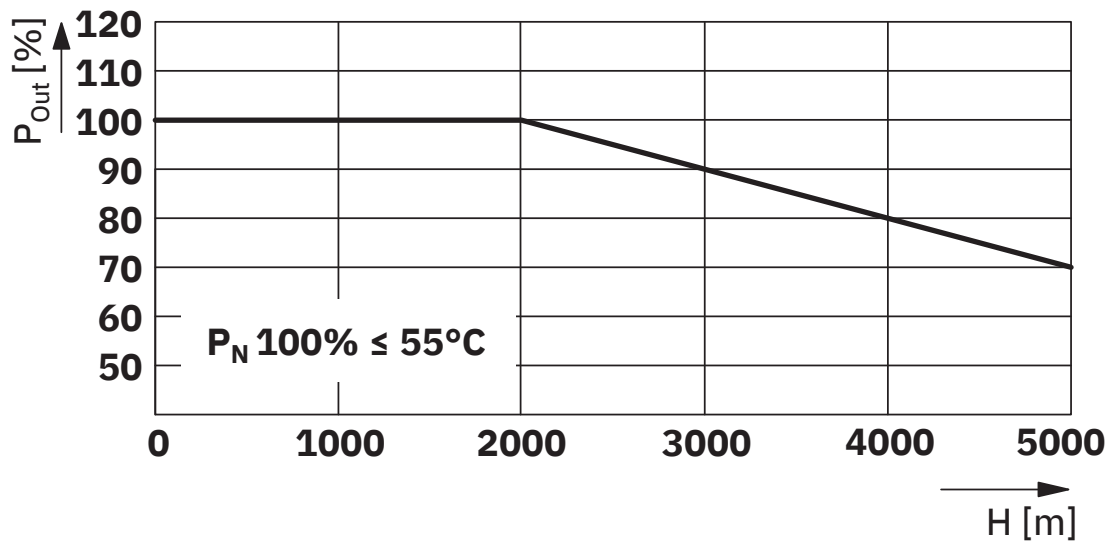
Power factor

Diagram



Input current/output current

Diagram



Output power/installation altitude

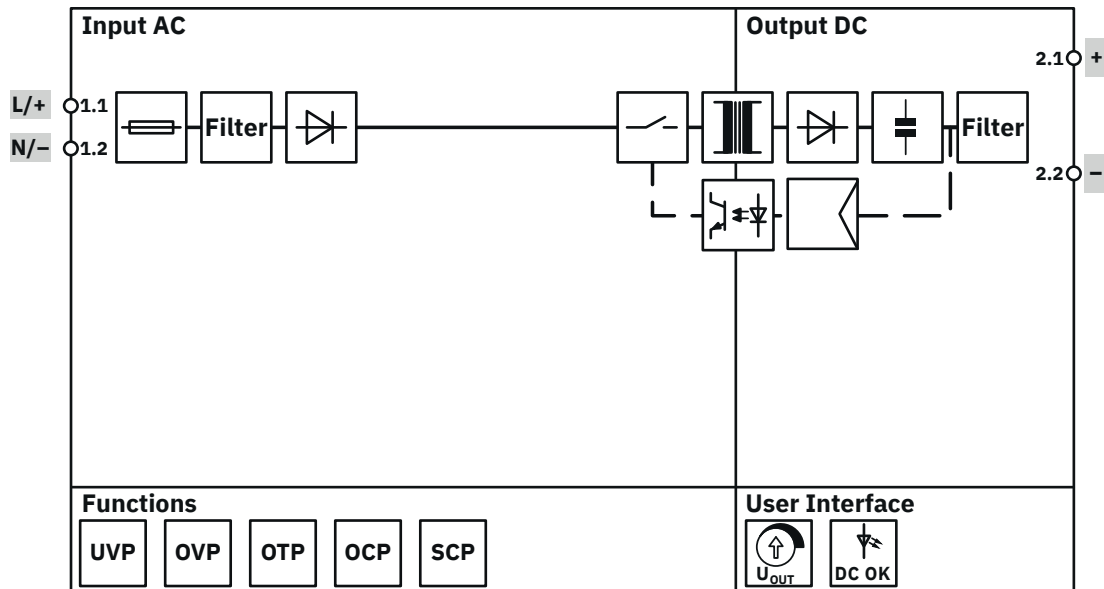
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Block diagram



Block diagram

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Approvals

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IECEE CB Scheme

Approval ID: SI-12575



cULus Listed

Approval ID: E123528-20250324

CoC / Compliance Statement

Approval ID: C223-0035/25



UL Listed

Approval ID: E199827-20250327

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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) |
| SCIP | 7202c8ea-72d3-40c8-8f39-9dcbd8a7fc80 |

EF3.1 Climate Change

| | |
|---------|---------------|
| CO2e kg | 4.899 kg CO2e |
|---------|---------------|

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