

TRIO3-CAP/1AC/24DC/20/12KJ/USB-485 - DC UPS with integrated power supply and capacity



1467815

<https://www.phoenixcontact.com/gb/products/1467815>

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TRIO DC UPS with integrated power supply and capacitor, with maintenance-free energy storage based on double-layer capacitor, USI (Universal Service Interface), DIN rail mounting, input: 230 V AC, input: 1-phase, output: 24 V DC / 20 A / 12 kJ incl. mounted UTA 107 universal DIN rail adapter

Product description

The TRIO3 capacity module combines the power supply, electronic switch-over unit, and energy storage in the same housing. The capacity module stores the energy required to bridge mains failures in maintenance-free double-layer capacitors. Several minutes of mains buffering is possible depending on the required load current. The USB-C (USI) or RS-485 interfaces make it convenient to shut down your PC.

Commercial data

| | |
|--------------------------------------|---|
| Item number | 1467815 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | CMUDC3 |
| Product key | CMUDC3 |
| GTIN | 4063151864668 |
| Weight per piece (including packing) | 3,305 g |
| Weight per piece (excluding packing) | 2,787 g |
| Country of origin | Information on the country of origin is provided with the delivery. |

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Technical data

Input data

AC operation

| | |
|---|--|
| Input voltage | 230 V AC |
| Input voltage range | 100 V AC ... 240 V AC -15 % ... +10 % ($T_{amb} < 50\text{ °C}$) |
| | 115 V AC ... 240 V AC $\pm 10\%$ ($T_{amb} < 50\text{ °C}$ / UL) |
| | 145 V AC ... 240 V AC $\pm 10\%$ ($T_{amb} < 60\text{ °C}$) |
| | 145 V AC ... 240 V AC $\pm 10\%$ ($T_{amb} < 60\text{ °C}$ / UL) |
| Frequency range (f_N) | 50 Hz ... 60 Hz $\pm 10\%$ |
| Derating | < 100 V AC (1 %/V) |
| | < 140 V DC (1 %/V) |
| Current consumption | typ. 5.5 A (100 V AC) |
| | typ. 2.4 A (240 V AC) |
| Current consumption I_N ($U_N, I_{OUT} = I_N, I_{charge} = 0$) | 4.35 A (120 V AC) |
| | 2.3 A (230 V AC) |
| Current consumption I_{max} ($U_N, I_{OUT} = I_{Stat.Boost}, I_{charge} = max$) | 5.25 A (120 V AC) |
| | 2.75 A (230 V AC) |
| Current consumption $I_{No-Load}$ ($U_N, I_{OUT} = 0, I_{charge} = 0$) | 0.11 A (120 V AC) |
| | 0.08 A (230 V AC) |
| Current consumption I_{charge} ($U_N, I_{OUT} = 0, I_{charge} = max$) | 1.2 A (120 V AC) |
| | 0.69 A (230 V AC) |
| Power consumption P_{max} ($U_N, I_{OUT} = I_{Stat.Boost}, I_{charge} = max$) | 595 W (120 V AC) |
| | 598 W (230 V AC) |
| Power consumption P_N ($U_N, I_{OUT} = I_N, I_{charge} = 0$) | 522 W (120 V AC) |
| | 516 W (230 V AC) |
| Power consumption P_{charge} ($U_N, I_{OUT} = 0, I_{charge} = max$) | 136 W (120 V AC) |
| | 136 W (230 V AC) |
| Buffer time | 25 s (20 A) |
| Charging time | approx. (For completely discharged capacitors) |
| Recharging time | approx. 3 min |
| ON duration | $\leq 5\text{ min}$ ($120\% \times P_N$) |
| | $\geq 2\text{ h}$ ($100\% \times P_N$) |
| Switch-on time | $\leq 1\text{ ms}$ |
| Recommended breaker for input protection | 10 A ... 20 A (Characteristic B, C, D, K or comparable) |

DC operation

| | |
|---------------------|---|
| Input voltage range | 100 V DC ... 240 V DC $\pm 10\%$ ($T_{amb} < 50\text{ °C}$) |
| | 160 V DC ... 240 V DC $\pm 10\%$ ($T_{amb} < 60\text{ °C}$ / UL) |
| | 160 V DC ... 240 V DC $\pm 10\%$ ($T_{amb} < 60\text{ °C}$) |
| Current consumption | typ. 5.4 A (100 V DC) |
| | typ. 2.3 A (240 V DC) |

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Output data

| | |
|--|--|
| Efficiency | typ. 94.4 % (230 V AC) |
| | typ. 93.4 % (120 V AC) |
| Short-circuit-proof | yes |
| No-load proof | yes |
| Crest factor | typ. 1.55 (120 V AC) |
| | typ. 1,7 (230 V AC) |
| Connection in parallel | yes, for increased performance (up to max. 180%) |
| Connection in series | yes |
| Feedback voltage resistance | ≤ 35 V DC |
| Protection against overvoltage at the output (OVP) | ≤ 35 V DC |
| Residual ripple | < 100 mV |
| Rise time | ≤ 1 s (U_{OUT} (10 % ... 90 %)) |

Mains operation

| | |
|---|--|
| Output voltage | 24 V DC ±2 % |
| Output voltage range | 24 V DC ... 28 V DC (> 24 V constant capacity) |
| Output current I_N | 20 A |
| Dynamic Boost ($I_{Dyn.Boost}$) | 30 A (5 s) |
| Dynamic BOOST (ICAP.Boost) | 70 A (350 ms) |
| Output power P_{OUT} (U_N , $I_{OUT} = I_N$) | 480 W |
| Output power P_{OUT} (U_N , $I_{OUT} = I_{stat.Boost}$) | 1680 W (350 ms) |
| Output power P_{OUT} (U_N , $I_{OUT} = I_{dyn.Boost}$) | 720 W (5 s) |
| Short-circuit-proof | yes |
| Idling-proof | yes |

Battery operation

| | |
|---|--|
| Output voltage | 23.5 V DC ±2 % |
| Output voltage range | 23.5 V DC ... 27.5 V DC (> 24 V constant capacity) |
| Output current I_N | 20 A |
| Dynamic Boost ($I_{Dyn.Boost}$) | 30 A (5 s) |
| Dynamic BOOST (ICAP.Boost) | 70 A (350 ms) |
| Output power P_{OUT} (U_N , $I_{OUT} = I_N$) | 480 W |
| Output power P_{OUT} (U_N , $I_{OUT} = I_{stat.Boost}$) | 1680 W (350 ms) |
| Output power P_{OUT} (U_N , $I_{OUT} = I_{dyn.Boost}$) | 720 W (5 s) |
| Power dissipation No load (U_N , $I_{Out} = 0$, $I_{Charge} = 0$) | 8 W |
| Power dissipation Nominal load (U_N , $I_{Out} = I_N$, $I_{Charge} = 0$) | 41 W |
| Power loss nominal load max. | 35 W (230 V AC) |
| Maximum no-load power dissipation | 9 W (230 V AC) |
| Output current limit | 70 A (350 ms) |
| Recovery time | 55 s (dyn. Boost) |
| Short-circuit-proof | yes |

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| | |
|--------------|-----|
| Idling-proof | yes |
|--------------|-----|

Energy storage

Input


| | |
|------------------|-------------|
| Charging current | 1 A ... 5 A |
| Charging power | 24 W |

General

| | |
|-------------------------|------------------------|
| Capacity | 12 kJ |
| Storage medium | Double-layer capacitor |
| Permissible backup fuse | B10 |
| Buffer time | 25 s (20 A) |

Connection data

Input

| | |
|----------------|--|
| Position | 1.x |
| Identification | 1.1 (L/+), 1.2 (N/-), 1.3 (⊕ ) |

Conductor connection

| | |
|--|--|
| Connection method | Push-in spring connection |
| rigid | 0.2 mm ² ... 4 mm ² |
| | 1.5 mm ² (recommended) |
| flexible | 0.2 mm ² ... 2.5 mm ² |
| | 1.5 mm ² (recommended) |
| flexible with ferrule without plastic sleeve | 0.25 mm ² ... 2.5 mm ² |
| | 1.5 mm ² (recommended) |
| flexible with ferrule with plastic sleeve | 0.25 mm ² ... 2.5 mm ² |
| | 1.5 mm ² (recommended) |
| AWG | 24 ... 12 |
| | 16 (recommended) |
| Stripping length | 10 mm |

Output

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

Conductor connection

| | |
|--|--|
| Connection method | Push-in spring connection |
| rigid | 0.2 mm ² ... 10 mm ² |
| | 4 mm ² (recommended) |
| flexible | 0.2 mm ² ... 6 mm ² |
| | 4 mm ² (recommended) |
| flexible with ferrule without plastic sleeve | 0.25 mm ² ... 6 mm ² |
| | 4 mm ² (recommended) |

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| | |
|---|---|
| flexible with ferrule with plastic sleeve | 0.25 mm ² ... 6 mm ² 4 mm ² (recommended) |
| AWG | 24 ... 8 12 (recommended) |
| Stripping length | 15 mm |

Signal

| | |
|----------------|--|
| Position | 3.x |
| Identification | 3.1 (Mains Mode), 3.2 (Alarm), 3.3 (Ready), 3.4 (Remote) |

Conductor connection

| | |
|--|--|
| Connection method | Push-in spring connection |
| rigid | 0.2 mm ² ... 1.5 mm ² 0.5 mm ² |
| flexible | 0.2 mm ² ... 1.5 mm ² 0.5 mm ² |
| flexible with ferrule without plastic sleeve | 0.25 mm ² ... 1.5 mm ² 0.5 mm ² |
| flexible with ferrule with plastic sleeve | 0.25 mm ² ... 0.75 mm ² 0.5 mm ² |
| AWG | 24 ... 16 20 |
| Stripping length | 10 mm |

Interfaces

Communication

| | |
|-------------------|--------|
| Connection method | RS-485 |
|-------------------|--------|

Communication

| | |
|-------------------|---|
| Connection method | USI (USB-C) |
| Interface | USI (Universal Service Interface) RS-485 |

Signaling

LED signaling

| | |
|--|---|
| Types of signaling | Power LED |
| Color | red, yellow, green (multicolor LED) |
| LED off | Supply voltage input AC not present (Off) |
| LED on (green), DC OK | $U_{Out} > 21 \text{ V DC}$ and $I_{Out} < 0.9 \times I_N$ (green) |
| LED on (yellow), I _{Out} > 90 % | $U_{Out} > 21 \text{ V DC}$ and $I_{Out} > 0.9 \times I_N$ (yellow) |
| LED on (red), ISHORT | $U_{Out} < 21 \text{ V DC}$ and $I_{Out} > 0.9 \times I_N$ (red) |
| LED on (flashing red) OVP | $U_{OUT} > OVP$ (Over voltage protection) (red, flashing) |

LED signaling

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| | |
|----------------------------------|---|
| Types of signaling | LED mains or buffer mode |
| Color | red, yellow, green (multicolor LED) |
| LED off | Devices off (Off) |
| LED on (green) | Mains operation, the device is fully charged (green) |
| LED (green) flashing (1 Hz/90%) | Mains operation, the device is fully charged and Remote is active (green) |
| LED (green) flashing (1 Hz/10%) | Standby (green) |
| LED on (yellow) | Buffer mode (yellow) |
| LED (yellow) flashing (1 Hz/90%) | Charging process, Remote is active (yellow) |
| LED (yellow) flashing (1 Hz/50%) | Charging process (yellow) |
| LED (yellow) flashing (1 Hz/10%) | Reduced charging current, $100\% < I_{Out} < 150\%$ (yellow) |

LED signaling

| | |
|----------------------------------|---|
| Types of signaling | SOH LED (service life) |
| Color | red, yellow, green (multicolor LED) |
| LED off | Devices off (Off) |
| LED on (green) | Service life (SOH) > 3 months (green) |
| LED on (yellow) | Service life (SOH) < 3 months (yellow) |
| LED (yellow) flashing (1 Hz/90%) | Charging blocked, overtemperature (yellow) |
| LED on (red) | Device error or overtemperature (red) |
| LED (red) flashing (1 Hz/50%) | Buffer is not active, overtemperature (red) |
| | EEPROM, I/F board (red) |

Signal state Mains_Mode

| | |
|--------------------------------|--|
| Connection labeling | 3.1 Mains Mode |
| Channel | DO (digital output) |
| Switching contact | non-floating |
| State condition (configurable) | High: $U_{out} > U_{set} - 2V \pm \text{tol}$ and $U_{out} < 30.5 \pm \text{tol}$ Low: $U_{out} < U_{set} - 2V \pm \text{tol}$ or $U_{out} > 30.5 \pm \text{tol}$ Device is in buffer mode |
| Output can be loaded | 20 mA |
| State - signal assignment | active - high |
| Reference potential | GND (2.2 negative pole) |
| LED status indicator | green |
| Resistance | 1.2 k Ω (Pull-up) |

Signal state Alarm

| | |
|--------------------------------|-------------------------|
| Connection labeling | 3.2 Alarm |
| Channel | DO (digital output) |
| Switching contact | non-floating |
| State condition (configurable) | Alarm threshold |
| Output can be loaded | 20 mA |
| State - signal assignment | NC (Normally Closed) |
| Current carrying capacity | 20 mA |
| Reference potential | GND (2.2 negative pole) |

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| | |
|----------------------|--------------------------|
| LED status indicator | red |
| Resistance | 1.2 k Ω (Pull-up) |

Signal state Ready

| | |
|--------------------------------|--|
| Connection labeling | 3.3 Ready |
| Channel | DO (digital output) |
| Switching contact | non-floating |
| State condition (configurable) | High: CAPs are fully charged Device is in buffer mode Low: CAPs are charging |
| Output can be loaded | 20 mA |
| State - signal assignment | active - high |
| Current carrying capacity | 20 mA |
| Reference potential | GND (2.2 negative pole) |
| LED status indicator | green |
| Resistance | 1.2 k Ω (Pull-up) |

Signal state Remote

| | |
|--------------------------------|---|
| Connection labeling | 3.4 |
| Channel | DI (digital input) |
| State (configurable) | Remote |
| State condition (configurable) | Remote |
| State - signal assignment | active - low |
| Reference potential | 2.2 (negative pole, identical to 3.1, 3.2, 3.3) |

Electrical properties

| | |
|---------------------------------|---|
| Number of phases | 1 |
| Insulation voltage input/output | 5.3 kV DC (type test) 3.1 kV DC (routine test) |

Product properties

| | |
|----------------------------|--|
| Product type | DC UPS with integrated capacitor |
| Product family | TRIO DC UPS with integrated power supply and capacitor |
| MTBF (IEC 61709, SN 29500) | 630000 h 580000 h 460000 h |

Insulation characteristics

| | |
|---------------------------------------|---|
| Protection class | I |
| Overvoltage category (EN 61010-1) | III (\leq 2000 m) II (\leq 5000 m) |
| Overvoltage category (EN 61010-2-201) | III (\leq 2000 m) |
| Degree of pollution | 2 |

Dimensions

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Item dimensions

| | |
|--|--------|
| Width | 249 mm |
| Height | 135 mm |
| Depth | 125 mm |
| Depth (Device depth (DIN rail mounting)) | 125 mm |

Mounting

| | |
|-------------------|-------------------------------------|
| Mounting type | DIN rail mounting |
| Mounting position | horizontal DIN rail NS 35, EN 60715 |

Material specifications

| | |
|--|----|
| Flammability rating according to UL 94 (housing / terminal blocks) | V0 |
|--|----|

Environmental and real-life conditions

Ambient conditions

| | |
|--|---|
| Degree of protection | IP20 IP20 |
| Ambient temperature (operation) | -25 °C ... 60 °C |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Ambient temperature (start-up type tested) | -40 °C |
| Maximum altitude | ≤ 5000 m (> 2000 m, Derating: 10 %/1000 m) |
| Climatic class | 3K3 |
| 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) | 10 Hz ... 50 Hz, amplitude ±0.2 mm 50 Hz ... 150 Hz, 2.3g, 90 min. |

Standards and regulations

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) |

Electronic equipment for use in power installations

| | |
|--------------------------|--|
| Standard designation | Equipping high voltage installations with electronic equipment |
| Standards/specifications | EN 50178/VDE 0160 (PELV) |

Safety for measurement, control, and laboratory equipment

| | |
|----------------------|---|
| Standard designation | Safety for equipment for measurement, control, and laboratory |
|----------------------|---|

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| | |
|--|--|
| | 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 |
| Security for industrial automation and control systems | |
| Standard designation | Security for industrial automation and control systems |
| Standards/specifications | IEC 62443-4-1 |

Approvals

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. |

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| | |
|--|---|
| | (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. |
|--|---|

Shipbuilding

| | |
|----------------|-----|
| Identification | DNV |
|----------------|-----|

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 | Immunity in accordance with EN 61000-6-1 (residential), EN 61000-6-2 (industrial) |

Conducted noise emission

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-6-3 |
|-----------------------|--------------|

Noise emission

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-6-3 |
|-----------------------|--------------|

DNV GL conducted noise emissions

| | |
|-----------------|-------------------------|
| DNV | Class A |
| Additional text | Area power distribution |

DNV GL noise radiation

| | |
|-----------------|----------------------|
| DNV | Class B |
| Additional text | Bridge and deck area |

Harmonic currents

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-3-2 |
|-----------------------|--------------|

Flicker

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

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 B |

Electromagnetic HF field

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

Electromagnetic HF field

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

Fast transients (burst)

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

Fast transients (burst)

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

Surge voltage load (surge)

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

Surge voltage load (surge)

| | |
|----------|----------------------------------|
| Input | symmetrical 1 kV (Test Level 3) |
| | asymmetrical 2 kV (Test Level 3) |
| Output | symmetrical 1 kV (Test Level 2) |
| | asymmetrical 1 kV (Test Level 3) |
| Signal | asymmetrical 1 kV (Test Level 2) |
| Comments | Criterion B |

Conducted interference

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

Conducted interference

| | |
|---------------------|---------------------|
| Input/output/signal | asymmetrical |
| Frequency range | 0.15 MHz ... 80 MHz |
| Comments | Criterion A |
| Voltage | 10 V |

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 |

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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. |

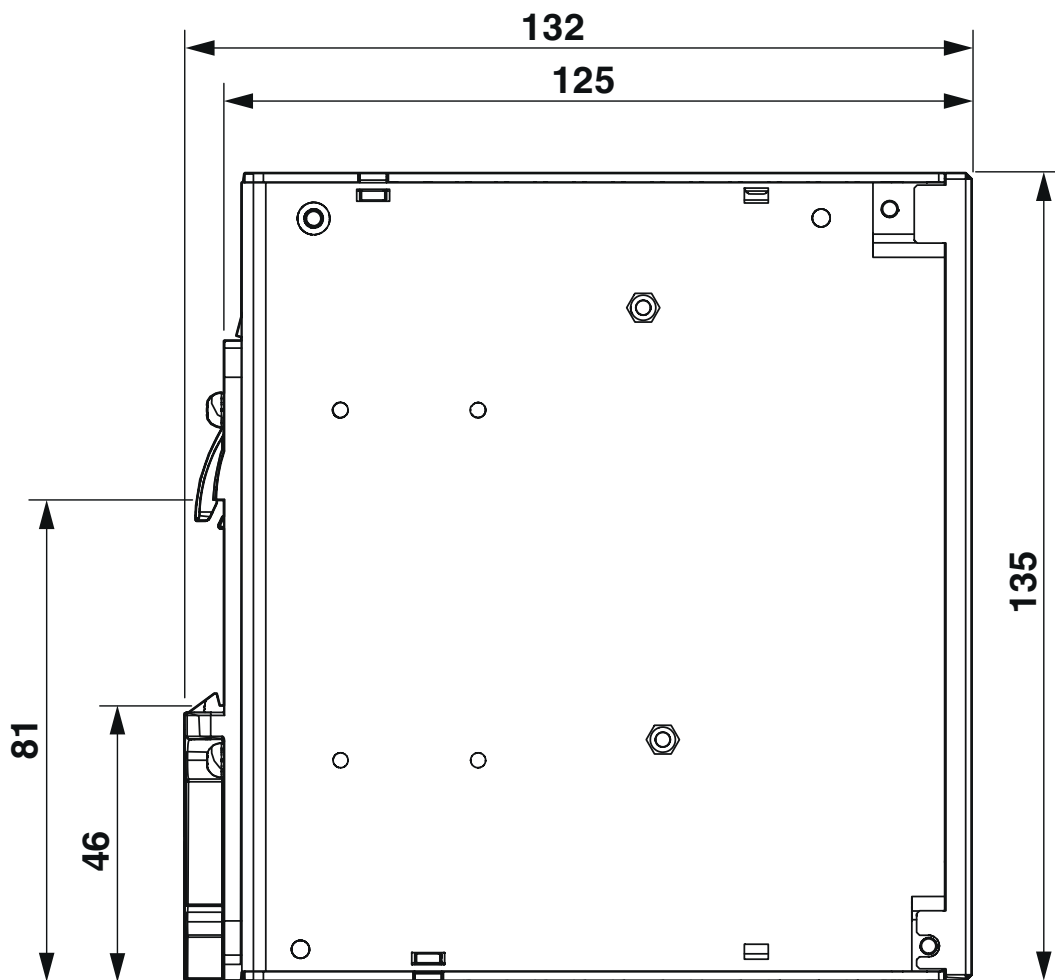
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Dimensional drawing



Dimensions, side view (in mm)

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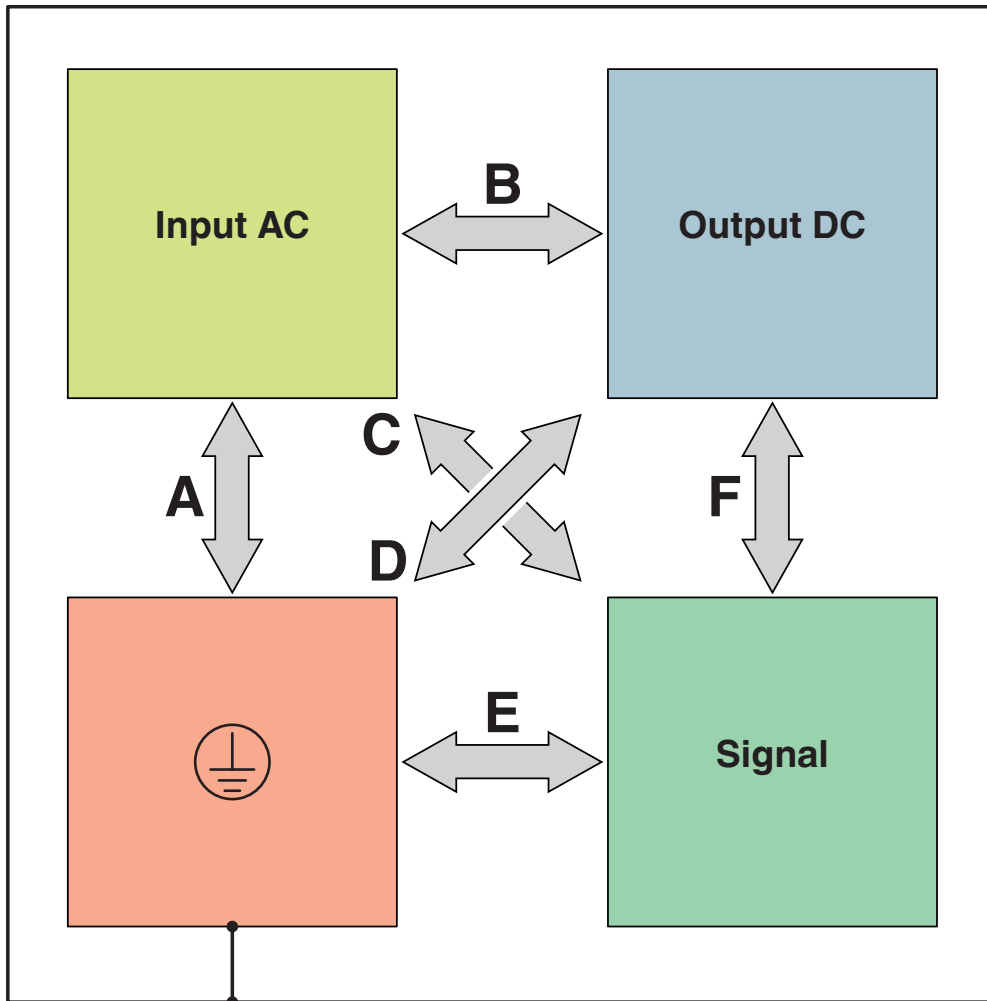


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Schematic diagram

Housing



Test sections, insulation voltage

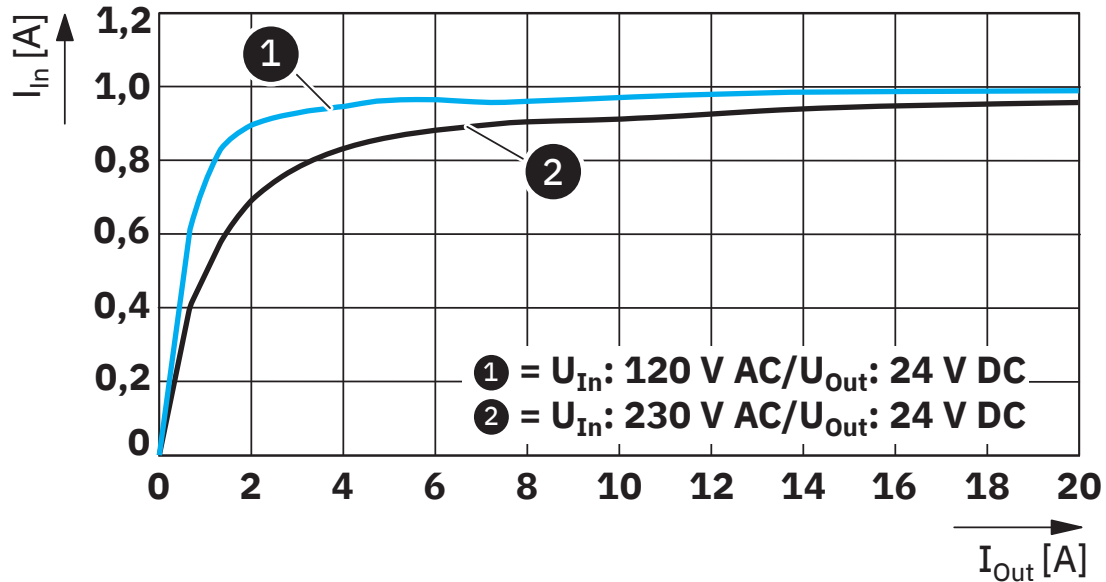
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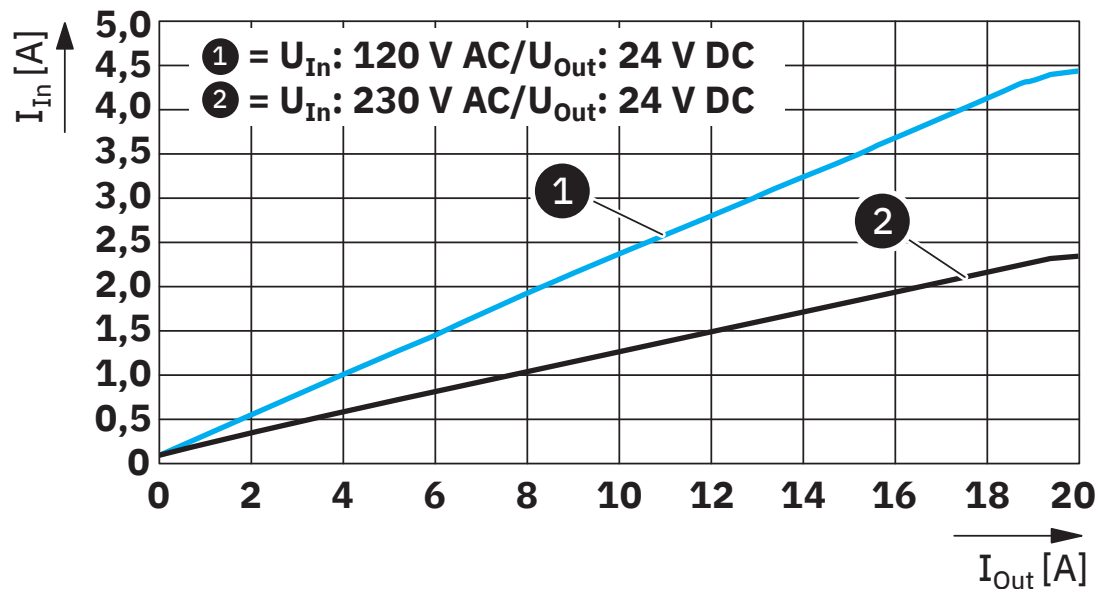
<https://www.phoenixcontact.com/gb/products/1467815>

Diagram



Power factor

Diagram



Input current/output current

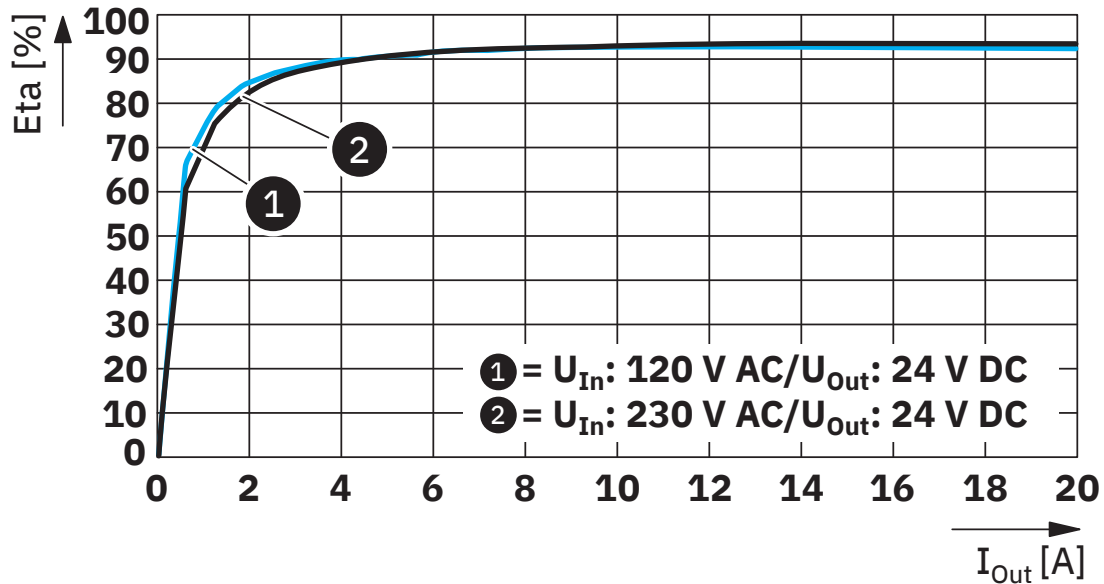
TRIO3-CAP/1AC/24DC/20/12KJ/USB-485 - DC UPS with integrated power supply and capacity



1467815

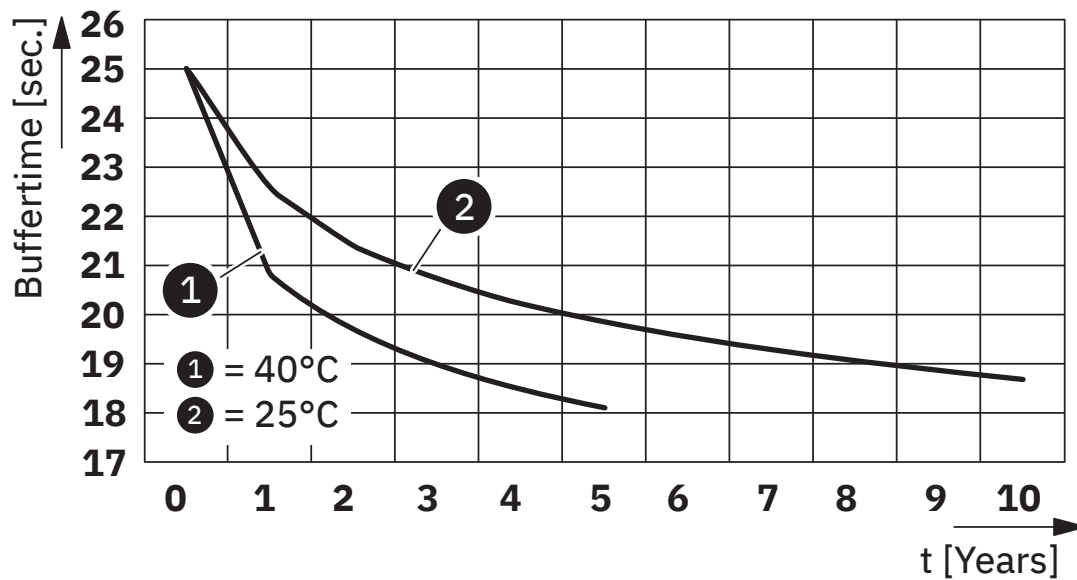
<https://www.phoenixcontact.com/gb/products/1467815>

Diagram



Efficiency

Diagram



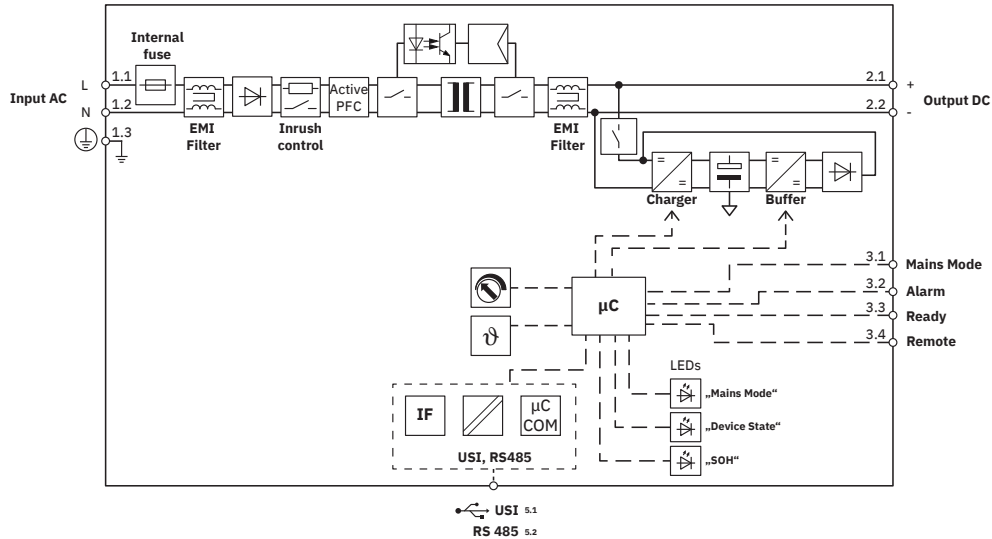
TRIO3-CAP/1AC/24DC/20/12KJ/USB-485 - DC UPS with integrated power supply and capacity



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Block diagram



Block diagram

Graphic

| Load Current | Buffertime | | | | | | | | | | | | | | | | |
|--------------|------------|----|----|----|----|----|----|---|---------|---|---|---|----|----|----|----|----|
| | Seconds | | | | | | | | Minutes | | | | | | | | |
| | 5 | 10 | 15 | 20 | 30 | 40 | 50 | 1 | 2 | 3 | 5 | 7 | 10 | 15 | 20 | 30 | 45 |
| 0,10 A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 0,25 A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 0,50 A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 1,00 A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 2,50 A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 5,00 A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 7,50 A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 10,0 A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 12,0 A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 15,0 A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 20,0 A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 26,0 A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 30,0 A | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

The data is based on an ambient temperature of +25 °C at the start of use.

- 1467800 TRIO3-CAP/1AC/24DC/5/3KJ/USB-485
- 1467815 TRIO3-CAP/1AC/24DC/20/12KJ/USB-485
- 1467808 TRIO3-CAP/1AC/24DC/10/6KJ/USB-485

Buffer times TRIO CAP

TRIO3-CAP/1AC/24DC/20/12KJ/USB-485 - DC UPS with integrated power supply and capacity



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/1467815>



cULus Listed

Approval ID: E123528-20240710



IECEE CB Scheme

Approval ID: T223-0277/25,0278/25

DNV

Approval ID: TAA00000BM

CoC / Compliance Statement

Approval ID: C211-0003/26



cULus Listed

Approval ID: E199827-20240927

TRIO3-CAP/1AC/24DC/20/12KJ/USB-485 - DC UPS with integrated power supply and capacity



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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27040705 |
| ECLASS-15.0 | 27040705 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC000382 |
|-----------|----------|

TRIO3-CAP/1AC/24DC/20/12KJ/USB-485 - DC UPS with integrated power supply and capacity



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Environmental product compliance

EU RoHS

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

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