

Uninterruptible power supply - TRIO-UPS/1AC/24DC/ 5 - 2866611

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Uninterruptible power supply with integrated power supply unit. For lead AGM energy storage of type MINI-BAT/24/DC/1.3 AH, QUINT-BAT/24DC 3.4 AH ... 12 AH nominal capacity. Input: 1-phase, output: 24 V DC / 5 A. Screw connection technology

Product Description


The TRIO UPS module with integrated power supply is particularly space-saving: UPS module and power supply in one housing. Only one energy storage is required to complete the UPS system. Energy storage with lead AGM technology buffers failures lasting up to two hours with 5 A load current.

Your advantages

- Autonomous – in the event of AC mains failure the industrial PC continues operating without interruption
- Time saving – when the supply voltage is restored, the industrial PC starts automatically



Key Commercial Data

| | |
|--------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 311809 |
| GTIN | 4046356311809 |

Technical data

Dimensions

| | |
|----------------------------------|---------------|
| Width | 60 mm |
| Height | 130 mm |
| Depth | 118 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 ... 80 °C |
| Max. permissible relative humidity (operation) | 95 % (at 25 °C, non-condensing) |

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Ambient conditions

| | |
|---------------------|-----------------------------|
| Climatic class | 3K3 (in acc. with EN 60721) |
| Degree of pollution | 2 |

Input data

| | |
|--|--|
| Nominal input voltage range | 100 V AC ... 240 V AC |
| AC input voltage range | 85 V AC ... 264 V AC (Derating < 90 V AC: 2.5%V) |
| Input voltage range DC | 100 V DC ... 350 V DC (UL508: 100 ... 250 V) |
| Buffer time | adjustable: 0.5 min; 1 min; 2 min; 3 min; 5 min; 10 min; 15 min; 20 min; PC-Mode |
| Current consumption | 1.1 A (230 V AC, maximum) |
| | 1.8 A (120 V AC, maximum) |
| Inrush current limiting/I ² t | < 1.3 A ² s |
| Mains buffering time | see diagram |
| Typical response time | 150 ms (230 V AC) |
| | 200 ms (120 V AC) |
| Power factor (cos phi) | approx. 0.5 |
| Protective circuit | Transient surge protection Varistor |
| Input fuse, integrated | 6.3 A (slow-blow, internal) |

Output data

| | |
|---|--|
| Nominal output voltage | 24 V DC |
| Setting range of the output voltage (U _{Set}) | 22.5 V DC ... 29.5 V DC (Network operation; in the buffer mode, dependent on the battery voltage of 27.9 V DC ... 19.2 V DC) |
| Nominal output current (I _N) | 5 A (-25 °C ... 55 °C) |
| Derating | 55 °C ... 70 °C (2.5%/K) |
| Output current limit | max. 6 A (Mains operation) |
| Control deviation | < 1 % (change in load, static 10 % ... 90 %) |
| Efficiency | > 88 % (230 V AC, network operation) |
| | > 86 % (120 V AC, network operation) |
| | > 86 % (Battery operation) |
| Residual ripple | < 10 mV _{PP} |
| Peak switching voltages nominal load | < 25 mV _{PP} |
| Connection in parallel | Yes, 2 |
| Surge protection against internal surge voltages | < 35 V DC |
| Feedback voltage resistance | 35 V DC |

General

| | |
|---------------------------------|--|
| IQ technology | no |
| Net weight | 1.1 kg |
| Memory medium | External, battery 1.3 Ah / 3.4 Ah / 7.2 Ah / 12 Ah |
| Insulation voltage input/output | 4 kV (type test) |
| | 2 kV (routine test) |
| Protection class | I |

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Technical data

General

| | |
|-----------------------|--|
| | > 596000 h (40 °C) |
| Mounting position | horizontal DIN rail NS 35, EN 60715 |
| Assembly instructions | alignable: horizontally 0 mm, vertically 50 mm |

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. | 12 |
| Screw thread | M3 |

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. | 24 |
| Conductor cross section AWG max. | 12 |
| Stripping length | 8 mm |
| Screw thread | M3 |

Connection data for signaling

| | |
|---------------------------------------|---------------------|
| 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. | 12 |
| Screw thread | M3 |

Charging process

| | |
|--------------------------------------|--|
| Charge characteristic curve | I/U characteristic curve |
| Battery presence check/time interval | 60 s |
| Charge current | 0.2 A ... 1.5 A (Default 1.0 A) |
| End-of-charge voltage | 25 V DC ... 30 V DC (Default 27.6 V DC) |
| Temperature compensation | 0 mV/K ... 200 mV/K (42 mV/K by default) |
| Quality check of battery | 4 h ... 200 h (Default 12 h) |
| Deep discharge protection | 18 V DC ... 21 V DC (Default 19.2 V DC) |
| Alarm signaling threshold | 18 V DC ... 30 V DC (Default 20.4 V DC) |

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Standards and Regulations

| | |
|--|---|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Noise emission | EN 55011 (EN 55022) |
| Noise immunity | EN 61000-6-2:2005 |
| Connection in acc. with standard | CUL |
| Standards/regulations | EN 61000-4-2 |
| Contact discharge | 6 kV |
| Standards/regulations | EN 61000-4-3 |
| Frequency range | 80 MHz ... 2 GHz |
| Test field strength | 10 V/m |
| Standards/regulations | EN 61000-4-4 |
| Comments | Criterion B |
| Standards/regulations | EN 61000-6-3 |
| | EN 61000-4-6 |
| Frequency range | 10 kHz ... 80 MHz |
| Voltage | 10 V |
| Standards/regulations | EN 61000-4-11 |
| Low Voltage Directive | Conformance with Low Voltage Directive 2014/35/EC |
| Standard - Electrical safety | EN 60950-1/VDE 0805 (SELV) |
| Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations | EN 50178/VDE 0160 (PELV) |
| Standard – Safety extra-low voltage | EN 60950-1 (SELV) |
| | EN 60204 (PELV) |
| Standard - Safe isolation | DIN VDE 0100-410 |
| Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment | EN 50178 |
| Standard – Limitation of mains harmonic currents | EN 61000-3-2 |
| Shipbuilding approval | DNV GL (EMC B) |
| UL approvals | UL/C-UL listed UL 508 |
| | UL/C-UL Recognized UL 60950-1 |
| 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. |
| Rail applications | EN 50121-4 |

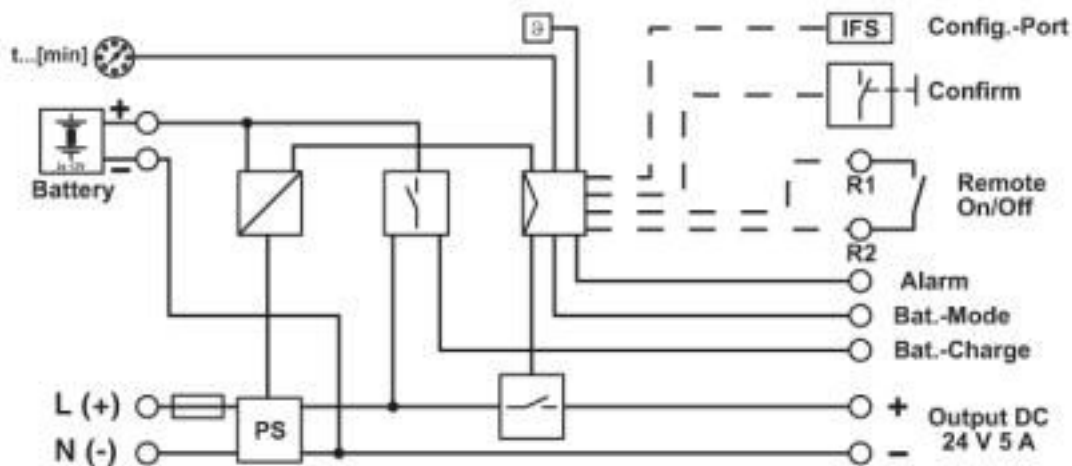
Environmental Product Compliance

| | |
|------------|---|
| China RoHS | Environmentally Friendly Use Period = 25; |
| | For details about hazardous substances go to tab “Downloads”, Category “Manufacturer’s declaration” |

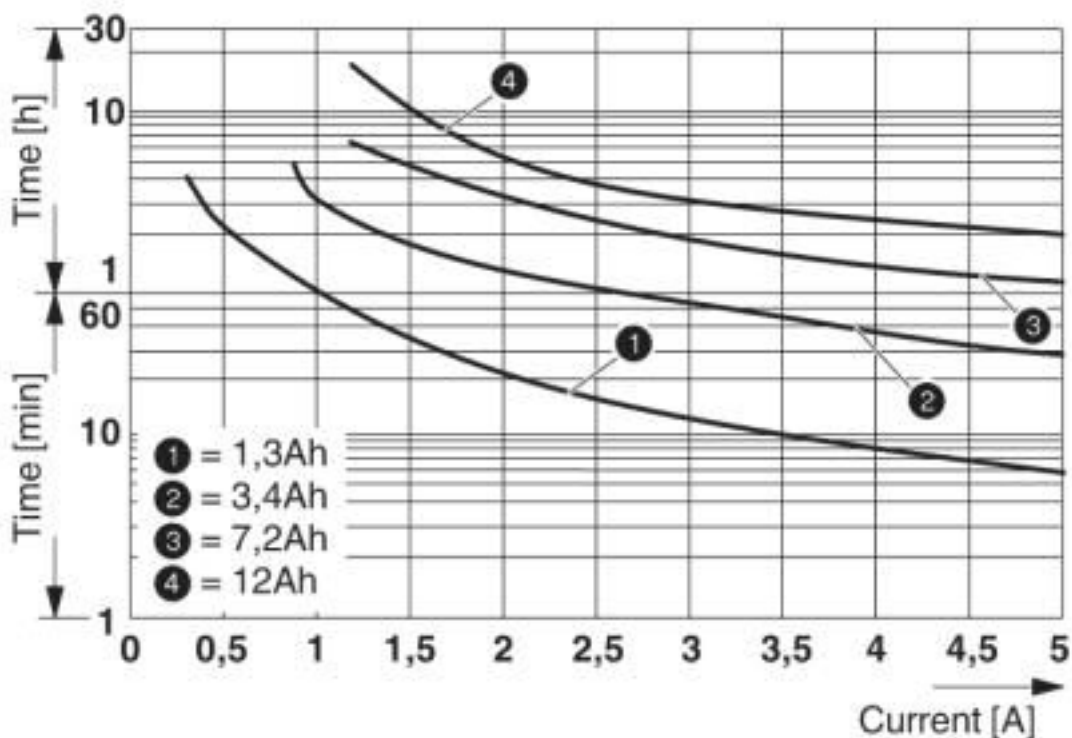
Drawings

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Block diagram



Diagram



Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27040705 |
| eCl@ss 4.0 | 27040600 |
| eCl@ss 4.1 | 27040600 |
| eCl@ss 5.0 | 27040600 |

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Classifications

eCl@ss

| | |
|------------|----------|
| eCl@ss 5.1 | 27040600 |
| eCl@ss 6.0 | 27040600 |
| eCl@ss 7.0 | 27040603 |
| eCl@ss 8.0 | 27040603 |
| eCl@ss 9.0 | 27040705 |

ETIM

| | |
|----------|----------|
| ETIM 2.0 | EC000382 |
| ETIM 3.0 | EC000382 |
| ETIM 4.0 | EC000382 |
| ETIM 5.0 | EC000382 |
| ETIM 6.0 | EC000382 |
| ETIM 7.0 | EC000382 |

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30211510 |
| UNSPSC 7.0901 | 39121011 |
| UNSPSC 11 | 39121011 |
| UNSPSC 12.01 | 39121011 |
| UNSPSC 13.2 | 39121011 |
| UNSPSC 18.0 | 39121011 |
| UNSPSC 19.0 | 39121011 |
| UNSPSC 20.0 | 39121011 |
| UNSPSC 21.0 | 39121011 |

Approvals

Approvals

Approvals

DNV GL / PRS / UL Listed / UL Recognized / cUL Recognized / cUL Listed / EAC / EAC / cULus Recognized / cULus Listed

Ex Approvals

Approval details

| | | | |
|--------|--|---|------------|
| DNV GL | | https://approvalfinder.dnvgl.com/ | TAA00000A2 |
|--------|--|---|------------|

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Approvals

| | | | |
|-----|--|---|-------------------|
| PRS | | http://www.prs.pl/ | TE/2104/880590/16 |
|-----|--|---|-------------------|

| | | | |
|-----------|--|---|---------------|
| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 123528 |
|-----------|--|---|---------------|

| | | | |
|---------------|--|---|---------------|
| UL Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 211944 |
|---------------|--|---|---------------|

| | | | |
|----------------|--|---|---------------|
| cUL Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 211944 |
|----------------|--|---|---------------|

| | | | |
|------------|--|---|---------------|
| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 123528 |
|------------|--|---|---------------|

| | | | |
|-----|--|--|---------------|
| EAC | | | EAC-Zulassung |
|-----|--|--|---------------|

| | | | |
|-----|--|--|---------------------|
| EAC | | | RU*DE*08.B.01873/19 |
|-----|--|--|---------------------|

| | | | |
|------------------|--|--|--|
| cULus Recognized | | | |
|------------------|--|--|--|

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| cULus Listed | | | |
|--------------|--|--|--|

Accessories

Accessories

Assembly adapter

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Accessories

Assembly adapters - QUINT-PS-ADAPTERS7/2 - 2938206



Assembly adapter for QUINT POWER 10A on S7-300 rail

Assembly adapters - UWA 182/52 - 2938235



Universal wall adapter for securely mounting the device in the event of strong vibrations. The device is screwed directly onto the mounting surface. The universal wall adapter is attached on the top/bottom.

Battery unit

Energy storage - MINI-BAT/24DC/1.3AH - 2866417



Energy storage device, lead AGM, VRLA technology, 24 V DC, 1.3 Ah.

Energy storage - QUINT-BAT/24DC/ 3.4AH - 2866349



Energy storage device, lead AGM, VRLA technology, 24 V DC, 3.4 Ah. Connection via pin cable lug, 14 mm.

Energy storage - QUINT-BAT/24DC/ 7.2AH - 2866352



Energy storage device, lead AGM, VRLA technology, 24 V DC, 7.2 Ah. Connection via pin cable lug, 14 mm.

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Accessories

Energy storage - QUINT-BAT/24DC/12AH - 2866365



Energy storage device, lead AGM, VRLA technology, 24 V DC, 12 Ah. Connection via pin cable lug, 14 mm.

Energy storage - UPS-BAT/VRLA/24DC/1.3AH - 2320296



Energy storage device, lead AGM, VRLA technology, 24 V DC, 1.3 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

Energy storage - UPS-BAT/VRLA/24DC/3.4AH - 2320306



Energy storage device, lead AGM, VRLA technology, 24 V DC, 3.4 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

Energy storage - UPS-BAT/VRLA/24DC/7.2AH - 2320319



Energy storage device, lead AGM, VRLA technology, 24 V DC, 7.2 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

Energy storage - UPS-BAT/VRLA/24DC/12AH - 2320322



Energy storage device, lead AGM, VRLA technology, 24 V DC, 12 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

Data cable preassembled

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Accessories

Data cable - IFS-USB-DATACABLE - 2320500



Used for communicating between industrial PCs and Phoenix Contact devices with the 12-pos. IFS data port, such as QUINT UPS or TRIO UPS.

Fuse

Fuse - SI FORM C 15 A DIN 72581 - 0913676



Flat-type plug-in fuse, type C, color code: light blue, nominal current: 15 A

Fuse - SI FORM C 25 A DIN 72581 - 0913757



Flat-type plug-in fuse, type C, color code: white, nominal current: 25 A

Memory block

Memory block - IFS-CONFSTICK-L - 2901103



Multi-functional memory block with handle for the INTERFACE system; for easy storage and back up of the configuration.

Memory block - IFS-CONFSTICK - 2986122



Multi-functional memory block for the INTERFACE systemf for easy storage and backup of the configuration.

Mounting rail adapter

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Accessories

DIN rail adapter - UTA 107 - 2853983

Universal DIN rail adapter, for screwing on switchgear



Programming adapter

Programming adapter - IFS-USB-PROG-ADAPTER - 2811271



Programming adapter with USB interface, for programming with software. The USB driver is included in the software solutions for the products to be programmed, such as measuring transducers or motor managers.

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