

Uninterruptible power supply - QUINT4-UPS/24DC/24DC/20/PN - 2907073

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QUINT UPS with IQ Technology, RJ45 communication interfaces (PROFINET), for DIN rail mounting, input: 24 V DC, output: 24 V DC / 20 A, charging current: 5 A

Product Description

The intelligent QUINT UPS for integration into established industrial networks: your systems continue to be supplied with uninterrupted power, even in the event of a mains failure. The battery management system with IQ Technology and a powerful battery charger ensures superior system availability.

Your advantages


- ✓ Easy integration into networks using PROFINET, EtherNet/IP, EtherCAT® and USB interfaces
- ✓ Evaluation of state of health (SOH) and state of charge (SOC), thanks to the intelligent battery management system (BMS)
- ✓ Automatic recognition of the battery capacities and technologies (VRLA-WTR, LI-ION)
- ✓ Monitoring of output current and voltage, as well as manual connection and disconnection of the system
- ✓ SFB Technology selectively trips standard miniature circuit breakers. Loads connected in parallel continue working.



COMPLETE line IQ Technology[™]
Designed by PHOENIX CONTACT



Key Commercial Data

| | |
|--------------------------------------|---|
| Packing unit | 1 pc |
| GTIN |  4 055626 171296 |
| GTIN | 4055626171296 |
| Weight per Piece (excluding packing) | 720.000 g |
| Custom tariff number | 85371091 |
| Country of origin | China |

Technical data

Dimensions

| | |
|--------|--------|
| Width | 40 mm |
| Height | 130 mm |

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Technical data

Dimensions

| | |
|--|---------------------------------------|
| Depth | 125 mm |
| Width with alternative assembly | 123 mm |
| Height with alternative assembly | 130 mm |
| Depth with alternative assembly | 42 mm |
| Installation distance right/left (active, passive) | 0 mm / 0 mm ($P_{Out} \leq 50\%$) |
| Installation distance right/left (passive) | 0 mm / 0 mm ($P_{Out} \geq 50\%$) |
| Installation distance right/left (active) | 5 mm / 5 mm ($P_{Out} \geq 50\%$) |
| Installation distance top/bottom (active, passive) | 40 mm / 20 mm ($P_{Out} \leq 50\%$) |
| Installation distance top/bottom (passive) | 40 mm / 20 mm ($P_{Out} \geq 50\%$) |
| Installation distance top/bottom (active) | 50 mm / 50 mm ($P_{Out} \geq 50\%$) |

Ambient conditions

| | |
|---|--|
| Degree of protection | IP20 |
| Inflammability class in acc. with UL 94 (housing / terminal blocks) | V0 |
| Ambient temperature (operation) | -25 °C ... 70 °C (> 60 °C Derating: 2.5 %/K) |
| Ambient temperature (start-up type tested) | -40 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Max. permissible relative humidity (operation) | $\leq 95\%$ (at 25 °C, non-condensing) |
| Climatic class | 3K3 (EN 60721) |
| Degree of pollution | 2 |
| Installation height | ≤ 4000 m |

Input data

| | |
|-----------------------------|---------------------------|
| Input voltage | 24 V DC |
| Input voltage range | 18 V DC ... 30 V DC |
| | 18 V DC ... 32 V DC |
| Electric strength, max. | 35 V DC |
| Internal input fuse | no |
| Inrush current | ≤ 8 A (≤ 4 ms) |
| Reverse polarity protection | yes |
| Fixed backup threshold | 22 V DC |
| Switch-on time | max. 3 s |
| Voltage drop, input/output | 0.4 V DC |

Output data (general)

| | |
|----------------------------|------|
| Short-circuit-proof | yes |
| No-load proof | yes |
| Switch-over time | 0 ms |
| UPS connection in parallel | no |

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Output data (general)

| | |
|--|----------------------------------|
| UPS connection in series | no |
| Energy storage device connection in parallel | Yes, 5 (observe line protection) |
| Energy storage device connection in series | no |
| Efficiency | typ. 97 % |

Output data (mains operation)

| | |
|---------------------------------------|---------------------|
| Output voltage range | 18 V DC ... 30 V DC |
| | 18 V DC ... 32 V DC |
| Static Boost ($I_{Stat.Boost}$) | 25 A |
| Dynamic Boost ($I_{Dyn.Boost}$) | 30 A (5 s) |
| Selective Fuse Breaking (I_{SFB}) | 120 A (15 ms) |

Output data (battery operation)

| | |
|---------------------------------------|---------------------|
| Output voltage range | 19 V DC ... 32 V DC |
| Static Boost ($I_{Stat.Boost}$) | 25 A |
| Dynamic Boost ($I_{Dyn.Boost}$) | 30 A (5 s) |
| Selective Fuse Breaking (I_{SFB}) | 120 A (15 ms) |

Energy storage (battery)

| | |
|---|------------------------|
| Battery technology | VRLA, VRLA-WTR, LI-ION |
| End-of-charge voltage (temperature-compensated) | 25 V DC ... 32 V DC |
| End-of-charge voltage | 32 V DC |
| Max. capacity | 135 Ah |
| Nominal capacity (without additional charger) | 3 Ah ... 100 Ah |
| Charging current (configurable) | 5 A |
| Charging time | 202.5 h |
| Buffer time | 19 min. (12 Ah) |
| Temperature compensation (configurable) | 42 mV/K |
| Charge characteristic curve | IU ₀ U |
| Deep discharge protection | 19.2 V DC |
| Temperature sensor | yes |
| IQ-Technology | yes |

General data

| | |
|---|---------------------|
| Inflammability class in acc. with UL 94 (housing / terminal blocks) | V0 |
| MTBF (IEC 61709, SN 29500) | > 1172000 h (25 °C) |
| | > 732500 h (40 °C) |
| | > 373400 h (60 °C) |
| Life expectancy (electrolytic capacitors) | 192072 h |

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General data

| | |
|------------------------------------|---------------------------|
| Weight | 0.6 kg |
| Environmental protection directive | RoHS Directive 2011/65/EU |
| | WEEE |
| | Reach |

Connection data, input

| | |
|---|---------------------|
| Connection method | Screw connection |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 6 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 4 mm ² |
| Single conductor/terminal point, stranded, with ferrule, min. | 0.2 mm ² |
| Single conductor/terminal point, stranded, with ferrule, max. | 4 mm ² |
| Conductor cross section AWG min. | 30 |
| Conductor cross section AWG max. | 10 |
| Stripping length | 8 mm |
| Tightening torque, min | 0.5 Nm |
| Tightening torque max | 0.6 Nm |

Connection data output

| | |
|---|---------------------|
| Connection method | Screw connection |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 6 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 4 mm ² |
| Single conductor/terminal point, stranded, with ferrule, min. | 0.2 mm ² |
| Single conductor/terminal point, stranded, with ferrule, max. | 4 mm ² |
| Conductor cross section AWG min. | 30 |
| Conductor cross section AWG max. | 10 |
| Stripping length | 8 mm |
| Tightening torque, min | 0.5 Nm |
| Tightening torque max | 0.6 Nm |

Connection data for battery

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

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Technical data

Connection data for battery

| | |
|----------------------------------|--------|
| Conductor cross section AWG min. | 30 |
| Conductor cross section AWG max. | 12 |
| Stripping length | 6.5 mm |
| Tightening torque, min | 0.5 Nm |
| Tightening torque max | 0.6 Nm |

Data Interface

| | |
|----------------------|-----------------|
| Interface | PROFINET |
| Number of interfaces | 2 |
| Connection method | RJ45 |
| Locking | Locking clip |
| Transmission physics | Twisted-Pair |
| Features | Autonegotiation |
| | Autocrossing |
| | Autopolarity |
| | full duplex |
| Topology | Star |
| | Line |
| Transmission speed | 100 Mbps |
| Transmission length | max. 100 m |
| Cycle time | 1 ms (RT) |
| Access time | ≤ 2 s |
| Standards | IEEE 802.3 |
| | IEC 61158 |
| | IEC 61784-2 |
| Supported protocols | PROFINET |
| | LLPD |
| Chipset | Renesas TPS-1 |
| Electrical isolation | yes |

Standards

| | |
|-------------------------------------|--------------------------|
| EMC requirements for noise immunity | EN 61000-6-1 |
| | EN 61000-6-2 |
| EMC requirements for noise emission | EN 61000-6-3 |
| | EN 61000-6-4 |
| Standard designation | Safety extra-low voltage |
| Standards/regulations | IEC 61010-1 (SELV) |
| | IEC 61010-2-201 (PELV) |

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Technical data

Conformance/approvals

| | |
|----------------|---|
| Designation | UL approval |
| Identification | UL/C-UL Listed UL 61010-1 |
| Designation | UL approval |
| Identification | UL/C-UL Listed UL 61010-2-201 |
| Designation | UL approval |
| Identification | UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location) |
| Designation | CSA |
| Identification | CAN/CSA-C22.2 No. 61010-1-12 |
| Designation | CSA |
| Identification | CAN/CSA-IEC 61010-2-201 |
| Designation | CSA |
| Identification | CAN/CSA-C22.2 No. 213 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location) |
| Designation | CB scheme |
| Identification | 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 |
| Electrostatic discharge | EN 61000-4-2 |
| Contact discharge | 8 kV (Test Level 4) |
| Discharge in air | 15 kV (Test Level 4) |
| Electromagnetic HF field | EN 61000-4-3 |
| Frequency range | 80 MHz ... 1 GHz |
| Test field strength | 20 V/m (Test Level 3) |
| Frequency range | 1 GHz ... 6 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) | EN 61000-4-4 |
| Input | 4 kV (Test Level 4 - asymmetrical) |
| Output | 4 kV (Test Level 4 - asymmetrical) |
| Signal | 4 kV (Test Level 4 - asymmetrical) |
| Comments | Criterion B |
| Surge voltage load (surge) | EN 61000-4-5 |

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Technical data

EMC data

| | |
|--------------------------------|--|
| Input | 1 kV (Test Level 3 - symmetrical) |
| | 2 kV (Test Level 3 - asymmetrical) |
| Output | 1 kV (Test Level 3 - symmetrical) |
| | 2 kV (Test Level 3 - asymmetrical) |
| Signal | 1 kV (Test Level 2 - asymmetrical) |
| Comments | Criterion B |
| Conducted interference | EN 61000-4-6 |
| I/O/S | asymmetrical |
| Frequency range | 0.15 MHz ... 80 MHz |
| Voltage | 10 V (Test Level 3) |
| Comments | Criterion A |
| Power frequency magnetic field | EN 61000-4-8 |
| Frequency | 16.67 Hz |
| | 50 Hz |
| | 60 Hz |
| Test field strength | 100 A/m |
| Additional text | 60 s |
| Comments | Criterion A |
| Frequency | 50 Hz |
| | 60 Hz |
| Frequency range | 50 Hz ... 60 Hz |
| Test field strength | 1 kA/m |
| Additional text | 3 s |
| Frequency | 0 Hz |
| Test field strength | 300 A/m |
| Additional text | DC, 60 s |
| Criterion A | Normal operating behavior within the specified limits. |
| Criterion B | Temporary impairment to operational behavior that is corrected by the device itself. |

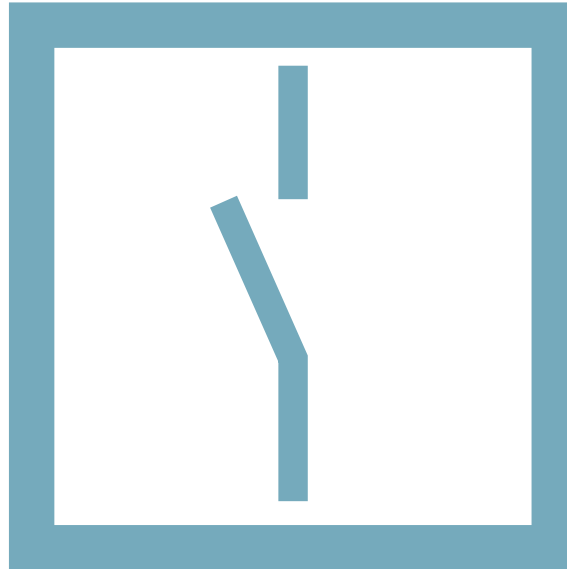
Environmental Product Compliance

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

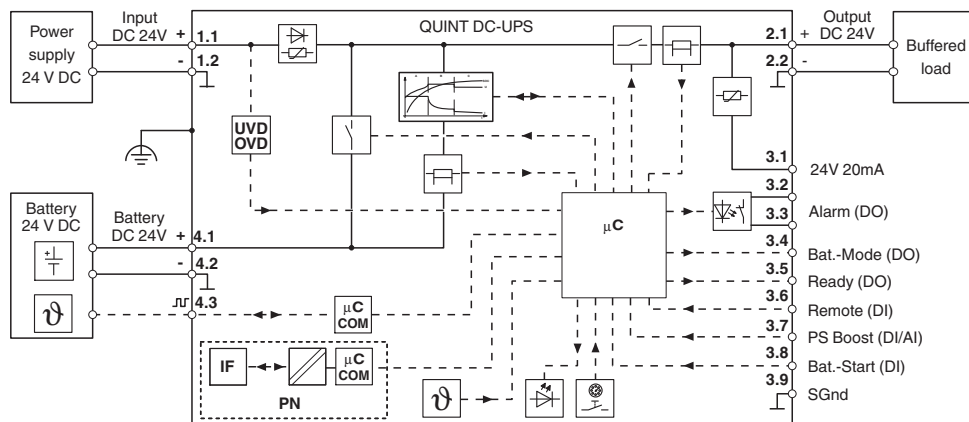
Drawings

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Pictogram



Block diagram



Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27040705 |
| eCl@ss 11.0 | 27040705 |
| eCl@ss 5.1 | 27242213 |
| eCl@ss 9.0 | 27040705 |

ETIM

| | |
|----------|----------|
| ETIM 6.0 | EC000382 |
|----------|----------|

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Classifications

ETIM

| | |
|----------|----------|
| ETIM 7.0 | EC000382 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 13.2 | 39121004 |
| UNSPSC 18.0 | 39121011 |
| UNSPSC 19.0 | 39121011 |
| UNSPSC 20.0 | 39121011 |
| UNSPSC 21.0 | 39121011 |

Approvals

Approvals

Approvals

UL Listed / cUL Listed / PROFINET / EAC / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

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

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

| | |
|----------|--------|
| PROFINET | Z12095 |
|----------|--------|

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

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Approvals

cULus Listed



Accessories

Accessories

Battery unit

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

Energy storage - UPS-BAT/VRLA/24DC/38AH - 2320335



Energy storage device, lead AGM, VRLA technology, 24 V DC, 38 Ah, automatic detection, and communication with QUINT UPS-IQ

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Accessories

Energy storage - UPS-BAT/VRLA-WTR/24DC/13AH - 2320416



Energy storage device, lead AGM, VRLA technology, 24 V DC, 13 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

Energy storage - UPS-BAT/VRLA-WTR/24DC/26AH - 2320429



Energy storage device, lead AGM, VRLA technology, 24 V DC, 26 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

Energy storage - UPS-BAT/LI-ION/24DC/120WH - 2320351



Energy storage device, LI-ION technology, 24 V DC, 120 Wh, for ambient temperatures of -20°C ... 60°C, automatic detection and communication with QUINT UPS-IQ

Energy storage - UPS-BAT/LI-ION/24DC/924WH - 2908232



Energy storage device, LI-ION technology, 24 V DC, 924 Wh, for ambient temperatures of -25 °C ... 60 °C, automatic detection and communication with QUINT UPS-IQ
