

# Uninterruptible power supply - QUINT4-UPS/24DC/24DC/10/ PN - 2907068

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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 / 10 A, charging current: 3 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.



## Key Commercial Data

|              |   |
|--------------|---|
| Packing unit | 1 pc  |
| GTIN         | <br>4 055626 170084 |
| GTIN         | 4055626170084   |

## Technical data

### Dimensions

|  |                                      |
|--|--------------------------------------|
| Width  | 35 mm                                |
| Height   | 130 mm                               |
| Depth  | 125 mm                               |
| Width with alternative assembly                    | 123 mm                               |
| Height with alternative assembly                   | 130 mm                               |
| Depth with alternative assembly                    | 37 mm                                |
| Installation distance right/left (active, passive) | 0 mm / 0 mm (P <sub>Out</sub> ≤50 %) |

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## Technical data

### Dimensions

|  |                                       |
|--|---------------------------------------|
| 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)                      | ≤ 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 |
| Internal input fuse         | no                  |
| Inrush current              | ≤ 7 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                               |
| 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 ( $I_{Stat.Boost}$ ) | 12.5 A              |

# Uninterruptible power supply - QUINT4-UPS/24DC/24DC/10/ PN - 2907068

## Technical data

### Output data (mains operation)

|                                       |              |
|---------------------------------------|--------------|
| Dynamic Boost ( $I_{Dyn.Boost}$ )     | 20 A (5 s)   |
| Selective Fuse Breaking ( $I_{SFB}$ ) | 60 A (15 ms) |

### Output data (battery operation)

|                                       |                     |
|---------------------------------------|---------------------|
| Output voltage range                  | 19 V DC ... 32 V DC |
| Static Boost ( $I_{Stat.Boost}$ )     | 12.5 A              |
| Dynamic Boost ( $I_{Dyn.Boost}$ )     | 20 A (5 s)          |
| Selective Fuse Breaking ( $I_{SFB}$ ) | 60 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                                   | 80 Ah                  |
| Nominal capacity (without additional charger)   | 1.2 Ah ... 60 Ah       |
| Charging current (configurable)                 | 3 A                    |
| Charging time                                   | 120 h                  |
| Buffer time                                     | 25 min. (7.2 Ah)       |
| Temperature compensation (configurable)         | 42 mV/K                |
| Charge characteristic curve                     | $IU_0U$                |
| 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)  | > 1189000 h (25 °C) |
|   | > 736900 h (40 °C)  |
|   | > 372700 h (60 °C)  |
| Life expectancy (electrolytic capacitors)                           | 137895 h            |
| Weight  | 0.5 kg              |
| Environmental protection directive                                  | RoHS                |
|   | WEEE                |
|   | Reach               |

### Connection data, input

|                                       |                     |
|---------------------------------------|---------------------|
| Connection method                     | Screw connection    |
| Conductor cross section solid min.    | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max.    | 2.5 mm <sup>2</sup> |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max. | 2.5 mm <sup>2</sup> |

# Uninterruptible power supply - QUINT4-UPS/24DC/24DC/10/ PN - 2907068

## Technical data

### Connection data, input

|   |                     |
|---|---------------------|
| Single conductor/terminal point, stranded, with ferrule, min. | 0.2 mm <sup>2</sup> |
| Single conductor/terminal point, stranded, with ferrule, max. | 2.5 mm <sup>2</sup> |
| 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              |

### Connection data output

|   |                     |
|---|---------------------|
| Connection method   | Screw connection    |
| Conductor cross section solid min.                            | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max.                            | 2.5 mm <sup>2</sup> |
| Conductor cross section flexible min.                         | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max.                         | 2.5 mm <sup>2</sup> |
| Single conductor/terminal point, stranded, with ferrule, min. | 0.2 mm <sup>2</sup> |
| Single conductor/terminal point, stranded, with ferrule, max. | 2.5 mm <sup>2</sup> |
| 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              |

### Connection data for battery

|                                       |                     |
|---------------------------------------|---------------------|
| Connection method                     | Screw connection    |
| Conductor cross section solid min.    | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max.    | 2.5 mm <sup>2</sup> |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max. | 2.5 mm <sup>2</sup> |
| 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              |

### 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)       |

# Uninterruptible power supply - QUINT4-UPS/24DC/24DC/10/ PN - 2907068

## Technical data

### Standards

|  |                        |
|--|------------------------|
|  | IEC 61010-2-201 (PELV) |
|--|------------------------|

### 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                                      |

# Uninterruptible power supply - QUINT4-UPS/24DC/24DC/10/ PN - 2907068

## 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. |

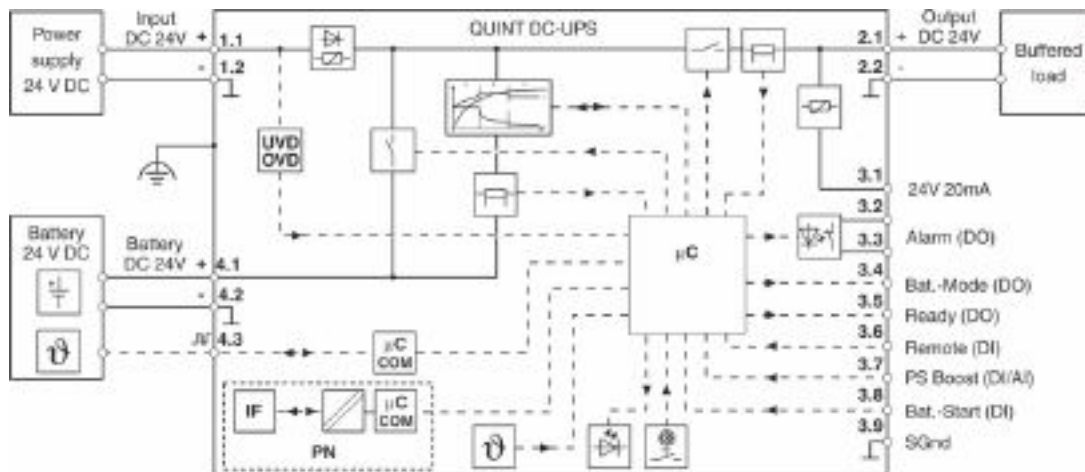
### Environmental Product Compliance

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

## Drawings

# Uninterruptible power supply - QUINT4-UPS/24DC/24DC/10/ PN - 2907068

Block diagram



## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27040705 |
| eCl@ss 5.1    | 27242213 |
| eCl@ss 8.0    | 27242209 |
| eCl@ss 9.0    | 27040705 |

ETIM

|          |          |
|----------|----------|
| ETIM 5.0 | EC000599 |
| ETIM 6.0 | EC000382 |
| 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

# Uninterruptible power supply - QUINT4-UPS/24DC/24DC/10/ PN - 2907068

## Approvals

Ex Approvals

UL Listed / cUL Listed / cULus Listed

### Approval details

|           |  |   |               |
|-----------|--|---|---------------|
| UL Listed |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 123528 |
|-----------|--|---|---------------|

|            |  |   |               |
|------------|--|---|---------------|
| cUL Listed |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 123528 |
|------------|--|---|---------------|

|          |  |  |        |
|----------|--|--|--------|
| PROFINET |  |  | Z12094 |
|----------|--|--|--------|

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

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

## Accessories

### Accessories

#### Battery unit

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



# Uninterruptible power supply - QUINT4-UPS/24DC/24DC/10/ PN - 2907068

## Accessories

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

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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

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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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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

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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

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## Uninterruptible power supply - QUINT4-UPS/24DC/24DC/10/ PN - 2907068

### Accessories

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

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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

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