

# 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.



COMPLETE line IQ Technology<sup>™</sup>  
Designed by PHOENIX CONTACT



## Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 170084
GTIN	4055626170084
Weight per Piece (excluding packing)	660.000 g
Custom tariff number	85371091
Country of origin	China

## Technical data

### Dimensions

Width	35 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	37 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	$\leq 4000$ m

### Input data

Input voltage	24 V DC
Input voltage range	18 V DC ... 30 V DC
	18 V DC ... 32 V DC
Internal input fuse	no
Inrush current	$\leq 7$ A ( $\leq 4$ 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

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## Technical data

### Output data (general)

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
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

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## Technical data

### General data

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 <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 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

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## Technical data

### Connection data for battery

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)
Overvoltage category EN 61010-1	II (≤ 4000 m)

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

## 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.

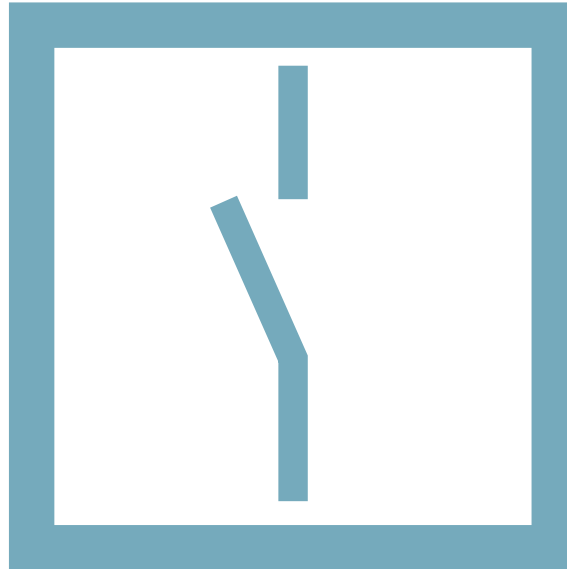
### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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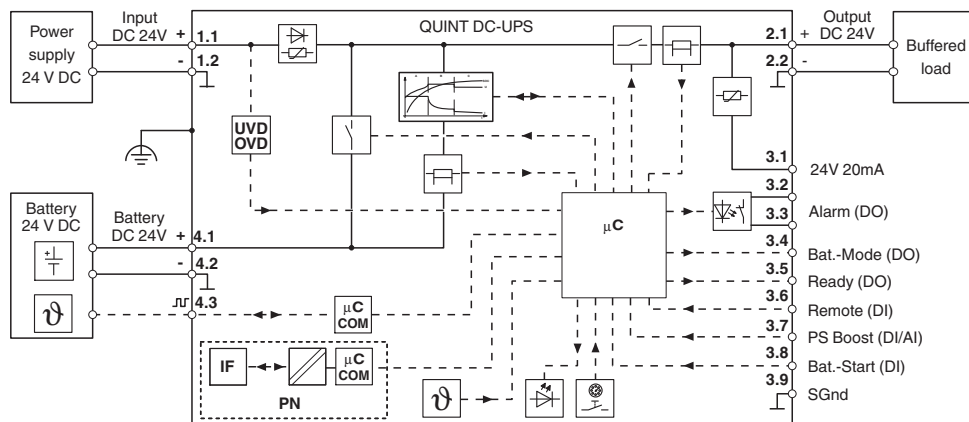
## Drawings

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

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
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### 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		<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
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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
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PROFINET	Z12094
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EAC		RU*DE*08.B.01873/19
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# Uninterruptible power supply - QUINT4-UPS/24DC/24DC/10/PN - 2907068

## Approvals

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

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

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

## Accessories

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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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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