

# QUINT4-UPS/1AC/1AC/1KVA - Uninterruptible power supply



2320283

<https://www.phoenixcontact.com/us/products/2320283>

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Uninterruptible power supply with IQ technology for DIN rail mounting. Input: 120/230 V AC, output: 120/230 V AC/1 kVA. Provides information regarding the state of charge, remaining runtime, and service life of the rechargeable battery module at any time, thereby increasing system availability.

## Product description

Supply AC loads reliably with the uninterruptible power supply from the QUINT range for DIN rails. Due to the online topology, the AC UPS delivers a pure sine curve in mains and battery operation. Combine the online UPS with various UPS-BAT energy storage devices. The USB interface makes it convenient to shut down your PC.

## Your advantages

- Smooth transition due to online topology
- Pure sine curve in mains and battery operation
- USB interface for connecting to industrial PCs, for example
- Startup from the energy storage system possible, even without mains input
- Can be switched in parallel for redundancy and increased performance

## Commercial data

Item number	2320283
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CM22
Product key	CMUI15
GTIN	4055626244563
Weight per piece (including packing)	5,630 g
Weight per piece (excluding packing)	5,151 g
Customs tariff number	85371091
Country of origin	DE

# QUINT4-UPS/1AC/1AC/1KVA - Uninterruptible power supply



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## Technical data

### Input data

#### AC operation

Input voltage	100 V AC -10 % / +20 %
	110 V AC -10 % / +20 %
	120 V AC -10 % / +20 %
	130 V AC -10 % / +20 %
	200 V AC -20 % / +20 %
	210 V AC -20 % / +20 %
	220 V AC -20 % / +20 %
	230 V AC -20 % / +15 %
	240 V AC -20 % / +10 %
Input voltage range	90 V AC ... 264 V AC
Input voltage range AC	184 V AC ... 264 V AC
	96 V AC ... 144 V AC
Typical national grid voltage	120 V AC
	230 V AC
Voltage type of supply voltage	AC
AC frequency range	45 Hz ... 65 Hz
Buffer period	1 h (38 AH)
Current consumption	10.4 A (100 V AC)
	10.5 A (110 V AC)
	10.5 A (120 V AC)
	9.7 A (130 V AC)
	6.4 A (200 V AC)
	6 A (210 V AC)
	5.7 A (220 V AC)
	5.5 A (230 V AC)
5.3 A (240 V AC)	
Variable connect threshold	Can be configured using UPS-CONF software
Power factor (cos phi)	0.9
Bypass fuse	T 15 A / 250 V (MDA -15-R)
Permissible backup fuse	B16 230 V AC
	20 A (120 V AC, Listed breaker)

#### Digital Control (configurable)

Designation	Remote
Low signal	Connection to SGnd with < 2.7 kΩ
High signal	Open (> 35 kΩ between Remote and SGnd)

#### Digital Control Low-Active (configurable)

Battery-operated start 120 V AC low signal	Connection to SGnd with < 2.7 kΩ
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Battery-operated start 120 V AC high signal	Open (> 200 kΩ between Bat.-Start and SGnd)
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## Output data

Classification according to IEC 62040-3	VFI-SS-111
Efficiency	> 92 % (120 V AC)
	> 94 % (230 V AC)
Nominal output voltage	100 V AC
	110 V AC
	120 V AC
	130 V AC
	200 V AC
	210 V AC
	220 V AC
	230 V AC
	240 V AC
Form of output voltage	Pure sine
Nominal output current ( $I_N$ )	7.8 A (100 V AC)
	8.1 A (110 V AC)
	8.3 A (120 V AC)
	7.7 A (130 V AC)
	5 A (200 V AC)
	4.8 A (210 V AC)
	4.5 A (220 V AC)
	4.3 A (230 V AC)
	4.2 A (240 V AC)
POWER BOOST ( $I_{Boost}$ )	13 A (120 V AC)
	7 A (230 V AC)
Output power	778 VA (700 W)
	889 VA (800 W)
	1000 VA (900 W)
	1000 VA (900 W)
	1000 VA (900 W)
	1000 VA (900 W)
	1000 VA (900 W)
	1000 VA (900 W)
	1000 VA (900 W)
Apparent power	1 kVA ( $U_N \geq \text{[square wave symbol]} \downarrow$ V AC)
Nominal power	900 W ( $U_N \geq \text{[square wave symbol]} \downarrow$ V AC)
Maximum no-load power dissipation	typ. 17 W (120 V AC)
	typ. 25 W (230 V AC)
Power loss nominal load max.	typ. 79 W (120 V AC)
	typ. 55 W (230 V AC)
Crest factor	2.8
Switch-over time	0 ms

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Connection in parallel	yes, 2
Connection in series	no

## Mains operation

Nominal output voltage	120 V AC $\pm 2$ %
	230 V AC $\pm 2$ %
Nominal output current ( $I_N$ )	8.3 A
	4.3 A (230 V AC)
POWER BOOST ( $I_{Boost}$ )	13 A
	7 A

## Battery operation

Nominal output voltage	120 V AC $\pm 2$ %
	230 V AC $\pm 2$ %
Nominal output current ( $I_N$ )	4.3 A (230 V AC)
	8.3 A (120 V AC)
POWER BOOST ( $I_{Boost}$ )	7 A (230 V AC)
	13 A (120 V AC)
Nominal output frequency	$\pm 60$ Hz $\pm 0.5$ % (At an input frequency of 55 Hz to < 65 Hz)
	$\pm 50$ Hz $\pm 0.5$ % (At an input frequency of 45 Hz to < 55 Hz)

## Signal: AC OK

Output voltage	24 V
Continuous load current	$\leq 20$ mA

## Signal: Alarm

Output voltage	24 V
Continuous load current	$\leq 20$ mA

## Signal: Battery mode

Output voltage	24 V
Continuous load current	$\leq 20$ mA

## Signal: Ready

Output voltage	24 V
Continuous load current	$\leq 20$ mA

## Signal: $P > P_n$

Output voltage	24 V (SELV)
Continuous load current	$\leq 20$ mA

## Energy storage

Nominal voltage $U_N$	2x 24 V DC
End-of-charge voltage	58 V (temperature compensated)
Charging current	5 A
Nominal capacity range	3.4 Ah ... 190 Ah (5x 38 Ah)
Battery technology	VRLA, VRLA-WTR

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Charge characteristic curve	IU <sub>0</sub> U
Permissible backup fuse	50 A / ≥ ⚡ V

## Connection data

### Input

Connection method	Screw connection
Conductor cross-section, rigid min.	0.2 mm <sup>2</sup>
Conductor cross-section, rigid max.	6 mm <sup>2</sup>
Conductor cross-section flexible min.	0.2 mm <sup>2</sup>
Conductor cross-section flexible max.	4 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule with plastic sleeve, min.	0.25 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule with plastic sleeve, max.	4 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule without plastic sleeve, min.	0.25 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule without plastic sleeve, max.	4 mm <sup>2</sup>
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

### Output

Connection method	Screw connection
Conductor cross-section, rigid min.	0.2 mm <sup>2</sup>
Conductor cross-section, rigid max.	6 mm <sup>2</sup>
Conductor cross-section flexible min.	0.2 mm <sup>2</sup>
Conductor cross-section flexible max.	4 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule with plastic sleeve, min.	0.25 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule with plastic sleeve, max.	4 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule without plastic sleeve, min.	0.25 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule without plastic sleeve, max.	4 mm <sup>2</sup>
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

### Signal

Connection method	Screw connection
Conductor cross-section, rigid min.	0.2 mm <sup>2</sup>

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Conductor cross-section, rigid 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/flexible terminal point with ferrule with plastic sleeve, min.	0.2 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule with plastic sleeve, max.	2.5 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule without plastic sleeve, min.	0.2 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule without plastic sleeve, max.	2.5 mm <sup>2</sup>
Conductor cross-section AWG min.	30
Conductor cross-section AWG max.	12
Stripping length	8 mm
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

## Interfaces

Interface	MINI-USB type B
Features	lockable
Maximum cable length	3 m

## Signaling

Types of signaling	LED
	Active switching output

Signal output: Transistor output, active

Signalization designation	AC OK
Status display	LED
Color	green

Signal output: Transistor output, active

Signalization designation	Alarm
Status display	LED
Color	red

Signal output: Transistor output, active

Signalization designation	Battery mode
Status display	LED
Color	yellow

Signal output: Transistor output, active

Signalization designation	Ready
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Signal output: Transistor output, active

Signalization designation	$P > P_n$
Status display	LED
Color	green

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## Signal output

Signalization designation	Reference potential for the signal inputs and outputs
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## Electrical properties

Number of phases	1
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## Product properties

Product type	AC UPS
Product family	QUINT AC UPS
MTBF (IEC 61709, SN 29500)	217546 h (230 V AC, at 40 °C)

## Insulation characteristics

Protection class	I
Overvoltage category	II
Pollution degree	3 (≤ 130 V AC)
	2 (> 200 V AC)

## Life expectancy (electrolytic capacitors)

Time	68970 h
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## Dimensions

Width	290 mm
Height	130 mm
Depth	125 mm

## Installation dimensions

Installation distance right/left	5 mm / 5 mm
Installation distance top/bottom	50 mm / 50 mm

## Mounting

Mounting type	DIN rail mounting
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## Material specifications

Housing material	Metal
Hood version	Sheet steel, DIN EN ISO2081 coat - Fe/Zn 18/B/TopCoat transparent blue
Side element version	Aluminum plate, DIN EN 573-3

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 60 °C (> 50 °C: 2,5 % / K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Maximum altitude	≤ 3000 m (> 2000 m: 0,6 % / 100 m)
Climatic class	3K3 (EN 60721)

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Max. permissible relative humidity (operation)	≤ 95 %
Shock	15g in all directions (EN 60068-2-27)
Vibration (operation)	5 Hz ... 100 Hz, 0.7g (EN 60068-2-6)

## Standards and regulations

### Uninterruptible power supply systems

Standard designation	Uninterruptible power supply systems
Standards/specifications	EN 62040-1

## Approvals

### UL

Identification	UL/C-UL Recognized UL 1778
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## EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Interference emission	Noise emission in accordance with EN 62040-2
Noise immunity	Immunity in accordance with EN 62040-2
Noise immunity	Immunity in accordance with EN 61000-6-1 (residential), EN 61000-6-2 (industrial)

### Electrostatic discharge

Standards/regulations	EN 61000-4-2
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### Electrostatic discharge

Contact discharge	± 6 kV
Discharge in air	± 8 kV
Comments	Criterion A

### Electromagnetic HF field

Standards/regulations	EN 61000-4-3
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### Electromagnetic HF field

Frequency range	80 MHz ... 6 GHz
Test field strength	10 V/m
Comments	Criterion A

### Fast transients (burst)

Standards/regulations	EN 61000-4-4
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### Fast transients (burst)

Input	± 2 kV
	± 2 kV
Output	± 2 kV
Signal	± 2 kV
	± 2 kV (USB)

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Comments	Criterion A (B for USB)
Surge voltage load (surge)	
Standards/regulations	EN 61000-4-5
Surge voltage load (surge)	
Signal	1 kV (asymmetrical)
Comments	Criterion A
Input/Output	± 1 kV (symmetrical)
	± 2 kV (asymmetrical)
Conducted interference	
Standards/regulations	EN 61000-4-6
Conducted interference	
Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A
Voltage	10 V
Power frequency magnetic field	
Standards/regulations	EN 61000-4-8
Frequency	50 Hz
	60 Hz
Test field strength	100 A/m
Comments	Criterion A
Criteria	
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

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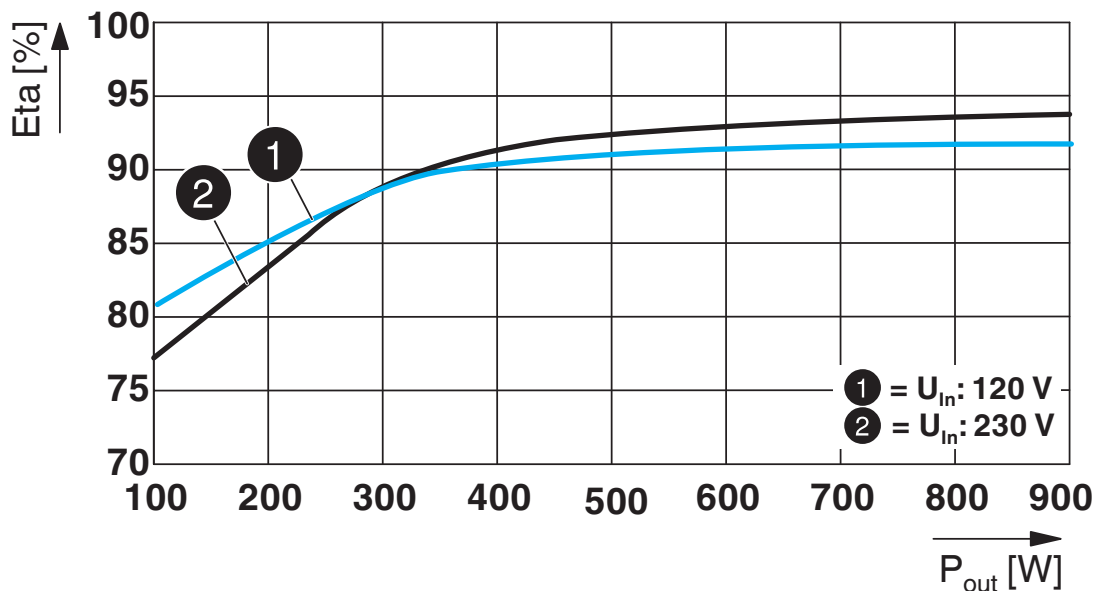


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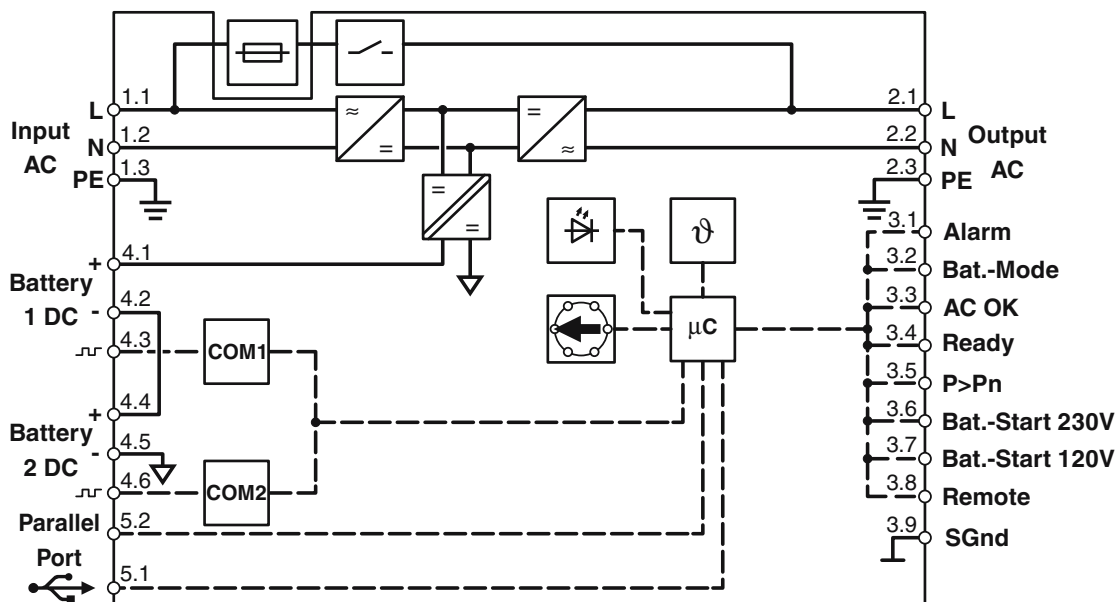
## Drawings

Diagram



Efficiency

Block diagram



Block diagram



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## Graphic

Load Current	Buffertime																			
	Minutes													Hours						
	1	2	3	4	5	8	10	15	20	25	30	40	50	1	1.5	2	3	4	6	9
100 W	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x
200 W	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x		
300 W	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x			
400 W	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x				
500 W	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x					
600 W	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x					
700 W	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x						
800 W	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x						
900 W	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x	2x							

2x: There are always two battery modules of the same capacity are required . The data is based on an ambient temperature of +25 °C at the start of use.

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

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

Buffer times for QUINT AC UPS 1 kVA for VRLA-WTR battery module

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## Approvals

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**cUL Recognized**  
Approval ID: FILE E 342453



**UL Recognized**  
Approval ID: FILE E 342453



**IECEE CB Scheme**  
Approval ID: DK-70737-UL



**EAC**  
Approval ID: RU S-DE.BL08.W.00764



**EAC**  
Approval ID: RU-DE.B.00184/20

**DNV**

Approval ID: TAA00000BM

**ABS**

Approval ID: 23-2416092-PDA



**cUL Recognized**  
Approval ID: FILE E 359066



**UL Recognized**  
Approval ID: FILE E 359066

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## Classifications

### ECLASS

ECLASS-13.0	27040705
ECLASS-15.0	27040705

### ETIM

ETIM 10.0	EC000382
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### UNSPSC

UNSPSC 21.0	39121000
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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### EF3.1 Climate Change

CO2e kg	109.441 kg CO2e
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