

QUINT4-UPS/1AC/1AC/500VA/USB - Uninterruptible power supply

1067327
<https://www.phoenixcontact.com/us/products/1067327>

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QUINT AC UPS, IQ Technology, DIN rail mounting, input: 120 V AC / 230 V AC, output: 120 V AC / 230 V AC / 500 VA. output: 120 V AC / 500 VA. output: 230 V AC / 500 VA.

Product description

The uninterruptible power supplies for industrial AC applications ensure maximum failsafe performance and system availability in the event of voltage failures or fluctuations. The AC UPS delivers a pure sine curve at the output and supplies AC loads with up to 500 VA without interruption. Choose the ideal AC UPS with appropriate battery module for your application.

Your advantages

- Smooth transition, thanks to the pure sine curve: the sine generated in battery operation is synchronous with the mains previously used for supply
- Universal use thanks to modular combination of UPS module and battery module (VRLA and WTR)
- USB interface for connection to higher-level controllers such as industrial PCs
- Startup from the energy storage system possible, even without mains input

Commercial data

Item number	1067327
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CM23
Product key	CMUI15
GTIN	4055626736082
Weight per piece (including packing)	3,062 g
Weight per piece (excluding packing)	2,724 g
Customs tariff number	85371091
Country of origin	DE

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Technical data

Input data

Input voltage	120 V AC
	230 V AC
Input voltage range	90 V AC ... 264 V AC
Nominal input voltage range	100 V AC ... 240 V AC
Typical national grid voltage	120 V AC
Voltage type of supply voltage	AC
Frequency range (f_N)	45 Hz ... 65 Hz
Permissible backup fuse	max. 25 A
Current consumption	6.9 A (100 V AC)
	2.86 A (240 V AC)
	19 A (24 V DC)

Output data

Efficiency	> 97 % (100 % load, with charged energy storage)
	~ 87 % (100 % load)
Apparent power	500 VA
Real power	400 W
Power factor (cos phi)	0.8
Crest factor	2.8
Switch-over time	< 10 ms
UPS classification	VFD-SS-311
Connection in parallel	no
Connection in series	no
Overload capability Mains operation	in accordance with internal fuse
Overload capability Battery operation	105 % (Permanent)
	120 % ... 150 % (20 s / 5 s, then shutdown)

Mains operation

Output voltage	120 V AC
	230 V AC
Nominal output current (I_N)	4.17 A (120 V AC)
	2.17 A (230 V AC)
Maximum no-load power dissipation	typ. 9 W (120 V AC)
	typ. 10 W (230 V AC)
Power loss nominal load max.	typ. 10 W (120 V AC)
	typ. 11 W (230 V AC)
Nominal output frequency	60 Hz $\pm$ 5 Hz
	50 Hz $\pm$ 5 Hz
Output fuse	10 A 400 V gRL

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Battery operation

Output voltage	120 V AC $\pm 2\%$
	230 V AC $\pm 2\%$
Form of output voltage	Pure sine
Maximum no-load power dissipation	approx. 23 W (120 V AC)
	approx. 24 W (230 V AC)
Power loss nominal load max.	approx. 57 W (120 V AC)
	approx. 54 W (230 V AC)
Nominal output frequency	60 Hz
	50 Hz
	$\pm 5\%$ (grid-guided)
	$\pm 0.5\%$ (self-guided)
Total harmonic distortion factor (THD)	< 3 % (linear load)
	< 8 % (non-linear load)
Electronic current limitation	> $2.5 \times I_N$ (> 200 ms)

Energy storage

Input

Input voltage	24 V DC
Deep discharge protection	20 V DC ... 24 V DC (can be parameterized)
Nominal capacity range	3.4 Ah ... 200 Ah (5x 40 Ah)
Charging current	max. 5 A
End-of-charge voltage	24 V DC ... 31 V DC (temperature compensated)

General

Battery technology	VRLA, VRLA-WTR, LI-ION (see section: Ordering data)
Charge characteristic curve	IU ₀ U
Permissible backup fuse	50 A

Connection data

Input

Position	1.x
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Conductor connection

Connection method	Screw connection
rigid	0.2 mm ² ... 6 mm ²
flexible	0.2 mm ² ... 4 mm ²
flexible with ferrule without plastic sleeve	0.2 mm ² ... 4 mm ²
flexible with ferrule with plastic sleeve	0.2 mm ² ... 4 mm ²
AWG	30 ... 10
Stripping length	8 mm
Tightening torque	0.5 Nm ... 0.6 Nm

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Drive form screw head	Slotted L
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Output

Position	2.x
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Conductor connection

Connection method	Screw connection
rigid	0.2 mm ² ... 6 mm ²
flexible	0.2 mm ² ... 4 mm ²
flexible with ferrule without plastic sleeve	0.2 mm ² ... 4 mm ²
flexible with ferrule with plastic sleeve	0.2 mm ² ... 4 mm ²
AWG	30 ... 10
Stripping length	8 mm
Tightening torque	0.5 Nm ... 0.6 Nm
Drive form screw head	Slotted L

Signal

Position	3.x
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Conductor connection

Connection method	Screw connection
rigid	0.2 mm ² ... 1.5 mm ²
flexible	0.2 mm ² ... 1.5 mm ²
flexible with ferrule without plastic sleeve	0.2 mm ² ... 1.5 mm ²
flexible with ferrule with plastic sleeve	0.2 mm ² ... 1.5 mm ²
AWG	30 ... 12
Stripping length	8 mm
Tightening torque	0.5 Nm ... 0.6 Nm
Drive form screw head	Slotted L

Battery

Position	4.x
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Conductor connection

Connection method	Screw connection
rigid	0.2 mm ² ... 6 mm ²
flexible	0.2 mm ² ... 4 mm ²
flexible with ferrule without plastic sleeve	0.2 mm ² ... 4 mm ²
flexible with ferrule with plastic sleeve	0.2 mm ² ... 4 mm ²
AWG	30 ... 10
Stripping length	8 mm
Tightening torque	0.5 Nm ... 0.6 Nm
Drive form screw head	Slotted L

Interfaces

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Interface	USB (Modbus/RTU)
Number of interfaces	1
Connection method	MINI-USB Type B
Connection marking	5.1
Locking	Screw
Transmission physics	USB 2.0
Maximum cable length	3 m
Electrical isolation	yes

Signaling

Signal input Bat.-Start

Low signal	Connection to SGnd with < 2.7 kΩ
High signal	Open (> 200 kΩ between Bat.-Start and SGnd)

Signal input Remote

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

Signal output Alarm

Position	3.x
Signalization designation	Alarm
Position marking	3.1 (Alarm)
Switching output	Transistor output, active
Output voltage	24 V
Continuous load current	≤ 20 mA
LED status indicator	red

Signal output Battery Mode

Position	3.x
Signalization designation	Bat.-Mode
Position marking	3.2 (Bat.-Mode)
Switching output	Transistor output, active
Output voltage	24 V
Continuous load current	≤ 20 mA
LED status indicator	yellow

Signal output AC OK

Position	3.x
Signalization designation	AC OK
Position marking	3.3 (AC OK)
Switching output	Transistor output, active
Output voltage	24 V
Continuous load current	≤ 20 mA
LED status indicator	green

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Signal output Ready

Position	3.x
Signalization designation	Ready
Position marking	3.4 (Ready)
Switching output	Transistor output, active
Output voltage	24 V
Continuous load current	≤ 20 A
LED status indicator	green

Signal output P > P_N

Position	3.x
Signalization designation	P>P _n
Position marking	3.5 (P>P _n)
Switching output	Transistor output, active
Output voltage	24 V
Continuous load current	≤ 20 mA

Signal ground SGnd

Connection labeling	3.9
Function	Signal ground
Reference potential	For signal inputs and signal outputs

Electrical properties

Number of phases	1.00
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Product properties

Product type	AC UPS
Product family	QUINT AC UPS
MTBF (IEC 61709, SN 29500)	445469 h (40 °C)

Data management status

Article revision	02
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Insulation characteristics

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

Dimensions

Item dimensions

Width	180 mm
Height	130 mm
Depth	125 mm

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Installation dimensions

Installation distance right/left	0 mm / 0 mm
Installation distance top/bottom	50 mm / 50 mm

Mounting

Mounting type	DIN rail mounting
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Material specifications

Housing material	Metal
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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)
Max. permissible relative humidity (operation)	≤ 95 %
Shock	20g 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
Conducted noise emission	EN 62040-02 (Class C2)

Electrostatic discharge

Standards/regulations	EN 61000-4-2
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Electrostatic discharge

Contact discharge	± 6 kV
Discharge in air	± 8 kV

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Comments	Criterion A
Electromagnetic HF field	
Standards/regulations	EN 61000-4-3
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
Fast transients (burst)	
Input	± 2 kV
	± 2 kV
Output	± 2 kV
Signal	± 2 kV
	± 2 kV (USB)
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 B
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
Signal	1 kV (asymmetrical)
Comments	Criterion A
Power frequency magnetic field	
Standards/regulations	EN 61000-4-8
Frequency	50 Hz
Signal	30 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

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by the device itself.

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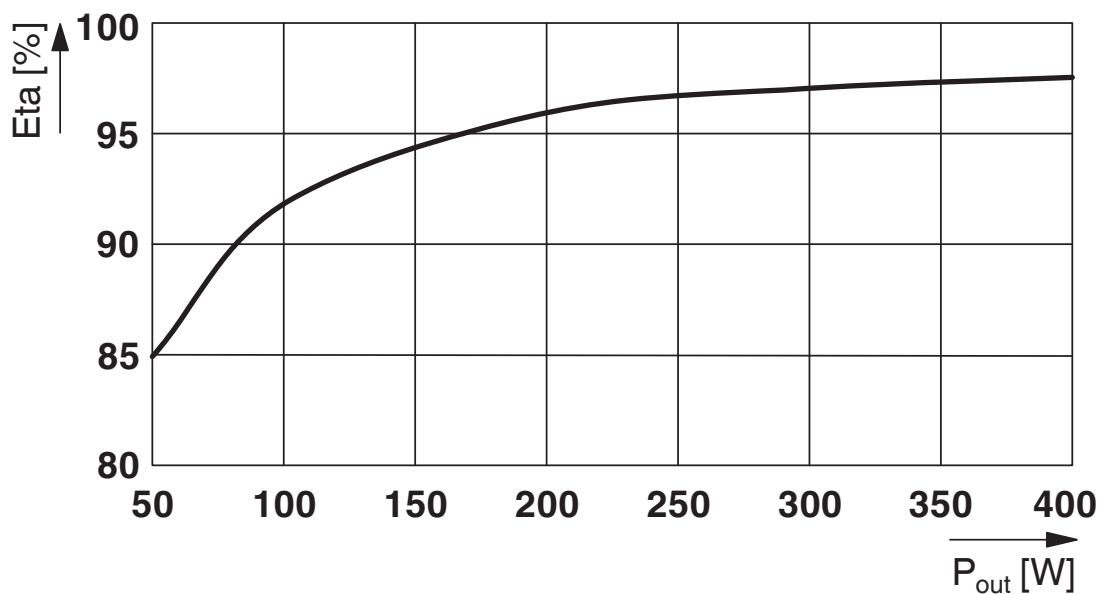


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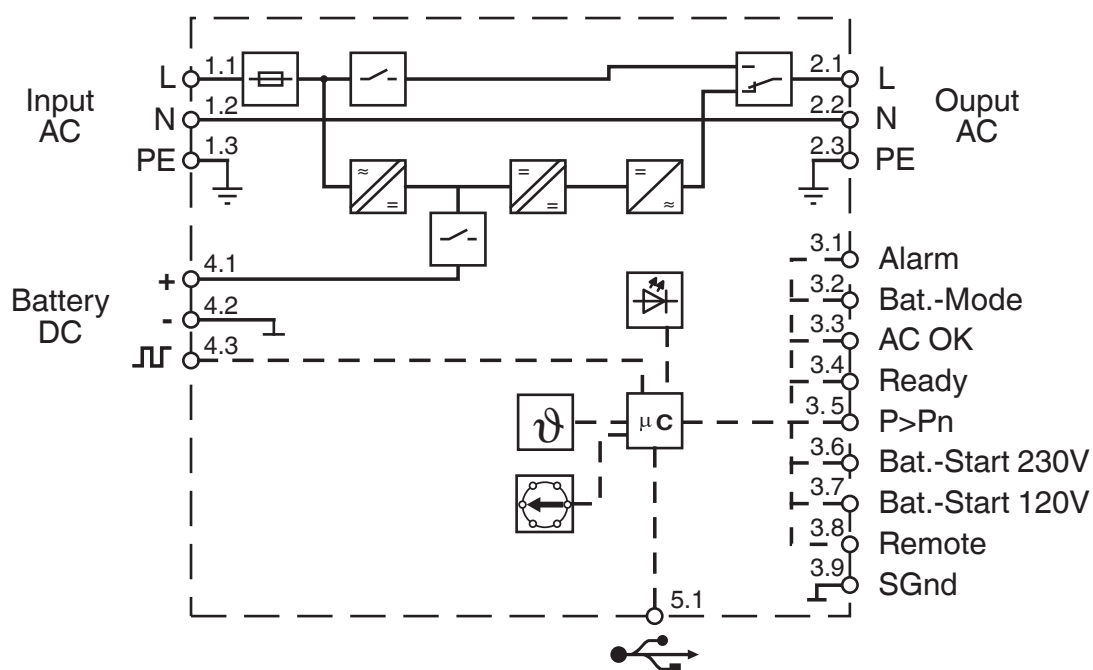
Drawings

Diagram



Efficiency (normal operation)

Block diagram



Block diagram

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Graphic

Load Current	Buffertime																
	Minutes										Hours						
	1	2	3	5	10	20	30	40	45	50	1	2	3	5	8	10	15
15 W																	
35 W																2x	
55 W															2x		
90 W														2x			
125 W													2x	2x			
180 W													2x				
275 W												2x					
400 W											2x						

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

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

2x: In this case, 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.

Buffer times for QUINT AC UPS 500 VA for VRLA-WTR battery module

Graphic

Load Current	Buffertime															
	Minutes														Hours	
	1	2	3	5	7	8	9	10	20	30	40	45	50	1	2	
15 W																
35 W																
55 W																
90 W																
125 W																
180 W																
275 W																
400 W																

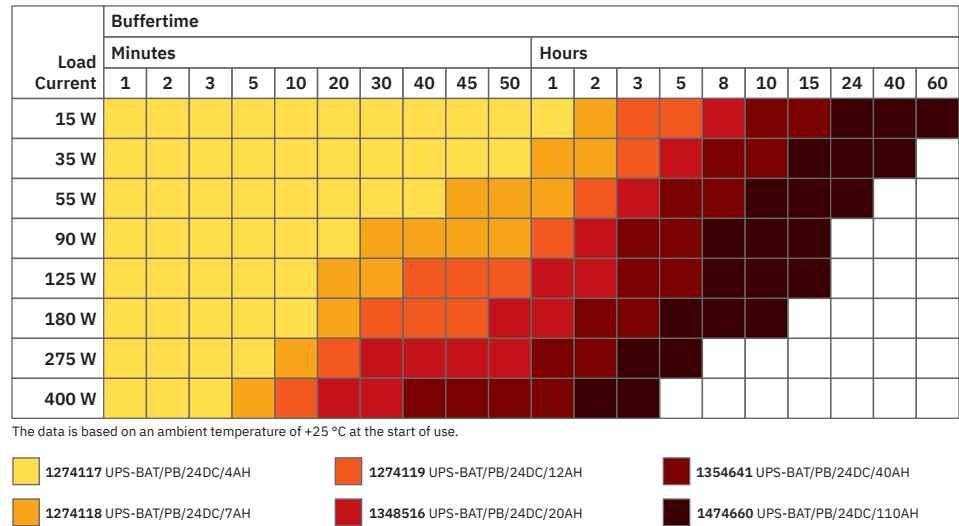
The data is based on an ambient temperature of +25 °C at the start of use.

QUINT AC UPS 500 VA buffer times for Li battery module

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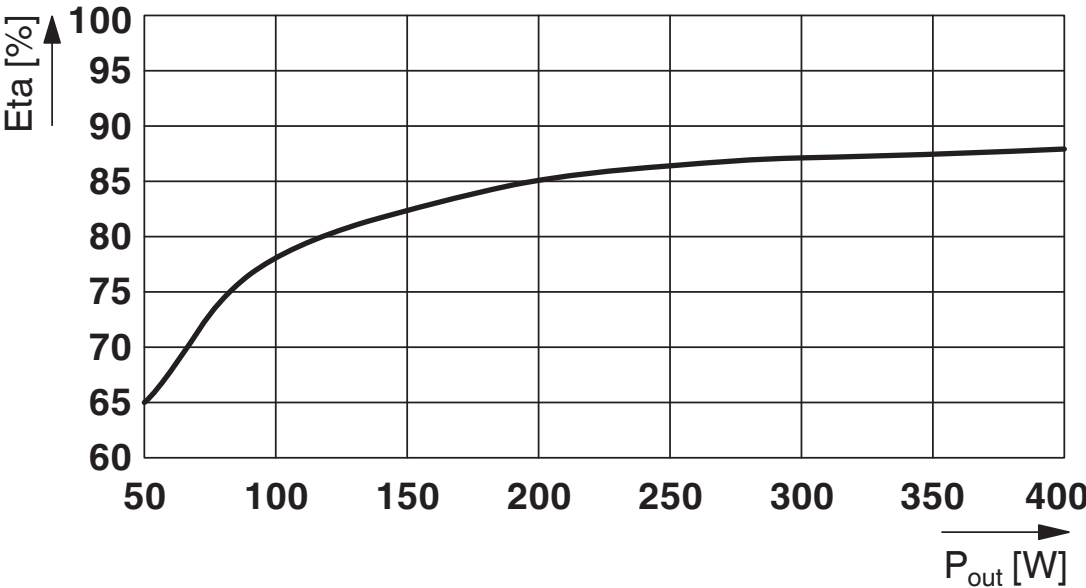
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Graphic



Buffer times for QUINT AC UPS 500 VA for Pb battery module

Diagram



Efficiency (battery operation)

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1067327>

	IECEE CB Scheme Approval ID: DK-95944-UL
	cULus Recognized Approval ID: FILE E 342453
	EAC Approval ID: RU-DE.B.00184/20
	KC Approval ID: R-R-PCK-1067327
	UL Recognized Approval ID: FILE E 359066
	cUL Recognized Approval ID: FILE E 359066
	cULus Recognized

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Classifications

ECLASS

ECLASS-11.0	27040705
ECLASS-12.0	27040705
ECLASS-13.0	27040705

ETIM

ETIM 9.0	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
Exemption	6(c)
China RoHS	
Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.
EU REACH SVHC	
REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	f227974b-e780-4747-843e-676d1b6d6151
EF3.0 Climate Change	
CO2e kg	113.197 kg CO2e

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Accessories

UPS-BAT/PB/24DC/4AH - Battery module

1274117

<https://www.phoenixcontact.com/us/products/1274117>



Battery module, VRLA-AGM, 24 V DC, 4 Ah, automatic detection and communication with QUINT UPS-IQ

UPS-BAT/PB/24DC/7AH - Battery module

1274118

<https://www.phoenixcontact.com/us/products/1274118>



Battery module, VRLA-AGM, 24 V DC, 7 Ah, automatic detection and communication with QUINT UPS-IQ

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UPS-BAT/PB/24DC/12AH - Battery module

1274119

<https://www.phoenixcontact.com/us/products/1274119>



Battery module, VRLA-AGM, 24 V DC, 12 Ah, automatic detection and communication with QUINT UPS-IQ

MINI-SCREW-USB-DATACABLE - Data cable

2908217

<https://www.phoenixcontact.com/us/products/2908217>



Used for communication between an industrial PC and Phoenix Contact devices with USB-Mini-B connection.

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FUSE 10A/400V GRL - Fuse

2908358

<https://www.phoenixcontact.com/us/products/2908358>

Fuse, nominal current: 10 A, length: 31.8 mm, diameter: 6.35 mm



UWA 130 - Mounting adapter

2901664

<https://www.phoenixcontact.com/us/products/2901664>

2-piece universal wall adapter for securely mounting the device in the event of strong vibrations. The profiles that are screwed onto the side of the device are screwed directly onto the mounting surface. The universal wall adapter is attached on the left/right.



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UWA 182/52 - Mounting adapter

2938235

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

UPS-BAT/PB/24DC/20AH - Battery module

1348516

<https://www.phoenixcontact.com/us/products/1348516>



Battery module, VRLA-AGM, 24 V DC, 20 Ah, automatic detection and communication with QUINT UPS-IQ

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UPS-BAT/PB/24DC/40AH - Battery module

1354641

<https://www.phoenixcontact.com/us/products/1354641>



Battery module, VRLA-AGM, 24 V DC, 40 Ah, automatic detection and communication with QUINT UPS-IQ

UPS-BAT/VRLA-WTR/24DC/13AH - Battery module

2320416

<https://www.phoenixcontact.com/us/products/2320416>



Battery module, 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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UPS-BAT/VRLA-WTR/24DC/26AH - Battery module

2320429

<https://www.phoenixcontact.com/us/products/2320429>

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



UPS-BAT/LI-ION/24DC/120WH - Battery module

2320351

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Battery module, 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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UPS-BAT/LI-ION/24DC/924WH - Battery module

2908232

<https://www.phoenixcontact.com/us/products/2908232>



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

PLT-SEC-T3-120-FM-UT - Type 3 surge protection device

2907918

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Type 2/3 surge protection, consisting of protective plug and base element, with integrated status indicator and remote signaling for single-phase power supply networks. Nominal voltage: 120 V AC/DC

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PLT-SEC-T3-230-FM-UT - Type 3 surge protection device

2907919

<https://www.phoenixcontact.com/us/products/2907919>



Type 2/3 surge protection, consisting of protective plug and base element with screw connection. For single-phase power supply network with integrated status indicator and remote signaling. Nominal voltage: 230 V AC/DC

POWER MANAGEMENT SUITE - Configuration software

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Configuration and management software

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