

2906991

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QUINT UPS, IQ Technology, USB, DIN rail mounting, Screw connection, input: 24 V DC, output: 24 V DC / 5 A, charging current: 1.5 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.

Commercial data

Item number	2906991
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CM21
Product key	CMUI43
GTIN	4055626171234
Weight per piece (including packing)	525.2 g
Weight per piece (excluding packing)	454 g
Customs tariff number	85371091
Country of origin	CN



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Technical data

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 (Protected against polarity reversal)
Internal input fuse	no
Voltage type of supply voltage	DC
Inrush current	≤ 7 A (≤ 4 ms)
Reverse polarity protection	yes
Fixed backup threshold	22 V DC
Dynamic activation threshold	> 1 V / 100 ms
Switch-on time	max. 3 s
Switch-on time during battery operation (BatStart)	8 s
Voltage drop, input/output	0.3 V DC
Current consumption $I_N (U_N, I_{OUT} = I_N, I_{charge} = 0)$	5.1 A
Current consumption I_{max} (U _N , $I_{OUT} = I_{Stat.Boost}$, $I_{Charge} = max$)	8.3 A
Current consumption $I_{No-Load}(U_N, I_{OUT} = 0, I_{charge} = 0)$	45 mA
Current consumption I_{charge} (U_{N} , $I_{OUT} = 0$, $I_{charge} = max$)	1.8 A
Power consumption $P_N (U_N, I_{OUT} = I_N, I_{charge} = 0)$	121 W
Power consumption P_{max} (U _N , $I_{OUT} = I_{Stat.Boost}$, $I_{charge} = max$)	211 W
Power consumption P _{No-Load} (U _N , I _{OUT} = 0, I _{charge} = 0)	1.1 W
Power consumption P _{charge} (U _N , I _{OUT} = 0, I _{charge} = max)	43 W

Output data

Efficiency	typ. 98 %
Number of outputs	1
Short-circuit-proof	yes
No-load proof	yes
Switch-over time	0 ms
UPS connection in parallel	yes, with decoupling modules (to increase the buffer time and for redundancy)
UPS connection in series	no
Energy storage device connection in parallel	Yes, 5 (observe line protection)
Energy storage device connection in series	no

Mains operation

Output voltage	24 V DC (U _{OUT} = U _{IN} - 0.3 V DC)
Output voltage range	18 V DC 30 V DC (U _{Out} = U _{In} - 0.3 V DC)
	18 V DC 32 V DC
Output current I _N	5 A



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Static Boost (I _{Stat.Boost})	6.25 A
Dynamic Boost (I _{Dyn.Boost})	10 A (5 s)
Selective Fuse Breaking (I _{SFB})	30 A (15 ms)
Output power $P_{OUT}(U_N, I_{OUT} = I_N)$	120 W
Output power P_{OUT} (U _N , I _{OUT} = I _{stat.Boost})	155 W
Output power P_{OUT} (U_N , $I_{OUT} = I_{dyn.Boost}$)	240 W (5 s)
Power dissipation No load (U _N , I _{Out} = 0, I _{Charge} = 0)	1 W
Power dissipation Nominal load (U _N , I _{Out} = I _N , I _{Charge} = 0)	3 W

Battery operation

Output voltage	24 V DC (U _{OUT} = U _{BAT} - 0.3 V DC)
Output voltage range	19 V DC 32 V DC (U _{OUT} = U _{BAT} - 0.3 V DC)
Output current I _N	5 A
Static Boost (I _{Stat.Boost})	6.25 A
Selective Fuse Breaking (I _{SFB})	30 A (15 ms)
Output power $P_{OUT}(U_N, I_{OUT} = I_N)$	120 W
Output power P_{OUT} (U_N , $I_{OUT} = I_{stat.Boost}$)	150 W
Output power P_{OUT} (U_N , $I_{OUT} = I_{dyn,Boost}$)	240 W (5 s)
Power dissipation No load (U _N , I _{Out} = 0, I _{Charge} = 0)	2 W
Power dissipation Nominal load (U _N , I _{Out} = I _N , I _{Charge} = 0)	3 W

Energy storage

End-of-charge voltage	32 V DC
End-of-charge voltage (temperature-compensated)	25 V DC 32 V DC
Charging current (configurable)	max. 1.5 A
Nominal capacity (without additional charger)	0.8 Ah 30 Ah
Max. capacity	40 Ah
Charging time	2.5 h (3.4 Ah)
Buffer time	25 min (3.4 Ah)
Deep discharge protection (configurable)	19.2 V DC
Battery technology	VRLA, VRLA-WTR, LI-ION
Charge characteristic curve	IU_0U
IQ-Technology	yes
Temperature sensor	yes
Temperature compensation (configurable)	42 mV/K

Connection data

Input	
Position	1.x
Conductor connection	
Connection method	Screw connection
rigid	0.2 mm² 2.5 mm²



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flexible	0.2 mm² 2 mm²
flexible with ferrule without plastic sleeve	0.2 mm² 2.5 mm²
flexible with ferrule with plastic sleeve	0.2 mm² 2.5 mm²
rigid (AWG)	30 12 (Cu)
Stripping length	6.5 mm (rigid/flexible)
Tightening torque	0.5 Nm 0.6 Nm
Drive form screw head	Slotted L
Output	
Position	2.x
Conductor connection	
Connection method	Screw connection
rigid	0.2 mm ² 2.5 mm ²
flexible	0.2 mm ² 2.5 mm ²
flexible with ferrule without plastic sleeve	0.2 mm ² 2.5 mm ²
flexible with ferrule with plastic sleeve	0.2 mm ² 2.5 mm ²
rigid (AWG)	30 12 (Cu)
Stripping length	6.5 mm (rigid/flexible)
Tightening torque	0.5 Nm 0.6 Nm
Drive form screw head	Slotted L
Signal	
Signal Position	3.x
Conductor connection Connection method	Push-in connection
	0.2 mm ² 1 mm ²
rigid	0.2 mm² 1 mm²
flexible	
flexible with ferrule without plastic sleeve	0.2 mm² 0.75 mm² (Cu)
On the Control of the stantants of the stantants	0.5 mm² (recommended)
flexible with ferrule with plastic sleeve	0.2 mm ² 0.75 mm ²
rigid (AWG)	24 16 (Cu)
Stripping length	8 mm (rigid/flexible)
Battery	
Position	4.x
Connection technology	
Position marking	4.1 (+), 4.2 (-), 4.3 (小鹽鹽
Conductor connection	
Connection method	Screw connection
rigid	0.2 mm ² 2.5 mm ²
flexible	0.2 mm ² 2.5 mm ²
flexible with ferrule without plastic sleeve	0.2 mm ² 2.5 mm ²



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flexible with ferrule with plastic sleeve	0.2 mm² 2.5 mm²
rigid (AWG)	30 12 (Cu)
Stripping length	6.5 mm (rigid/flexible)
Tightening torque	0.5 Nm 0.6 Nm
Drive form screw head	Slotted L

Interfaces

Communication

Slave address	192
Start bit	1
Data bits	8
Parity	even
Stop bit	1
Interface	USB
Number of interfaces	1
Connection method	MINI-USB Type B
Supported protocols	Modbus/RTU
Connection marking	X1
Locking	Screw
Transmission physics	USB 2.0
Topology	Point-to-point
Transmission speed	9600 baud 115200 baud (Default: 115200 baud)
Transmission length	max. 5 m
Access time	≤ 2 s
Chipset	Silicon Labs CP210x
Electrical isolation	Yes, UL approved

Signaling

LED signaling

gg	
Types of signaling	DC OK (green)
	Alarm (red)
	BatMode (yellow)
	SOC (red, green)
	Data (red, green)

Product properties

Product type	DC UPS
Product family	QUINT UPS
MTBF (IEC 61709, SN 29500)	> 1430000 h (25 °C)
	> 916900 h (40 °C)
	> 480100 h (60 °C)
	RoHS Directive 2011/65/EU



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Degree of protection

Environmental protection directive	WEEE
	Reach
Insulation characteristics	
Protection class	III (without PE)
Degree of pollution	2
Life expectancy (electrolytic capacitors)	
Time	224011 h
mensions	
Item dimensions	
Width	35 mm
Height	130 mm
Depth	125 mm
Depth (Device depth (DIN rail mounting))	125 mm (Device depth (DIN rail mounting))
tem dimensions with alternative mounting	
Width	123 mm
Height	130 mm
Depth	37 mm
Installation dimensions	
Installation distance right/left (active)	5 mm / 5 mm (P _{Out} ≥50%)
Installation distance right/left (passive)	0 mm / 0 mm (P _{Out} ≥50%)
Installation distance right/left (active, passive)	0 mm / 0 mm (P _{Out} ≤50 %)
Installation distance top/bottom (active)	50 mm / 50 mm (P _{Out} ≥50%)
Installation distance top/bottom (passive)	40 mm / 20 mm (P _{Out} ≥50%)
Installation distance top/bottom (active, passive)	40 mm / 20 mm (P _{Out} ≤50 %)
punting	
Mounting type	DIN rail mounting
Mounting position	On horizontal DIN rail NS 35/7.5 and NS 35/15 acc. to EN 607
aterial specifications	
Flammability rating according to UL 94 (housing / terminal blocks)	VO
Housing material	Metal
Hood version	Stainless steel X6Cr17
Side element version	Aluminum AlMg3
vironmental and real-life conditions	
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Ambient conditions	

IP20



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Ambient temperature (energi:)	25 °C 70 °C \ 50 °C D
Ambient temperature (operation)	-25 °C 70 °C (> 60 °C Derating: 2,5 %/K) -40 °C 85 °C
Ambient temperature (storage/transport)	-40 °C
Ambient temperature (start-up type tested) Maximum altitude	-40 C ≤ 4000 m
Climatic class	
Max. permissible relative humidity (operation)	3K3 (EN 60721) ≤ 95 % (at 25 °C, non-condensing)
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Vibration (operation)	2.3g
andards and regulations	
Overvoltage category	
EN 61010-1	II (≤ 4000 m)
EN 61010-2-201	II (≤ 4000 m)
Protective extra-low voltage	
Standard designation	Protective extra-low voltage
Standards/specifications	IEC 61010-1 (SELV)
	IEC 61010-2-201 (PELV)
Identification	UL/C-UL Listed UL 61010-1
UL Identification	UL/C-UL Listed UL 61010-2-201
UL Identification	UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups B, C, D T4 (Hazardous Location)
CSA	
Identification	CAN/CSA-C22.2 No. 61010-1-12
CSA	
Identification	CAN/CSA-IEC 61010-2-201
	CAN/CSA-IEC 61010-2-201
CSA	CAN/CSA-C22.2 No. 213 Class I, Division 2, Groups A, B, C, D
CSA Identification	CAN/CSA-C22.2 No. 213 Class I, Division 2, Groups A, B, C, D
CSA Identification CB scheme	CAN/CSA-C22.2 No. 213 Class I, Division 2, Groups A, B, C, E T4 (Hazardous Location)



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Identification	Class Guideline DNVGL-CG-0339
Note	Location classes: Temperature D (see Application/Limitation), Humidity B, Vibration A/C, EMC B
C data	
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
EMC requirements for noise emission	EN 61000-6-3
	EN 61000-6-4
EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2
Noise immunity	Immunity in accordance with EN 61000-6-1 (residential), EN 61000-6-2 (industrial), and EN 61000-6-5 (switching devices IEC/EN 61850-3 (power supply)
loise emission	
Standards/regulations	Additional basic standard EN 61000-6-5 (immunity in switching devices), IEC/EN 61850-3 (power supply)
lectrostatic discharge	
Standards/regulations	EN 61000-4-2
lectrostatic discharge	
Contact discharge	8 kV (Test Level 4)
Discharge in air	15 kV (Test Level 4)
Comments	Criterion B
lectromagnetic HF field	
Standards/regulations	EN 61000-4-3
lectromagnetic HF field	
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
ast transients (burst)	
Standards/regulations	EN 61000-4-4
ast transients (burst)	
Input	4 kV (Test Level 4 - asymmetrical)
Output	4 kV (Test Level 4 - asymmetrical)



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Comments Criterion B Surge voltage load (surge) EN 61000-4-5 Surge voltage load (surge) 1 kV (Test Level 3 - symmetrical) Input 2 kV (Test Level 3 - asymmetrical) Output 1 kV (Test Level 3 - symmetrical)	
Standards/regulations EN 61000-4-5 Surge voltage load (surge) Input 1 kV (Test Level 3 - symmetrical) 2 kV (Test Level 3 - asymmetrical)	
Standards/regulations EN 61000-4-5 Surge voltage load (surge) Input 1 kV (Test Level 3 - symmetrical) 2 kV (Test Level 3 - asymmetrical)	
Surge voltage load (surge) Input 1 kV (Test Level 3 - symmetrical) 2 kV (Test Level 3 - asymmetrical)	
Input 1 kV (Test Level 3 - symmetrical) 2 kV (Test Level 3 - asymmetrical)	
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	
Standards/regulations EN 61000-4-6	
Conducted interference	
Input/output/signal asymmetrical	
Frequency range 0.15 MHz 80 MHz	
Comments Criterion A	
Voltage 10 V (Test Level 3)	
Dower frequency magnetic field	
Power frequency magnetic field Standards/regulations 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	
Criteria	
Criterion A Normal operating behavior within the specified limits.	
Criterion B Temporary impairment to operational behavior that is corn by the device itself.	ected

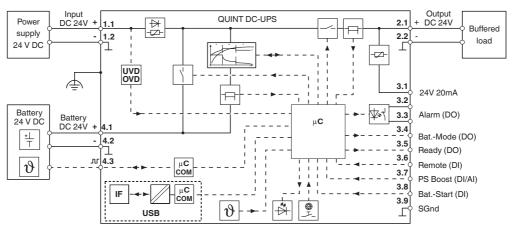


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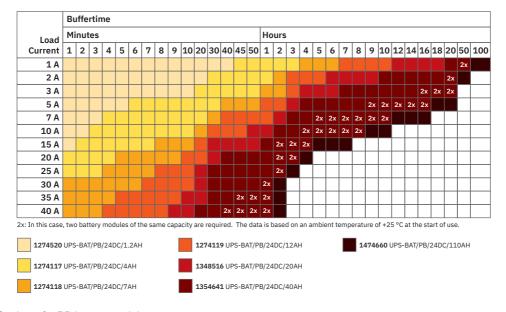
Drawings





Block diagram

Graphic



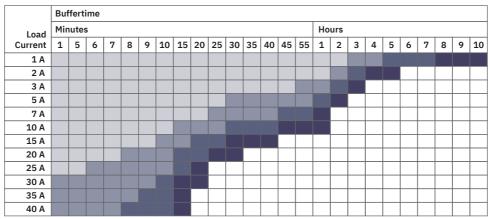
QUINT DC UPS buffer times for PB battery module



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Graphic



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

1460921 UPS-BAT/LI/24DC/64WH

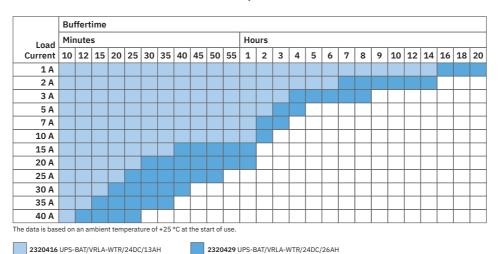
1460922 UPS-BAT/LI/24DC/189WH

1396415 UPS-BAT/LI/24DC/128WH

1460923 UPS-BAT/LI/24DC/284WH

QUINT DC UPS buffer times for LI battery module

Graphic



QUINT DC UPS buffer times and VRLA-WTR battery module



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Approvals

🌣 To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2906991



EAC

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



UL Listed

Approval ID: E123528



cUL Listed

Approval ID: E123528



EAC

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



Approval ID: TAA00002K4



KC

Approval ID: R-R-PCK-2906991



LR

Approval ID: LR21417906TA



NK

Approval ID: TA22372M



ΒV

Approval ID: 69394/A0 BV



RINA

Approval ID: ELE382621XG

ABS

Approval ID: 23-2416092-PDA



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IECEE CB Scheme

Approval ID: DK-68191-M1-UL



cUL Listed

Approval ID: E199827



UL Listed

Approval ID: E199827



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Classifications

ECLASS

	ECLASS-13.0	27040705
	ECLASS-15.0	27040705
ET	IM	
	ETIM 9.0	EC000382
UN	ISPSC	

UNSPSC 21.0 39121000



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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I
China RoHS	
Environment friendly use period (EFUP)	EFUP-25
	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.)	Diboron trioxide(CAS: 1303-86-2)
	Lead(CAS: 7439-92-1)
SCIP	bab5c7da-dd2b-421b-b2e7-d7fad6ebb1c8
EF3.0 Climate Change	
CO2e kg	18.75 kg CO2e



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Mandatory accessories

UPS-BAT/PB/24DC/1.2AH - Battery module

1274520

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Battery module (device with battery), VRLA-AGM, 24 V DC, 1.2 Ah, automatic detection and communication with QUINT UPS-IQ

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

1274117

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



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



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

1274118

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



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

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

1274119

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



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

1348516

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

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

1354641

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



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UPS-BAT/LI/24DC/128WH - Battery module

1396415

https://www.phoenixcontact.com/us/products/1396415



Battery module (device with battery), Lithium-Ion (LiFePO $_4$), 24 V DC, 128 Wh. For use with a QUINT UPS for ambient temperatures (charging) of 0°C ... 60°C and a maximum charging current of 5 A. For charging below 0°C, please note the permissible UPS V/C level.

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

2320416

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Battery module (device with battery), lead AGM, VRLA technology 24 V DC, 13 Ah, tool-free battery change, automatic detection, and communication with QUINT UPS-IQ



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

2320429

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

UPS-BAT/LI/24DC/64WH - Battery module

1460921

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Battery module (device with battery), Lithium-Ion (LiFePO₄), 24 V DC, 64 Wh

Accessories



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UWA 130 - Mounting adapter

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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.

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.



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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.

POWER MANAGEMENT SUITE - Configuration software

1252232

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Configuration and management software



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UPS-CONF - Configuration software

2320403

https://www.phoenixcontact.com/us/products/2320403



Configuration software for QUINT UPS IQ and TRIO UPS uninterruptible power supplies (available for free under Downloads).

QUINT4-PS/1AC/24DC/5 - Power supply

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Primary-switched QUINT POWER power supply with free choice of output characteristic curve, SFB (selective fuse breaking) technology, and NFC interface, input: 1-phase, output: 24 V DC/5 A



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QUINT4-PS/3AC/24DC/5 - Power supply

2904620

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Primary-switched QUINT POWER power supply with free choice of output characteristic curve, SFB (selective fuse breaking) technology, and NFC interface, input: 3-phase, output: 24 V DC/5 A

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