Power supplies and UPS

For superior system availability

PHOENIX CONTACT
INSPIRING INNOVATIONS

POWER for superior system availability

Our POWER products supply your application with leading technology and high quality.

Power supplies, DC/DC converters, redundancy modules, and uninterruptible power supplies are tailored in terms of their functionality and design to the requirements of various different industries and always offer the ideal solution.

With our QUINT, TRIO, UNO, MINI, and STEP product ranges, you are optimally equipped to handle competitors on an international scale.

Choose from our wide range.

SFB TECHNOLOGY

Power supplies and DC/DC converters

SFB (selective fuse breaking) technology:

- Six times the nominal current for 12 ms
- Reliably switches off faulty current paths in the event of a short circuit
- Important system parts remain in operation without any interruption

For more information, refer to page 6 and onwards.

ACB TECHNOLOGY

Redundancy modules

ACM (auto current balancing) technology:

- Even distribution of the load for redundant power supplies
- Low thermal load for both power supplies
- Service life of the redundant solution is doubled

For more information, refer to page 26 and onwards.

IQ TECHNOLOGY

Uninterruptible power supplies

IQ technology:

- Intelligent battery management
- Optimizes and keeps you informed of the remaining runtime, state of charge, and service life of the power storage
- Optimized charging characteristic for maximum service life
- Communication with higher-level controllers

For more information, refer to page 30 and onwards.

Contents

Power supplies – a comparison of the advantages

The product ranges differ with regard to their design, performance, and functionality.

Select the ideal solution based on your requirements:

- QUINT POWER
  Maximum functionality
- TRIO POWER
  Robust standard functionality
- UNO POWER
  Compact basic functionality

The product range is supplemented with types tailor-made for specific applications:

- MINI POWER for measurement and control technology
- STEP POWER for installation distributors

IQ TECHNOLOGY

SFB TECHNOLOGY

ACB TECHNOLOGY

1000 W
40 A

1000 W
40 A

STEP POWER	MINI POWER	UNO POWER	TRIO POWER	QUINT POWER	
•	•	•	•	•	**Worldwide use** thanks to the wide range input and international approval package
•	•	•	•	•	**Maximum operating time** thanks to high MTBF > 500,000 h at 40°C
•	•	•	•	•	**Can be switched in parallel** for increased performance and redundancy
•	•	•	•	•	**Outdoor installation permitted** thanks to wide temperature range from - 25°C ... +70°C
			•	•	**Three-phase devices** error-free operation, even if one phase fails permanently
	•		•	•	**Active function monitoring** by means of switching output for remote diagnostics
			•		**Quick installation** thanks to tool-free push-in connection
			•	•	**Reliable starting of difficult loads** with the dynamic power reserve
				•	**Easy system extension** with the POWER BOOST static power reserve
				•	**Preventive function monitoring** indicates critical operating states before errors occur
				•	**Fast tripping of circuit breakers** thanks to SFB technology

QUINT POWER power supplies for superior system availability thanks to SFB technology

Compact power supplies and DC/DC converters from the QUINT POWER range maximize the availability of your system.

Even standard circuit breakers can be tripped reliably and quickly with SFB (selective fuse breaking) technology and six times the nominal current for 12 ms. Faulty current paths are switched off selectively, the fault is located, and important system parts remain in operation.

Comprehensive diagnostics are provided through constant monitoring of the output voltage and output current. This preventive function monitoring visualizes critical operating states and indicates them to the controller before errors can occur.

QUINT POWER guarantees superior system availability.

SFB TECHNOLOGY

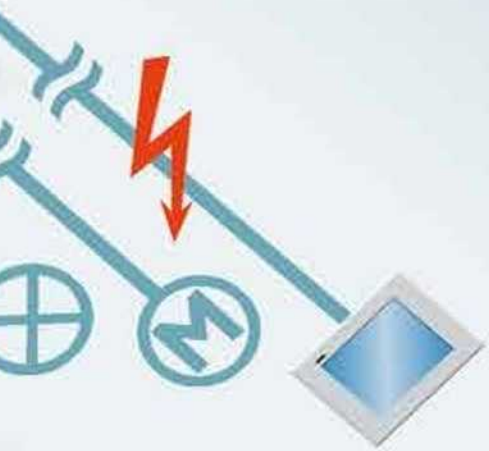
Cost-effective selective protection with SFB technology

In order to trip standard circuit breakers magnetically and therefore quickly, power supplies must be able to supply several times the nominal current for a short period. With SFB technology, which supplies up to six times the nominal current for 12 ms, a dynamic power reserve is available.

Example: frayed display cable – the fuse trips, the lower-level display is dark. The controller, sensors, and actuators continue to operate without interruption – production continues.

The maximum cable lengths are described in the configuration matrix, which is available as a free download on the Phoenix Contact website under "Power supplies with maximum functionality".

In addition, tailor-made thermomagnetic circuit breakers, which trip even with extremely long cables, are designed specifically for SFB technology.



QUINT POWER power supplies – maximum functionality

The unique SFB technology and preventive function monitoring of the QUINT POWER power supply increase the availability of your application.

- **Worldwide use**
  thanks to the wide range input and international approval package
- **High operational reliability**
  thanks to high MTBF > 500,000 h, long mains buffering times > 20 ms, high electric strength of single-phase devices of up to 300 V AC
- **Three-phase devices**
  enable error-free operation, even in the event of a permanent phase failure, high surge resistance of up to 6 kV thanks to integrated gas-filled surge arrester
- **Comprehensive approvals,**
  e.g., semiconductor production:
  SEMI F47-0706
  Shipbuilding:
  GL, ABS, BV, LR, NK, DNV, RINA
  Medical standard: IEC 60601
  DeviceNet™
  ATEX

SFB TECHNOLOGY

Your advantages

Fast tripping of standard circuit breakers

- Dynamic power reserve with SFB technology with up to six times the nominal current for 12 ms

Preventive function monitoring

- Indicates critical operating states before errors occur, thanks to permanent monitoring of the output voltage and output current
- Remote monitoring using active switching outputs and floating relay contact

Reliable starting of difficult loads and easy system extension

- POWER BOOST static power reserve with up to 1.5 times the nominal current permanently

Easy-maintenance connection technology

- Coded COMBICON connectors (up to and including 10 A)

Minimize installation costs

- Third negative terminal block for grounding on the secondary side

Compensation of voltage drops

- Output voltage can be set on the front
- A voltage range of 5 … 56 V DC can be covered with three power supplies with output voltages of 12, 24, and 48 V DC

Saves over 50% space in the control cabinet

- Slim design, e.g., 40 A output current in 96 mm wide housing

Robust design

- Metal housing and wide temperature range from -25°C to +70°C
- Device startup at -40°C (type-tested)
- Devices with protective coating from -40°C to +70°C

QUINT POWER 1~

SFB TECHNOLOGY

Input: 1-phase, 85 ... 264 V AC, 90 ... 350 V DC, for 24 V/40 A and 48 V/20 A: 90 ... 300 V DC

24 V / 3.5 A

QUINT-PS/1AC/24DC/3.5
2866747

24 V / 5 A

QUINT-PS/1AC/24DC/5
2866750

24 V / 10 A

QUINT-PS/1AC/24DC/10
2866763

48 V / 5 A

QUINT-PS/1AC/48DC/5
2866679

12 V / 15 A

QUINT-PS/1AC/12DC/15
2866718

24 V / 20 A

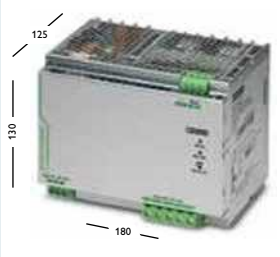
QUINT-PS/1AC/24DC/20
2866776

48 V / 10 A

QUINT-PS/1AC/48DC/10
2866682

12 V / 20 A

QUINT-PS/1AC/12DC/20
2866721



24 V / 40 A

QUINT-PS/1AC/24DC/40
2866789

48 V / 20 A

QUINT-PS/1AC/48DC/20
2866695

QUINT POWER 3~

SFB TECHNOLOGY

Input: 3-phase, 3 x 320 ... 575 V AC, 450 ... 800 V DC

24 V / 5 A

QUINT-PS/3AC/24DC/5
2866734

24 V / 10 A

QUINT-PS/3AC/24DC/10
2866705

24 V / 20 A

QUINT-PS/3AC/24DC/20
2866792

24 V / 40 A

QUINT-PS/3AC/24DC/40
2866802

48 V / 20 A

QUINT-PS/3AC/48DC/20
2320827

Accessories

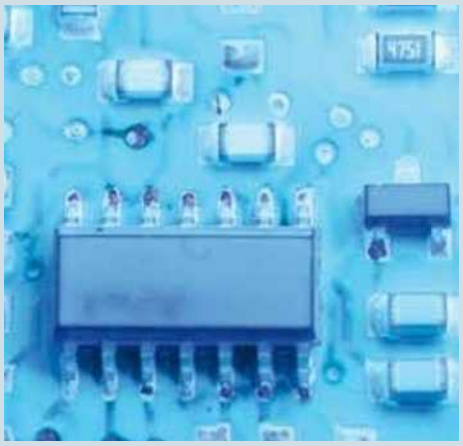
Fan for QUINT, QUINT-PS/FAN/4
2320076

With the standard power supply mounting position, the temperature range increases by 10 K (max. ambient temperature of 70°C); when the mounting position is rotated, position-dependent derating no longer applies. Tool-free mounting.

Thermomagnetic circuit breakers for QUINT

Device circuit breakers with the SFB tripping characteristic provide maximum overcurrent protection – even in large systems with long cable paths. The comprehensive product range can be found on the Phoenix Contact website under "Products/Protective devices".

QUINT POWER power supplies for extreme requirements



Inaccessible parts of the PCB are protected by the coating, e.g., wired components (coated areas appear blue).

These power supplies in the QUINT series satisfy the most stringent requirements of sensitive loads. DC/DC converters with the same properties can be found on page 23.

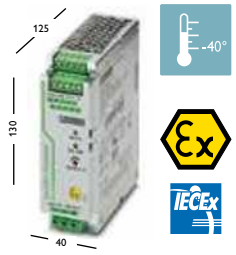
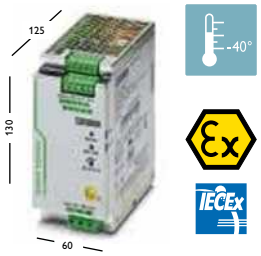
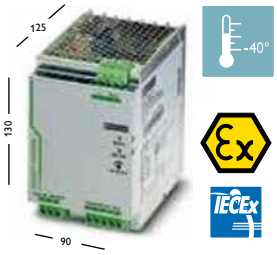
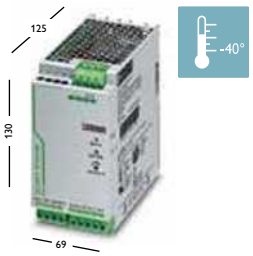
For extreme ambient conditions:

- Coating on the PCB protects against dust, corrosive gases, and 100% humidity as well as failure caused by corrosion-related creepage currents and electrochemical migration
- Wide temperature range from -40°C to +70°C

For sensitive loads, e.g., in process technology: OVP (Over Voltage Protection) limits surge voltages to 32 V, also useful in redundant operation with QUINT ORING (see page 26).

QUINT POWER, coated

Input: 1-phase: 85 ... 264 V AC, 90 ... 410 V DC, for 1 AC / 24 V / 20 A: 90 ... 350 V DC / 3-phase: 3 x 320 ... 575 V AC, 450 ... 800 V DC

			
1 AC / 24 V / 5 A	**1 AC / 24 V / 10 A**	**1 AC / 24 V / 20 A**	**3 AC / 24 V / 20 A**
QUINT-PS/1AC/24DC/5/CO	**QUINT-PS/1AC/24DC/10/CO**	**QUINT-PS/1AC/24DC/20/CO**	**QUINT-PS/3AC/24DC/20/CO**
2320908	2320911	2320898	2320924

TRIO POWER power supplies – robust standard functionality

The TRIO POWER power supplies are perfect for use in machine building. All functions and the space-saving design are tailored to the high requirements in this field. The power supply units, which feature an extremely robust electrical and mechanical design, ensure the reliable supply of all loads even under harsh ambient conditions.

Save time thanks to quick and easy installation with push-in connection

Your advantages for TRIO POWER with push-in connection

Very cost-effective
- Quick installation, thanks to tool-free push-in connection
- Slim design

Reliable starting of difficult loads
- Dynamic power reserve with 150% of the nominal current for 5 s

Robust design
- Robust electrical design with high electric strength of single-phase devices up to 300 V AC, error-free function of the three-phase modules, even if one phase fails permanently
- Robust mechanical design with vibration resistance up to 4g and shock resistance up to 30g
- High MTBF > 1 million hours
- Metal housing from 10 A and wide temperature range from -25°C to +70°C
- Device startup at -40°C (from 10 A, type-tested)

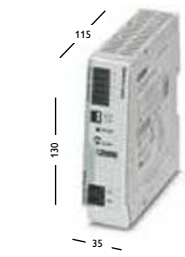
TRIO POWER push-in connection 1~

Input: 1-phase, 85 ... 264 V AC, 99 ... 275 V DC

24 V / 3 A

TRIO-PS-2G/1AC/24DC/3/C2LPS
2903147

Certified according to UL 1310/508
Listed Class 2



24 DC / 5 A

TRIO-PS-2G/1AC/24DC/5
2903148

24 DC / 10 A

TRIO-PS-2G/1AC/24DC/10
2903149

24 DC / 20 A

TRIO-PS-2G/1AC/24DC/20
2903151

TRIO POWER push-in connection 3~

Input: 3-phase, 3 x 320 ... 575 V AC, 2 x 360 ... 575 V AC, 450 ... 780 V DC

24 V / 5 A

TRIO-PS-2G/3AC/24DC/5
2903153

24 DC / 10 A

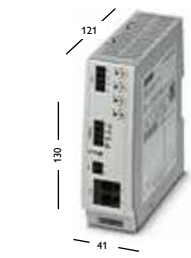
TRIO-PS-2G/3AC/24DC/10
2903154

24 DC / 20 A

TRIO-PS-2G/3AC/24DC/20
2903155

Accessories

Electronic device circuit breakers



4-channel

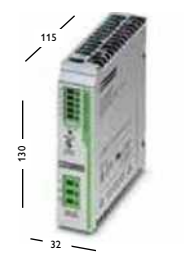
CBM E4 24DC/0,5-10A NO-R
2905743

8-channel

CBM E8 24DC/0,5-10A NO-R
2905744

TRIO POWER screw connection 1~

Input: 1-phase, 85 ... 264 V AC



12 V / 5 A

TRIO-PS/1AC/12DC/5
2866475

12 V / 10 A

TRIO-PS/1AC/12DC/10
2866488

48 V / 5 A

TRIO-PS/1AC/48DC/5
2866491

48 V / 10 A

TRIO-PS/1AC/48DC/10
2866501

... 3~

3-phase, 3 x 320 ... 575 V AC

24 V / 40 A

TRIO-PS/3AC/24DC/40
2866404

UNO POWER power supplies – compact basic functionality

Thanks to their high power density, UNO POWER power supplies offer the ideal solution for loads up to 240 W, particularly in compact control boxes. The wide range of products covers all common voltage levels.

With nominal voltages from 5 V DC to 48 V DC, UNO POWER covers all the typical voltage levels used in the industry

Your advantages

Maximum energy efficiency

- Save energy, thanks to high efficiency of up to 94%
- Save energy, thanks to extremely low idling losses below 0.3 W

Extremely compact

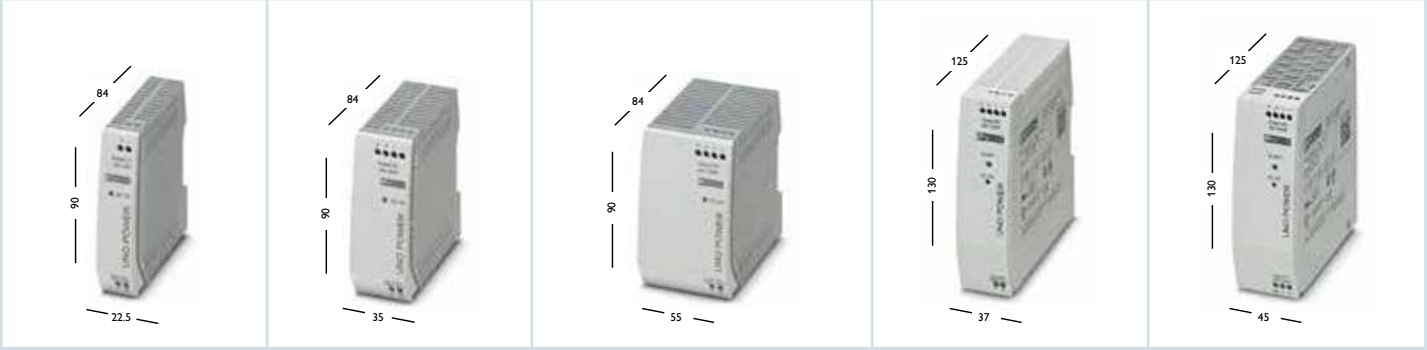
- Save space in the control cabinet, thanks to the extremely high power density of 325 W/dm³, e.g., 240 W power in narrow 45 mm housing
- Housing depth of just 84 mm up to 100 W, tailored to all popular 120 mm control boxes

Outdoor installation

- Wide temperature range from -25°C to +70°C

UNO POWER 1~

Input: 1-phase, 85 ... 264 V AC



24 DC / 30 W	24 DC / 60 W	24 DC / 100 W	24 DC / 150 W	24 DC / 240 W
UNO-PS/1AC/24DC/30W 2902991	**UNO-PS/1AC/24DC/60W** 2902992	**UNO-PS/1AC/24DC/100W** 2902993	**UNO-PS/1AC/24DC/150W** 2904376	**UNO-PS/1AC/24DC/240W** 2904372
		24 DC / 90 W *		
		UNO-PS/1AC/24DC/90W/C2LPS 2902994		
	48 DC / 60 W	**48 DC / 100 W**		
	UNO-PS/1AC/48DC/60W 2902995	**UNO-PS/1AC/48DC/100W** 2902996		
15 DC / 30 W	**15 DC / 55 W**	**15 DC / 100 W**		
UNO-PS/1AC/15DC/30W 2903000	**UNO-PS/1AC/15DC/55W** 2903001	**UNO-PS/1AC/15DC/100W** 2903002		
12 DC / 30 W	**12 DC / 55 W**	**12 DC / 100 W**		
UNO-PS/1AC/12DC/30W 2902998	**UNO-PS/1AC/12DC/55W** 2902999	**UNO-PS/1AC/12DC/100W** 2902997		
5 DC / 25 W	**5 DC / 40 W**			
UNO-PS/1AC/5DC/25W 2904374	**UNO-PS/1AC/5DC/40W** 2904375			

UNO POWER 2~

Input: 2-phase, 264 ... 575 V AC

24 DC / 90 W *
UNO-PS/2AC/24DC/90W/C2LPS 2904371

* Certified according to UL 1310/508 Listed Class 2

MINI POWER power supplies for measurement and control technology

Modular electronics housing is used as standard in measurement and control technology. MINI POWER is the ideal power supply for this type of application.

Your advantages

Easy-maintenance connection technology
- Coded COMBICON connectors

Flexible
- Numerous output voltages and versions available

Function monitoring
- Active function monitoring via the switching output for remote monitoring of the output voltage

MINI POWER 1~

Input: 1-phase, 85 ... 264 V AC, 90 ... 350 V DC

24 V / 1.3 A

MINI-PS-100-240AC/24DC/1.3
2866446

5 V / 3 A

MINI-PS-100-240AC/5DC/3
2938714

24 V / 2 A

MINI-PS-100-240AC/24DC/2
2938730

±15 V / 1 A

MINI-PS-100-240AC/2x15DC/1
2938743

10 ... 15 V / 2 A

MINI-PS-100-240AC/10-15DC/2
2938756

Input: 1-phase, 85 ... 264 V DC

24 V / 4 A

MINI-PS-100-240AC/24DC/4
2938837

10 ... 15 V / 8 A

MINI-PS-100-240AC/10-15DC/8
2866297

24 V / 100 W

MINI-PS-100-240AC/24DC/C2LPS
2866336

Certified according to UL 1310/508 Listed Class 2

Input: 1-phase, 85 ... 264 V AC

24 V / 1.5 A

MINI-SYS-PS-100-240AC/24DC/1.5
2866983

24 V / 1.5 A

MINI-PS-100-240AC/24DC/1.5/EX
2866653

Accessories for 24 V / 1.5 A

DIN rail connector

ME 17,5 TBUS 1.5/5-ST-3,82 GN
2709561

Optional, 2 required per power supply (24 V/1.5 A)

STEP POWER power supplies for installation distributors

STEP POWER power supplies are ideal for installation distributors and flat control panels. The low idling losses and the high degree of efficiency ensure maximum energy efficiency in its class.

When mounting on level surfaces: lugs integrated in the housing eliminate the need for additional mounting material

Your advantages

Flexible mounting
- Snap onto the DIN rail or screw on a level surface

Reliable supply
- High MTBF > 500,000 h
- U/I characteristic curve for supplying capacitive loads

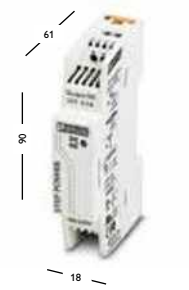
Outdoor installation
- Wide temperature range from -25°C to +70°C

Use in domestic installation
- All 18 W devices meet standard EN 60335-1 for household appliances and are suitable for installation in ventilation systems, for example

Save energy
- Maximum energy efficiency and incredibly low idling losses

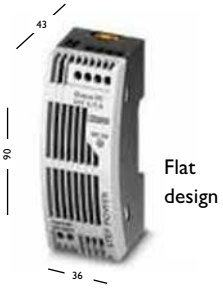
STEP POWER 1~

Input: 1-phase, 85 ... 264 V AC, 95 ... 250 V DC



24 V / 0.5 A

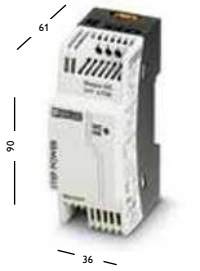
STEP-PS/1AC/24DC/0.5
2868596



Flat design

24 V / 0.75 A FL

STEP-PS/1AC/24DC/0.75/FL
2868622



24 V / 0.75 A

STEP-PS/1AC/24DC/0.75
2868635

24 V / 1.75 A

STEP-PS/1AC/24DC/1.75
2868648

12 V / 1 A

STEP-PS/1AC/12DC/1
2868538

12 V / 1.5 A FL

STEP-PS/1AC/12DC/1.5/FL
2868554

12 V / 1.5 A

STEP-PS/1AC/12DC/1.5
2868567

12 V / 3 A

STEP-PS/1AC/12DC/3
2868570

5 V / 2 A

STEP-PS/1AC/5DC/2
2320513

24 V / 2.5 A

STEP-PS/1AC/24DC/2.5
2868651

5 V / 6.5 A

STEP-PS/1AC/5DC/6.5
2868541

24 V / 4.2 A

STEP-PS/1AC/24DC/4.2
2868664

24 V / 100 W

STEP-PS/1AC/24DC/3.8/C2LPS
2868677

Certified according to UL 1310/508 Listed Class 2

12 V / 5 A

STEP-PS/1AC/12DC/5
2868583

15 V / 4 A

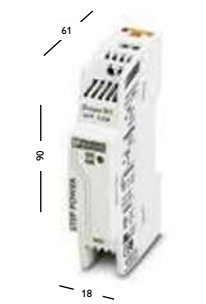
STEP-PS/1AC/15DC/4
2868619

48 V / 2 A

STEP-PS/1AC/48DC/2
2868680

STEP for 48 V AC

Input: 1-phase,
43 ... 52 V AC, 60 ... 80 V DC

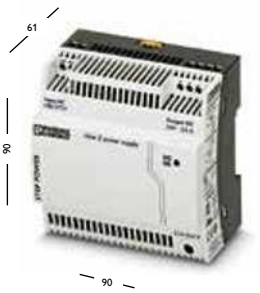


48 V AC / 24 DC / 0.5 A

STEP-PS/48AC/24DC/0.5
2868716

STEP for 277 V AC

Input: 1-phase,
85 ... 305 V AC, 95 ... 250 V DC



277 V AC / 24 DC / 3.5 A

STEP-PS/277AC/24DC/3.5
2904945

DC/DC converters adapt voltages

QUINT and MINI DC/DC converters alter the voltage level, regenerate the voltage at the end of long cables or enable the creation of independent supply systems by means of electrical isolation.

Your advantages

Regeneration of the output voltage

- Constant voltage, even at the end of long cables
- Wide input voltage range
  - **24 V**: 18 ... 32 V DC, from 14 ... 32 V DC during operation
  - **12 V**: 9 ... 18 V DC
  - **48 V**: 30 ... 60 V DC
  - 42 ... 96 V DC and 67 ... 154 V DC wide range inputs

Fast tripping of standard circuit breakers

- Dynamic power reserve with SFB technology with up to six times the nominal current for 12 ms (for details on SFB technology, see pages 6/7)

Preventive function monitoring

- Indicates critical operating states before errors occur, thanks to permanent monitoring of the input voltage, output voltage, and output current
- Remote monitoring using active switching output and floating relay contact

Reliable starting of difficult loads and easy system extension

- POWER BOOST static power reserve with up to 1.25 times the nominal current permanently

SFB TECHNOLOGY

QUINT DC/DC converters

High degree of flexibility thanks to wide input voltage ranges, e.g., for railway applications or power generation.

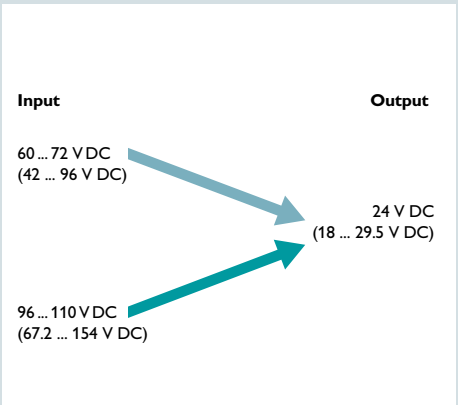
QUINT DC/DC converters

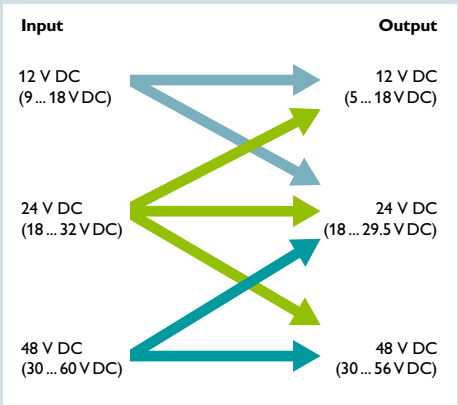
All common input and output voltages in performance classes up to 480 W for all industries as well as devices with approvals for the process industry.

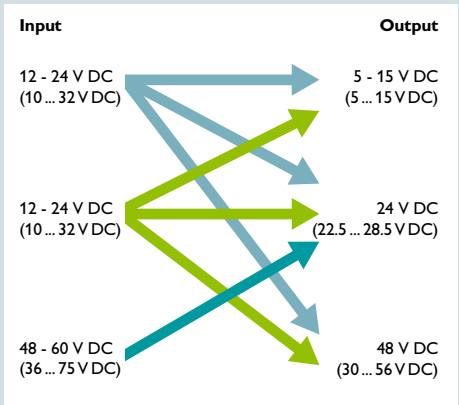
MINI DC/DC converters

All common input and output voltages in performance classes up to 24 W for measurement and control technology.

Voltage levels







QUINT DC/DC converters

Input: 1-phase, 18 ... 32 V DC

24 DC / 24 DC / 5 A

QUINT-PS/24DC/24DC/5
2320034

24 DC / 24 DC / 10 A

QUINT-PS/24DC/24DC/10
2320092

24 DC / 24 DC / 20 A

QUINT-PS/24DC/24DC/20
2320102

24 DC / 12 DC / 8 A

QUINT-PS/24DC/12DC/8
2320115

24 DC / 48 DC / 5 A

QUINT-PS/24DC/48DC/5
2320128

Input: 1-phase, 9 ... 18 V DC

12 DC / 24 DC / 5 A

QUINT-PS/12DC/24DC/5
2320131

12 DC / 12 DC / 8 A

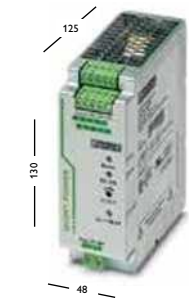
QUINT-PS/12DC/12DC/8
2905007

Input: 1-phase, 30 ... 60 V DC

48 DC / 24 DC / 5 A

QUINT-PS/48DC/24DC/5
2320144

Input: 1-phase, 30 ... 60 V DC



48 DC / 48 DC / 5 A

QUINT-PS/48DC/48DC/5
2905008

Input: 1-phase, 42 ... 96 V DC

60 ... 72 DC / 24 DC / 10 A

QUINT-PS/60-72DC/24DC/10
2905009

Input: 1-phase, 67.2 ... 154 V DC

96 ... 110 DC / 24 DC / 10 A

QUINT-PS/96-110DC/24DC/10
2905010

QUINT DC/DC converters, coated

Input: 1-phase, 18 ... 32 V DC

24 V / 24 V / 5 A

QUINT-PS/24DC/24DC/5/CO
2320542

24 V / 24 V / 10 A

QUINT-PS/24DC/24DC/10/CO
2320555

24 V / 24 V / 20 A

QUINT-PS/24DC/24DC/20/CO
2320568

For details on protective coating, see page 11.

Input: 1-phase, 42 ... 96 V DC

60 ... 72 DC / 24 DC / 10 A

QUINT-PS/60-72DC/24DC/10/CO
2905011

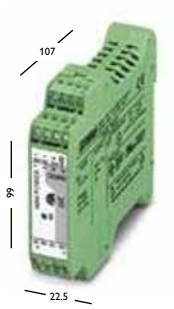
Input: 1-phase, 67.2 ... 154 V DC

96 ... 110 DC / 24 DC / 10 A

QUINT-PS/96-110DC/24DC/10/CO
2905012

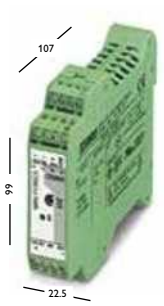
MINI DC/DC converters

Input: 1-phase, 10 ... 32 V DC, 36 ... 75 V DC



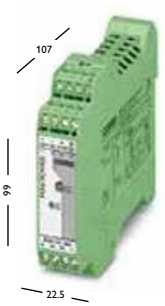
12 ... 24 DC / 24 DC / 1 A

MINI-PS-12-24DC/24DC/1
2866284



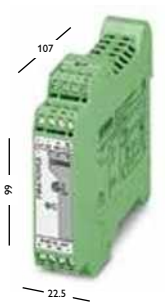
48 ... 60 DC / 24 DC / 1 A

MINI-PS-48-60DC/24DC/1
2866271



12 ... 24 DC / 5 ... 15 DC / 2 A

MINI-PS-12-24DC/5-15DC/2
2320018

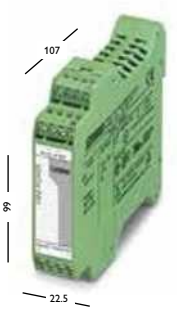


12 ... 24 DC / 48 DC / 0.7 A

MINI-PS-12-24DC/48DC/0.7
2320021

Accessories

Input: 1-phase, 10 ... 42 V AC



10 ... 42 V AC / 15 ... 60 V DC / 3 A

MINI-PS-10-42AC/15-60DC/3
2320199

- AC power terminal
- AC voltage of a transformer is rectified and filtered

Power supplies for frequency inverters

These power supplies are specifically designed for connection to frequency inverters. In the event of mains failure, the DC intermediate circuit voltage of the inverter continues to supply all connected 24 V loads without interruption.

SFB TECHNOLOGY

Your advantages

Compact buffer solution

- Maintenance-free buffer solution: controlled machine stop in the event of mains failure by using the existing capacity in the frequency inverter
- Compact solution in one housing: parallel operation on two-phase AC mains and a DC intermediate circuit

Fast tripping of standard circuit breakers

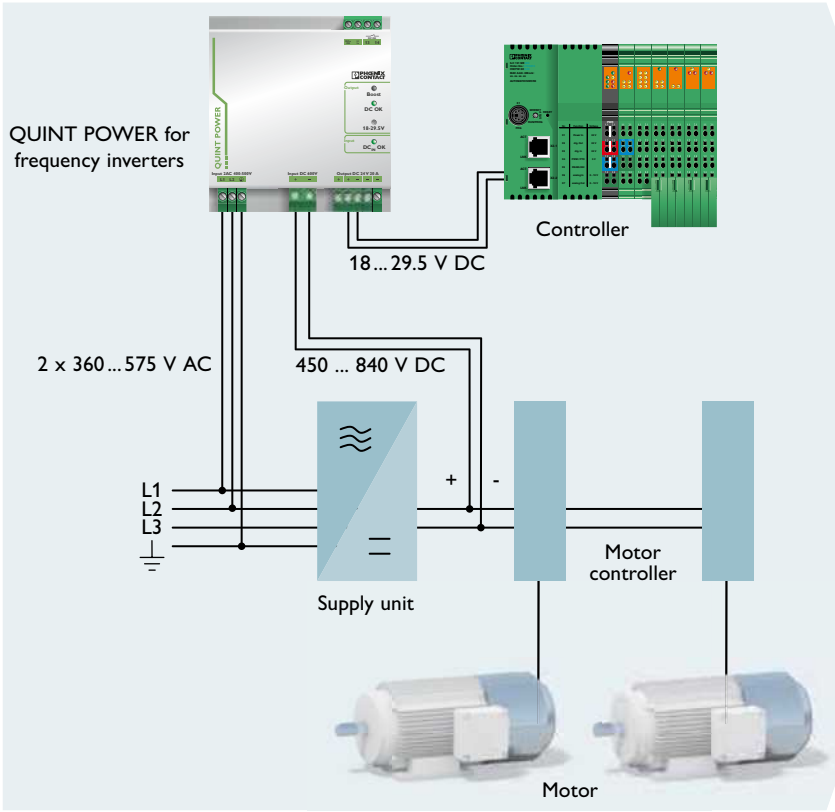
- Dynamic power reserve with SFB technology with 120 A for 20 ms (for details on SFB technology, see pages 6/7)

Preventive function monitoring

- Indicates critical operating states before errors occur, thanks to permanent monitoring of the output voltage and output current
- Remote monitoring using active switching output and floating relay contact

Reliable starting of difficult loads and easy system extension

- POWER BOOST static power reserve supplies 26 A permanently



QUINT POWER is connected to two outer conductors of the three-phase system and to a DC voltage. This can be the DC intermediate circuit voltage of a frequency inverter or, as in this example, a supply unit. In the event of mains failure, the controller continues to be supplied by using the kinetic energy of the motors. This enables a controlled machine stop. Quick and error-free restart of the machine is therefore ensured when the supply voltage is restored.

TRIO POWER, 1 DC

Input: 450 V DC ... 840 V DC

24 V / 20 A

TRIO-PS/600DC/24DC/20
2866530

QUINT POWER, 2 AC / 1 DC

SFB TECHNOLOGY

Input: 2 x 360 ... 575 V AC, 450 ... 840 V DC

24 V / 20 A

QUINT-PS/2AC/1DC/24DC/20
2320830

Active redundancy module for superior system availability thanks to ACB technology

The ACB (auto current balancing) technology of the QUINT ORING modules doubles the service life of redundantly operated power supplies by utilizing both power supply units to an equal degree. The load current is automatically distributed symmetrically.

Two QUINT POWER power supplies combined with QUINT ORING limit the voltage to a maximum of 32 V DC even in the event of two faults. In this way, loads are reliably protected against permanent surge voltages and dangerous states.

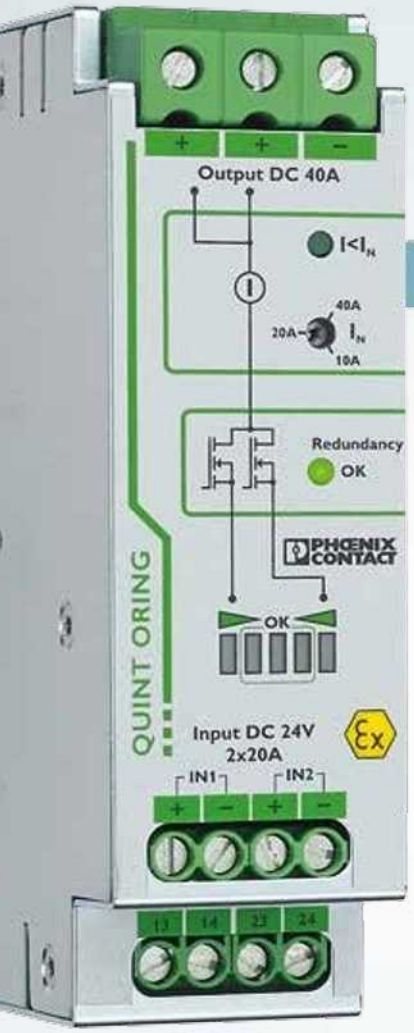
ACB TECHNOLOGY

ACB technology doubles the service life

In applications with the highest demands regarding operational reliability, redundant power supply solutions are implemented to ensure that the failure of a power supply unit does not result in system downtime.

As a result of asymmetries, the load is often supplied by one power supply unit, while the other runs in no-load operation. This results in a thermal load on the working power supply unit and therefore rapid aging. If the power supply unit is operated at half the nominal current, it remains significantly cooler.

The ACB technology of the QUINT ORING modules ensures symmetrical loading of the power supplies and thereby up to double the service life of the redundant system.



50% power

Your advantages

Preventive function monitoring
- Permanent monitoring of the input voltage, output current, and decoupling section

Consistent redundancy
- Redundant wiring up to the load with two positive output terminal blocks

Double the service life
- Thanks to even load distribution

70% energy saving
- Decoupling is implemented with MOSFETs instead of diodes

OVP (Over Voltage Protection)
- Surge voltages are limited to 32 V
- Doubly failsafe with:
  2 x QUINT POWER and 1 x QUINT ORING

Robust design
- Protective coating for extreme requirements
- Approvals for use in potentially explosive areas

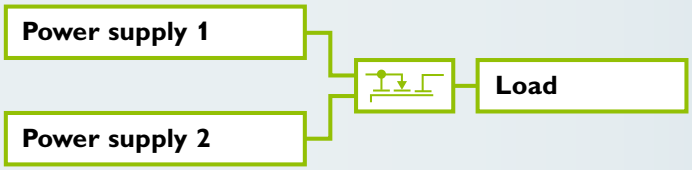
Decoupling, monitoring, and controlling redundancy modules

A redundant power supply system is the result of the parallel connection of two power supply units. In order to increase system availability, the power supplies must be decoupled and the redundancy must be monitored. The following are ideal solutions:

- Decoupling, monitoring, and control
- Decoupling and monitoring
- Decoupling

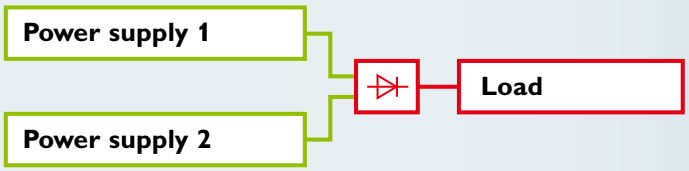
Decoupling, monitoring, and control

Decoupling with active redundancy module + monitoring of the power supply unit voltages, the wiring, decoupling, and the load current.



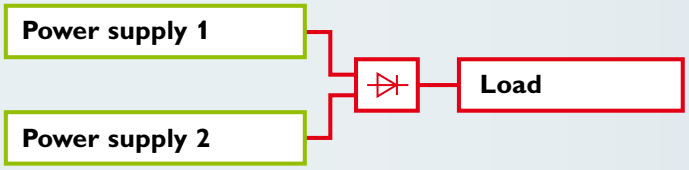
Decoupling and monitoring

Decoupling with redundancy module + monitoring of the power supply unit voltages and the wiring.



Decoupling

Decoupling with diode.

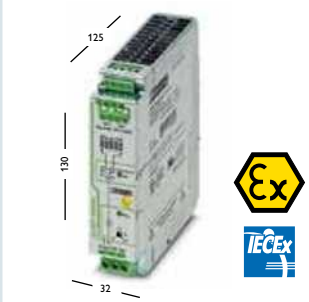


Monitored
Not monitored

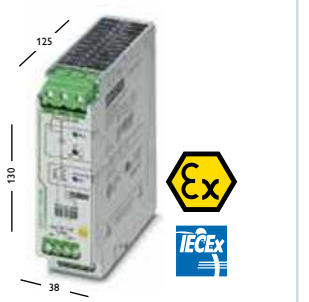
QUINT ORING

ACB TECHNOLOGY

Input: 18 ... 28 V DC



24 V / 2 x 10 A / 1 x 20 A
QUINT-ORING/24DC/2x10/1x20
2320173



24 V / 2 x 20 A / 1 x 40 A
QUINT-ORING/24DC/2x20/1x40
2320186

24 V / 2 x 40 A / 1 x 80 A
QUINT-ORING/24DC/2x40/1x80
2902879

TRIO DIODE

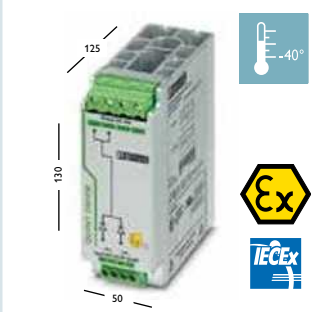
Input: 10 ... 30 V DC, 30 ... 56 V DC

12 ... 24 V / 2 x 10 A / 1 x 20 A
TRIO-DIODE/12-24DC/2x10/1x20
2866514

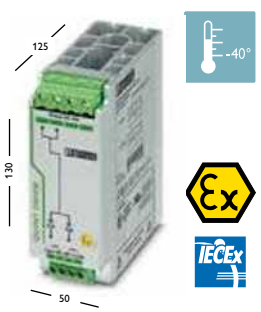
48 V / 2 x 10 A / 1 x 20 A
TRIO-DIODE/48DC/2x10/1x20
2866527

QUINT DIODE

Input: 10 ... 30 V DC, 30 ... 56 V DC



12 ... 24 V / 2 x 20 A / 1 x 40 A
QUINT-DIODE/12-24DC/2x20/1x40
2320157



48 V / 2 x 20 A / 1 x 40 A
QUINT-DIODE/48DC/2x20/1x40
2320160

UNO DIODE

Input: 4.5 V ... 30 V DC

5 ... 24 V DC
UNO-DIODE/5-24DC/2x10/1x20
2905489

STEP DIODE

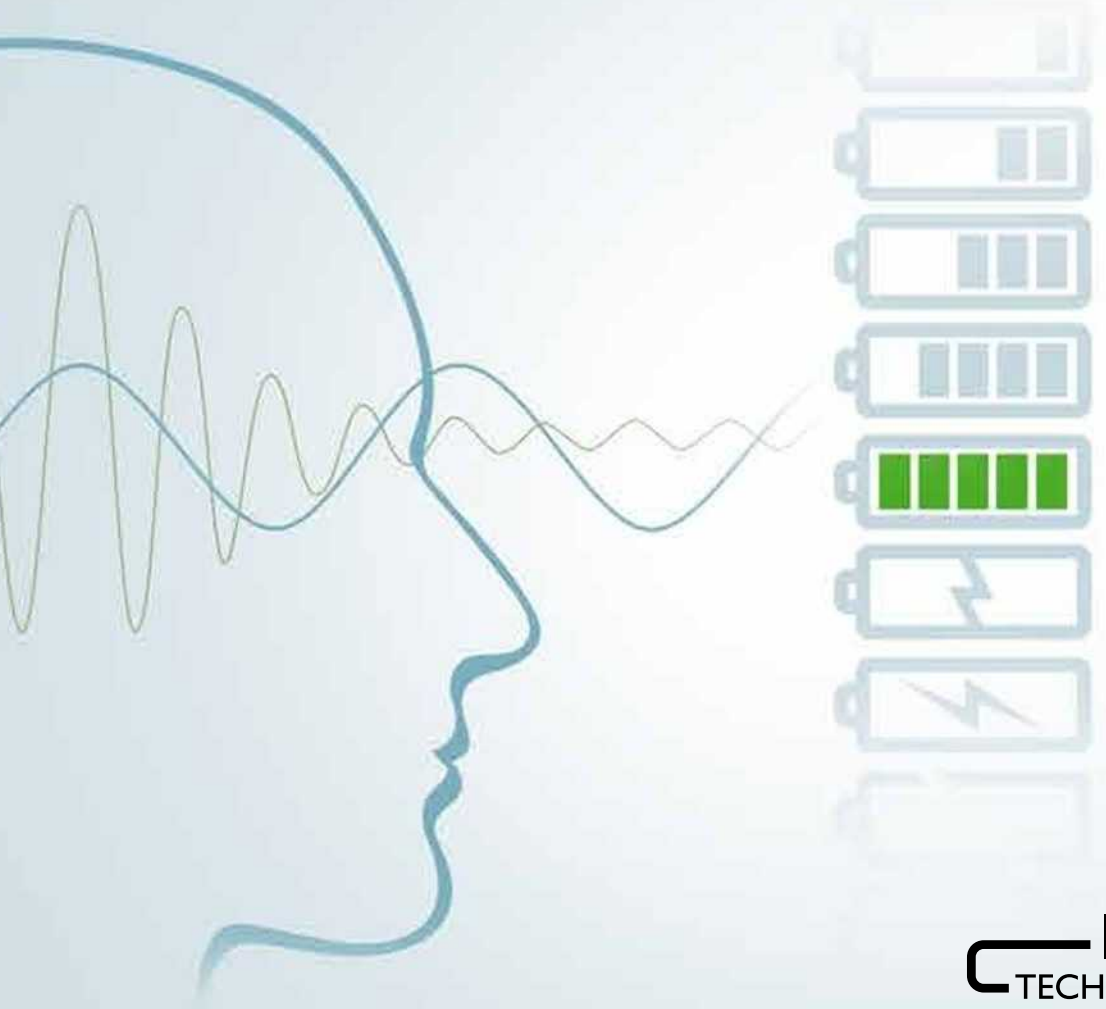
Input: 4.5 V ... 30 V DC

5 ... 24 V / 2 x 5 A / 1 x 10 A
STEP-DIODE/5-24DC/2x5/1x10
2868606

Intelligent UPS system for superior system availability thanks to IQ technology

Uninterruptible power supplies (UPS) continue to deliver power even in the event of mains failure. With our IQ technology, you are one step ahead:

- You know the state of charge and remaining runtime of your power storage
- You are warned about failures at an early stage and have time to prevent them
- You can maximize the service life of the power storage
- You can transfer all relevant information to your computer and higher-level controllers



IQ TECHNOLOGY

Intelligence for superior system availability

Task: an industrial PC must be continuously supplied with 24 V DC.

Previous solution: the UPS with 3.4 Ah buffers 24 V DC/5 A for 20 minutes under optimum conditions. Can the power storage actually bridge this time? State of charge, performance, and remaining runtime of the power storage are unknown.

Solution with QUINT UPS: the intelligent UPS determines all relevant power storage states. This ensures the transparency required to guarantee the stability of the supply and optimum use of the power storage at all times.

The intelligent battery management detects the current state of charge of the connected power storage and uses this to calculate the remaining runtime. The QUINT UPS also indicates whether the buffer time is actually 20 minutes. As soon as an adjustable threshold value is reached, a warning message is sent via the floating relay contact, the software or directly to higher-level controllers. The IPC continues working for as long as possible and is shut down before the battery voltage runs out.

Intelligence in any combination

Create your own individual solution – tailored to your application.

1. Choose your power supply:
Compact QUINT POWER power supplies ensure superior system availability.

2. Choose your UPS module:
The intelligent QUINT UPS actively informs you when necessary.

3. Choose your power storage:
- UPS-CAP for maximum service life
- UPS-BAT/LI-ION for long service life with long buffer times
- UPS-BAT/VRLA and VRLA-WTR for maximum buffer times

Power supply

STEP UPS	MINI UPS	UNO UPS	TRIO UPS	QUINT BUFFER	QUINT UPS	
					•	**IQ technology**
					•	**Flexible thanks to various power storage technologies**
					•	**Communication-capable**
			•		•	**Configurable**
•		•		•	•	**UPS modules with integrated power storage**
	•		•			**UPS modules with integrated power supply**

UPS module

Power storage

IQ TECHNOLOGY

The IQ technology is intuitive and provides you with information as soon as it is required.

Intelligent battery management

SOC (state of charge) – current state of charge and remaining runtime of the power storage.

SOH (state of health) – remaining life expectancy of the power storage, warns of failure at an early stage.

Intelligent battery control
Detects the connected battery type automatically and maximizes the remaining service life of the power storage by means of an optimally adapted charging characteristic.

Intelligent charging
Adapts the charging current, thereby ensuring the fastest possible recharging and availability.

Data port
Used for communication between the UPS module and PC/higher-level controller.

UPS modules for DC applications

The UPS module for 24 V DC with output currents ranging from 5 to 40 A allows you to create a custom solution combining a power supply, UPS module, and power storage.

IQ TECHNOLOGY

SFB TECHNOLOGY

Your advantages

Optimum use of the buffer time and preventive monitoring of the power storage

- Detects the current state of charge of the power storage and calculates the remaining runtime
- Calculates the current life expectancy of the power storage

Rapid battery charging

- Adaptive current management charges the battery twice as fast as before, while simultaneously providing sufficient energy for the loads

Comprehensive signaling and parameterization

- Floating relay contacts
- Data port
- Parameterization with memory module

Substantial power reserve

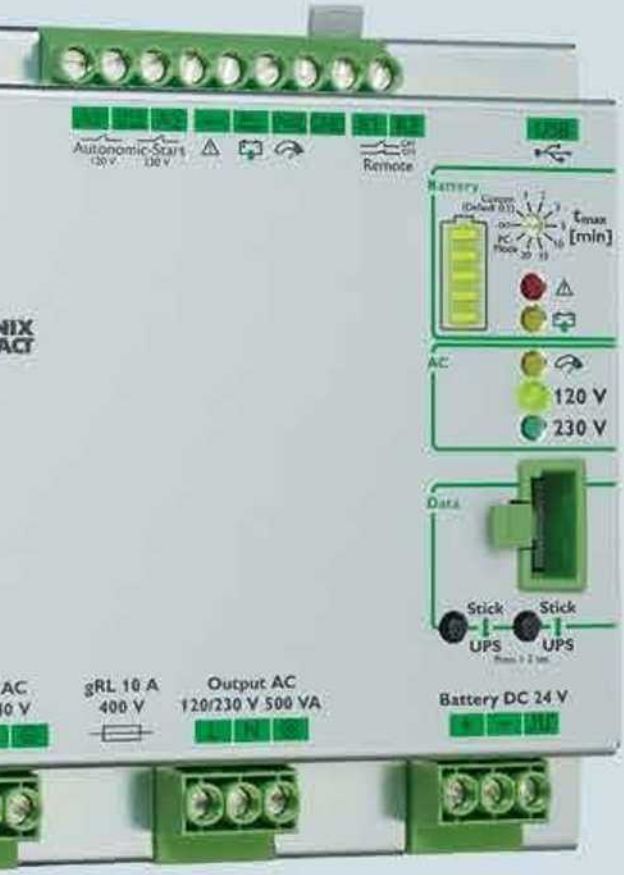
- For mains and battery operation
- POWER BOOST static power reserve
- Dynamic power reserve with SFB (selective fuse breaking) technology

Power supply **UPS module** Power storage

UPS module for AC applications

The UPS module for 120 V AC/230 V AC delivers a pure sine curve at the output. For 400 W/500 VA of power, only one power storage is required, the power supply is already integrated.

IQ TECHNOLOGY



Power supply **UPS module** Power storage

Your advantages

Optimum use of the buffer time and preventive monitoring of the power storage

- Detects the current state of charge of the power storage and calculates the remaining runtime
- Calculates the current life expectancy of the power storage

Worldwide use

- Input voltages from 102 … 264 V AC
- Pure sine curve: the sine generated in battery operation is synchronous with the mains previously used for supply
- In the event of mains failure, the output is automatically supplied with 120 V AC/60 Hz or 230 V AC/50 Hz
- Manual voltage pre-selection possible

Maximum efficiency

- Offline operation: 98% efficiency with charged power storage

Comprehensive signaling and parameterization

- Switching outputs
- USB interface
- Data port
- Parameterization with memory module

Simplified startup

- The UPS can be switched on without a power supply network (isolated operation)

QUINT UPS
power storage

You can always find the ideal solution for superior system availability with the modular system for uninterruptible power supplies.

The various storage media feature a wide range of different properties: long service life or very long buffer time, no maintenance or use at extreme ambient temperatures.

Whatever your requirements, we offer the ideal power storage.

Type	Buffer time (typical)	Temperature
UPS-CAP…	< 5 min.	**-40 ... +60°C**
UPS-BAT/LI-ION…	> 40 min.	-20 ... +58°C
UPS-BAT/VRLA-WTR…	**> 5 h**	**-25 ... +60°C**
UPS-BAT/VRLA…	**> 8 h**	0 ... +40°C

UPS-BAT/VRLA...
(Valve Regulated Lead Acid)

- Maximum buffer times
- Lead AGM (Absorbed Glass Mat) technology

UPS-BAT/VRLA-WTR...
(Valve Regulated Lead Acid/ Wide Temperature Range)

- Maximum buffer times at extreme temperatures
- Pure lead AGM (Absorbed Glass Mat) technology

Service life at 20°C	Service life at 50°C	Charging cycles at 20°C	Weight (standardized)
> 20 years	**8 years**	**> 500,000**	**0.4 kg**
15 years	2 years	**7000**	**0.45 kg**
12 years	1.5 years	300	1.3 kg
6 ... 9 years	1 year	250	1 kg

Your advantages

Fast installation

- Automatic detection of the power storage by QUINT UPS
- Tool-free replacement during operation

Maximum availability

- Constant communication with QUINT UPS for continuous monitoring and intelligent management

Extremely long service life

- Optimum charging characteristic according to the technology and ambient conditions

Immediate availability

- All power storage devices leave our warehouse fully charged

UPS-BAT/LI-ION...

- Long service life with long buffer times
- Lithium-ion technology

UPS-CAP (Capacitor)

- Maximum service life
- Maintenance-free double-layer capacitors

Power supply UPS module **Power storage**

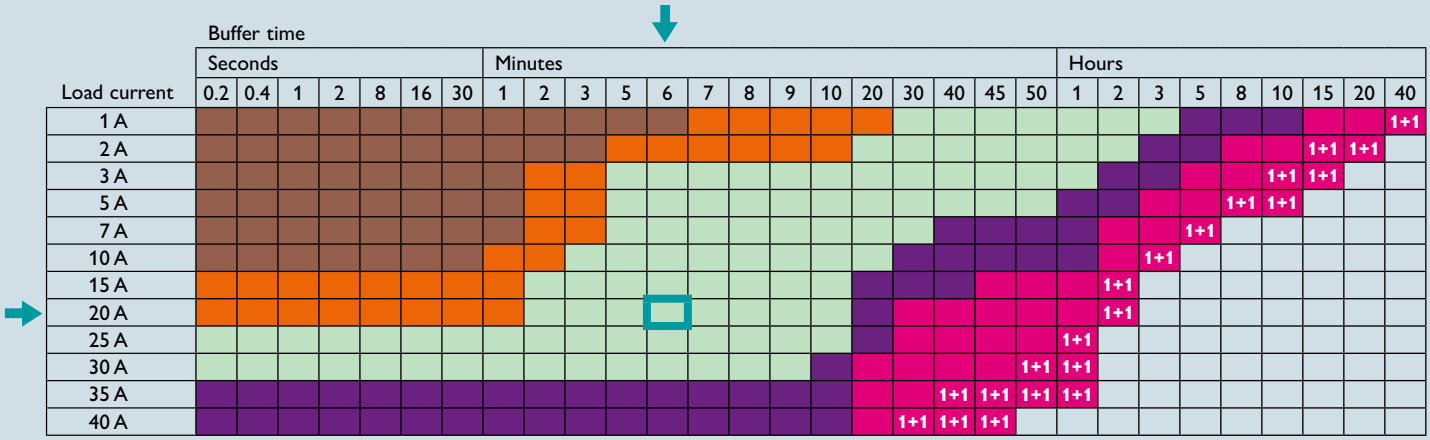
Selection guide for QUINT UPS and CAP, LI-ION, VRLA-WTR

Buffer times for DC UPS modules

Select your **UPS-BAT** and **UPS-CAP** for 24 V DC applications here.
Example: 20 A needs to be buffered for 6 minutes

→ ▭

→ QUINT-DC-UPS/24DC/20A and UPS-BAT/LI-ION/24DC/120WH

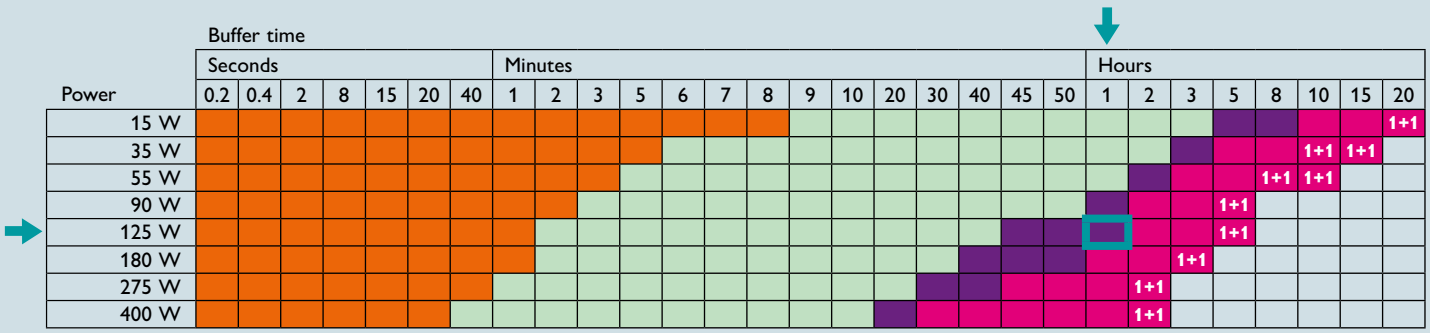


Buffer times for AC UPS module

Select your **UPS-BAT** and **UPS-CAP** for 120 V AC/230 V AC applications here.
Example: 125 W needs to be buffered for one hour

→ ▭

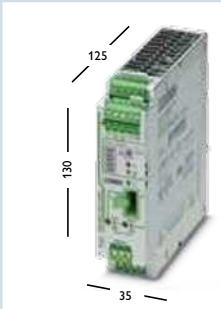
→ QUINT-UPS/1AC/1AC/500VA and UPS-BAT/VRLA-WTR/24DC/13AH



1+1 … Two power storage devices of the same capacity are required in this case.
The data is based on an ambient temperature of 20°C.

DC UPS modules

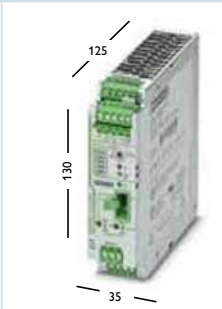
Dual output



24 V / 5 A

QUINT-UPS/ 24DC/24DC/5
2320212

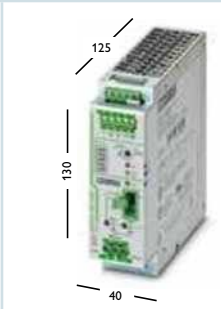
Recommended:
UPS-CAP
UPS-BAT/VRLA-WTR
UPS-BAT/LI-ION



24 V / 10 A

QUINT-UPS/ 24DC/24DC/10
2320225

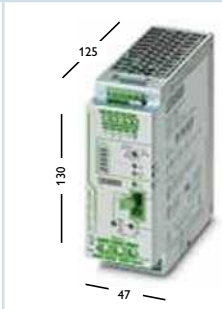
Recommended:
UPS-CAP
UPS-BAT/VRLA-WTR
UPS-BAT/LI-ION



24 V / 20 A

QUINT-UPS/ 24DC/24DC/20
2320238

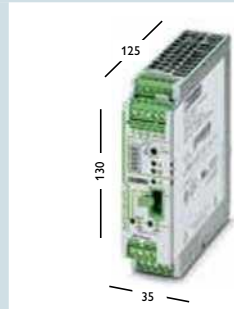
Recommended:
UPS-CAP 20 A
UPS-BAT/VRLA-WTR
UPS-BAT/LI-ION



24 V / 40 A

QUINT-UPS/ 24DC/24DC/40
2320241

Recommended:
UPS-BAT/VRLA-WTR



12 V / 5 A, 24 V / 10 A

QUINT-UPS/ 24DC/12DC/5/24DC/10
2320461

Recommended:
UPS-CAP
UPS-BAT/VRLA-WTR
UPS-BAT/LI-ION

AC UPS module

400 W / 500 VA

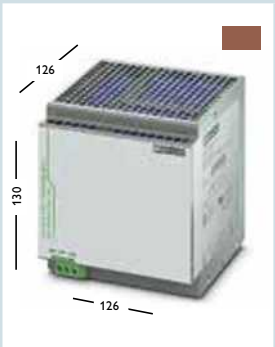
QUINT-UPS/ 1AC/1AC/500VA
2320270

Recommended:
UPS-CAP 20 A
UPS-BAT/VRLA-WTR
UPS-BAT/LI-ION

UPS-CAP

UPS-BAT/LI-ION

UPS-BAT/VRLA-WTR



10 A / 10 kJ

UPS-CAP/ 24DC/10A/10KJ
2320377

20 A / 20 kJ

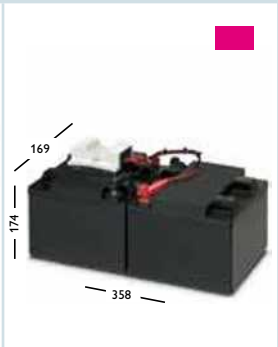
UPS-CAP/ 24DC/20A/20KJ
2320380

120 WH

UPS-BAT/LI-ION/ 24DC/120WH
2320351

13 Ah

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



26 Ah

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

Selection guide for QUINT UPS and VRLA

Buffer times for DC UPS modules

Select your **UPS-BAT** for 24 V DC applications here.
Example: 20 A needs to be buffered for 10 minutes

→ ▭

→ QUINT-DC-UPS/24DC/20A and UPS-BAT/VRLA/24DC/7.2AH

	Buffer time																				
	Seconds				Minutes													Hours			
Load current	0.2	0.4	2	8	2	3	5	6	7	8	9	10	20	30	40	45	50	1	2	3	5	8
1 A																						
2 A																						
3 A																						
5 A																						
7 A																						1+1
10 A																					1+1	1+1
15 A																			1+1	1+1		
→ 20 A																			1+1			
25 A																		1+1	1+1			
30 A																1+1	1+1	1+1				
35 A															1+1	1+1	1+1	1+1				
40 A															1+1	1+1	1+1	1+1				

Buffer times for AC UPS module

Select your **UPS-BAT** for 120 V AC/230 V AC applications here.
Example: 125 W needs to be buffered for one hour

→ ▭

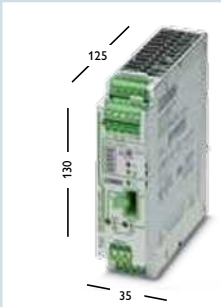
→ QUINT-UPS/1AC/1AC/500VA and UPS-BAT/VRLA/24DC/12AH

	Buffer time																				
	Seconds				Minutes													Hours			
Power	0.2	0.4	2	8	2	3	5	6	7	8	9	10	20	30	40	45	50	1	2	3	5	8
15 W																						
35 W																						
55 W																						
90 W																						1+1
→ 125 W																						1+1
180 W																					1+1	
275 W																			1+1	1+1		
400 W																			1+1			

1+1 … Two power storage devices of the same capacity are required in this case.
The data is based on an ambient temperature of 20°C.

DC UPS modules

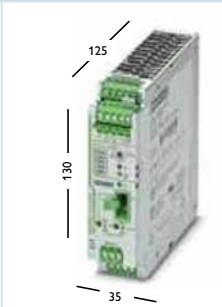
Dual output



24 V / 5 A

QUINT-UPS/ 24DC/24DC/5
2320212

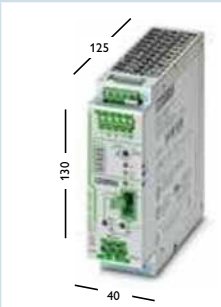
Recommended:
UPS-CAP
UPS-BAT/VRLA-WTR
UPS-BAT/LI-ION



24 V / 10 A

QUINT-UPS/ 24DC/24DC/10
2320225

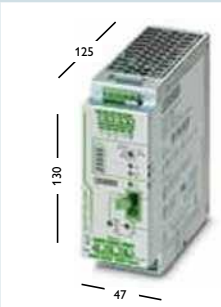
Recommended:
UPS-CAP
UPS-BAT/VRLA-WTR
UPS-BAT/LI-ION



24 V / 20 A

QUINT-UPS/ 24DC/24DC/20
2320238

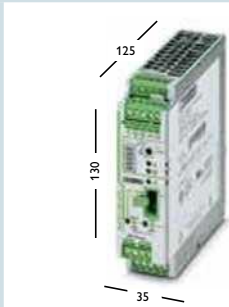
Recommended:
UPS-CAP 20 A
UPS-BAT/VRLA-WTR
UPS-BAT/LI-ION



24 V / 40 A

QUINT-UPS/ 24DC/24DC/40
2320241

Recommended:
UPS-BAT/VRLA-WTR



12 V / 5 A, 24 V / 10 A

QUINT-UPS/ 24DC/12DC/5/24DC/10
2320461

Recommended:
UPS-CAP
UPS-BAT/VRLA-WTR
UPS-BAT/LI-ION

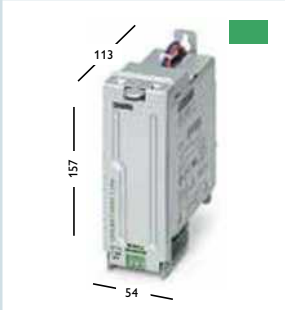
AC UPS module

400 W / 500 VA

QUINT-UPS/ 1AC/1AC/500VA
2320270

Recommended:
UPS-CAP 20 A
UPS-BAT/VRLA-WTR
UPS-BAT/LI-ION

UPS-BAT/VRLA power storage devices



1.3 Ah

UPS-BAT/ VRLA/24DC/1.3AH
2320296

3.4 Ah

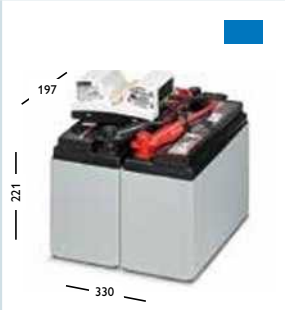
UPS-BAT/ VRLA/24DC/3.4AH
2320306

7.2 Ah

UPS-BAT/ VRLA/24DC/7.2AH
2320319

12 Ah

UPS-BAT/ VRLA/24DC/12AH
2320322



38 Ah

UPS-BAT/ VRLA/24DC/38AH
2320335

QUINT UPS
Signaling and configuration

Monitor and configure your UPS system using the UPS-CONF configuration and management software.

For quick startup, important information is provided in the poster-sized brief instructions. Pictures and screenshots aid hardware and software installation and help explain the method of operation of UPS-CONF.

The quick start guide is available free of charge on the Phoenix Contact website under “Downloads” for the QUINT UPS products.

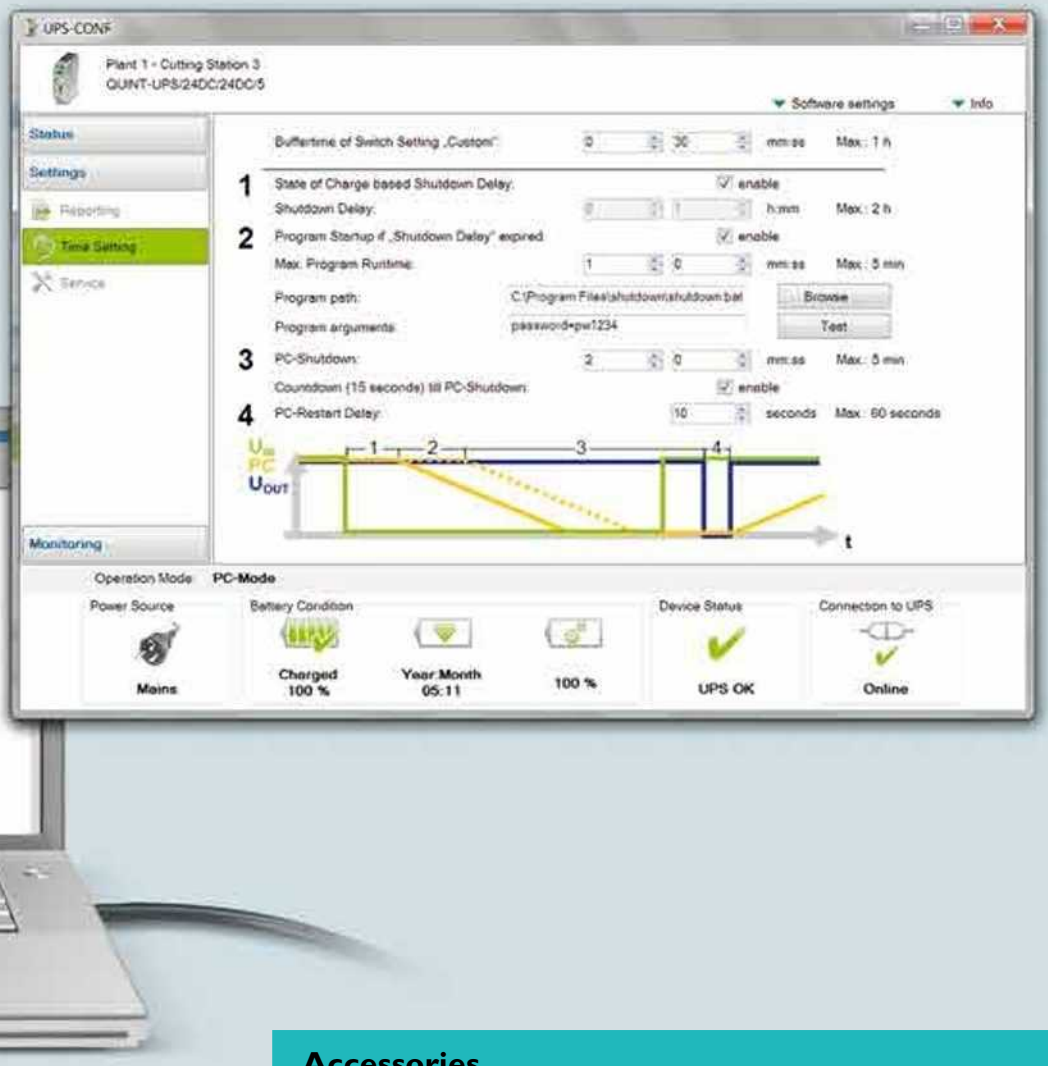
Signaling via contacts

LEDs and floating relay contacts provide function monitoring. QUINT UPS-IQ supplies the following information via the wired contacts:

- The load is being supplied by the power storage
- The power storage is being charged
- An alarm is present

USB interface is ideal for:

- Monitoring and configuration with UPS-CONF
- Safe shutdown of industrial PCs with optimum utilization of the power storage



Configurable

- Flexible adaptation of QUINT UPS behavior to individual requirements

Preventative function monitoring

- All relevant operating parameters are displayed graphically
- Important messages appear in the foreground

Integrated data recorder

- Log file archives events, e.g., when and for how long QUINT UPS has bridged mains failures

Accessories

Software

UPS-CONF
2320403

- Available free of charge on the Phoenix Contact website under "Downloads" for the QUINT-UPS/... products

USB data cable

IFS-USB-DATACABLE
2320500

- For communication between UPS module and UPS-CONF
- Length: 3 m

Memory module

IFS-CONFSTICK
2986122

- For saving and transferring configured values to other QUINT UPS

Memory module

IFS-CONFSTICK-L
2901103

- For saving and transferring configured values to other QUINT UPS

QUINT UPS Communication

Use the available data cables to integrate the UPS module into your application. You can therefore benefit from all the advantages of IQ technology and be kept informed of the state of your UPS solution.

The information provided by QUINT UPS can, for example, be forwarded to higher-level controllers via Ethernet or be implemented directly in control solutions from Phoenix Contact.

The IFS-MINI-DIN DATACABLE is suitable for direct communication with the 100 series higher-level ILC (Inline controller).

Accessories

RS-232 data cable

IFS-RS232-DATACABLE
2320490

- Modbus communication with RS-232 interface
- COM server from Phoenix Contact for Ethernet communication
- Address higher-level controllers such as Inline controllers (ILCs) or Remote Field Controllers (RFCs) directly
- Use the Inline controller from Phoenix Contact as a gateway and access other communication protocols
- Length: 2 m

Open end data cable

IFS-OPEN-END-DATACABLE
2320450

- Open cable for flexible communication
- Length: 2 m

MINI DIN data cable

IFS-MINI-DIN-DATACABLE
2320487

- Direct communication with the Inline controller (ILC) from the Phoenix Contact Inline system (100 series)
- Length: 2 m

Do you use PC Worx software?
Then use the library with function blocks for the further processing of information communicated via data cables. It is available free of charge on the Phoenix Contact website under “Downloads” for the QUINT-UPS/... products.

UPS modules with integrated power storage

Particularly space saving and easy to retrofit, the UPS module and power storage are combined in the same housing. It's just a case of connecting a power supply upstream and the reliable UPS solution is complete.

Power supply **UPS module** **Power storage**

UNO UPS

Input: 1-phase, 23 ... 30 V DC

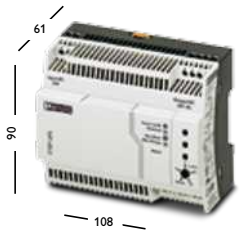
24 V / 60 W

UNO-UPS/24DC/24DC/60
2905907

- Power storage with lead AGM technology

STEP UPS

Input: 1-phase,
24 V: 22.5 ... 29.5 V DC,
12 V: 10 ... 16.5 V DC



24 DC / 24 DC / 3 A

STEP-UPS/24DC/24DC/3
2868703

12 DC / 12 DC / 4 A 2x

STEP-UPS/12DC/12DC/4
2868693

- LiPo-based power storage

QUINT UPS

IQ TECHNOLOGY SFB TECHNOLOGY

Input: 1-phase, 18 ... 30 V DC

24 DC / 5 A / 1.3 Ah

QUINT-UPS/24DC/24DC/5/1.3AH
2320254

24 DC / 10 A / 3.4 Ah

QUINT-UPS/24DC/24DC/10/3.4AH
2320267

- Power storage with lead AGM technology
- Integrated temperature sensor optimizes load currents and increases the service life
- Function monitoring via LED and floating relay contact

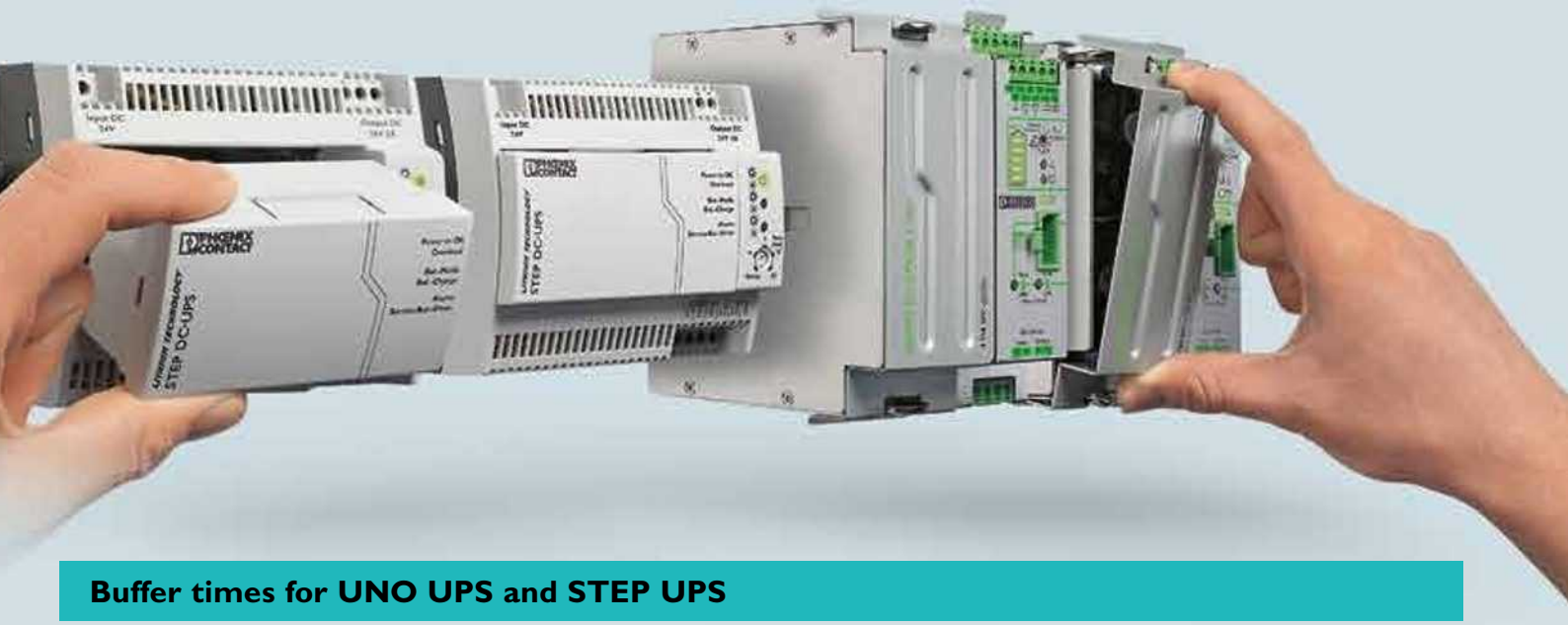
QUINT BUFFER

Input: 1-phase, 18 ... 30 V DC

24 V / 40 A

QUINT-BUFFER/24DC/24DC/40
2320393

- Capacitor-based power storage
- Maintenance-free



Buffer times for UNO UPS and STEP UPS

Select your UNO UPS here.

Load current	Buffer time: Seconds 0.2	0.4	1	2	8	16	30	Minutes 1	2	3	5	6	7	8	9	10	20	30	40	45
0.5 A																				
1 A																				
1.5 A																				
2 A																				
2.5 A																				

Select your STEP UPS here.
With the 12 V version, buffer times are double those of the 24 V version.

Load current	Buffer time: Seconds 0.2	0.4	1	2	8	16	30	Minutes 1	2	3	5	6	7	8	9	10	15	20	25	30	40	45	50	Hours 1	2	3
0.5 A																										
1 A																										
2 A																										
3 A																										

Buffer times for QUINT UPS and QUINT BUFFER

Select your UPS solution here.
Example: 5 A needs to be buffered for 20 minutes

→ ▭

→ QUINT-UPS/24DC/24DC/10A/3.4AH

Load current	Buffer time: Seconds 0.2	0.4	1	2	8	16	30	Minutes 1	2	3	5	6	7	8	9	10	15	20	25	30	40	45	50	Hours 1	2	3
0.5 A																										
1 A																										
2 A																										
3 A																										
5 A																										
7 A																										
10 A																										
15 A																										
20 A																										
25 A																										
30 A																										
35 A																										
40 A																										

UPS modules with integrated power supply

The UPS module and power supply are combined in the same housing in a particularly space-saving way. Only one power storage is required to complete the UPS system.

MINI UPS

Power storage devices with lead AGM technology enable buffer times of up to 40 minutes under nominal load for output voltages of 24 or 12 V DC.

TRIO UPS

Power storage devices with lead AGM technology buffer failures lasting up to 2 hours with 5 A load current.

Power supply **UPS module** Power storage

MINI UPS + ...

Input: 1-phase,
85 ... 264 V AC, 100 ... 350 V DC

MINI-DC-UPS/24DC/2
2866640

Output: 24 V DC / 2 A

MINI-DC-UPS/12DC/4
2866598

Output: 12 V DC / 4 A

TRIO UPS + ...

Input: 1-phase,
85 ... 264 V AC, 100 ... 350 V DC

TRIO-UPS/1AC/24DC/5
2866611

Accessories

UPS-CONF
2320403
Configuration software available for free on the Phoenix Contact website under "Downloads" for the TRIO UPS product

IFS-USB-DATACABLE
2320500
Data cable for communication between UPS-CONF and TRIO UPS

Memory modules
2986122 / 2901103
Memory module for saving and transferring configured values to other TRIO UPS

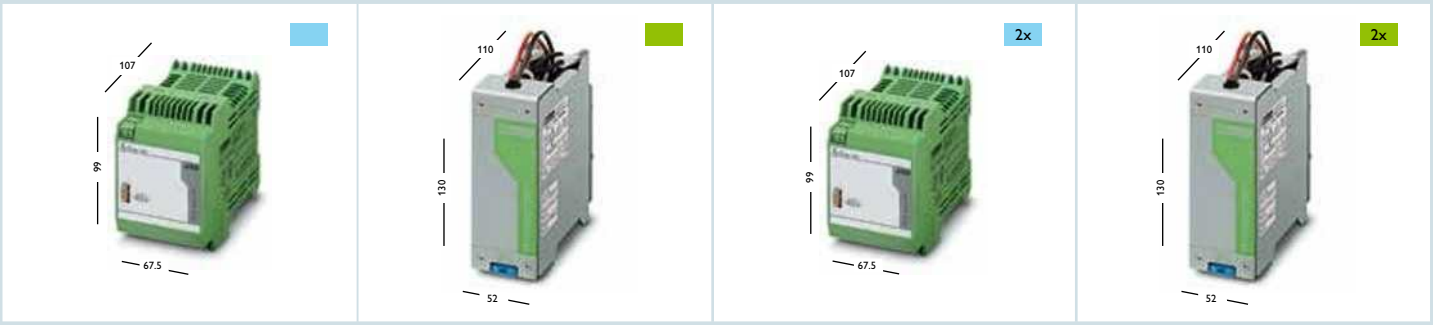
Buffer times for MINI UPS and TRIO UPS

Select your **MINI-BAT** for MINI UPS and **QUINT-BAT** for TRIO UPS here.
Example: 2 A needs to be buffered for 20 minutes

→ ▭
→ MINI-DC-UPS/24DC/2 and MINI-BAT/24DC/1.3AH

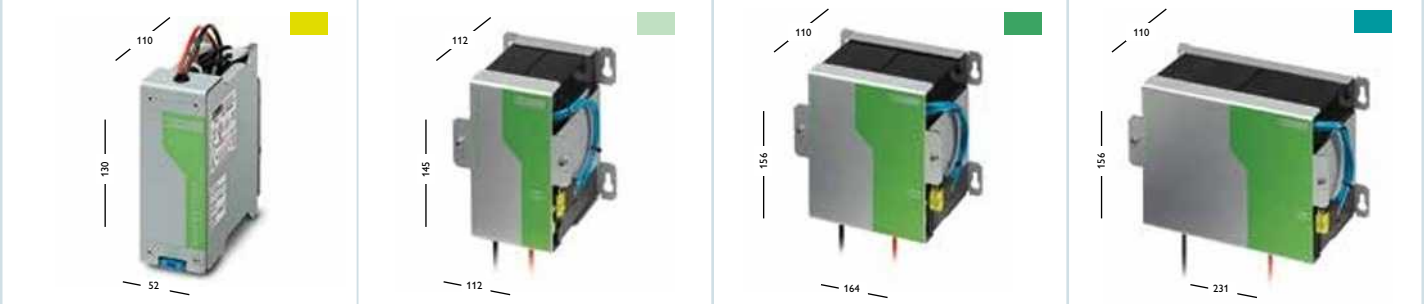
Load current	Minutes													Hours		
	2	3	5	6	7	8	9	10	20	30	40	45	50	1	2	3
0.5 A																
1 A																
1.5 A																
2 A																
3 A																
4 A																
5 A																

... MINI-BAT for MINI UPS



24 V DC / 0.8 Ah	24 V DC / 1.3 Ah	12 V DC / 1.6 Ah	12 V DC / 2.6 Ah
MINI-BAT/24DC/0.8AH	**MINI-BAT/24DC/1.3AH**	**MINI-BAT/12DC/1.6AH**	**MINI-BAT/12DC/2.6AH**
2866666	2866417	2866572	2866569

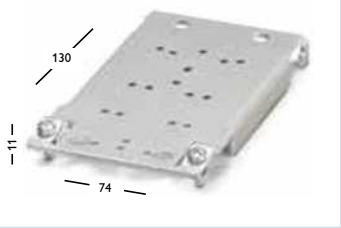
... QUINT-BAT for TRIO UPS



24 V / 1.3 Ah	24 V / 3.4 Ah	24 V / 7.2 Ah	12 Ah
MINI-BAT/24DC/1.3AH	**QUINT-BAT/24DC/3.4AH**	**QUINT-BAT/24DC/7.2AH**	**QUINT-BAT/24DC/12AH**
2866417	2866349	2866352	2866365

Accessories for power supplies

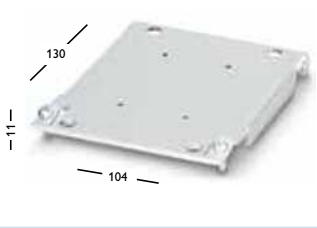
Mounting on S7-300 rail



QUINT-PS adapter S7/1

2938196

For: QUINT-PS/1AC/24DC/3.5, QUINT-PS/1AC/24DC/5, QUINT-PS/3AC/24DC/5

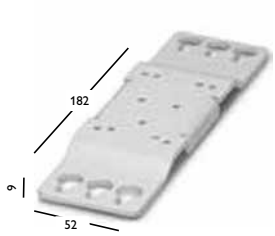


QUINT-PS adapter S7/2

2938206

For: QUINT-PS/1AC/24DC/10, QUINT-PS/3AC/24DC/10, QUINT-PS/3AC/24DC/20

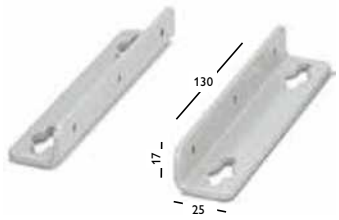
Mounting on level surfaces



Adapter UWA 182/52

2938235

For TRIO-PS from 10 A, QUINT-PS, QUINT-DC-UPS, QUINT-BUFFER



Adapter UWA 130

2901664

For QUINT-PS/1AC/24DC/40, QUINT-UPS/1AC/1AC/500VA

Accessories for uninterruptible power supplies

Power storage mounting

BATTERY MOUNTING KIT

2320788

For: UPS-BAT/VRLA/24DC/38AH, UPS-BAT/VRLA-WTR/24DC/13AH, UPS-BAT/VRLA-WTR/24DC/26AH

BATTERY MOUNTING CASE

2320458

For: UPS-BAT/VRLA/24DC/38AH, UPS-BAT/VRLA-WTR/24DC/13AH, UPS-BAT/VRLA-WTR/24DC/26AH

Fuses for power storage

SI FORM C 15 A DIN 72581

0913676

SI FORM C 25 A DIN 72581

0913757

- Flat-type plug-in fuse
- 15 A and 25 A nominal current

Ethernet communication

FL COMSERVER UNI 232/422/485

2313452

- Integration of serial RS-232, RS-422, and RS-485 interfaces
- For machine and system access via Ethernet network

ILC 130 ETH

2988803

Inline compact controller with Ethernet interface for coupling to other controllers and systems

Approvals

			UL						CSA		Ship							EX									
	Order No.	CE	UL Listed UL 508	UL/C-UL Listed UL 508	UL/C-UL Recognized UL 60950	UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D	UL 1310 NEC Class 2	CSA 22.2 No 107.1-01	CSA 22.2 No 60950-1-07	GL - Germanischer Lloyd	ABS - American Bureau of Shipping	BV - Bureau Veritas	LR - Lloyd's Register	NK - Nippon Kaiji Kyokai	DNV - Det Norske Veritas	RINA	ATEX	IEC Ex	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601	Railway standard EN 50155, 50121-4	EAC	Startup at -40° C	Installation height
QUINT POWER power supplies																											
QUINT-PS/1AC/24DC/3.5	2866747	•	•		•	•		•	•	•	•	•	•	•		•			•	•	•	•		•		c
QUINT-PS/1AC/24DC/5	2866750	•	•		•	•		•	•	•	•	•	•	•	•	•			•	•	•	•		•	•	d
QUINT-PS/1AC/24DC/10	2866763	•	•		•	•		•	•	•	•	•	•	•	•	•			•	•	•	•		•	•	c
QUINT-PS/1AC/24DC/20	2866776	•	•		•	•		•	•	•	•	•	•	•	•	•				•	•	•		•	•	d
QUINT-PS/1AC/24DC/40	2866789	•	•		•	•		•	•	•	•	•	•	•	•	•				•	•			•	•	b
QUINT-PS/1AC/12DC/15	2866718	•	•		•	•		•	•			•								•	•	•		•	•	c
QUINT-PS/1AC/12DC/20	2866721	•	•		•	•		•	•			•								•	•	•		•	•	d
QUINT-PS/1AC/48DC/5	2866679	•	•		•	•		•	•			•								•	•	•		•	•	c
QUINT-PS/1AC/48DC/10	2866682	•	•		•	•		•	•											•	•	•		•	•	d
QUINT-PS/1AC/48DC/20	2866695	•	•		•	•		•	•	•											•			•	•	d
QUINT-PS/3AC/24DC/5	2866734	•	•		•	•		•	•	•	•	•	•	•		•				•	•			•	•	c
QUINT-PS/3AC/24DC/10	2866705	•	•		•	•		•	•	•	•	•	•	•	•	•				•	•			•	•	b
QUINT-PS/3AC/24DC/20	2866792	•	•		•	•		•	•	•	•	•	•	•	•	•				•	•			•	•	c
QUINT-PS/3AC/24DC/40	2866802	•	•		•	•		•	•	•	•	•	•	•	•	•				•	•			•	•	b
QUINT-PS/3AC/48DC/20	2320827	•	•		•	•		•	•												•			•	•	b
QUINT-PS/1AC/24DC/5/CO	2320908	•	•		•	•		•	•	•							•	•	•	•	•	•	•	•	•	d
QUINT-PS/1AC/24DC/10/CO	2320911	•	•		•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	c
QUINT-PS/1AC/24DC/20/CO	2320898	•	•		•	•		•	•	•							•	•	•	•	•	•	•	•	•	d
QUINT-PS/3AC/24DC/20/CO	2320924	•	•		•	•		•	•	•										•	•		•	•	•	c
TRIO POWER power supplies																											
TRIO-PS-2G/1AC/24DC/3C2LPS	2902147	•		•	•		•																	•		
TRIO-PS-2G/1AC/24DC/5	2903148	•		•	•																			•		
TRIO-PS-2G/1AC/24DC/10	2903149	•		•	•																			•	•	
TRIO-PS-2G/1AC/24DC/20	2903151	•		•	•																			•	•	d
TRIO-PS/1AC/12DC/5	2866475	•		•	•																			•		d
TRIO-PS/1AC/12DC/10	2866488	•		•	•																			•		d
TRIO-PS/1AC/48DC/5	2866491	•		•	•																			•		a
TRIO-PS/1AC/48DC/10	2866501	•		•	•																			•		b
TRIO-PS-2G/3AC/24DC/5	2903148	•		•	•																			•		
TRIO-PS-2G/3AC/24DC/10	2903148	•		•	•																			•	•	
TRIO-PS-2G/3AC/24DC/20	2903148	•		•	•																			•	•	
TRIO-PS/3AC/24DC/40	2866404	•		•	•																			•		b

			UL						CSA		Ship								EX											
	Order No.	CE	UL Listed UL 508	UL/C-UL Listed UL 508	UL/C-UL Recognized UL 60950	UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D	UL 1310 NEC Class 2	CSA 22.2 No 107.1-01	CSA 22.2 No 60950-1-07	GL - Germanischer Lloyd	ABS - American Bureau of Shipping	BV - Bureau Veritas	LR - Lloyd's Register	NK - Nippon Kaiji Kyokai	DNV - Det Norske Veritas	RINA	ATEX	IEC Ex	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601	Railway standard EN 50155, 50121-4	EAC	Startup at -40°C	Installation height
MINI POWER power supplies																														
MINI-PS-100-240AC/24DC/1.3	2866446	•		•	•	•	•																	•		d
MINI-SYS-PS-100-240AC/24DC/1.5	2866983	•		•	•	•																		•		a
MINI-SYS-PS-100-240AC/24DC/1.5/EX	2866653	•		•	•												•							•		a
MINI-PS-100-240AC/24DC/2	2938730	•		•	•	•	•																	•		b
MINI-PS-100-240AC/24DC/C2LPS	2866336	•		•	•	•	•																	•		a
MINI-PS-100-240AC/24DC/4	2938837	•		•	•	•																		•		a
MINI-PS-100-240AC/5DC/3	2938714	•		•	•	•																		•		b
MINI-PS-100-240AC/10-15DC/2	2938756	•		•	•	•																		•		d
MINI-PS-100-240AC/10-15DC/8	2866297	•		•	•	•																		•		a
MINI-PS-100-240AC/2x15DC/1	2938743	•		•	•	•	•																	•		b
UNO POWER power supplies																														
UNO-PS/1AC/24DC/30W	2902991	•		•	•		•														•			•		a
UNO-PS/1AC/24DC/60W	2902992	•		•	•	•	•														•			•	•	d
UNO-PS/1AC/24DC/90W/C2LPS	2902994	•		•	•		•														•			•		a
UNO-PS/1AC/24DC/100W	2902993	•		•	•																•			•		a
UNO-PS/1AC/24DC/150W	2904376	•		•	•																•			•		c
UNO-PS/1AC/24DC/240W	2904372	•		•	•																•			•		a
UNO-PS/1AC/5DC/25W	2904374	•		•	•		•														•			•		b
UNO-PS/1AC/5DC/40W	2904375	•		•	•	•															•			•		a
UNO-PS/1AC/12DC/30W	2902998	•		•	•																•			•		a
UNO-PS/1AC/12DC/55W	2902999	•		•	•	•															•			•		d
UNO-PS/1AC/12DC/100W	2902997	•		•	•																•			•		c
UNO-PS/1AC/15DC/30W	2903000	•		•	•		•														•			•		a
UNO-PS/1AC/15DC/55W	2903001	•		•	•	•															•			•		d
UNO-PS/1AC/15DC/100W	2903002	•		•	•																•			•		d
UNO-PS/1AC/48DC/60W	2902995	•		•	•	•	•														•			•		d
UNO-PS/1AC/48DC/100W	2902996	•		•	•																•			•		c
UNO-PS/2AC/24DC/90W/C2LPS	2904371	•		•	•		•														•			•		b

a) Max. 3000 m
b) Max. 4000 m
c) Max. 5000 m
d) Max. 6000 m
e) Max. 2000 m

All products receive further approvals on a continual basis. For up-to-date information, please refer to the Phoenix Contact website under "Downloads" for the relevant products.

		UL						CSA		Ship							EX										
	Order No.	CE	UL Listed UL 508	UL/C-UL Listed UL 508	UL/C-UL Recognized UL 60950	UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D	UL 1310 NEC Class 2	CSA 22.2 No 107.1-01	CSA 22.2 No 60950-1-07	GL - Germanischer Lloyd	ABS - American Bureau of Shipping	BV - Bureau Veritas	LR - Lloyd's Register	NK - Nippon Kaiji Kyokai	DNV - Det Norske Veritas	RINA	ATEX	IEC Ex	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601	Railway standard EN 50155, 50121-4	EAC	Startup at -40°C	Installation height
STEP POWER power supplies																											
STEP-PS/48AC/24DC/0.5	2868716	•		•	•		•														•			•	•	b
STEP-PS/1AC/24DC/0.5	2868596	•		•	•	•	•														•			•	•	b
STEP-PS/1AC/24DC/0.75FL	2868622	•		•	•	•	•			•				•							•	•		•	•	c
STEP-PS/1AC/24DC/0.75	2868635	•		•	•	•	•			•	•	•	•	•	•	•					•	•		•	•	c
STEP-PS/1AC/24DC/1.75	2868648	•		•	•	•	•			•	•			•							•			•	•	c
STEP-PS/1AC/24DC/2.5	2868651	•		•	•	•	•			•	•	•	•	•	•	•					•			•	•	a
STEP-PS/1AC/24DC/3.8/C2LPS	2868677	•		•	•	•	•			•									•		•			•	•	d
STEP-PS/1AC/24DC/4.2	2868664	•		•	•	•				•	•			•							•			•	•	d
STEP-PS/277AC/24DC/3.5	2904945	•		•	•		•																	•		
STEP-PS/1AC/5DC/2	2320513	•		•	•		•														•			•		b
STEP-PS/1AC/5DC/6.5	2868541	•		•	•	•				•	•			•							•			•	•	d
STEP-PS/1AC/15DC/4	2868619	•		•	•	•				•	•			•							•			•	•	c
STEP-PS/1AC/48DC/2	2868680	•		•	•	•				•	•			•							•			•	•	d
STEP-PS/1AC/12DC/1	2868538	•		•	•	•	•														•			•	•	b
STEP-PS/1AC/12DC/1.5FL	2868554	•		•	•	•	•			•				•							•	•		•	•	c
STEP-PS/1AC/12DC/1.5	2868567	•		•	•	•	•			•	•			•							•	•		•	•	c
STEP-PS/1AC/12DC/3	2868570	•		•	•	•	•			•	•			•							•			•	•	c
STEP-PS/1AC/12DC/5	2868583	•		•	•	•				•	•			•							•			•	•	d

		UL						CSA		Ship							EX									
	Order No.	CE	UL Listed UL 508	UL/CUL Listed UL 508	UL/CUL Recognized UL 60950	UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D	UL 1310 NEC Class 2	CSA 22.2 No 107.1-01	CSA 22.2 No 60950-1-07	GL - Germanischer Lloyd	ABS - American Bureau of Shipping	BV - Bureau Veritas	LR - Lloyd's Register	NK - Nippon Kaiji Kyokai	DNV - Det Norske Veritas	RINA	ATEX	IEC Ex	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601	Type tested	EAC	Startup at -40°C
Redundancy modules																										
QUINT-ORING/24DC/2x10/1x20	2320173	•		•	•	•				•	•	•	•	•	•	•	•	•						•	•
QUINT-ORING/24DC/2x20/1x40	2320186	•		•	•	•				•	•	•	•	•	•	•	•	•						•	•
QUINT-ORING/24DC/2x40/1x80	2902879	•		•	•	•				•						•								•	•
QUINT-DIODE/24DC/2x20A	2320157	•		•	•	•				•	•	•	•	•	•	•	•	•						•	•
QUINT-DIODE/48DC/2x20A	2320160	•		•	•	•											•	•						•	•
TRIO-DIODE/12-24DC/2x10/1x20	2866514	•		•	•					•	•	•	•	•	•	•	•	•						•	•
TRIO-DIODE/48DC/2x10/1x20	2866527	•		•	•																			•	•
STEP-DIODE/5-24DC/2x5/1x10	2868606	•		•	•																			•	•
UNO-DIODE/5-24DC/2x10/1x20	2905489	•		•	•																			•	•

			UL						CSA		Ship							EX										
	Order No.	CE	UL Listed UL 508	UL/CUL Listed UL 508	UL/CUL Recognized UL 60950	UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D	UL 1310 NEC Class 2	CSA 22.2 No 107.1-01	CSA 22.2 No 60950-1-07	GL - Germanischer Lloyd	ABS - American Bureau of Shipping	BV - Bureau Veritas	LR - Lloyd's Register	NK - Nippon Kaiji Kyokai	DNV - Det Norske Veritas	RINA	ATEX	IEC Ex	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601	Railway standard EN 50155	EAC	EN 50155	EN 50121	Startup at -40°C	Installation height
DC/DC converters																												
QUINT-PS/24DC/24DC/5	2320034	•		•	•	•				•	•	•	•	•	•	•					•			•		•	•	d
QUINT-PS/24DC/24DC/10	2320092	•		•	•	•				•	•	•	•	•	•	•					•			•		•	•	d
QUINT-PS/24DC/24DC/20	2320102	•		•	•	•				•			•	•		•					•			•		•	•	d
QUINT-PS/24DC/12DC/8	2320115	•		•	•	•				•	•	•	•	•	•	•					•			•		•	•	d
QUINT-PS/24DC/48DC/5	2320128	•		•	•	•				•	•	•	•	•	•	•					•			•		•	•	d
QUINT-PS/12DC/24DC/5	2320131	•		•	•	•				•			•	•		•					•			•		•	•	d
QUINT-PS/12DC/12DC/8	2905007	•		•	•																			•			•	d
QUINT-PS/48DC/24DC/5	2320144	•		•	•	•				•			•	•		•					•			•		•	•	d
QUINT-PS/48DC/48DC/5	2905008	•		•	•																			•			•	d
QUINT-PS/60-72DC/24DC/10	2905009	•		•	•																			•			•	d
QUINT-PS/96-110DC/24DC/10	2905010	•		•	•																			•			•	d
QUINT-PS/24DC/24DC/5/CO	2320542	•		•	•	•				•			•	•		•	•				•		•	•	•	•	•	d
QUINT-PS/24DC/24DC/10/CO	2320555	•		•	•	•				•			•	•		•	•	•			•		•	•	•	•	•	d
QUINT-PS/24DC/24DC/20/CO	2320568	•		•	•	•				•			•	•		•	•	•			•		•	•	•	•	•	d
QUINT-PS/60-72DC/24DC/10/CO	2905011	•		•	•																			•			•	d
QUINT-PS/96-110DC/24DC/10/CO	2905012	•		•	•																			•			•	d
MINI-PS-12-24DC/24DC/1	2866284	•		•	•	•				•														•		•		d
MINI-PS-12-24DC/5-15DC/2	2320018	•		•	•	•				•														•		•		d
MINI-PS-12-24DC/48DC/0.7	2320021	•		•	•	•				•														•		•		d
MINI-PS-48-60DC/24DC/1	2866271	•		•	•	•																		•		•		d
MINI-PS/10-42AC/15-60DC/3	2320199	•		•	•																•			•				

			UL						CSA		Ship							EX										
	Order No.	CE	UL Listed UL 508	UL/CUL Listed UL 508	UL/CUL Recognized UL 60950	UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D	UL 1310 NEC Class 2	CSA 22.2 No 107.1-01	CSA 22.2 No 60950-1-07	GL - Germanischer Lloyd	ABS - American Bureau of Shipping	BV - Bureau Veritas	LR - Lloyd's Register	NK - Nippon Kaiji Kyokai	DNV - Det Norske Veritas	RINA	ATEX	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601	Railway standard EN 50155	EAC	EN 50155	EN 50121	Startup at -40°C	Installation height
Power supplies for frequency inverters																												
QUINT-PS/2AC/1DC/24DC/20	2320830	•		•	•																							
TRIO-PS/600DC/24DC/20	2866530	•		•	•																			•				

			UL							CSA		Ship								EX								
	Order No.	CE	UL Listed UL 508	UL/CUL Listed UL 508	UL/CUL Recognized UL 60950	UL 1778	UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D	UL 1310 NEC Class 2	CSA 22.2 No 107.1-01	CSA 22.2 No 60950-1-07	GL - Germanischer Lloyd	ABS - American Bureau of Shipping	BV - Bureau Veritas	LR - Lloyd's Register	NK - Nippon Kaiji Kyokai	DNV - Det Norske Veritas	RINA	ATEX	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601	EAC	Startup at -40°C	Installation height
Uninterruptible power supplies																												
QUINT-UPS/24DC/24DC/5	2320212	•		•	•		•				•												•		d
QUINT-UPS/24DC/24DC/10	2320225	•		•	•		•				•												•		d
QUINT-UPS/24DC/24DC/20	2320238	•		•	•		•				•												•		d
QUINT-UPS/24DC/24DC/40	2320241	•		•	•		•				•												•		d
QUINT-UPS/24DC/12DC/5/24DC/10	2320461	•		•	•																				e
QUINT-UPS/24DC/24DC/5/1.3AH	2320254	•		•	•		•																•		d
QUINT-UPS/24DC/24DC/10/3.4AH	2320267	•		•	•		•																•		d
QUINT-UPS/1AC/1AC/500VA	2320270	•			•	•																	•		e
QUINT-BUFFER/24DC/40	2320393	•		•	•		•																•		e
UPS-BAT/VRLA/24DC/1.3AH	2320296	•		•	•		•																•		d
UPS-BAT/VRLA/24DC/3.4AH	2320306	•		•	•		•																•		d
UPS-BAT/VRLA/24DC/7.2AH	2320319	•		•	•		•																•		d
UPS-BAT/VRLA/24DC/12AH	2320322	•		•	•		•																•		d
UPS-BAT/VRLA/24DC/38AH	2320335	•		•	•		•				•										•		•		d
UPS-BAT/VRLA-WTR/24DC/13AH	2320416	•		•	•		•														•		•	•	d
UPS-BAT/VRLA-WTR/24DC/26AH	2320429	•		•	•		•														•		•	•	d
UPS-BAT/LI-ION/24DC/120WH	2320351	•		•	•		•																•		d
UPS-CAP/24DC/10A/10KJ	2320377	•		•	•		•																•	•	d
UPS-CAP/24DC/20A/20KJ	2320380	•		•	•		•																•	•	d
STEP-UPS/24DC/24DC/3	2868703	•		•	•																•		•		e
STEP-UPS/12DC/12DC/4	2868693	•		•	•																•		•		e
STEP-BAT/LIPO/18,5DC/1.4AH	2320364	•			•																•		•		e
TRIO-UPS/1AC/24DC/5	2866611	•		•	•						•												•		d
MINI-DC-UPS/24DC/2	2866640	•	•		•		•																•		c
MINI-BAT/24DC/0.8AH	2866666	•					•																•		d
MINI-BAT/24DC/1.3AH	2866417	•					•																•		d
MINI-DC-UPS/12DC/4	2866598	•	•		•		•																•		d
MINI-BAT/12DC/1.6AH	2866572	•					•																•		d
MINI-BAT/12DC/2.6AH	2866569	•					•																•		d

a) Max. 3000 m
b) Max. 4000 m
c) Max. 5000 m
d) Max. 6000 m
e) Max. 2000 m

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Printed in Germany

PS 02-14.000.L3
MNR 52004103/2015-04-01/08

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstraße 8
32825 Blomberg, Germany
Phone: + 49 5235 3-00
Fax: + 49 5235 3-41200
E-mail: info@phoenixcontact.com
phoenixcontact.com

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