



Power Supplies and UPS
**For maximum
system availability**



POWER for maximum system availability

Leading technology and high quality – our **POWER** products ensure your system is always reliably supplied with power.

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

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

Choose from our wide range.





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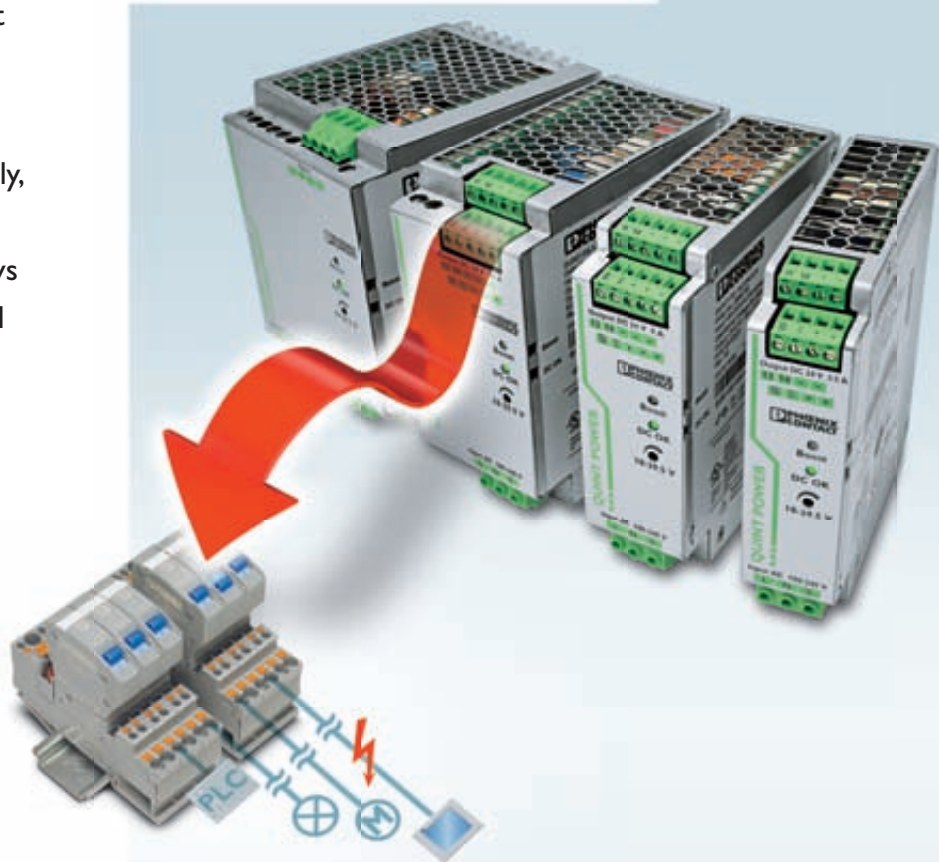
Groundbreaking technology – power supply solutions

The reliable supply of all control cabinet components decides the availability of complex plants and systems.

In their search for the ideal power supply, our engineers are constantly developing new technologies. The final goal is always maximum availability for your plants and systems.

You can profit from the groundbreaking functionalities:

- SFB technology
- ACB technology
- IQ technology



SFB TECHNOLOGY

Power supply units and DC/DC converters

SFB technology (Selective Fuse Breaking):

- 6x 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 8 and onwards.



Redundancy modules

ACB technology (Auto Current Balancing):

- Even distribution of redundant power supply
- Low thermal load of the two power supply units
- Service life of the redundant solution is doubled

For more information, refer to page 26 and onwards.



Uninterruptible power supply units

IQ technology:

- Intelligent battery management
- Optimizes and keeps you informed on the remaining runtime, current state of charge, and the service life of the power storage device
- Optimizes charging characteristic for maximum service life
- Communication in higher-level systems

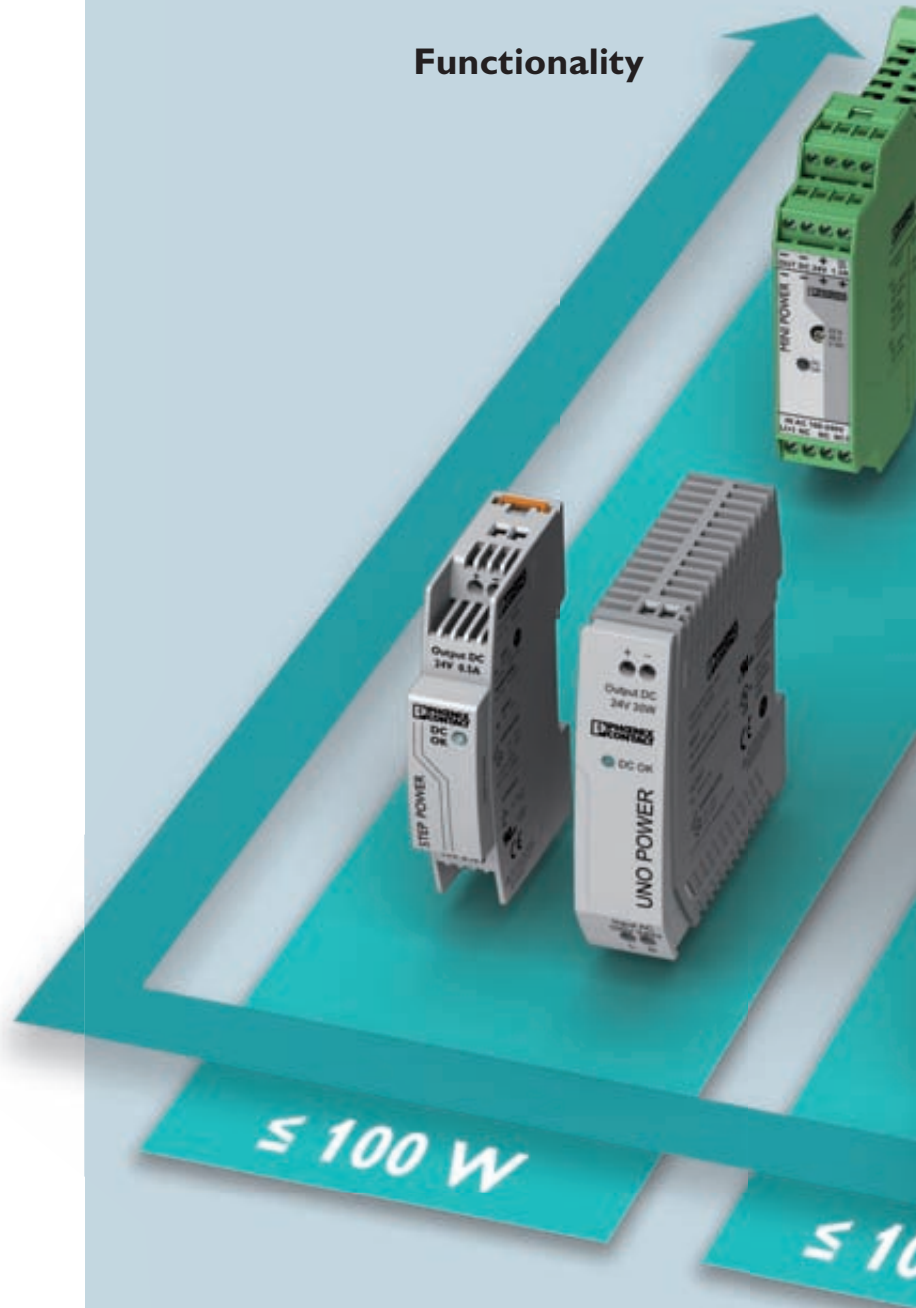
For more information, refer to page 30 and onwards.

Power supply units – a comparison of the advantages

The product ranges QUINT, TRIO, MINI, UNO and STEP differ from one another in terms of design, power, and functionality.

Select the optimal solution according to your needs:

- QUINT POWER
for maximum system availability
- TRIO POWER
basic functionality at the highest level
- MINI POWER
for measurement, control, and regulating technology
- UNO POWER
compact basic functionality
- STEP POWER
for installation distributors





QUINT POWER
TRIO POWER
MINI POWER
UNO POWER
STEP POWER

QUINT POWER	TRIO POWER	MINI POWER	UNO POWER	STEP POWER	
•	•	•	•	•	Worldwide use thanks to the wide-range input and international approval package
•	•	•	•	•	High operational reliability thanks to high MTBF > 500,000 h
•	•	•	•	•	High operational reliability thanks to long mains buffering times > 20 ms
•	•	•	•	•	Can be connected in parallel for increased performance and redundancy
•	•	•	•	•	Simplified startup thanks to LED function monitoring
•	•	•	•	•	Outdoor installation permitted thanks to wide temperature range
•	•	•	•	•	Compensation of voltage drops and charging of rechargeable batteries by means of adjustable output voltage
•	•	•	•	•	Easy-maintenance connection technology thanks to COMBICON plug-in connectors (up to and including 10 A)
•	•	•	•	•	Active function monitoring by means of switching output for remote diagnostics
•	•	•	•	•	Reliable starting of difficult loads with POWER BOOST power reserve
•	•	•	•	•	Error-free operation of three-phase devices even when a phase fails permanently
•	•	•	•	•	Preventive function monitoring indicates critical operating states before errors occur
•	•	•	•	•	Fast tripping of circuit breakers thanks to SFB technology

Power

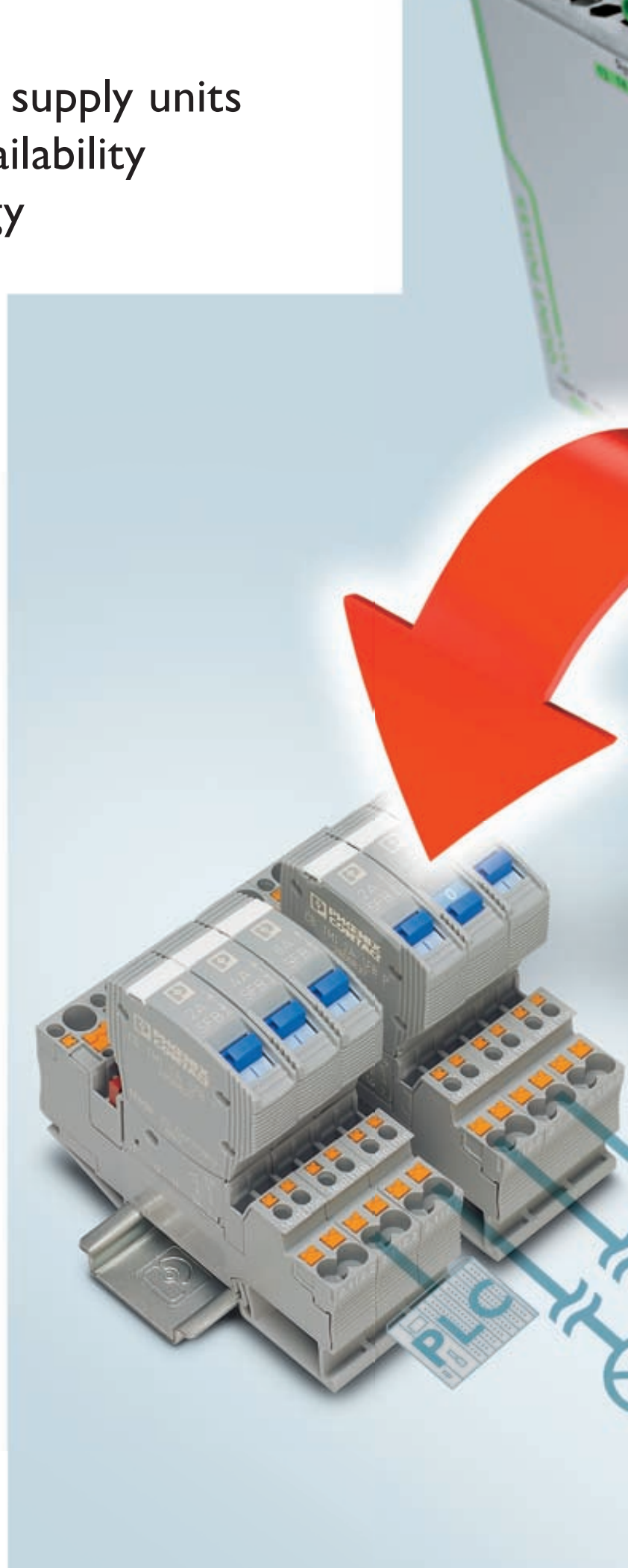
QUINT POWER power supply units for maximum system availability thanks to SFB technology

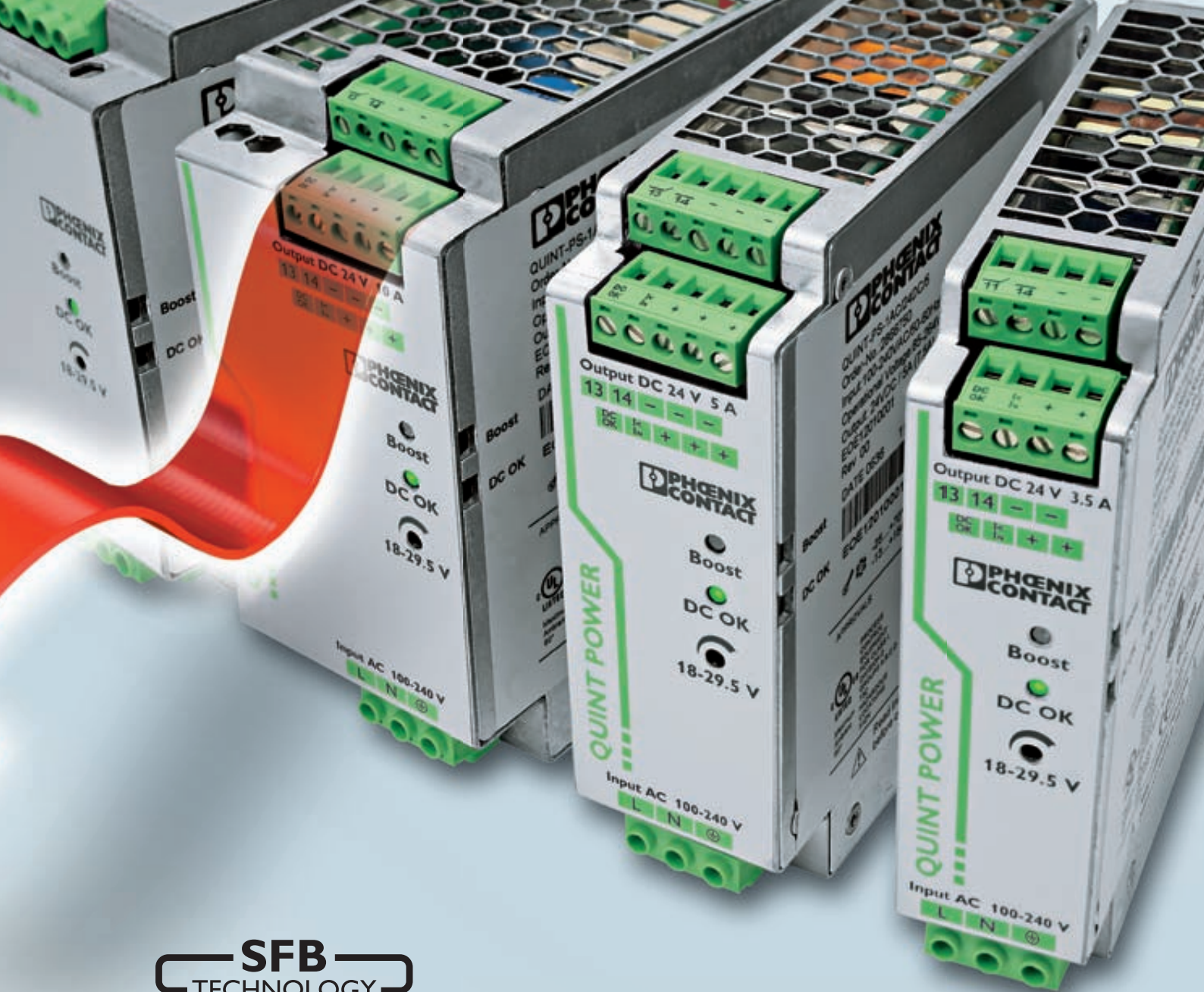
Compact power supply units and DC/DC converters from the QUINT POWER range maximize the availability of your system.

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 maximum system availability.





SFB TECHNOLOGY

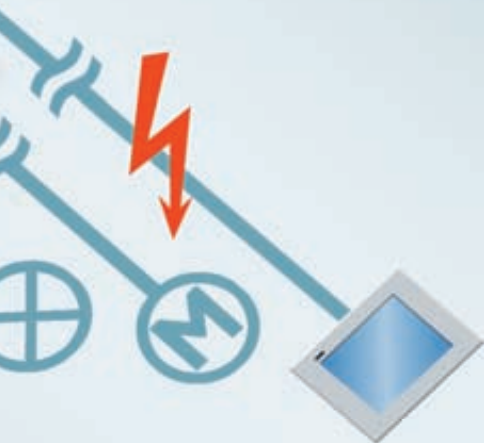
Cost-effective selective fuse protection with SFB technology

In order to trip standard circuit breakers magnetically and quickly, power supply units 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, this 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 by the configuration matrix, which is provided as a free download "Power supply units for highest functionality" from the Phoenix Contact website.

In addition, tailored thermomagnetic circuit breakers, which ensure safe tripping even with extremely long cables, are designed specifically for the SFB technology.



QUINT POWER power supply units for maximum system availability

The unique SFB technology and preventive function monitoring of the QUINT POWER power supply unit 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 dielectric strength of single-phase devices of up to 300 V AC

- **Three-phase devices**

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





Your advantages

Fast tripping of standard circuit breakers

- Dynamic SFB technology power reserve 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

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

Easy-maintenance connection technology

- Coded COMBICON plug-in 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 supply units with output voltages of 12, 24, and 48 V DC

Saves over 50% space in the control cabinet

- Narrow design, e.g. 40 A output current in 96 mm narrow housing





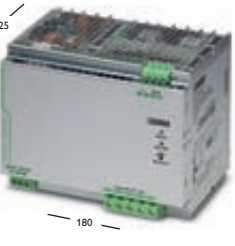
Robust design

- Metal housing and wide temperature range from -25 °C to +70 °C
- Device start at -40 °C (type-tested)

QUINT POWER 1~



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

				
24 V / 3.5 A	24 V / 5 A	24 V / 10 A	24 V / 20 A	24 V / 40 A
QUINT-PS/1AC/24DC/3.5 2866747	QUINT-PS/1AC/24DC/5 2866750	QUINT-PS/1AC/24DC/10 2866763	QUINT-PS/1AC/24DC/20 2866776	QUINT-PS/1AC/24DC/40 2866789
		48 V / 5 A	48 V / 10 A	48 V / 20 A
		QUINT-PS/1AC/48DC/5 2866679	QUINT-PS/1AC/48DC/10 2866682	QUINT-PS/1AC/48DC/20 2866695
		12 V/15 A	12 V/20 A	
		QUINT-PS/1AC/12DC/15 2866718	QUINT-PS/1AC/12DC/20 2866721	

QUINT POWER 3~

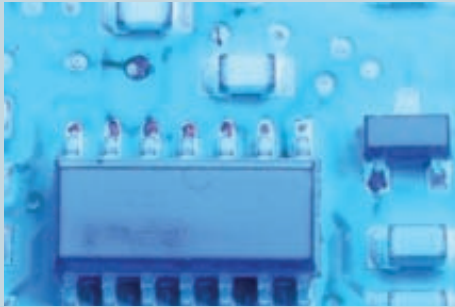


Input: 3-phase, 3 x 320 ... 575 V AC, 450 ... 800 V DC

			
24 V / 5 A	24 V / 10 A	24 V / 20 A	24 V / 40 A
QUINT-PS/3AC/24DC/5 2866734	QUINT-PS/3AC/24DC/10 2866705	QUINT-PS/3AC/24DC/20 2866792	QUINT-PS/3AC/24DC/40 2866802
			48 V / 20 A
			QUINT-PS/3AC/48DC/20 2320827

Dip-coating for extreme conditions

Inaccessible points of the PCB are protected, e.g. wired components or component undersides, and hollow areas (painted areas appear blue).



Dip-coating offers optimum protection in extreme environments like dust, corrosive gases, or 100% humidity.

Only dip-coated modules protect against breakdowns due to creepage currents caused by corrosion and electro-chemical migration.

QUINT POWER, dip-coated



Input: single phase, 85 ... 264 V AC, 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 2320908	QUINT-PS/1AC/24DC/10/CO 2320911	QUINT-PS/1AC/24DC/20/CO 2320898	QUINT-PS/3AC/24DC/20/CO 2320924

QUINT DC/DC converters, dip-coated



Input: single phase, 18 ... 32 V DC

24 V / 24 V / 5 A	24 V / 24 V / 10 A	24 V / 24 V / 20 A
QUINT-PS/24DC/24DC/5/CO 2320542	QUINT-PS/24DC/24DC/10/CO 2320555	QUINT-PS/24DC/24DC/20/CO 2320568

TRIO POWER power supply units – basic functionality at the highest level

TRIO POWER combines basic functionality with high quality and reliability. This makes the power supply units ideal for use in standard machine production.

Your advantages

Robust design

- Metal housing and wide temperature range from -25 °C to +70 °C

Minimize installation costs

- Third negative terminal block for grounding on the secondary side

High operational reliability

- High MTBF > 500,000 h
- High dielectric strength of single-phase devices of up to 300 V AC

Compensation of voltage drops

- Output voltage can be set on the front



TRIO POWER 1~

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



24 V / 2.5 A

TRIO-PS/1AC/24DC/2.5
2866268

12 V / 5 A

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



24 V / 5 A

TRIO-PS/1AC/24DC/5
2866310

12 V / 10 A

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



24 V / 10 A

TRIO-PS/1AC/24DC/10
2866323

48 V / 5 A

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



24 V / 20 A

TRIO-PS/1AC/24DC/20
2866381

48 V / 10 A

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

TRIO POWER 3~

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



24 V / 5 A

TRIO-PS/3AC/24DC/5
2866462



24 V / 10 A

TRIO-PS/3AC/24DC/10
2866459



24 V / 20 A

TRIO-PS/3AC/24DC/20
2866394



24 V / 40 A

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

TRIO for frequency inverters

Input: 450 V DC ... 840 V DC



- Direct connection to the 600 V DC intermediate circuit of a frequency inverter
- Mains failure: 24 V loads continue to be supplied using the kinetic energy of the motor. In this case, the motors act as generators: as long as they are moving, they supply energy to the intermediate circuit.
- Used, for example, for the controlled shutdown of industrial PCs

24 V / 20 A

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

MINI POWER power supply units for measurement and control technology

Modular electronics housing is standard in measurement and control technology. MINI POWER is the ideal power supply unit.

Your advantages

Easy-maintenance connection technology

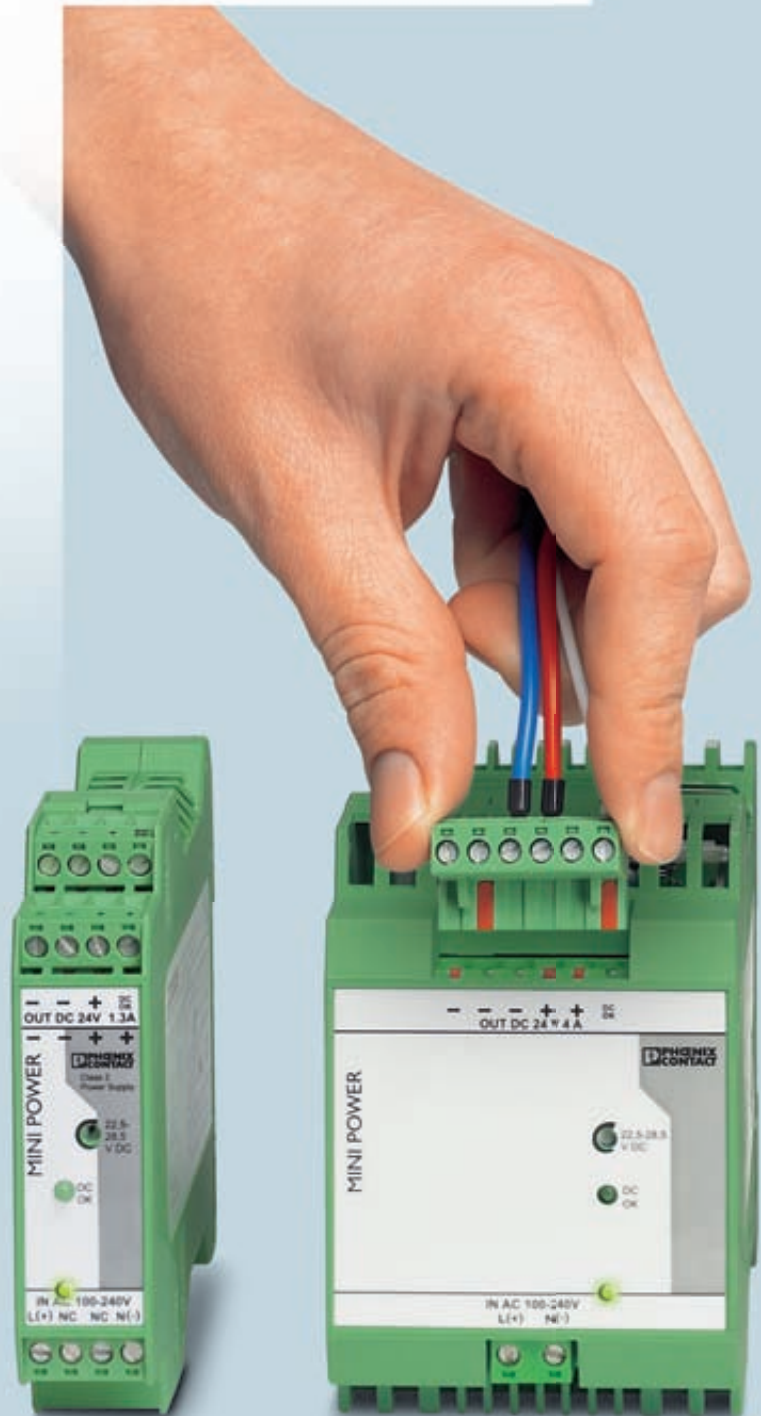
- Coded COMBICON connectors

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: single-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: single-phase, 85 ... 264 V AC, 90 ... 350 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



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 unit
(24 V/1.5 A)

UNO POWER power supply units – Basic functionality compact

Thanks to their high power density, UNO POWER power supply units offer the ideal solution for loads up to 100 W especially in compact control boxes.



Your advantages

Maximum energy efficiency

- With high efficiency of over 90%
- Thanks to particularly low no-load losses below 0.3 W
- Optimum efficiency across the entire workspace

Extremely compact

- More space in the control cabinet with 10 to 20% higher density, e.g. 60 W power in 35 mm narrow housing
- Height of housing, 84 mm, conforming to all usual 120 mm control boxes

Outdoor installation

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

SAVE ENERGY





UNO POWER 1~

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



24 V / 30 W

**UNO-PS/1AC/24DC/30W
2902991**

12 V / 30 W

**UNO-PS/1AC/12DC/30W
2902998**



24 V / 60 W

**UNO-PS/1AC/24DC/60W
2902992**

12 V / 55 W

**UNO-PS/1AC/12DC/55W
2902999**



24 V / 100 W

**UNO-PS/1AC/24DC/100W
2902993**

STEP POWER power supply units for installation distributors

The STEP POWER range of power supply units is the ideal choice for installation distributors and flat control panels. The low idling losses and the high degree of efficiency ensure maximum energy efficiency in its class.

Your advantages

Outdoor installation

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

Reliable supply

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

Flexible mounting

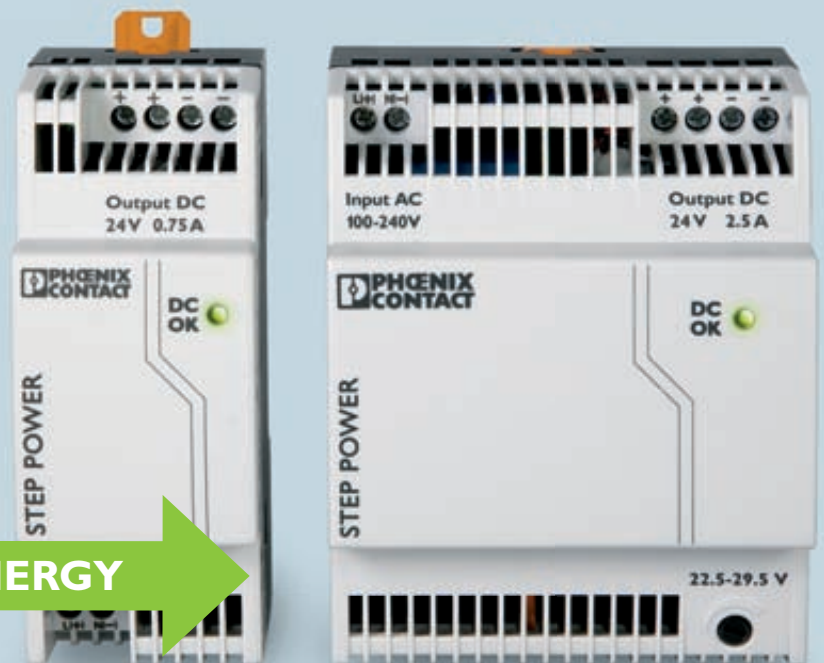
- Snapping onto the DIN rail or screwing onto a level surface

Save energy

- Maximum energy efficiency and incredibly low idling losses



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


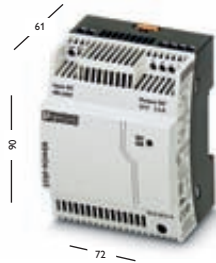



SAVE ENERGY

STEP POWER 1~


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

			
24 V / 0.5 A	24 V / 0.75 A FL	24 V / 0.75 A	24 V / 1.75 A
STEP-PS/1AC/24DC/0.5 2868596	STEP-PS/1AC/24DC/0.75/FL 2868622	STEP-PS/1AC/24DC/0.75 2868635	STEP-PS/1AC/24DC/1.75 2868648
12 V / 1 A	12 V / 1.5 A FL	12 V / 1.5 A	12 V / 3 A
STEP-PS/1AC/12DC/1 2868538	STEP-PS/1AC/12DC/1.5/FL 2868554	STEP-PS/1AC/12DC/1.5 2868567	STEP-PS/1AC/12DC/3 2868570
5 V / 2 A			
STEP-PS/1AC/5DC/2 2320513			

			
24 V / 2.5 A	5 V / 6.5 A	24 V / 4.2 A	24 V / 100 W
STEP-PS/1AC/24DC/2.5 2868651	STEP-PS/1AC/5DC/6.5 2868541	STEP-PS/1AC/24DC/4.2 2868664	STEP-PS/1AC/24DC/3.8/C2LPS 2868677
12 V / 5 A	15 V / 4 A	48 V / 2 A	Certified according to UL 1310/508 Listed Class 2
STEP-PS/1AC/12DC/5 2868583	STEP-PS/1AC/15DC/4 2868619	STEP-PS/1AC/48DC/2 2868680	

STEP for AC applications

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

	• For use in 48 V AC mains
48 V AC / 24 DC / 0.5 A	
STEP-PS/48AC/24DC/0.5 2868716	



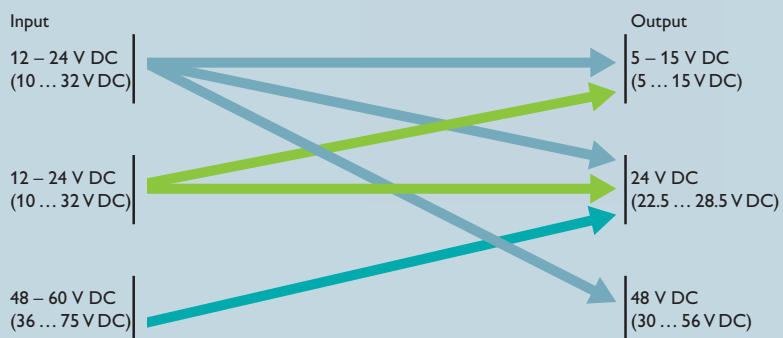
Matching voltage levels

When it comes to altering voltage levels, you'll find suitable modules in the DC/DC converter product range.

Voltage levels of QUINT DC/DC converters



Voltage levels of MINI DC/DC converters



QUINT DC/DC converters



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



24 DC / 24 DC / 5 A

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

24 DC / 12 DC / 8 A

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



24 DC / 24 DC / 10 A

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

24 DC / 48 DC / 5 A

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



24 DC / 24 DC / 20 A

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

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



12 DC / 24 DC / 5 A

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

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



48 DC / 24 DC / 5 A

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

QUINT DC/DC converters, dip-coated



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



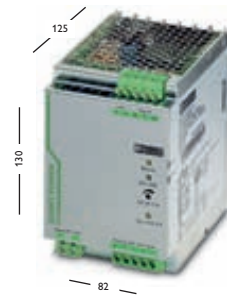
24 DC / 24 DC / 5 A

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



24 DC / 24 DC / 10 A

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



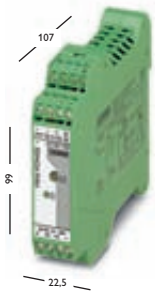
24 DC / 24 DC / 20 A

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

For more details on dip-coating, see page 13.

MINI DC/DC converters

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



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

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



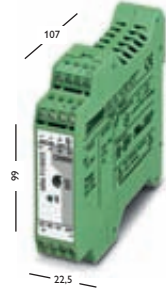
48 ... 60 DC / 24 DC / 1 A

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



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

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

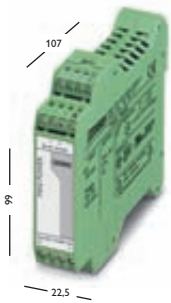


12 ... 24 DC / 48 DC / 0.7 A

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

Accessories for MINI DC/DC converters

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



- AC power terminal block supplies MINI DC/DC converters
- AC voltage of a transformer is rectified and filtered

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

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

Active redundancy module for maximum system availability thanks to ACB technology

The Auto Current Balancing (ACB) technology of the QUINT ORING modules doubles the service life of your redundantly operated power supply units by utilizing both power supply units to the same extent. The load current is automatically distributed symmetrically.

Two QUINT POWER power supply units combined with a QUINT ORING limit the voltage to maximum 32 V DC even in the case of two errors. In this way, consumers are reliably protected from permanent surge voltages and dangerous states.

50%
power

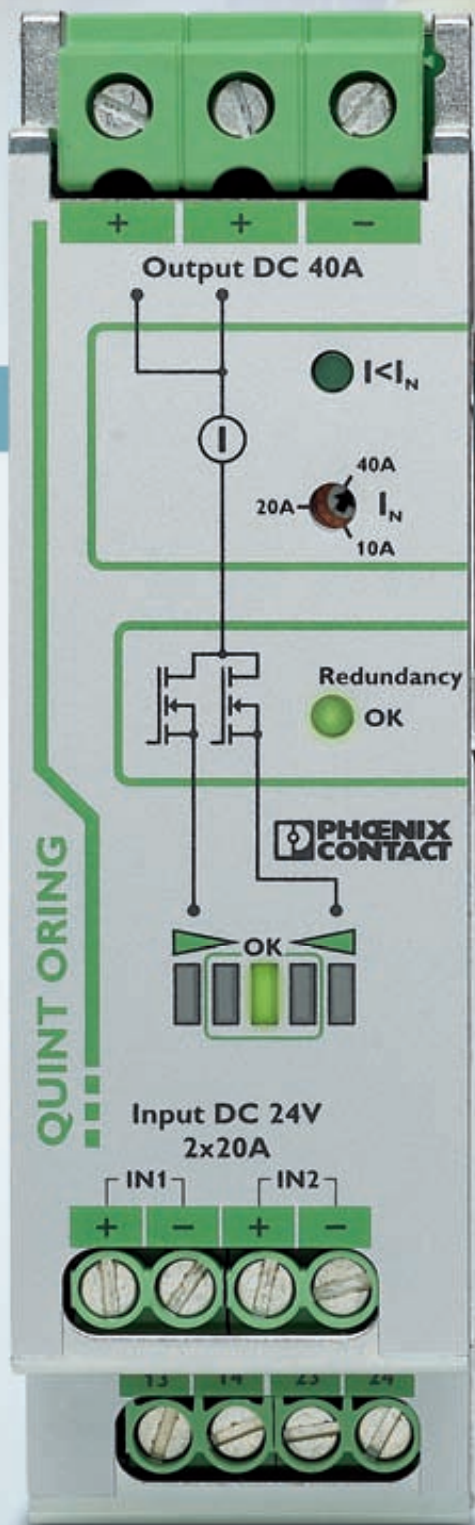


ACB technology doubles the service life

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 a single power supply unit, while the other runs in no-load operation. This results in a thermal load on the working power supply unit and thereby 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 supply units 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

- Using two positive output terminal blocks for redundant wiring up to the load

Double the service life

- Thanks to uniform load distribution

Save 70% energy

- 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

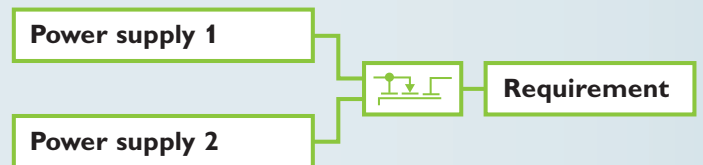
Decoupling, monitoring, and controlling redundancy modules

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 supply units need to be decoupled and the redundancy should be monitored. The following are ideal solutions:

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

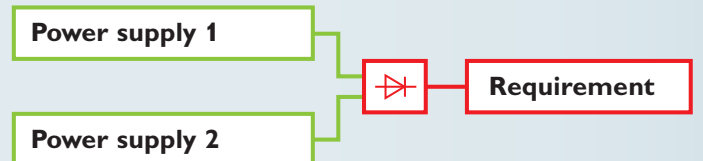
Decoupling, monitoring and control

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



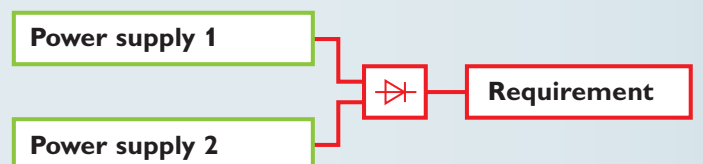
Decoupling and monitoring

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



Decoupling

Decoupling with diode



— monitored
— not monitored

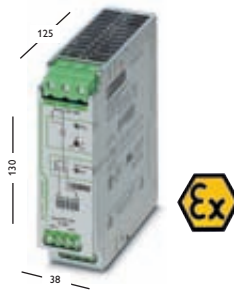
QUINT ORING



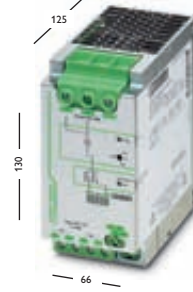
Input: 18 ... 28 V DC



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



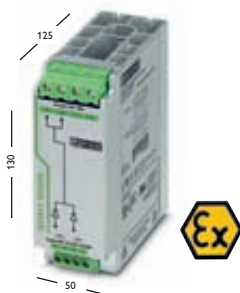
12 ... 24 V / 2 x 10 A / 1 x 20 A
TRIO-DIODE/12-24DC/2x10/1x20
2866514



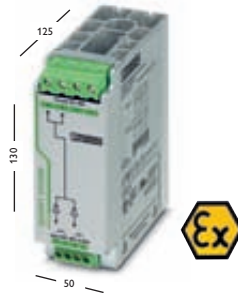
48 V / 2 x 10 A / 1 x 20 A
TRIO-DIODE/48DC/2x10/1x20
2866527

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

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

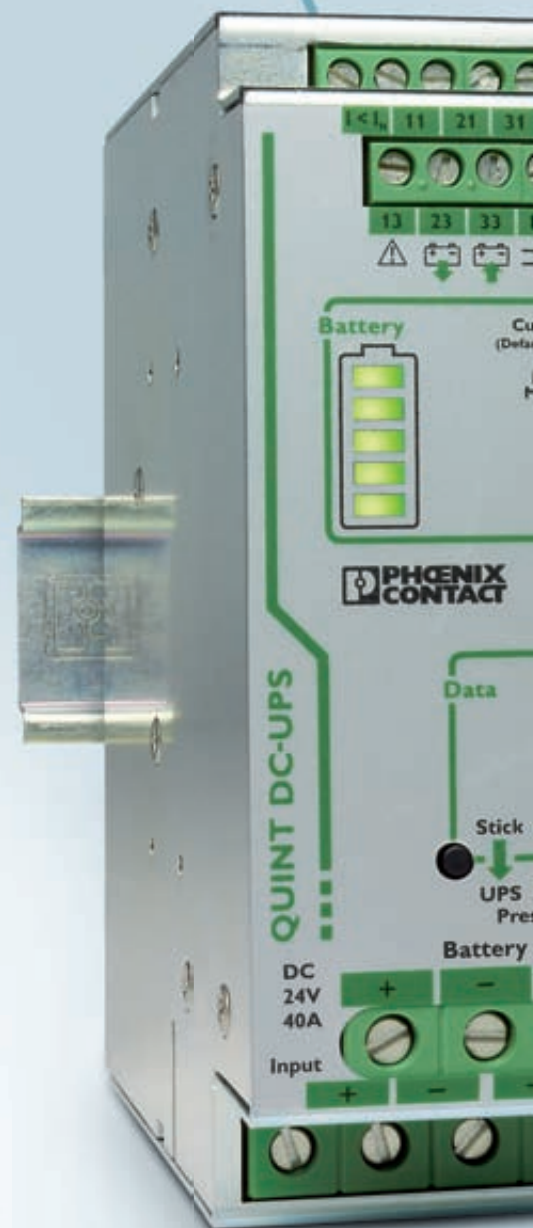
The intelligent UPS system for maximum system availability thanks to SFB technology

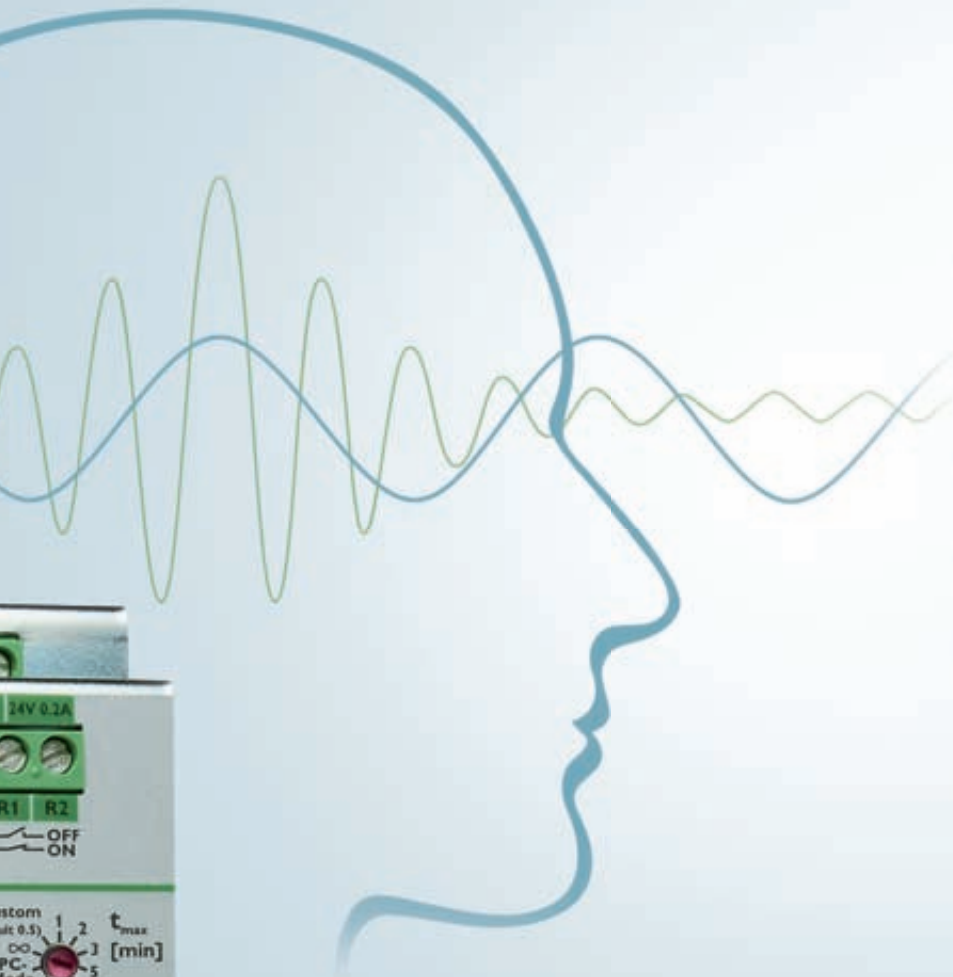
Uninterruptible power supply units (UPS) continue to deliver power even in the event of mains failure. With IQ technology, you are one step ahead:

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

Phoenix Contact also offers single-phase UPS of VFI-SS-111 class for assembly in 19" racks or as tower.

For additional information, please refer to the "Uninterruptible power supply for AC networks" brochure.





Intelligence for maximum 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 device actually bridge this time? Charging state, performance, and remaining runtime of the power storage device are unknown.

Solution with QUINT UPS:

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

The intelligent battery management detects the current charging state of the connected power storage device and uses this to calculate the remaining runtime.

The QUINT UPS also signals 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 unit:

Compact QUINT POWER power supply units ensure maximum system availability.

2. Choose your UPS module:

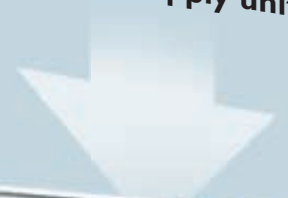
The intelligent QUINT UPS actively informs you when necessary.

3. Choose your power storage device:

- 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 unit



Compact versions are also available:

Flexible

UPS modules with two output voltages 12 and 24 V DC in one unit (page 39)

Maintenance-free

The QUINT BUFFER buffer module for failures lasting several seconds combines a UPS module and maintenance-free capacitors in the same housing (page 47)

Easy to retrofit

Two modules of the QUINT UPS series combine the UPS module and the power storage with lead AGM technology in the same housing (page 47)



UPS module

Power storage



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

Intelligent Battery Management

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

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

SOF (state of function) – determines the current performance of the power storage device.

Intelligent battery control

Detects the connected battery type automatically and maximizes the remaining service life of the power storage device via 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 power supply unit, UPS module, and power storage device.

Your advantages

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

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

Fast 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 configuration stick

Substantial power reserve

- For mains and battery operation
- POWER BOOST static power reserve
- Dynamic power reserve with SFB (Selective Fuse Breaking) technology

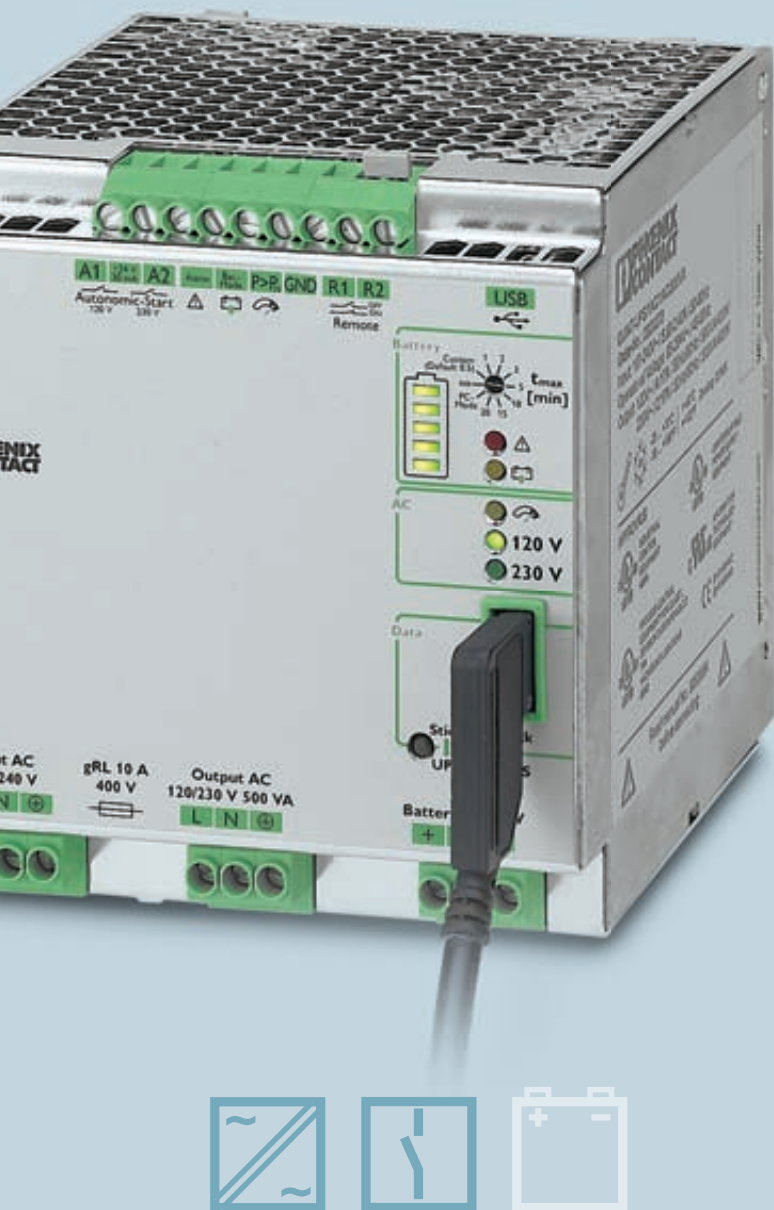
IQ
TECHNOLOGY

SFB
TECHNOLOGY



Power supply unit **UPS module** Power storage

UPS module for AC applications



Power supply unit UPS module Power storage

The UPS module for 120 V AC / 230 V AC with an output of 400 W / 500 VA only requires a power storage device. The power supply unit is already integrated.

Your advantages

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

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

Worldwide use

- Input voltages from 96 ... 264 V AC
- Storage of the level and frequency of the input voltage; 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 preselection is possible

Maximum efficiency

- Offline operation: 98% efficiency for charged power storage device

Comprehensive signaling and parameterization

- Switching outputs
- USB interface
- Data port
- Parameterization with configuration stick

Simplified startup

- The UPS may be switched on without a power supply network (cold start)

QUINT UPS

power storage devices

You can always find the ideal solution for maximum system availability with the new modular system for uninterruptible power supply units.

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 device.

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



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

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



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

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

Your advantages

Fast installation

- Automatic detection of the power storage device 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

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	7,000	0.5 kg
15 years	1.5 years	300	1.3 kg
6 to 9 years	1 year	250	1 kg



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 unit



UPS module



Power storage

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

Buffer times for DC UPS modules

Select your **UPS-BAT** and **UPS-CAP** for 24 V DC applications here.

Example: 20 A should be buffered for 6 minutes



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

↓

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

→

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 should be buffered for one hour



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

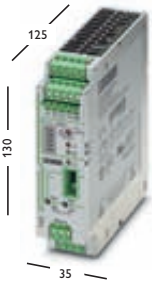




↓





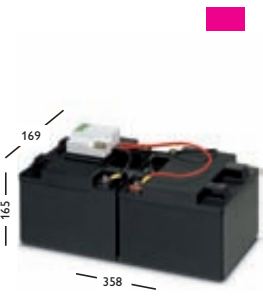
Power	Buffer time															Hours																
	Seconds						Minutes									1	2	3	5	8	10	15	20	40								
	0.2	0.4	2	8	15	20	40	1	2	3	5	6	7	8	9	10	20	30	40	45	50	1	2	3	5	8	10	15	20	40		
15 W																															1+1	
35 W																															1+1	1+1
55 W																															1+1	1+1
90 W																															1+1	
125 W																															1+1	
180 W																															1+1	
275 W																															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				AC UPS module
				
24 V / 5 A	12 V / 5 A, 24 V / 10 A	24 V / 20 A	24 V / 40 A	400 W / 500 VA
QUINT-UPS/ 24DC/24DC/5 2320212	QUINT-UPS/ 24DC/12DC/5/24DC/10 2320461	QUINT-UPS/ 24DC/24DC/20 2320238	QUINT-UPS/ 24DC/24DC/40 2320241	QUINT-UPS/ 1AC/1AC/500VA 2320270
24 V / 10 A	Recommended: UPS-CAP UPS-BAT/VRLA-WTR UPS-BAT/LI-ION	Recommended: UPS-CAP 20 A UPS-BAT/VRLA-WTR UPS-BAT/LI-ION	Recommended: UPS-BAT/VRLA-WTR	Recommended: UPS-CAP 20 A UPS-BAT/VRLA-WTR UPS-BAT/LI-ION
QUINT-UPS/ 24DC/24DC/10 2320225				
Recommended: UPS-CAP UPS-BAT/VRLA-WTR UPS-BAT/LI-ION				

UPS-CAP power storage devices	UPS-BAT/LI-ION power storage device	UPS-BAT/VRLA-WTR power storage devices
		
24 VDC / 10 A / 10 kJ	24 VDC / 20 A / 20 kJ	120 WH
UPS-CAP/ 24DC/10A/10KJ 2320377	UPS-CAP/ 24DC/20A/20KJ 2320380	UPS-BAT/LI-ION/ 24DC/120WH 2320351
		
		24 VDC / 13 Ah
		UPS-BAT/VRLA-WTR/ 24DC/13AH 2320416
		
		24 VDC / 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 should be buffered for 10 minutes



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

↓

Load current	Buffer time																					
	Seconds				Minutes								Hours									
	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	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Red
2 A	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Red
3 A	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Red
5 A	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Red
7 A	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Red
10 A	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Red
15 A	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red
20 A	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red
25 A	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red
30 A	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red
35 A	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red
40 A	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red

→

Buffer times for AC UPS module

Select your **UPS-BAT** for 120 V AC / 230 V AC applications here.

Example: 125 W should be buffered for one hour



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

↓

Power	Buffer time																					
	Seconds				Minutes								Hours									
	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	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red
35 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red
55 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red
90 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red
125 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red
180 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red
275 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red
400 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red

→

1+1 ... Two power storage devices of the same capacity are required in this case.

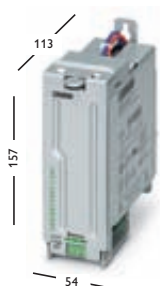



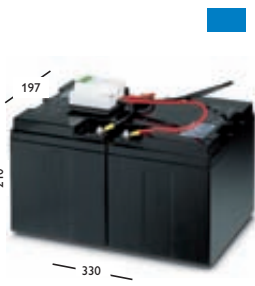
The data is based on an ambient temperature of 20°C.

DC UPS modules

AC UPS module

				
24 V / 5 A	12 V / 5 A, 24 V / 10 A	24 V / 20 A	24 V / 40 A	400 W / 500 VA
QUINT-UPS/ 24DC/24DC/5 2320212	QUINT-UPS/ 24DC/12DC/5/24DC/10 2320461	QUINT-UPS/ 24DC/24DC/20 2320238	QUINT-UPS/ 24DC/24DC/40 2320241	QUINT-UPS/ 1AC/1AC/500VA 2320270
24 V / 10 A	Recommended: UPS-CAP UPS-BAT/VRLA-WTR UPS-BAT/LI-ION	Recommended: UPS BAT/ VRLA/24DC... 3.4 Ah ... 38 Ah	Recommended: UPS BAT/ VRLA/24DC... 7.2 Ah ... 38 Ah	Recommended: UPS BAT/ VRLA/24DC... 3.4 Ah ... 38 Ah
QUINT-UPS/ 24DC/24DC/10 2320225				
Recommended: UPS BAT/ VRLA/24DC... 1.3 Ah ... 12 Ah				

UPS-BAT/VRLA power storage devices

				
1.3 Ah	3.4 Ah	7.2 Ah	12 Ah	38 Ah
UPS-BAT/ VRLA/24DC/1.3AH 2320296	UPS-BAT/ VRLA/24DC/3.4AH 2320306	UPS-BAT/ VRLA/24DC/7.2AH 2320319	UPS-BAT/ VRLA/24DC/12AH 2320322	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 screen shots 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" at the QUINT UPS articles.



Signaling via contacts

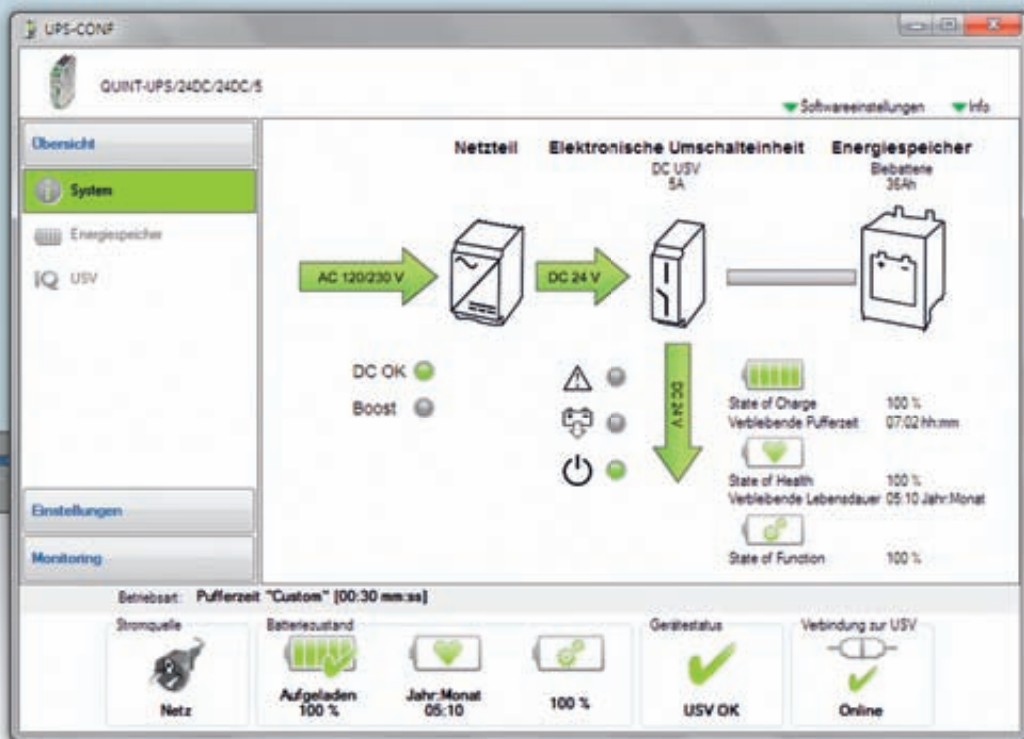
LEDs and floating relay contacts provide function monitoring. QUINT UPS supplies the following information via the wired contacts:

- The load is being supplied by the power storage device
- The power storage device 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 device



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" at the QUINT UPS articles.



USB data cable

IFS-USB-DATACABLE
2320500

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



Configuration stick

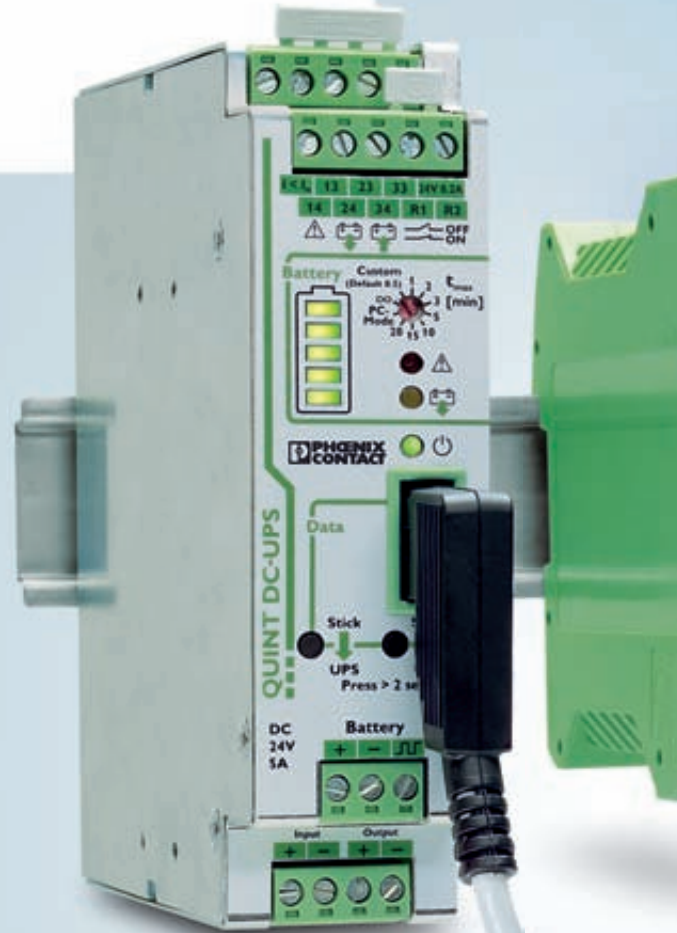
IFS-CONFSTICK
2986122

- 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.



Communication with the ILC

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 systems (100er)
- Length: 2 m

Do you use the PC Worx software?

Then use the library with the functional block for processing the information communicated with the data. This is available free of charge on the Phoenix Contact website under “Downloads” at the QUINT UPS articles.

UPS modules with integrated power storage device

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



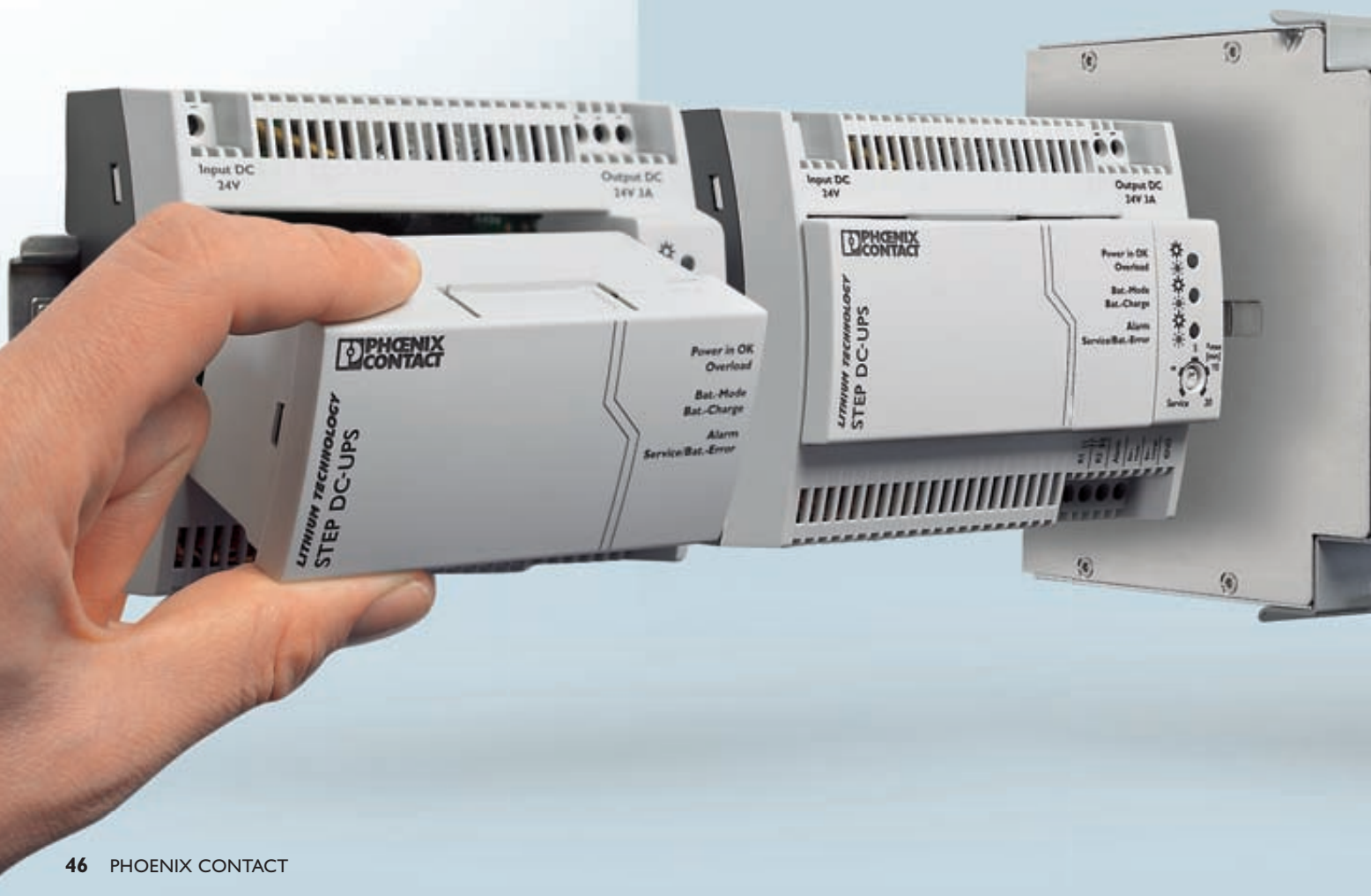
Power supply unit



UPS module



Power storage



Buffer times for QUINT UPS, QUINT BUFFER and STEP UPS

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

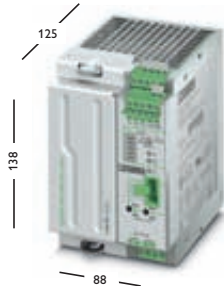
→ → QUINT-UPS/24DC/24DC/10A/3.4AH

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




QUINT UPS

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





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




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

• Power storage device with lead AGM technology

QUINT BUFFER

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



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

• Capacitor-based power storage device
• Maintenance-free

STEP UPS

Input: single-phase, 24 V:
22.5 ... 29.5 VDC, 12 V: 10 ... 16.5 VDC



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



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

• LiPo-based power storage device
• With the STEP-UPS/12DC, buffer times are double those of the STEP-UPS/24DC.

UPS modules with integrated power supply unit

The UPS module and power supply unit are combined in the same housing in a particularly space saving way. Only one power storage device 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 the 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 unit



UPS module



Power storage

MINI UPS

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

Output: 24 V DC/2 A

MINI-DC-UPS/24DC/2

Order No. 2866640

Output: 12 V DC/4 A

MINI-DC-UPS/12DC/4

Order No. 2866598

With the MINI-DC-UPS/12DC/4, buffer times are double those of the MINI-DC-UPS/24DC/2.



TRIO UPS

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

TRIO-UPS/1AC/24DC/5

Order No. 2866611

UPS-CONF-TRIO configuration software, Order No.: 2320348

Available free of charge on the Phoenix Contact website under "Downloads" at the TRIO UPS article.

IFS-USB DATACABLE data cable, Order No.: 2320500 for communication between UPS-CONF and TRIO UPS

IFS CONFSTICK configuration stick, Order No.: 2986122 for saving and transferring configured values to other TRIO UPS



Buffer times for MINI UPS and TRIO UPS

Select here your **MINI-BAT** for MINI UPS and **QUINT-BAT** for TRIO UPS.

Example: 2 A should be buffered for 20 minutes



➔ MINI-DC-UPS/24DC/2 and MINI-BAT/24DC/1.3AH



	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

MINI-BAT/24DC/0.8AH
2866666



24 V DC / 1.3 Ah

MINI-BAT/24DC/1.3AH
2866417



12 V DC / 1.6 Ah

MINI-BAT/12DC/1.6AH
2866572



12 V DC / 2.6 Ah

MINI-BAT/12DC/2.6AH
2866569

QUINT-BAT for TRIO UPS



24 V / 1.3 Ah

MINI-BAT/24DC/1.3AH
2866417



24 V / 3.4 Ah

QUINT-BAT/24DC/3.4AH
2866349



24 V / 7.2 Ah

QUINT-BAT/24DC/7.2AH
2866352

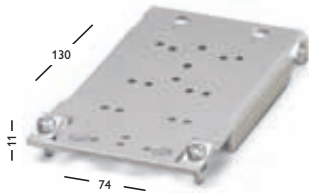


12 Ah

QUINT-BAT/24DC/12AH
2866365

Accessories for power supply units

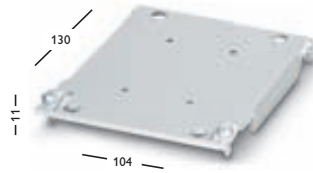
Mounting on S7-300 rail



QUINT-PS adapter S7/1

QUINT-PS ADAPTERS7/1
2938196

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



QUINT-PS adapter S7/2

QUINT-PS ADAPTERS7/2
2938206

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

Universal wall adapter for mounting on even surfaces



Adapter UWA 182/52

UWA 182/52
2938235

- Steel, powder-coated, 52 x 182 x 9 mm
- for TRIO-PS from 10 A, QUINT-PS, QUINT-DC-UPS, QUINT-BUFFER

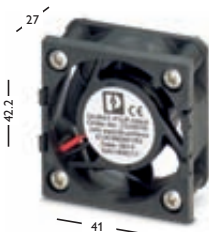


Adapter UWA 130

UWA 130
2901664

- Steel, powder-coated, 25 x 130 x 17 mm
- for QUINT-PS/1AC/24DC/40, QUINT-UPS/1AC/1AC/500VA

Fan for QUINT-PS/24DC



Fan for QUINT SFB

QUINT-PS/FAN/4
2320076

- Tool-free mounting
- 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.

Plug-in thermomagnetic circuit breakers with SFB characteristic curve







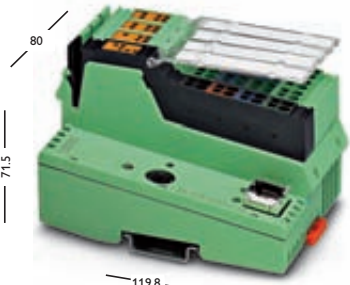
Thermomagnetic device circuit breakers

Thermomagnetic device circuit breakers with the SFB tripping characteristic provide maximum overcurrent protection – even in large systems with long cable paths.

The comprehensive product program can be found under the heading Products/Protective devices on the Phoenix Contact website.

Accessories for uninterruptible power supply units

Mounting kit for power storage	Fuses for power storage	
		
BATTERY MOUNTING KIT 2320788	SI FORM C 15 A DIN 72581 0913676	CM-SI-1AF 2939014
<ul style="list-style-type: none"> • For attaching individual battery blocks • For UPS-BAT/VRLA/24DC/38AH, UPS-BAT/VRLA-WTR/24DC/13AH, UPS-BAT/VRLA-WTR/24DC/26AH 	SI FORM C 25 A DIN 72581 0913757 <ul style="list-style-type: none"> • Flat-type plug-in fuse • Form C • 15 A and 25 A nominal current 	CM-SI-2AF 2939027 <ul style="list-style-type: none"> • Output fuse • According to IEC 127-2/EN 60127-2 • 1 A fast und 2 A fast

COM Server for Ethernet communication	Inline Controller for Ethernet communication
	
FL COMSERVER UNI 232/422/485 2313452	ILC 130 ETH 2988803
<ul style="list-style-type: none"> • Integration of serial RS-232, RS-422 and RS-485 interfaces • For machines and system access via Ethernet network 	High-performance Inline controller with Ethernet interface for coupling to other controllers or systems The comprehensive product program can be found under the heading Products/Controllers/High-performance controllers on the Phoenix Contact website.

Accessories for signaling and configuration of the QUINT UPS can be found on pages 42/43, accessories for communication with the QUINT UPS on pages 44/45.

Order No.	UL				CSA	Ship										Ex									
	CE	UL 508	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 directive EN 50155	GOST	Startup at -40°C	Installation height	
QUINT POWER power supply units																									
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 supply units																									
TRIO-PS/1AC/24DC/2.5	2866268	•	•	•		•	•	•															•	•	c
TRIO-PS/1AC/24DC/5	2866310	•	•	•		•	•	•															•	•	b
TRIO-PS/1AC/24DC/10	2866323	•	•	•		•	•	•															•	•	c
TRIO-PS/1AC/24DC/20	2866381	•	•	•		•	•	•															•	•	b
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/3AC/24DC/5	2866462	•	•	•		•	•	•																	a
TRIO-PS/3AC/24DC/10	2866459	•	•	•		•	•	•																	b
TRIO-PS/3AC/24DC/20	2866394	•	•	•		•	•	•																	b
TRIO-PS/3AC/24DC/40	2866404	•	•	•		•	•	•															•	•	b
TRIO-PS/600DC/24DC/20	2866530	•	•	•		•	•	•															•	•	

Order No.	CE	UL				CSA	Ship										Ex												
		UL 508	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 directive EN 50155	GOST	Startup at -40°C	Installation height				
MINI POWER power supply units																													
MINI-PS-100-240AC/24DC/1.3	2866446	•	•	•	•	•	•																			•	d		
MINI-SYS-PS-100-240 AC/24 DC/1.5	2866983	•	•	•	•		•	•																		•	a		
MINI-SYS-PS-100-240AC/24DC/1.5/EX	2866653	•	•	•			•	•								•										•	a		
MINI-PS-100-240AC/24DC/2	2938730	•	•	•	•	•	•	•																		•			
MINI-PS-100-240AC/24DC/C2LPS	2866336	•	•	•	•	•	•	•																		•			
MINI-PS-100-240AC/24DC/4	2938837	•	•	•	•		•	•																		•	a		
MINI-PS-100-240AC/5DC/3	2938714	•	•	•	•		•	•																		•			
MINI-PS-100-240AC/10-15DC/2	2938756	•	•	•	•		•	•																		•			
MINI-PS-100-240AC/10-15DC/8	2866297	•	•	•	•		•	•																		•	a		
MINI-PS-100-240AC/2x15DC/1	2938743	•	•	•	•	•		•																		•	b		
MINI-PS/10-42AC/15-60DC/3	2320199	•	•	•			•	•																		•			
UNO POWER power supply units																													
UNO-PS/1AC/24DC/30W	2902991	•	•	•		•	•	•																		•			
UNO-PS/1AC/24DC/60W	2902992	•	•	•		•	•	•																		•			
UNO-PS/1AC/24DC/100W	2902993	•	•	•		•	•	•																		•			
UNO-PS/1AC/12DC/30W	2902998	•	•	•		•	•	•																		•			
UNO-PS/1AC/12DC/55W	2902999	•	•	•		•	•	•																		•			
STEP POWER power supply units																													
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/1AC/5DC/2	2320513	•	•	•		•	•	•																					
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	

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

All products continually receive approvals. For up-to-date information, please refer to the Phoenix Contact website under "Downloads" at the respective articles.

Order No.	UL				CSA	Ship				Ex																
	CE	UL 508	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 directive EN 50155	GOST	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/48DC/24DC/5	2320144	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	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
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

Order No.	UL				CSA	Ship				Ex																
	CE	UL 508	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	GS - Geprüfte Sicherheit (tested safety)	Type tested	GOST	Startup at -40°C		
Redundancy modules																										
QUINT-ORING/24DC/2x10/1x20	2320173	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	d
QUINT-ORING/24DC/2x20/1x40	2320186	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	d
QUINT-ORING/24DC/2x40/1x80	2902879	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	d
QUINT-DIODE/24DC/2x20A	2320157	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	d
QUINT-DIODE/48DC/2x20A	2320160	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	d
TRIO-DIODE/12-24DC/2x10/1x20	2866514	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	d
TRIO-DIODE/48DC/2x10/1x20	2866527	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	d
STEP-DIODE/5-24DC/2x5/1x10	2868606	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	d

Order No.	CE	UL			CSA	Ship						EX	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601	GOST	Startup at -40°C	Installation height	
		UL 508	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
Uninterruptible power supply units																				
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/2DC/12DC/5/24DC/10	2320461	•	•	•																
QUINT-UPS/24DC/24DC/5/1.3AH	2320254	•																•		d
QUINT-UPS/24DC/24DC/10/3.4AH	2320267	•																•		d
QUINT-UPS/1AC/1AC/500VA	2320270	•			•													•	•	
QUINT-BUFFER/24DC/40	2320393	•	•	•	•													•		
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	•	•	•														•	•	
STEP-UPS/12DC/12DC/4	2868693	•	•	•														•		
STEP-BAT/LIPO/18,5DC/1.4AH	2320364	•																•		
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

All products continually receive approvals. For up-to-date information, please refer to the Phoenix Contact website under "Downloads" at the respective articles.



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PHOENIX CONTACT GmbH & Co. KG
32825 Blomberg, Germany
Phone: +49 (0) 52 35 3-00
Fax: +49 (0) 52 35 3-4 12 00
phoenixcontact.net

**PHOENIX
CONTACT**
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