



# Power supplies and UPS

2017/2018

# POWER for superior system availability

Our POWER products supply your applications with leading technology and high quality. Power supplies, DC/DC converters, redundancy modules, and uninterruptible power supplies are optimally tailored in terms of their functionality and design to the requirements of various different industries.

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

## Find out more with the web code

You can find web codes in this brochure: a hash symbol followed by a four-digit number combination.

**i** Web code: #1234 (example)

This allows you to access information on our website quickly.

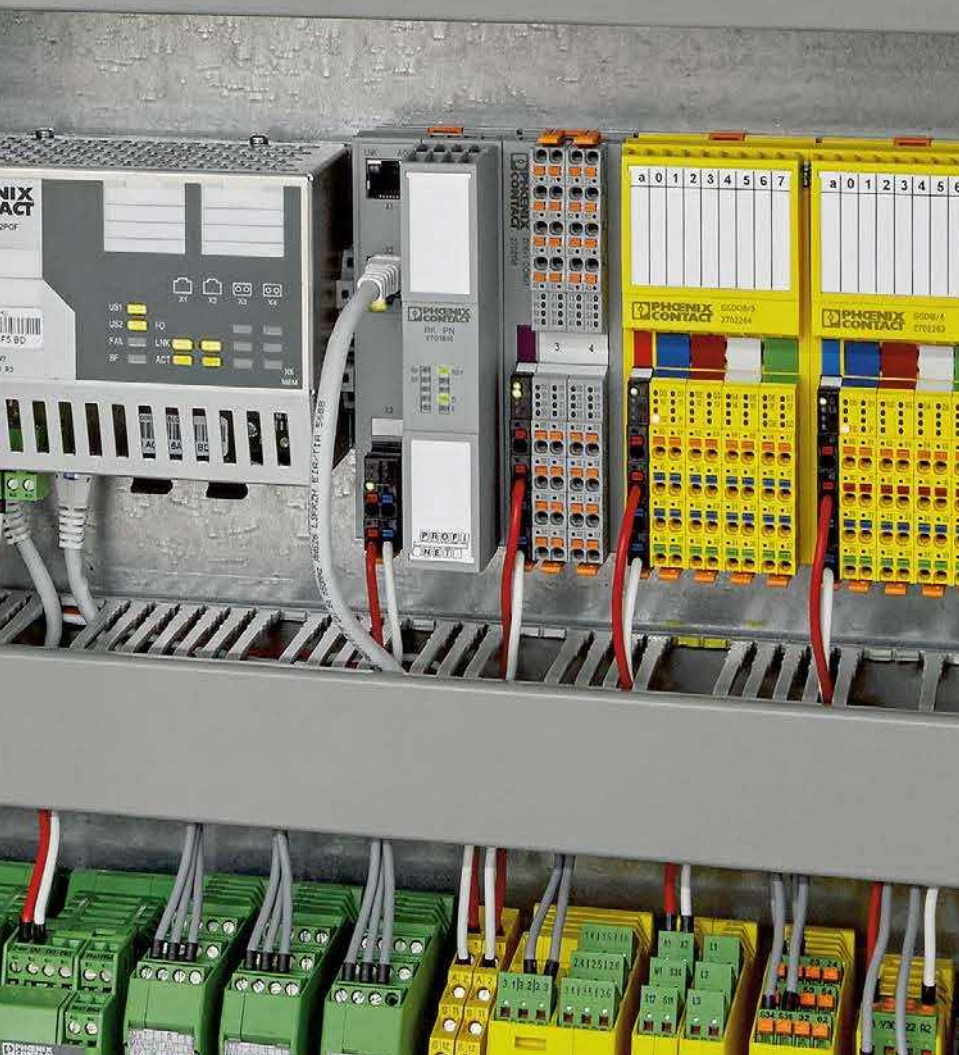
### It could not be easier:

1. Go to the Phoenix Contact website
2. Enter # and the number combination in the search field
3. Get more information and product versions

Or use the direct link:

[phoenixcontact.net/webcode/#1234](http://phoenixcontact.net/webcode/#1234)





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# Innovative technologies

We use our innovative technologies to shape current trends and developments. Phoenix Contact Power Supplies assumes a technically leading role in the field of industrial power supplies.

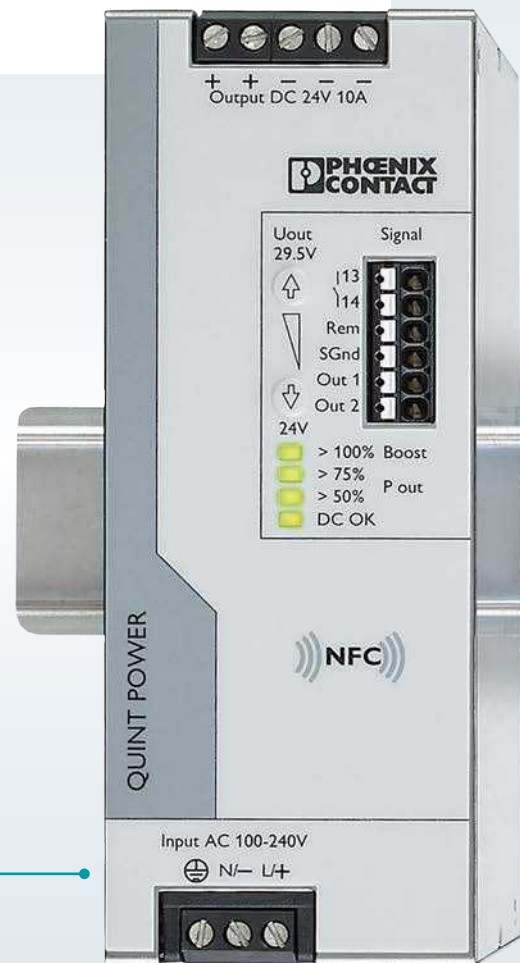
- SFB Technology reliably trips standard circuit breakers
- ACB Technology doubles the service life of your redundantly operated power supplies
- IQ Technology monitors and optimizes the energy storage of uninterruptible power supplies



## Power supplies with SFB Technology (Selective Fuse Breaking)

- 6 times nominal current for 15 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 10 and onwards.

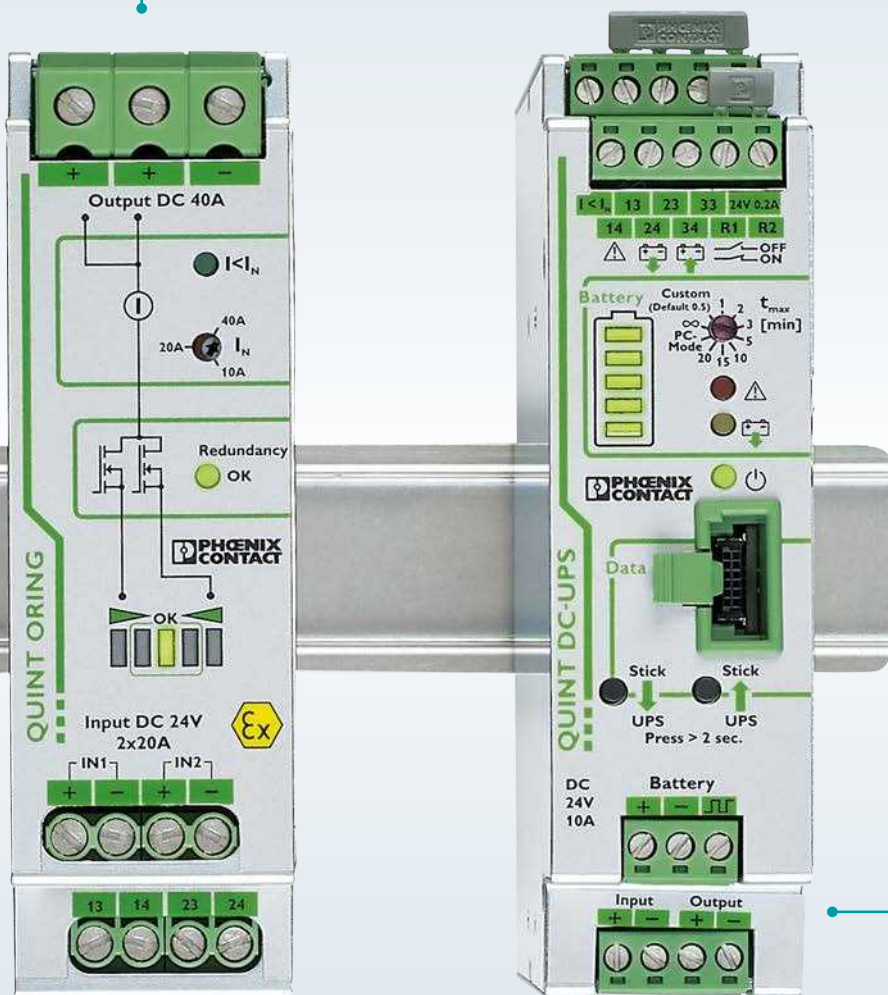




## Redundancy modules with ACB Technology (Auto Current Balancing)

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

For more information, refer to page 32 and onwards.



## Uninterruptible power supplies with IQ Technology

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

For more information, refer to page 38 and onwards.



# Power supplies for every application

Our power supplies can be found in the widest range of areas and industries. With various functionalities, performance classes, and designs, they are the perfect partner for your application.

- QUINT POWER: Automotive industry, energy industry, process industry, shipbuilding
- TRIO POWER: Machine building
- UNO POWER: E-Mobility
- MINI POWER and STEP POWER: Urban infrastructure



# 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 – powerful with maximum functionality
- TRIO POWER – robust with standard functionality
- UNO POWER – compact with basic functionality
- MINI POWER – for measurement and control technology
- STEP POWER – for installation distributors





# Our power supplies at a glance

## Similarities and differences

### What they all have in common

The various series offer many common advantages: the power supplies of all product ranges increase the system availability and can be used worldwide, thanks to their international approval package and wide range input.

They feature high operational reliability, can be switched in parallel, and can even be used seamlessly in control cabinets in outdoor areas.

### Maximum system availability

Our aim is to provide maximum availability for your system. Our QUINT POWER power supplies are particularly well suited for this.

The power reserve enables the starting of heavy loads or the easy extension of the system. SFB Technology, NFC interface, and preventive function monitoring round off the range of services.



	QUINT POWER	TRIO POWER	UNO POWER	MINI POWER	STEP POWER
<b>Worldwide use</b> thanks to the wide range input and international approval package	•	•	•	•	•
<b>Maximum operating time</b> thanks to high MTBF > 500,000 h at +40°C	•	•	•	•	•
<b>Can be switched in parallel</b> for increased performance and redundancy	•	•	•	•	•
<b>Outdoor installation permitted</b> thanks to wide temperature range of -25°C ... +70°C	•	•	•	•	•
<b>Active function monitoring</b> by means of switching output for remote diagnostics	•	•		•	
<b>Three-phase devices</b> operate without errors, even if one phase fails permanently	•	•			
<b>Reliable starting of heavy loads</b> with the dynamic boost power reserve	•	•			
<b>Easy system extension</b> with the static boost power reserve	•				
<b>Magnetic tripping of miniature circuit breakers</b> thanks to SFB Technology	•				
<b>Preventive function monitoring</b> reports critical operating states before errors occur	•				
<b>NFC interface</b> for wireless parameter settings	•				

## Power supplies

# QUINT POWER – powerful with maximum functionality

High-performance QUINT POWER power supplies feature new functions to ensure superior system availability. SFB Technology and preventive function monitoring of the power supply increase the availability of your application. Signaling thresholds and characteristic curves can be individually adjusted via the NFC interface. Furthermore, they can be ordered preconfigured from quantities as low as one.

### Your advantages

- ✓ SFB Technology selectively trips standard circuit breakers; loads connected continue working without interruption
- ✓ Preventive function monitoring indicates critical operating states before errors occur
- ✓ Power reserve for easy system extension, thanks to static boost with a permanent power of up to 125% and starting of heavy loads with dynamic boost with up to 200% for 5 s
- ✓ High level of immunity thanks to integrated gas-filled surge arrester, more than 20 ms mains buffering
- ✓ Robust design in metal housing with wide temperature range from  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$



## SFB Technology

Even standard circuit breakers can be tripped reliably and quickly with SFB (Selective Fuse Breaking) Technology, enabling six times the nominal current for 15 ms. Faulty current paths are switched off selectively, the fault is located, and important system parts remain in operation.

Designed by PHOENIX CONTACT

## NFC




With Near Field Communication (NFC), you can easily and precisely set the parameters for power supplies using a PC or mobile terminal device. For example, you can set signaling thresholds as well as voltages and output voltages and individually define characteristic curves.










 Web code: #0640





# Product overview of QUINT POWER power supplies

QUINT POWER with NFC technology 1~			NFC SFB TECHNOLOGY
			
Input	85 ... 264 V AC, 90 ... 350 V DC	85 ... 264 V AC, 90 ... 350 V DC	85 ... 264 V AC, 90 ... 350 V DC
W x H x D in mm	36 x 130 x 125	50 x 130 x 125	70 x 130 x 125
	<b>24 V/5 A</b>	<b>24 V/10 A</b>	<b>24 V/20 A</b>
Type	QUINT4-PS/1AC/24DC/5	QUINT4-PS/1AC/24DC/10	QUINT4-PS/1AC/24DC/20
Order number	2904600	2904601	2904602
			<b>48 V/10 A</b>
			QUINT4-PS/1AC/48DC/10
			2904611

QUINT POWER with NFC technology 3~			NFC SFB TECHNOLOGY
			
Input	3 x 320 ... 550 V AC, 2 x 360 ... 550 V AC, +/- 300 V DC	3 x 320 ... 550 V AC, 2 x 360 ... 550 V AC, +/- 260 ... 300 V DC	3 x 320 ... 550 V AC, 2 x 360 ... 550 V AC, +/- 260 ... 300 V DC
W x H x D in mm	36 x 130 x 125	50 x 130 x 125	70 x 130 x 125
	<b>24 V/5 A</b>	<b>24 V/10 A</b>	<b>24 V/20 A</b>
Type	QUINT4-PS/3AC/24DC/5	QUINT4-PS/3AC/24DC/10	QUINT4-PS/3AC/24DC/20
Order number	2904620	2904621	2904622

QUINT POWER 1~				SFB TECHNOLOGY
				
Input	85 ... 264 V AC, 90 ... 350 V DC	85 ... 264 V AC, 90 ... 350 V DC	85 ... 264 V AC, 90 ... 350 V DC	85 ... 264 V AC, 90 ... 300 V DC
W x H x D in mm	32 x 130 x 125	60 x 130 x 125	90 x 130 x 125	180 x 130 x 125
	<b>24 V/3.5 A</b>	<b>12 V/15 A</b>	<b>12 V/20 A</b>	<b>24 V/40 A</b>
Type	QUINT-PS/1AC/24DC/3.5	QUINT-PS/1AC/12DC/15	QUINT-PS/1AC/12DC/20	QUINT-PS/1AC/24DC/40
Order number	2866747	2866718	2866721	2866789
		<b>48 V/5 A</b>		<b>48 V/20 A</b>
Type		QUINT-PS/1AC/48DC/5		QUINT-PS/1AC/48DC/20
Order number		2866679		2866695

QUINT POWER 3~		SFB TECHNOLOGY
		
Input	3 x 320 ... 575 V AC, 2 x 360 ... 575 V AC, 450 ... 800 V DC	3 x 320 ... 575 V AC, 450 ... 800 V DC
W x H x D in mm	96 x 130 x 176	96 x 130 x 176
	<b>24 V / 40 A</b>	<b>48 V / 20 A</b>
Type	QUINT-PS/3AC/24DC/40	QUINT-PS/3AC/48DC/20
Order number	<a href="#">2866802</a>	<a href="#">2320827</a>





## QUINT POWER for extreme ambient conditions

Painting the PCB protects against dust, corrosive gases, and 100% humidity as well as failure caused by corrosion-related creepage currents and electrochemical migration. The components are protected within a wide temperature range of -40°C to +70°C.

DC/DC converters with the same properties can be found on page 29.

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 36).



QUINT POWER, with protective coating					SFB TECHNOLOGY
					
Input	Single-phase, 85 ... 264 V AC, 90 ... 410 V DC	Single-phase, 85 ... 264 V AC, 90 ... 410 V DC	Single-phase, 85 ... 264 V AC, 90 ... 410 V DC	3-phase, 3 x 320 ... 575 V AC, 450 ... 800 V DC	
W x H x D in mm	40 x 130 x 125	60 x 130 x 125	90 x 130 x 125	69 x 130 x 125	
	<b>1 AC / 24 V / 5 A / CO</b>	<b>1 AC / 24 V / 10 A / CO</b>	<b>1 AC / 24 V / 20 A / CO</b>	<b>3 AC / 24 V / 20 A / CO</b>	
Type	QUINT-PS/1AC/24DC/5/CO	QUINT-PS/1AC/24DC/10/CO	QUINT-PS/1AC/24DC/20/CO	QUINT-PS/3AC/24DC/20/CO	
Order number	<a href="#">2320908</a>	<a href="#">2320911</a>	<a href="#">2320898</a>	<a href="#">2320924</a>	

## Power supplies

# TRIO POWER – robust with 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.







### Your advantages





- ✓ High cost effectiveness, thanks to time-saving, tool-free Push-in connection and a narrow design
- ✓ Reliable starting of heavy loads with the dynamic power reserve with 150% of the nominal current for max. 5 s
- ✓ Electrically robust, due to high electric strength
- ✓ Robust mechanical design, thanks to high vibration resistance and shock resistance







# Product overview of TRIO POWER power supplies

TRIO POWER with Push-in connection 1~				
				
Input	85 ... 264 V AC, 99 ... 275 V DC	85 ... 264 V AC, 99 ... 275 V DC	85 ... 264 V AC, 99 ... 275 V DC	85 ... 264 V AC, 99 ... 275 V DC
W x H x D in mm	30 x 130 x 115	35 x 130 x 115	42 x 130 x 160	68 x 130 x 160

	<b>24 V/3 A/C2LPS*</b>	<b>24 V/5 A</b>	<b>24 V/10 A</b>	<b>24 V/20 A</b>
Type	TRIO-PS-2G/ 1AC/24DC/3/C2LPS	TRIO-PS-2G/ 1AC/24DC/5	TRIO-PS-2G/ 1AC/24DC/10	TRIO-PS-2G/ 1AC/24DC/20
Order number	<a href="#">2903147</a>	<a href="#">2903148</a>	<a href="#">2903149</a>	<a href="#">2903151</a>
		<b>24 V/5 A/B+D</b>	<b>24 V/10 A/B+D</b>	
Type		TRIO-PS-2G/ 1AC/24DC/5/B+D	TRIO-PS-2G/ 1AC/24DC/10/B+D	
Order number		<a href="#">2902144</a>	<a href="#">2902145</a>	
	<b>12 V/5 A/C2LPS*</b>	<b>12 V/10 A</b>		
Type	TRIO-PS-2G/ 1AC/12DC/5/C2LPS	TRIO-PS-2G/ 1AC/12DC/10		
Order number	<a href="#">2903157</a>	<a href="#">2903158</a>		
			<b>48 V/5 A</b>	<b>48 V/10 A</b>
Type			TRIO-PS-2G/1AC/48DC/5	TRIO-PS-2G/1AC/48DC/10
Order number			<a href="#">2903159</a>	<a href="#">2903160</a>

TRIO POWER with Push-in connection 3~				
				
Input	3 x 320 ... 575 V AC, 2 x 360 ... 575 V AC	3 x 320 ... 575 V AC, 2 x 360 ... 575 V AC	3 x 320 ... 575 V AC, 2 x 360 ... 575 V AC	3 x 320 ... 575 V AC,
W x H x D in mm	35 x 130 x 115	42 x 130 x 160	65 x 130 x 160	110 x 130 x 160
	<b>24 V/5 A</b>	<b>24 V/10 A</b>	<b>24 V/20 A</b>	<b>24 V/40 A</b>
Type	TRIO-PS-2G/3AC/24DC/5	TRIO-PS-2G/3AC/24DC/10	TRIO-PS-2G/3AC/24DC/20	TRIO-PS-2G/3AC/24DC/40
Order number	<a href="#">2903153</a>	<a href="#">2903154</a>	<a href="#">2903155</a>	<a href="#">2903156</a>

Accessories, electronic device circuit breakers				
				
	<b>4-channel</b>	<b>8-channel</b>	<b>4-channel</b>	<b>4-channel</b>
Type	CBM E4 24DC/0,5-10A NO-R	CBM E8 24DC/0,5-10A NO-R	CBMC E4 24DC/1-4A NO	CBMC E4 24DC/1-10A NO
Order number	<a href="#">2905743</a>	<a href="#">2905744</a>	<a href="#">2906031</a>	<a href="#">2906032</a>

\* NEC Class 2 output, certified according to UL 1310/Limited Power Source (LPS) according to UL 60950-1

## Power supplies

# UNO POWER – compact with 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 from 5 to 48 V DC covers all common voltage levels.



## Your advantages

- ✓ Maximum energy efficiency thanks to high efficiency of up to 94% and extremely low idling losses down to 0.3 W
- ✓ Particularly compact thanks to high power density
- ✓ Outdoor installation possible in a wide temperature range of -25°C to +70°C

# Product overview of UNO POWER power supplies

UNO POWER 1~			
			
Input	85 ... 264 V AC	85 ... 264 V AC	85 ... 264 V AC
W x H x D in mm	22.5 x 90 x 84	35 x 90 x 84	55 x 90 x 84
	<b>24 V/30 W</b>	<b>24 V/60 W</b>	<b>24 V/100 W</b>
Type	UNO-PS/1AC/24DC/30W	UNO-PS/1AC/24DC/60W	UNO-PS/1AC/24DC/100W
Order number	<a href="#">2902991</a>	<a href="#">2902992</a>	<a href="#">2902993</a>
			<b>24 V/90 W/C2LPS*</b>
Type			UNO-PS/1AC/24DC/90W/C2LPS
Order number			<a href="#">2902994</a>
		<b>48 V/60 W</b>	<b>48 V/100 W</b>
Type		UNO-PS/1AC/48DC/60W	UNO-PS/1AC/48DC/100W
Order number		<a href="#">2902995</a>	<a href="#">2902996</a>
	<b>15 V/30 W</b>	<b>15 V/55 W</b>	<b>15 V/100 W</b>
Type	UNO-PS/1AC/15DC/30W	UNO-PS/1AC/15DC/55W	UNO-PS/1AC/15DC/100W
Order number	<a href="#">2903000</a>	<a href="#">2903001</a>	<a href="#">2903002</a>
	<b>12 V/30 W</b>	<b>12 V/55 W</b>	<b>12 V/100 W</b>
Type	UNO-PS/1AC/12C/30W	UNO-PS/1AC/12DC/55W	UNO-PS/1AC/12DC/100W
Order number	<a href="#">2902998</a>	<a href="#">2902999</a>	<a href="#">2902997</a>
	<b>5 V/25 W</b>	<b>5 V/40 W</b>	
Type	UNO-PS/1AC/5DC/25W	UNO-PS/1AC/5DC/40W	
Order number	<a href="#">2904374</a>	<a href="#">2904375</a>	
UNO POWER 1~		UNO POWER 2~	
			
Input	85 ... 264 V AC	85 ... 264 V AC	264 ... 575 V AC
W x H x D in mm	37 x 130 x 125	45 x 130 x 125	55 x 90 x 84
	<b>24 V/150 W</b>	<b>24 V/240 W</b>	<b>24 V/90 W/C2LPS*</b>
Type	UNO-PS/1AC/24DC/150W	UNO-PS/1AC/24DC/240W	UNO-PS/2AC/24DC/90W/C2LPS
Order number	<a href="#">2904376</a>	<a href="#">2904372</a>	<a href="#">2904371</a>

\* NEC Class 2 output, certified according to UL 1310/Limited Power Source (LPS) according to UL 60950-1



Power supplies

# MINI POWER – for measurement and control technology




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






## Your advantages

- ✓ Service-friendly connection technology, thanks to coded COMBICON connectors
- ✓ Flexible thanks to numerous output voltages and versions
- ✓ Active function monitoring via the switching output for remote monitoring of the output voltage

## Product overview of MINI POWER power supplies

	MINI POWER 1~		
			
Input	85 ... 264 V AC, 90 ... 350 V DC	85 ... 264 V AC, 90 ... 350 V DC	85 ... 264 V AC, 90 ... 350 V DC
W x H x D in mm	22.5 x 99 x 107	45 x 99 x 107	67.5 x 99 x 107
	<b>24 V/1.3 A</b>	<b>24 V/2 A</b>	<b>24 V/4 A</b>
Type	MINI-PS-100-240AC/24DC/1.3	MINI-PS-100-240AC/24DC/2	MINI-PS-100-240AC/24DC/4
Order number	<a href="#">2866446</a>	<a href="#">2938730</a>	<a href="#">2938837</a>
	<b>5 V/3 A</b>	<b>10 ... 15 V/2 A</b>	<b>10 ... 15 V/8 A</b>
Type	MINI-PS-100-240AC/5DC/3	MINI-PS-100-240AC/10-15DC/2	MINI-PS-100-240AC/10-15DC/8
Order number	<a href="#">2938714</a>	<a href="#">2938756</a>	<a href="#">2866297</a>
		<b>± 15 V/1 A</b>	<b>24 V/100 W/C2LPS*</b>
Type		MINI-PS-100-240AC/2x15DC/1	MINI-PS-100-240AC/24DC/C2LPS
Order number		<a href="#">2938743</a>	<a href="#">2866336</a>

	MINI POWER 1~	Accessories for 24 V/1.5 A
		
Input	85 ... 264 V AC	
W x H x D in mm	35 x 99 x 95	
	<b>24 V/1.5 A</b>	<b>DIN rail connector</b>
Type	MINI-SYS-PS-100-240AC/24DC/1.5	ME 17,5 TBUS 1.5/5-ST-3,82 GN
Order number	<a href="#">2866983</a>	<a href="#">2709561</a>
	<b>24 V/1.5 A/EX</b> 	
Type	MINI-PS-100-240AC/24DC/1.5/EX	
Order number	<a href="#">2866653</a>	
Notes		Optional, 2 required per power supply (24 V/1.5 A)

\* NEC Class 2 output, certified according to UL 1310/Limited Power Source (LPS) according to UL 60950-1

Power supplies

## STEP POWER – 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.







### Your advantages

- ✓ Flexible assembly: snap onto the DIN rail or screw on a level surface
- ✓ Reliable power supply, thanks to high MTBF > 500,000 h at +40°C and U/I characteristic curve for the supply of capacitive loads
- ✓ Outdoor installation possible thanks to the wide temperature range from -25°C to +70°C
- ✓ Save energy, thanks to maximum energy efficiency and incredibly low idling losses

# Product overview of STEP POWER power supplies

STEP POWER 1~				
		 Flat design		
Input	85 ... 264 V AC, 95 ... 250 V DC	85 ... 264 V AC, 95 ... 250 V DC	85 ... 264 V AC, 95 ... 250 V DC	85 ... 264 V AC, 95 ... 250 V DC
W x H x D in mm	18 x 90 x 61	36 x 90 x 43	36 x 90 x 61	54 x 90 x 61
	<b>24 V/0.5 A</b>	<b>24 V/0.75 A FL</b>	<b>24 V/0.75 A</b>	<b>24 V/1.75 A</b>
Type	STEP-PS/1AC/24DC/0.5	STEP-PS/1AC/24DC/0.75/FL	STEP-PS/1AC/24DC/0.75	STEP-PS/1AC/24DC/1.75
Order number	<a href="#">2868596</a>	<a href="#">2868622</a>	<a href="#">2868635</a>	<a href="#">2868648</a>
	<b>12 V/1 A</b>	<b>12 V/1.5 A FL</b>	<b>12 V/1.5 A</b>	<b>12 V/3 A</b>
Type	STEP-PS/1AC/12DC/1	STEP-PS/1AC/12DC/1.5/FL	STEP-PS/1AC/12DC/1.5	STEP-PS/1AC/12DC/3
Order number	<a href="#">2868538</a>	<a href="#">2868554</a>	<a href="#">2868567</a>	<a href="#">2868570</a>
	<b>5 V/2 A</b>			
Type	STEP-PS/1AC/5DC/2			
Order number	<a href="#">2320513</a>			

STEP POWER 1~		STEP FOR 48 V AC		STEP for 277 V AC	
					
Input	85 ... 264 V AC, 95 ... 250 V DC	85 ... 264 V AC, 95 ... 250 V DC	43 ... 52 V AC, 60 ... 80 V DC	85 ... 305 V AC, 95 ... 250 V DC	
W x H x D in mm	72 x 90 x 61	90 x 90 x 61	18 x 90 x 61	90 x 90 x 61	
	<b>24 V/2.5 A</b>	<b>24 V/4.2 A</b>	<b>48 V AC/24 V DC/0.5 A</b>	<b>277 V AC/24 V DC/3.5 A</b>	
Type	STEP-PS/1AC/24DC/2.5	STEP-PS/1AC/24DC/4.2	STEP-PS/48AC/24DC/0.5	STEP-PS/277AC/24DC/3.5	
Order number	<a href="#">2868651</a>	<a href="#">2868664</a>	<a href="#">2868716</a>	<a href="#">2904945</a>	
	<b>15 V/4 A</b>	<b>24 V/100 W/C2LPS*</b>			
Type	STEP-PS/1AC/15DC/4	STEP-PS/1AC/24DC/3.8/C2LPS			
Order number	<a href="#">2868619</a>	<a href="#">2868677</a>			
	<b>12 V/5 A</b>	<b>48 V/2 A</b>			
Type	STEP-PS/1AC/12DC/5	STEP-PS/1AC/48DC/2			
Order number	<a href="#">2868583</a>	<a href="#">2868680</a>			
	<b>5 V/6.5 A</b>				
Type	STEP-PS/1AC/5DC/6.5				
Order number	<a href="#">2868541</a>				

\* NEC Class 2 output, certified according to UL 1310/Limited Power Source (LPS) according to UL 60950-1



## Power supplies

# 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.

The maintenance-free buffer solution enables a controlled machine stop in the event of mains failure by using the existing capacity in the frequency inverter.



## Your advantages

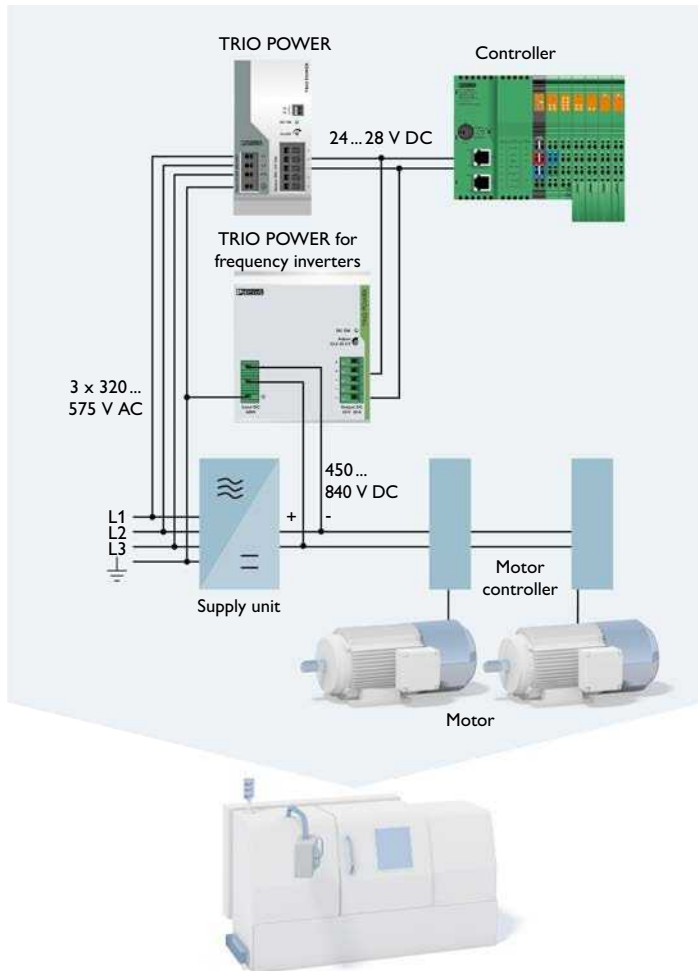
- ✓ Combined in one housing: parallel operation on two-phase AC mains and a DC intermediate circuit
- ✓ Quick tripping of standard circuit breakers (SFB Technology)
- ✓ Preventive function monitoring indicates critical operating states before errors occur
- ✓ Remote monitoring using active switching output and floating relay contact
- ✓ Reliable starting of heavy loads and easy system extension, power boost permanently supplies 26 A

# Application example

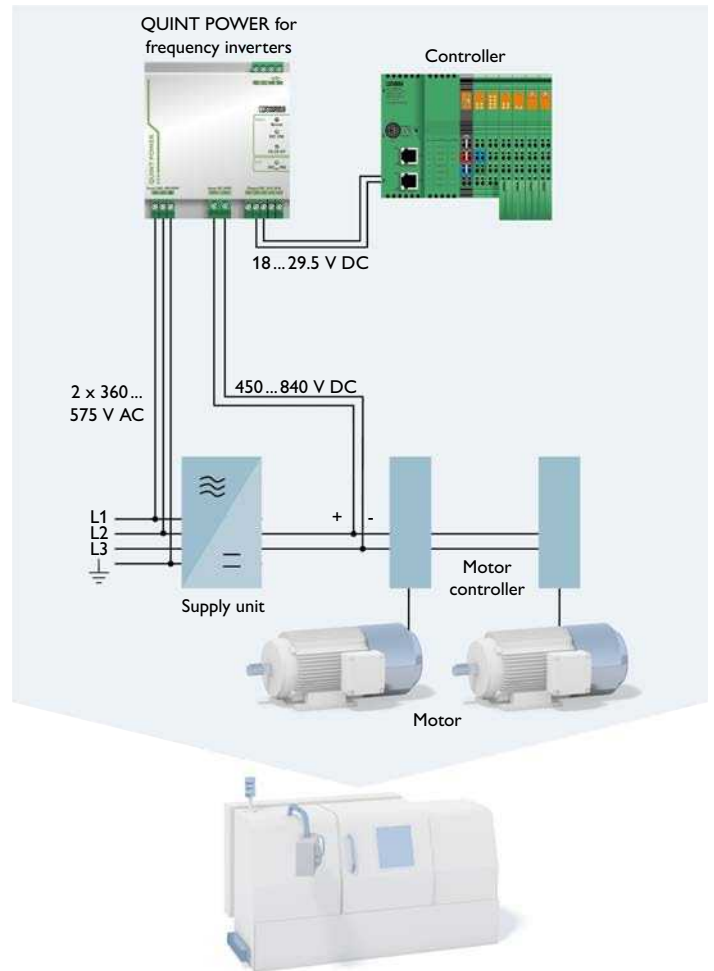
When using frequency inverters, the energy (e.g., kinetic energy in motor braking mode) from the intermediate circuit capacitors already available can be used as a maintenance-free buffer solution.


This can be used, for example, to ensure that a machine assumes a safe position in the event of mains failure.


## Standard solution with two TRIO POWER power supplies



## Combined solution with a QUINT POWER power supply



TRIO POWER, 1 DC	
	
Input	450 VDC ... 840 VDC
W x H x D in mm	115 x 130 x 152.5
	<b>24 V / 20 A</b>
Type	TRIO-PS/600DC/24DC/20
Order number	2866530

QUINT POWER, 2 AC / 1 DC	
	
Input	2 x 360 ... 575 V AC, 450 ... 840 VDC
W x H x D in mm	120 x 130 x 125
	<b>24 V / 20 A</b>
Type	QUINT-PS/2AC/1DC/24DC/20
Order number	2320830

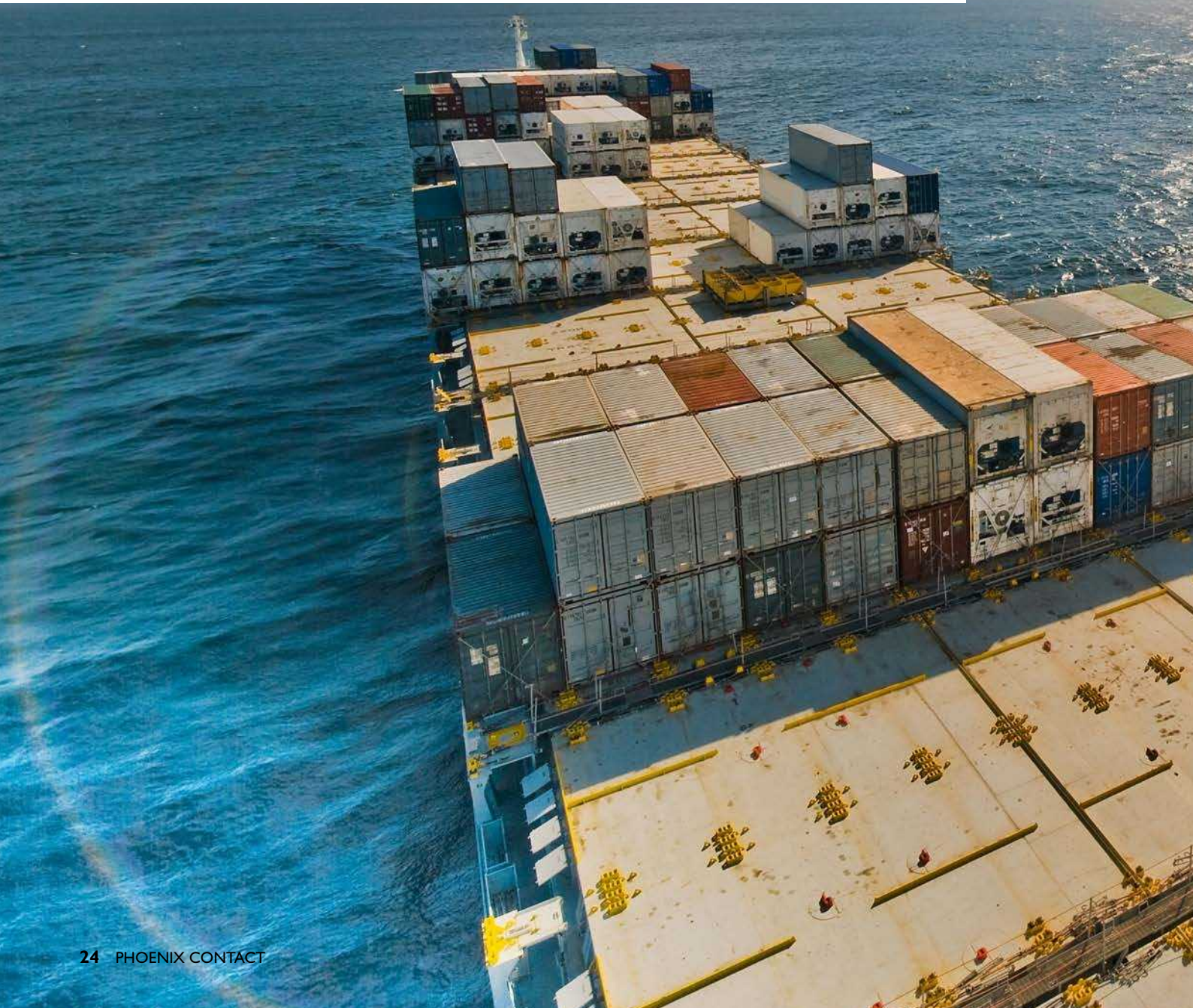


# DC/DC converters provide a regulated DC voltage

By using DC/DC converters you prevent faults in your application. Even in the case of long cable lengths, the load is always supplied with a controlled DC voltage.

Phoenix Contact offers you:

- DC/DC converters with SFB Technology and for extreme requirements
- DC/DC converters for control technology
- DC/DC converters for photovoltaic applications







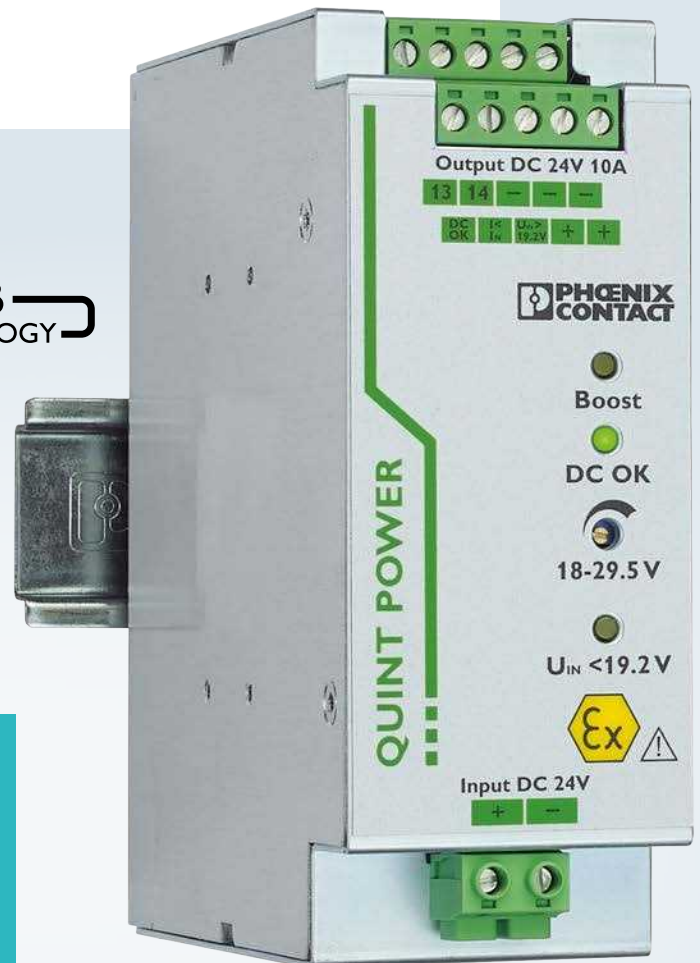


# DC/DC converters adapt voltages

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

DC/DC converters from the QUINT family convert nominal input voltages from 9 to 154 V DC to output voltages of 5 to 56 V DC. They supply currents between 5 and 20 A. The DC/DC converters in the MINI POWER range are suitable for low power ratings. They are available for voltages from 10 to 75 V DC and supply currents between 0.7 and 2 A.

**SFB**  
TECHNOLOGY



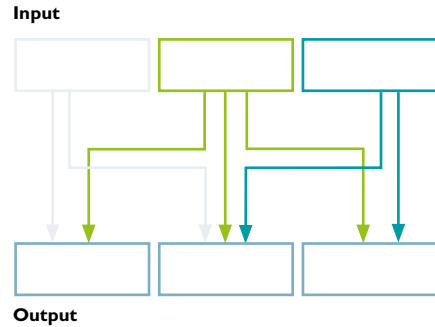
## Your advantages QUINT DC/DC converters

- ✓ Fast tripping of standard circuit breakers through dynamic power reserve, SFB Technology supplies up to 6 times the nominal current for 12 ms
- ✓ Preventive function monitoring indicates critical operating states before errors occur
- ✓ Remote monitoring using active switching output and floating relay contact
- ✓ Reliable starting of heavy loads and easy system extension, thanks to static boost with a permanent power reserve of up to 125% of the nominal current

# Overview of voltage levels

## QUINT DC/DC converters

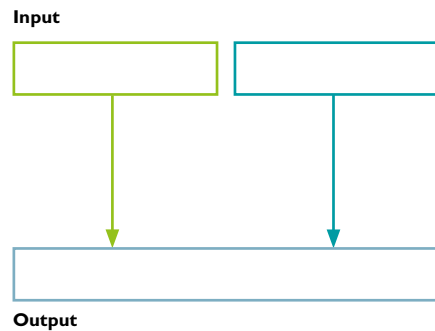
All common input and output voltages in performance classes up to 480 W for all industries as well as devices with approvals for the process industry.



\* During operation from 14 ... 32 V DC

## QUINT DC/DC converter with wide-range input

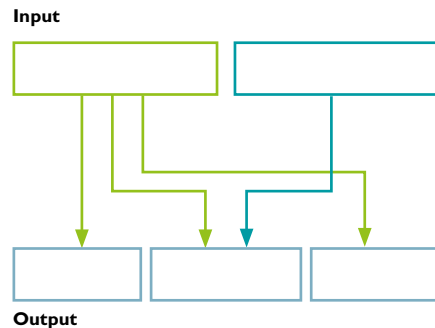
High degree of flexibility thanks to wide input range, e.g., for railway applications or power generation.



## MINI DC/DC converters

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

An LED and an active switching output monitor the output voltage. The connection technology is particularly easy to maintain, thanks to the coded COMBICON connectors.













## Product overview of QUINT and MINI DC/DC converters

QUINT DC/DC converters				SFB TECHNOLOGY
				
Input	18 ... 32 V DC	18 ... 32 V DC	18 ... 32 V DC	9 ... 18 V DC
W x H x D in mm	32 x 130 x 125	48 x 130 x 125	82 x 130 x 125	32 x 130 x 125
	<b>24 V/24 V/5 A</b>	<b>24 V/24 V/10 A</b>	<b>24 V/24 V/20 A</b>	<b>12 V/24 V/5 A</b>
Type	QUINT-PS/24DC/24DC/5	QUINT-PS/24DC/24DC/10	QUINT-PS/24DC/24DC/20	QUINT-PS/12DC/24DC/5
Order number	<a href="#">2320034</a>	<a href="#">2320092</a>	<a href="#">2320102</a>	<a href="#">2320131</a>
	<b>24 V/12 V/8 A</b>	<b>24 V/48 V/5 A</b>		<b>12 V/12 V/8 A</b>
Type	QUINT-PS/24DC/12DC/8	QUINT-PS/24DC/48DC/5		QUINT-PS/12DC/12DC/8
Order number	<a href="#">2320115</a>	<a href="#">2320128</a>		<a href="#">2905007</a>
				
Input	30 ... 60 V DC	30 ... 60 V DC	42 ... 96 V DC	67.2 ... 154 V DC
W x H x D in mm	32 x 130 x 125	48 x 130 x 125	48 x 130 x 125	48 x 130 x 125
	<b>48 V/24 V/5 A</b>	<b>48 V/48 V/5 A</b>	<b>60 ... 72 V/24 V/10 A</b>	<b>96 ... 110 V/24 V/10 A</b>
Type	QUINT-PS/48DC/24DC/5	QUINT-PS/48DC/48DC/5	QUINT-PS/60-72DC/24DC/10	QUINT-PS/96-110DC/24DC/10
Order number	<a href="#">2320144</a>	<a href="#">2905008</a>	<a href="#">2905009</a>	<a href="#">2905010</a>
MINI DC/DC converters		Accessories*		
				
Input	10 ... 32 V DC / 36 ... 75 V DC	10 ... 32 V DC / 36 ... 75 V DC	Single-phase, 10 ... 42 V AC	
W x H x D in mm	22.5 x 99 x 107	22.5 x 99 x 107	22.5 x 99 x 107	
	<b>12 ... 24 V/24 V/1 A</b>	<b>48 ... 60 V/24 V/1 A</b>	<b>10 ... 42 V AC/15 ... 60 V DC/3 A*</b>	
Type	MINI-PS-12-24DC/24DC/1	MINI-PS-48-60DC/24DC/1	MINI-PS-10-42AC/15-60DC/3	
Order number	<a href="#">2866284</a>	<a href="#">2866271</a>	<a href="#">2320199</a>	
	<b>12 ... 24 V/5 ... 15 V/2 A</b>	<b>12 ... 24 V/48 V/0.7 A</b>		
Type	MINI-PS-12-24DC/5-15DC/2	MINI-PS-12-24DC/48DC/0.7		
Order number	<a href="#">2320018</a>	<a href="#">2320021</a>		

\* AC power terminal for switching upstream of MINI DC/DC converters; the AC voltage of a transformer is rectified and filtered.

# Product overview of QUINT DC/DC converters, with protective coating

QUINT DC/DC converters, with protective coating						
						
Input	18 ... 32 V DC	18 ... 32 V DC	18 ... 32 V DC	18 ... 32 V DC	18 ... 32 V DC	18 ... 32 V DC
W x H x D in mm	32 x 130 x 125	32 x 130 x 125	48 x 130 x 125	48 x 130 x 125	82 x 130 x 125	82 x 130 x 125
	<b>24 V/24 V/5 A/CO</b>		<b>24 V/24 V/10 A/CO</b>		<b>24 V/24 V/20 A/CO</b>	
Type	QUINT-PS/24DC/24DC/5/CO		QUINT-PS/24DC/24DC/10/CO		QUINT-PS/24DC/24DC/20/CO	
Order number	2320542		2320555		2320568	
						
Input	42 ... 96 V DC		67.2 ... 154 V DC			
W x H x D in mm	48 x 130 x 125		48 x 130 x 125			
	<b>60 ... 72 V/24 V/10 A/CO</b>		<b>96 ... 110 V/24 V/10 A/CO</b>			
Type	QUINT-PS/60-72DC/24DC/10/CO		QUINT-PS/96-110DC/24DC/10/CO			
Order number	2905011		2905012			



## DC/DC converters

# UNO DC/DC converters


Supply your control cabinet directly from the photovoltaic system with the DC/DC converter from the UNO POWER range. As a result, you save on installation costs and increase system efficiency.

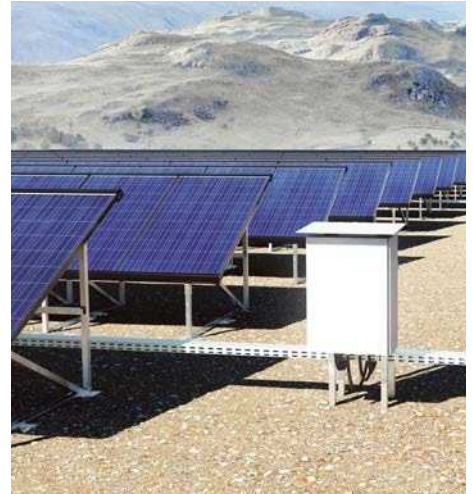


### Your advantages

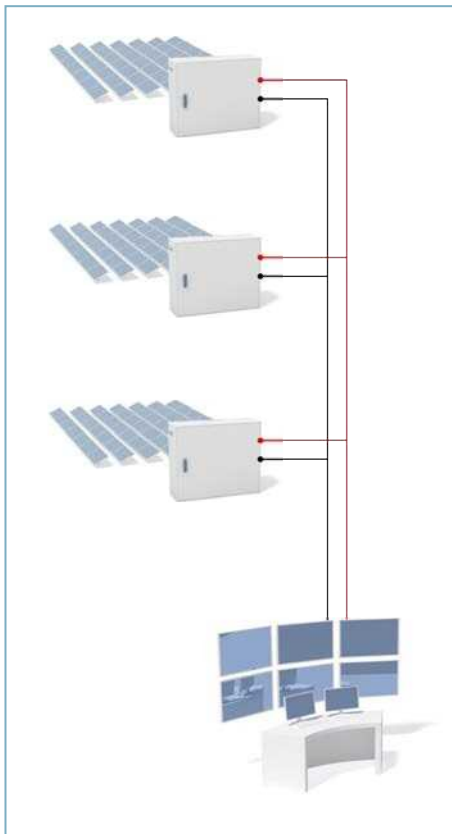
- ✓ Wide input voltage range from 300 V DC ... 1000 V DC
- ✓ Direct field installation possible, AC connection is no longer needed
- ✓ UL-1741 certification of the DC/DC converter simplifies approval of the overall system
- ✓ Minimal space required in the control box, thanks to compact design and high degree of efficiency
- ✓ Simplified startup, thanks to LED function monitoring

## Product overview of UNO DC/DC converters

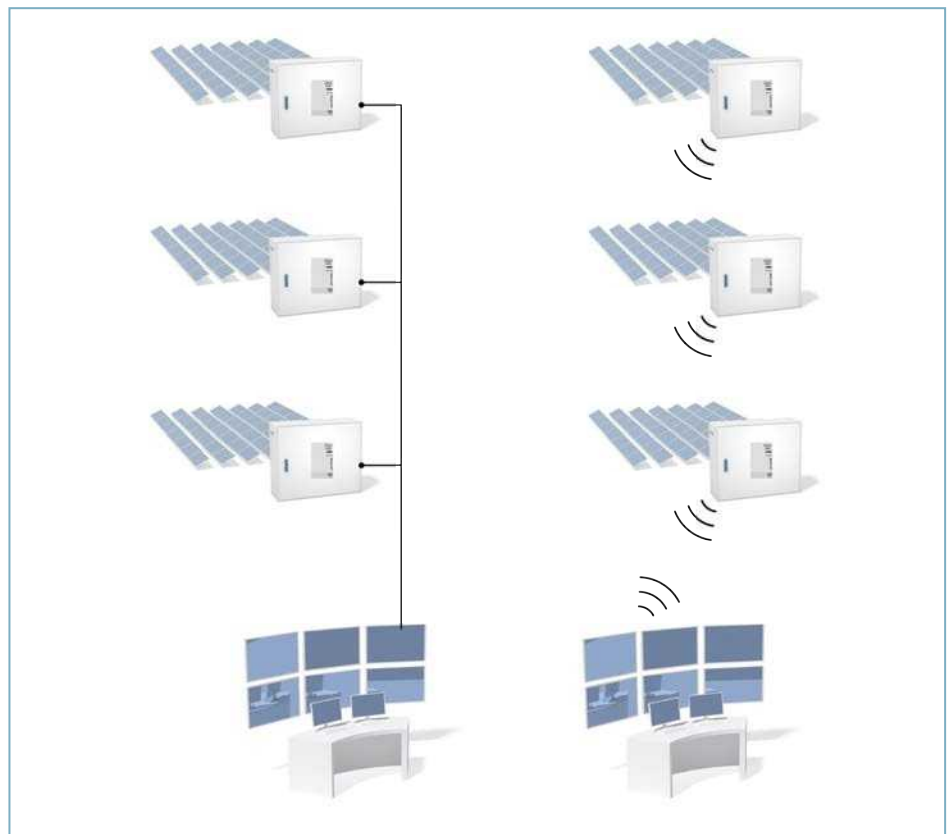
UNO DC/DC converters	
	
Input	350 ... 900 V DC
W x H x D in mm	55 x 90 x 84
	<b>350 ... 900 DC / 24 DC / 60 W</b>
Type	UNO-PS/350-900DC/24DC/60W
Order number	2906300



## Connection options for Combiner Boxes in photovoltaic systems



In the application shown, the Combiner Box is connected to a supply line (red, e.g., 230 V AC) and a signal line (black). Laying the lines involves significant installation costs.



UNO POWER enables direct connection to string voltages of up to 1000 V DC. This means the Combiner Box is supplied directly from the photovoltaic panel and additional installation costs are not incurred.

In another expansion stage, the signal line can be replaced by a wireless connection.

# Redundancy modules

In applications with the highest demands regarding operational reliability, redundant power supply solutions are needed. They prevent failure of a power supply unit leading to a system standstill.

A redundant system is the result of the parallel connection of two power supply units which are disconnected from each other. Decoupling with an active redundancy module or simple diode ensures a high level of availability and productivity in your system.









# Decoupling, monitoring, and control

The ACB (Auto Current Balancing) Technology of the QUINT ORING modules doubles the service life of redundantly operated power supplies by evenly utilizing the power supply units.

A system made up of two QUINT POWER power supplies and one QUINT ORING ensures a maximum output voltage of 32 V DC even if two faults occur. In this way, loads are reliably protected against static surge voltages. With permanent redundancy monitoring of the input voltage, output current, and decoupling section, the loss of redundancy is reported early on.

**50%**  
Power



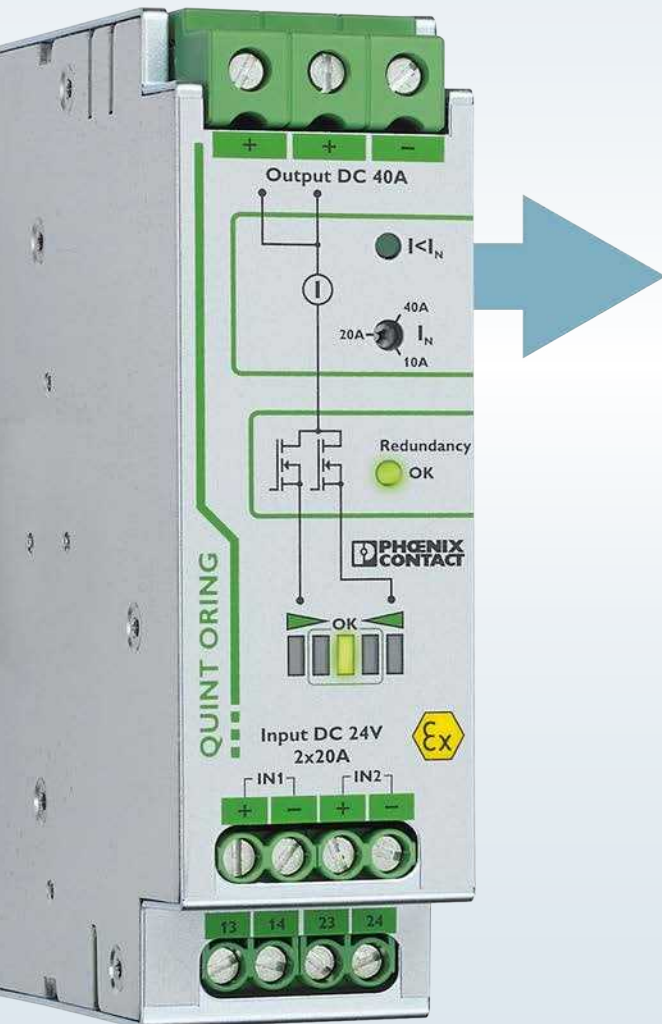
## Your advantages QUINT ORING

- ✓ Preventive function monitoring through permanent monitoring of the input voltage, output current, and decoupling section
- ✓ Consistent redundancy using two positive output terminal blocks up to the load
- ✓ Service life is doubled, thanks to uniform distribution of the load
- ✓ Energy savings of 70% by means of MOSFET
- ✓ Over Voltage Protection limits surge voltages to 32 V

## ACB Technology

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. ACB Technology ensures symmetrical loading of the power supplies and thereby up to double the service life of the redundant system.

Designed by PHOENIX CONTACT

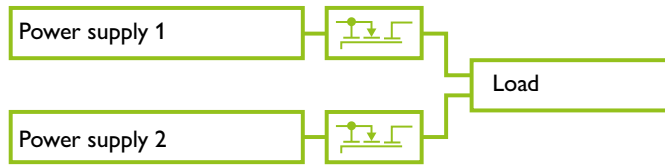




# 50% Power

# Product overview of redundancy modules

## Decoupling and monitoring

Active, single-channel redundancy module for separate structuring of a redundant system. In combination with the new QUINT POWER power supplies, you are provided with a fully monitored system.

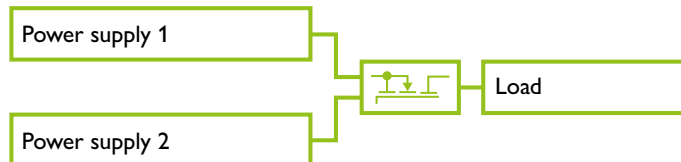









QUINT S-ORING		
		
Input	12 ... 24 V DC	12 ... 24 V DC
W x H x D in mm	32 x 130 x 125	32 x 130 x 125
	<b>12 ... 24 V / 1 x 40 A</b>	<b>12 ... 24 V / 1 x 40 A / +</b>
Type	QUINT4-S-ORING/12-24DC/1x40	QUINT4-S-ORING/12-24DC/1x40/+
Order number	<a href="#">2907752</a>	<a href="#">2907753</a>

- The plus version for higher requirements:**
- OVP (Over Voltage Protection)
  - Protective coating
  - ATEX/IECEX (approval in preparation)

## Decoupling, monitoring, and control

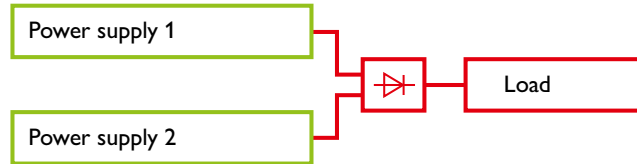
Active redundancy module for decoupling the power supplies. With monitoring of input voltages, wiring, and load current.









QUINT ORING			
	 	 	 
Input	18 ... 28 V DC	18 ... 28 V DC	18 ... 28 V DC
W x H x D in mm	32 x 130 x 125	38 x 130 x 125	66 x 130 x 125
	<b>24 V / 2 x 10 A / 1 x 20 A</b>	<b>24 V / 2 x 20 A / 1 x 40 A</b>	<b>24 V / 2 x 40 A / 1 x 80 A</b>
Type	QUINT-ORING/24DC/2x10/1x20	QUINT-ORING/24DC/2x20/1x40	QUINT-ORING/24DC/2x40/1x80
Order number	<a href="#">2320173</a>	<a href="#">2320186</a>	<a href="#">2902879</a>

## Decoupling with diodes

Easy decoupling with diodes.



	QUINT DIODE	
		
Input	10 ... 30 V DC	30 ... 56 V DC
W x H x D in mm	50 x 130 x 125	50 x 130 x 125
	<b>12 ... 24 V/2 x 20 A/1 x 40</b>	<b>48 V/2 x 20 A/1 x 40</b>
Type	QUINT4-DIODE/12-24DC/2x20/1x40	QUINT4-DIODE/48DC/2x20/1x40
Order number	<a href="#">2907719</a>	<a href="#">2907720</a>

	TRIO DIODE		UNO DIODE	STEP DIODE
				
Input	10 ... 30 V DC	10 ... 30 V DC	4.5 ... 30 V DC	4.5 ... 30 V DC
W x H x D in mm	35 x 130 x 115	41 x 130 x 115	22.5 x 90 x 84	18 x 90 x 61
	<b>12 ... 24 V/2 x 10 A/1 x 20</b>	<b>12 ... 24 V/2 x 20 A/1 x 40</b>	<b>5 ... 24 V/2 x 10 A/1 x 20 A</b>	<b>5 ... 24 V/2 x 5 A/1 x 10 A</b>
Type	TRIO2-DIODE/ 12-24DC/2x10/1x20	TRIO2-DIODE/ 12-24DC/2x20/1x40	UNO-DIODE/ 5-24DC/2x10/1x20	STEP-DIODE/ 5-24DC/2x5/1x10
Order number	<a href="#">2907380</a>	<a href="#">2907379</a>	<a href="#">2905489</a>	<a href="#">2868606</a>

— Monitored  
— Not monitored

# Uninterruptible power supplies

Mains interruptions can have serious consequences. Don't take any chances!  
You can rely on our uninterruptible power supplies.

We offer the following solutions for optimum system availability, even in the event of mains failure:

- DC and AC UPS modules
- UPS modules with integrated energy storage
- UPS modules with integrated power supply







# IQ technology for an intelligent UPS system

Superior system availability, thanks to IQ technology:

- You know the charging state and remaining runtime of your energy storage
- You are warned about failures at an early stage which makes it possible to plan servicing
- You can maximize the service life of the energy storage
- You can transfer all relevant information to your computer and higher-level controllers

## Intelligent battery management SOC (State of Charge)

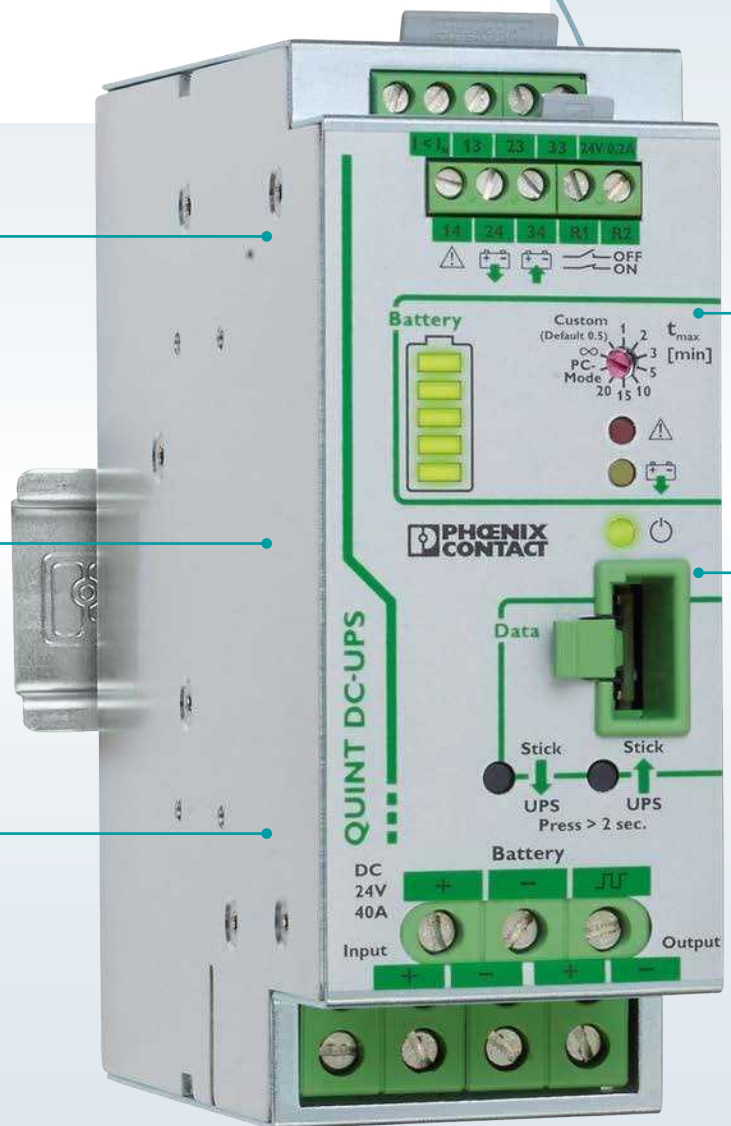
Describes the current charging state and remaining runtime of the energy storage.

## Intelligent battery management SOH (State of Health)

Provides information on the remaining life expectancy of the energy storage and warns of failures at an early stage.

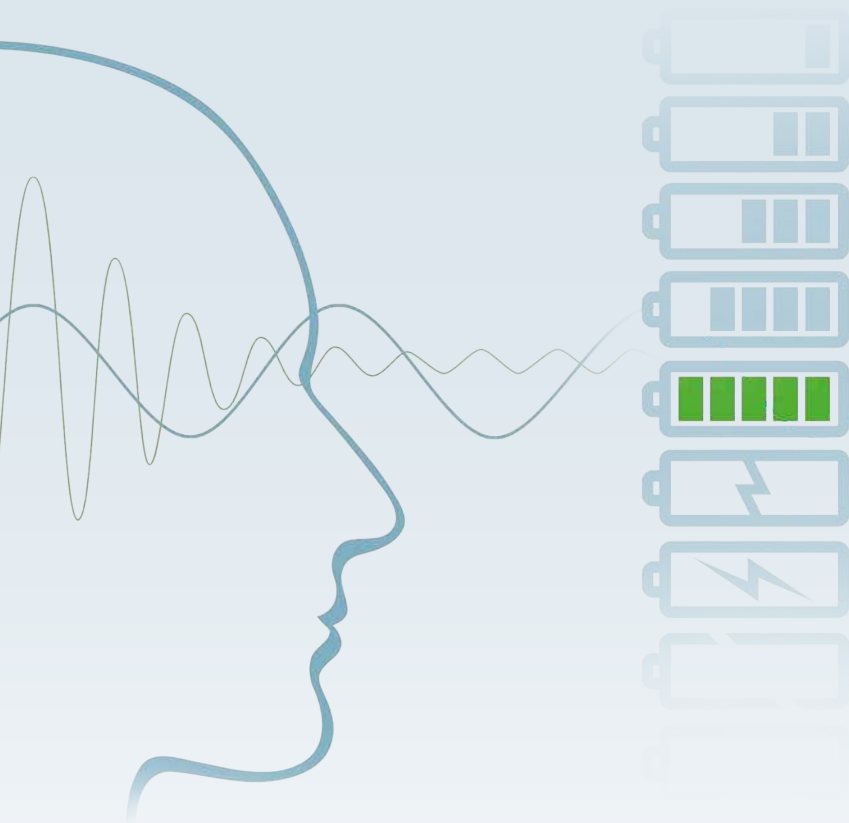
## Intelligent battery control

Detects the connected battery type automatically and maximizes the remaining service life of the energy storage via an optimally adapted charging characteristic.



**i** Web code: #0154





#### **Intelligent charging**

Adapts the charging current and thereby ensures the fastest possible recharging and availability.

#### **Data port**

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



### 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 energy storage actually bridge this time? Charging state, performance, and remaining runtime of the energy storage are unknown.

#### **Solution with QUINT UPS**

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

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

The QUINT UPS also indicates whether the remaining 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.

## Uninterruptible power supplies

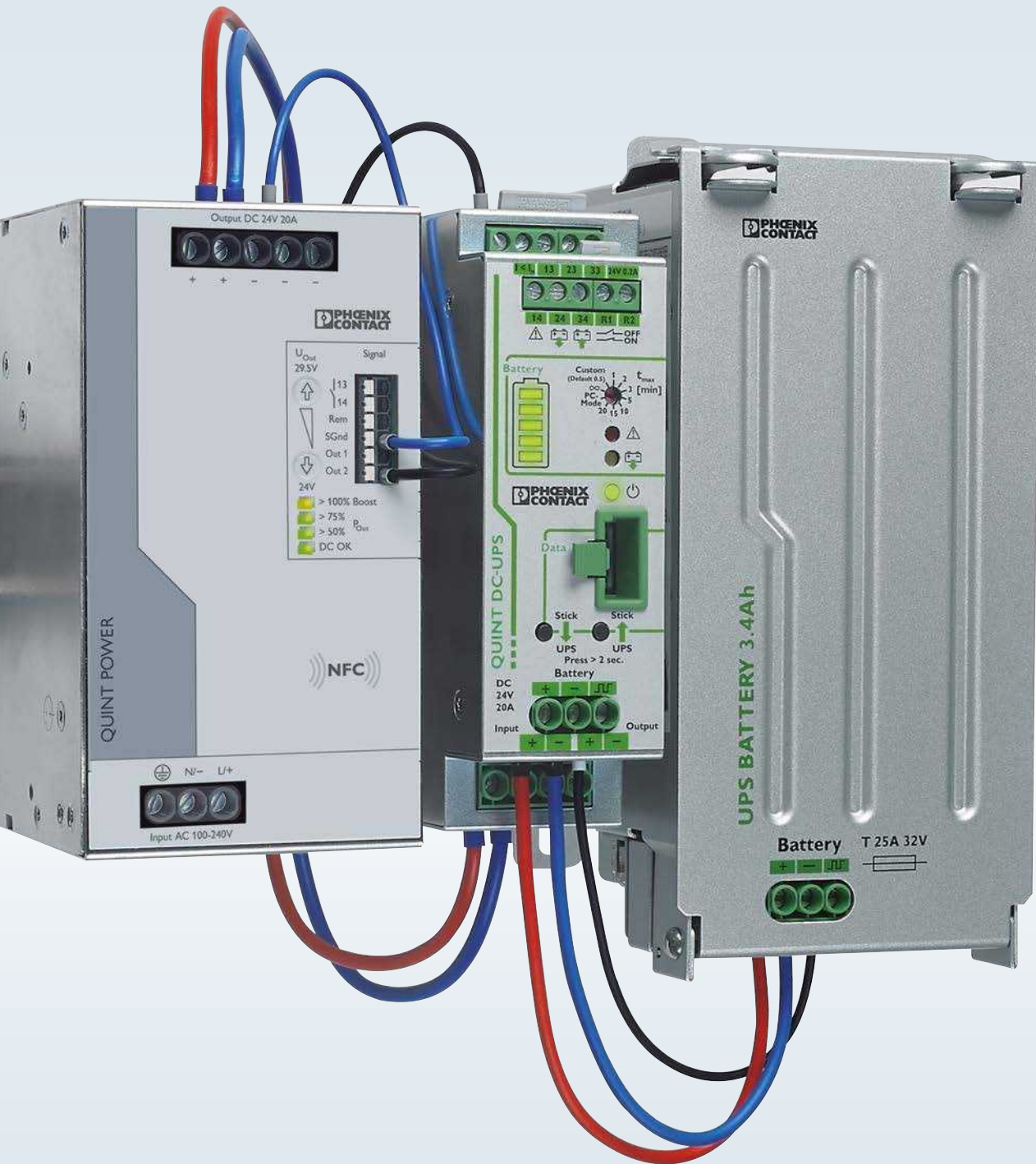
# Intelligence in any combination

Create your own individual QUINT UPS solution – tailored to your application.

1. Choose your power supply
2. Choose your UPS module
3. Choose your energy storage for a maximum service life or long service life in the case of long buffer times or for maximum buffer times

	QUINT UPS	QUINT BUFFER	TRIO UPS	UNO UPS	MINI UPS	STEP UPS
Intelligence for superior system availability with IQ technology	•					
Flexible thanks to various energy storage technologies	•					
Able to communicate for integration into higher-level controllers	•					
Configuration of UPS behavior using software	•	•	•			
UPS module with integrated energy storage	•	•	•	•		•
UPS module with integrated power supply			•		•	





Power supply



UPS module



Energy storage

## Uninterruptible power supplies

# QUINT UPS for DC and AC applications

The QUINT UPS for 24 V DC with output currents of 5 to 40 A is suitable for mains interruptions that last several hours.

The QUINT UPS for AC applications delivers a pure sine curve at the output. The sine generated in battery operation is synchronous with the mains previously used for supply. Only one energy storage is required to protect your system.

**IQ**  
TECHNOLOGY

**SFB**  
TECHNOLOGY

### Substantial power reserve

- For mains and battery operation
- Power Boost static power reserve
- SFB Technology (Selective Fuse Breaking) (for details on SFB Technology, refer to page 10)

### Adaptive power management

- For fast charging and high availability of the energy storage



### Optimum use of the buffer time and preventive monitoring of the energy storage

- Intelligent battery management



Power supply

UPS module

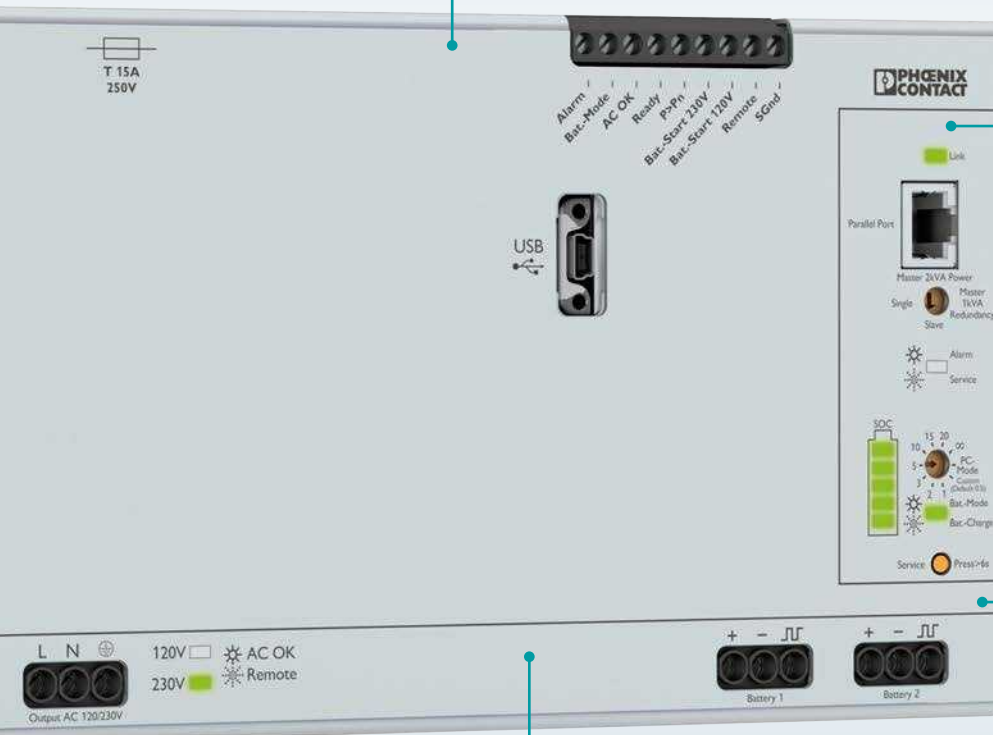
Energy storage

### Comprehensive signaling and parameterization

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

### Startup from the energy storage

- Even possible without mains input



### USB interface

- For connecting industrial PCs, for example

### Can be switched in parallel

- For increased redundancy and performance

### Smooth transition due to online topology

- VFI-SS-111

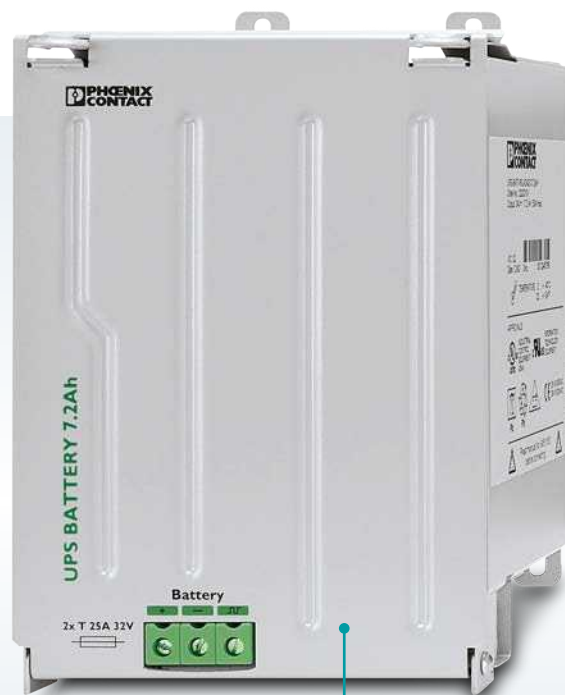


# Energy storage for QUINT UPS

With energy storage for our modular system of uninterruptible power supplies, you will always gain the optimum solution for your system.

The respective storage media are characterized by different properties:

- UPS-CAP for maximum service life
- UPS-BAT/LI-ION for long service life
- UPS-BAT/VRLA-WTR can be used at extreme ambient temperatures
- UPS BAT/VRLA for maximum buffer times



## Your advantages

- ✓ Fast installation, thanks to automatic detection of the energy storage, and tool-free switching during operation
- ✓ Maximum availability, thanks to constant communication with QUINT UPS for continuous monitoring and intelligent management
- ✓ Extremely long service life, thanks to optimum charging characteristic according to the technology and ambient conditions
- ✓ Immediate availability: all energy storage devices only leave our warehouse fully charged

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

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



Type	Typical buffer time	Temperature	Service life at +20°C	Service life at +50°C	Charging cycles at +20°C	Weight (standardized)
UPS-CAP...	< 5 min	-40 ... +60°C	> 20 years	8 years	> 500,000	0.4 kg
UPS-BAT/LI-ION...	> 40 min	-20 ... +58°C	15 years	2 years	7000	0.45 kg
UPS-BAT/VRLA-WTR...	> 5 h	-25 ... +60°C	12 years	1.5 years	300	1.3 kg
UPS-BAT/VRLA...	> 8 h	0 ... +40°C	6 ... 9 years	1 year	250	1 kg



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

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

### UPS-BAT/LI-ION...

- Long service life with long buffer times
- Lithium iron phosphate technology

### UPS-CAP (Capacitor)

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

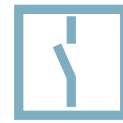
**i** Web code: #1076

# Selection guide for QUINT DC UPS and energy storage

Select the optimum combination of QUINT DC UPS and energy storage.



Power supply



UPS module



Energy storage

## Buffer times for QUINT AC UPS with the following energy storage: CAP, LI-ION, and VRLA-WTR

Select your energy storage for 24 V DC applications here. Example: 20 A needs to be buffered for 6 minutes.



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

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

## Buffer times for QUINT DC UPS with VRLA energy storage:






Select your energy storage for 24 V DC applications here. Example: 7 A needs to be buffered for one hour.














→ QUINT-UPS/24DC/24DC/10A and  
UPS-BAT/VRLA/24DC/12AH

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

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

	QUINT DC UPS 1~				IO TECHNOLOGY	Dual output
						
W x H x D in mm	35 x 130 x 125	35 x 130 x 125	40 x 130 x 125	47 x 130 x 125	35 x 130 x 125	
	<b>24 V/5 A</b>	<b>24 V/10 A</b>	<b>24 V/20 A</b>	<b>24 V/40 A</b>	<b>12 V/5 A, 24 V/10 A</b>	
Type	QUINT-UPS/ 24DC/24DC/5	QUINT-UPS/ 24DC/24DC/10	QUINT-UPS/ 24DC/24DC/20	QUINT-UPS/ 24DC/24DC/40	QUINT-UPS/ 24DC/12DC/5/24DC/10	
Order number	2320212	2320225	2320238	2320241	2320461	
Recommended energy storage UPS-BAT/...	CAP LI-ION VRLA-WTR VRLA/1.3 ... 12 AH (max. 2 x 12 AH)	CAP LI-ION VRLA/1.3 ... 38 AH (max. 1 x 38 AH)	CAP LI-ION VRLA/3.4 ... 38 AH (max. 2 x 38 AH)	WTR VRLA/7.2 ... 38 AH (max. 2 x 38 AH)	CAP LI-ION VRLA/1.3 ... 38 AH (max. 1 x 38 AH)	

	UPS-CAP		UPS-BAT/LI-ION		UPS-BAT/VRLA-WTR	
						
W x H x D in mm	126 x 130 x 126	150 x 130 x 126	135 x 202 x 110	264 x 224 x 197	172 x 177 x 178	358 x 174 x 169
	<b>10 A/10 kJ</b>	<b>20 A/20 kJ</b>	<b>120 Wh</b>	<b>924 Wh</b>	<b>13 Ah</b>	<b>26 Ah</b>
Type	UPS-CAP/ 24DC/10A/10KJ	UPS-CAP/ 24DC/20A/20KJ	UPS-BAT/LI-ION/ 24DC/120WH	UPS-BAT/LI-ION/ 24DC/924WH	UPS-BAT/ VRLA-WTR/ 24DC/13AH	UPS-BAT/ VRLA-WTR/ 24DC/26AH
Order number	2320377	2320380	2320351	2908232	2320416	2320429

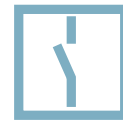
	UPS-BAT/VRLA				
					
W x H x D in mm	54 x 157 x 113	85 x 191 x 110	135 x 202 x 110	202 x 202 x 110	330 x 221 x 197
	<b>1.3 Ah</b>	<b>3.4 Ah</b>	<b>7.2 Ah</b>	<b>12 Ah</b>	<b>38 Ah</b>
Type	UPS-BAT/VRLA/ 24DC/1.3AH	UPS-BAT/VRLA/ 24DC/3.4AH	UPS-BAT/VRLA/ 24DC/7.2AH	UPS-BAT/VRLA/ 24DC/12AH	UPS-BAT/VRLA/ 24DC/38AH
Order number	2320296	2320306	2320319	2320322	2320335

# Selection guide for QUINT AC UPS/500VA and energy storage

Select the optimum combination of QUINT AC UPS/500VA and energy storage.



Power supply



UPS module



Energy storage

## Buffer times for QUINT AC UPS/500VA with the following energy storage: CAP, LI-ION, and VRLA-WTR

Select the right energy storage for your QUINT AC UPS/500VA (120/230-V application). Example: 125 W needs to be buffered for one hour.



→ QUINT-UPS/1AC/1AC/500VA and  
UPS-BAT/VRLA-WTR/24DC/26AH



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

## Buffer times for QUINT AC UPS/500VA with VRLA energy storage:

Select the right energy storage for your QUINT AC UPS/500VA (120/230-V application). Example: 125 W needs to 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	15	20	40	1	2	3	5	10	20	30	40	45	50	1	2	3	5	8	10	15	20
15 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
35 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
55 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
90 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
125 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
180 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
275 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
400 W	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow

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



<b>QUINT AC UPS</b> 	
	
W x H x D in mm	125 x 130 x 125
<b>400 W / 500 VA</b>	
Type	QUINT-UPS/1AC/1AC/500VA
Order number	<a href="#">2320270</a>
Recommended energy storage UPS-BAT/...	CAP/20 A LI-ION VRLA-WTR VRLA/3.4 ... 38 AH (1 x)

	UPS-CAP	UPS-BAT/LI-ION		UPS-BAT/VRLA-WTR	
					
W x H x D in mm	150 x 130 x 126	135 x 202 x 110	264 x 224 x 197	172 x 177 x 178	358 x 174 x 169
	<b>20 A / 20 kJ</b>	<b>120 Wh</b>	<b>924 Wh</b>	<b>13 Ah</b>	<b>26 Ah</b>
Type	UPS-CAP/ 24DC/20A/20KJ	UPS-BAT/LI-ION/ 24DC/120WH	UPS-BAT/LI-ION/ 24DC/924WH	UPS-BAT/ VRLA-WTR/ 24DC/13AH	UPS-BAT/ VRLA-WTR/ 24DC/26AH
Order number	<a href="#">2320380</a>	<a href="#">2320351</a>	<a href="#">2908232</a>	<a href="#">2320416</a>	<a href="#">2320429</a>

UPS-BAT/VRLA				
				
W x H x D in mm	85 x 191 x 110	135 x 202 x 110	202 x 202 x 110	330 x 221 x 197
	<b>3.4 Ah</b>	<b>7.2 Ah</b>	<b>12 Ah</b>	<b>38 Ah</b>
Type	UPS-BAT/VRLA/ 24DC/3.4AH	UPS-BAT/VRLA/ 24DC/7.2AH	UPS-BAT/VRLA/ 24DC/12AH	UPS-BAT/VRLA/ 24DC/38AH
Order number	<a href="#">2320306</a>	<a href="#">2320319</a>	<a href="#">2320322</a>	<a href="#">2320335</a>

# Selection guide for QUINT AC UPS/1kVA and energy storage

Select the optimum combination of QUINT AC UPS/1KVA and energy storage.



Power supply    UPS module    Energy storage

## Buffer times for QUINT AC UPS/1kVA with the following energy storage: CAP, LI-ION, and VRLA-WTR

Select the right energy storage for your QUINT AC UPS/1kVA (120/230-V application). Example: 400 W needs to be buffered for three hours.



→ QUINT4-UPS/1AC/1AC/1KVA and UPS-BAT/LI-ION/24DC/924WH



Power	Buffer time																			
	Minutes											Hours								
	2	3	4	5	8	10	15	20	25	30	40	50	1	1.5	2	3	4	6	9	10
100 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
200 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
300 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
400 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
500 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
600 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
700 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
800 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
900 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1

## Buffer times for QUINT AC UPS/1kVA with VRLA energy storage:

Select the right energy storage for your QUINT AC UPS/1kVA (120/230-V application). Example: 400 W needs to be buffered for 50 minutes.









→ QUINT4-UPS/1AC/1AC/1KVA and UPS-BAT/VRLA/24DC/12AH







Power	Buffer time																			
	Minutes											Hours								
	2	3	4	5	8	10	15	20	25	30	40	50	1	1.5	2	3	4	6	9	10
100 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
200 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
300 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
400 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
500 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
600 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
700 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
800 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
900 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1

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

<b>QUINT AC UPS</b> 	
	
W x H x D in mm	290 x 130 x 125
<b>900 W / 1 kVA</b>	
Type	QUINT4-UPS/1AC/1AC/1KVA
Order number	<a href="#">2320283</a>
Recommended energy storage UPS-BAT/...	LI-ION VRLA-WTR VRLA/7.2 ... 38 AH

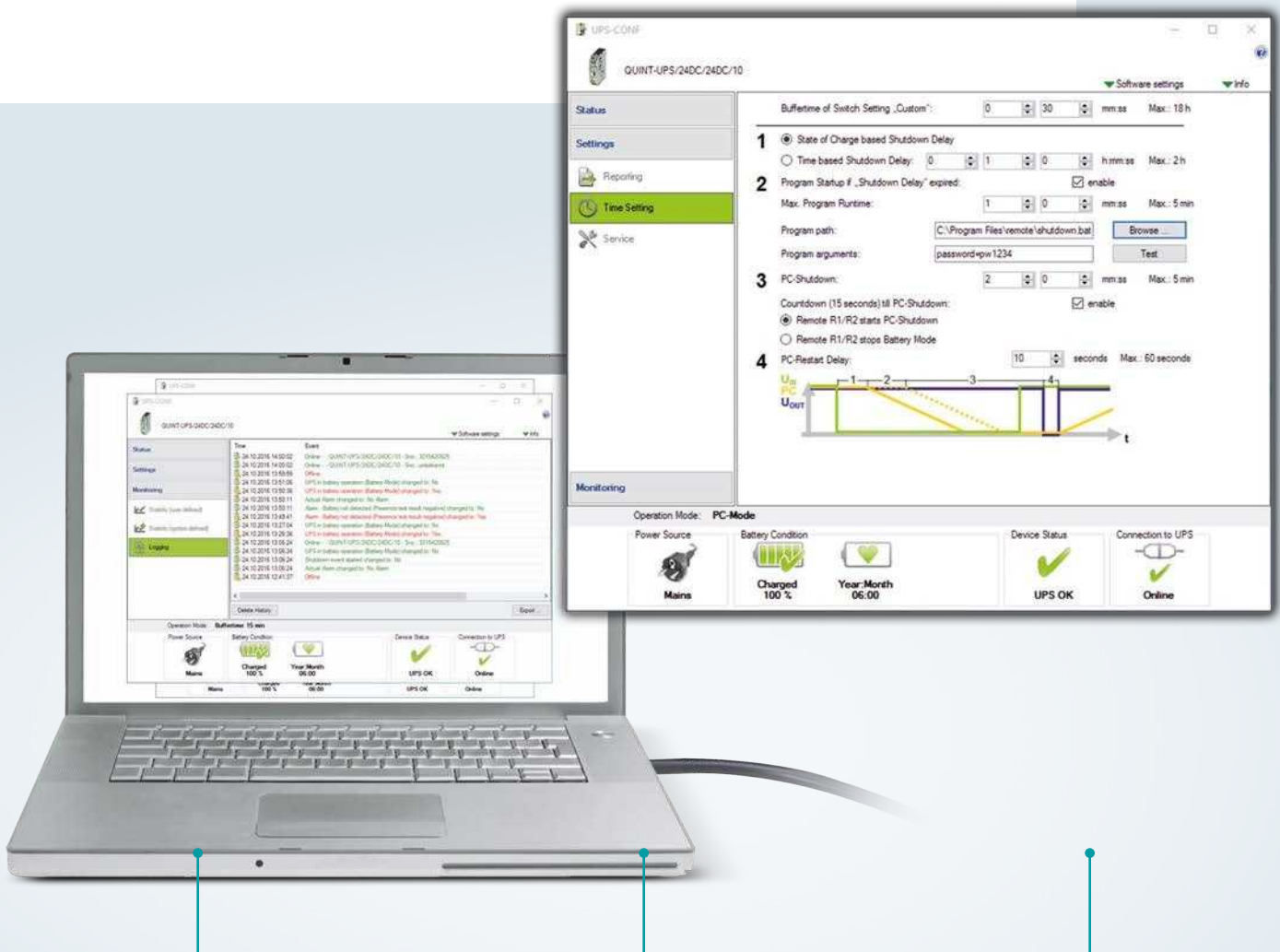
	UPS-BAT/LI-ION		UPS-BAT/VRLA-WTR	
				
W x H x D in mm	135 x 202 x 110	264 x 224 x 197	172 x 177 x 178	358 x 174 x 169
	<b>120 Wh</b>	<b>924 Wh</b>	<b>13 Ah</b>	<b>26 Ah</b>
Type	UPS-BAT/LI-ION/ 24DC/120WH	UPS-BAT/LI-ION/ 24DC/924WH	UPS-BAT/ VRLA-WTR/ 24DC/13AH	UPS-BAT/ VRLA-WTR/ 24DC/26AH
Order number	<a href="#">2320351</a>	<a href="#">2908232</a>	<a href="#">2320416</a>	<a href="#">2320429</a>

UPS-BAT/VRLA				
				
W x H x D in mm	85 x 191 x 110	135 x 202 x 110	202 x 202 x 110	330 x 221 x 197
	<b>3.4 Ah</b>	<b>7.2 Ah</b>	<b>12 Ah</b>	<b>38 Ah</b>
Type	UPS-BAT/VRLA/ 24DC/3.4AH	UPS-BAT/VRLA/ 24DC/7.2AH	UPS-BAT/VRLA/ 24DC/12AH	UPS-BAT/VRLA/ 24DC/38AH
Order number	<a href="#">2320306</a>	<a href="#">2320319</a>	<a href="#">2320322</a>	<a href="#">2320335</a>

# 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.



## Configuration

- Flexible adaptation of QUINT UPS behavior to individual requirements

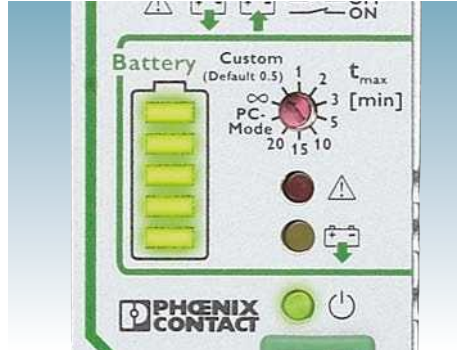
## Preventive function monitoring

- 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





## Signaling

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

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





## Intelligent monitoring of the energy storage

- Automatic detection of the battery type connected and maximization of the service life, thanks to optimally adjusted charging characteristics
- Adapting the charging current ensures the quickest possible charging and availability of the energy storage

## USB interface is ideal for:

- Monitoring and configuration with UPS-CONF
- Safe shutdown of industrial PCs with optimum utilization of the energy storage
- Automatic boot mode when mains returns

## Accessories

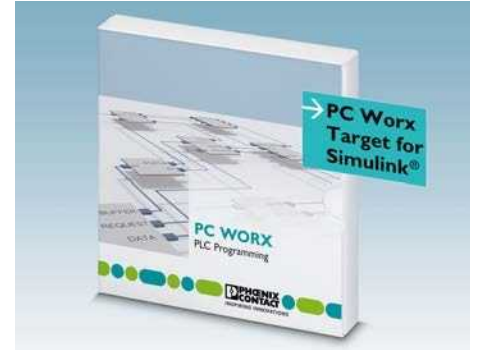
				
	Software	USB data cable	Memory block	Memory block
Type	UPS-CONF	IFS-USB-DATACABLE	IFS-CONFSTICK	IFS-CONFSTICK-L
Order number	2320403	2320500	2986122	2901103
Description	<ul style="list-style-type: none"> <li>• Available free of charge on the Phoenix Contact website under "Downloads" for the QUINT-UPS/... products</li> </ul>	<ul style="list-style-type: none"> <li>• For communication between UPS module and UPS-CONF</li> <li>• Length: 3 m</li> </ul>	<ul style="list-style-type: none"> <li>• For saving and transferring configured values to another QUINT UPS or use as a service stick</li> <li>• With lock</li> <li>• Can remain in the UPS</li> </ul>	<ul style="list-style-type: none"> <li>• For saving and transferring configured values to another QUINT UPS or use as a service stick</li> <li>• Without lock</li> </ul>

# 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 via data cable

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

### Communication for superior system availability

Uninterruptible power supplies with IQ technology ensure the stable supply of loads in industrial applications. Information, e.g., regarding the current available buffer time or for further processing in higher-level controllers is provided. Intelligent QUINT UPS solutions can therefore be integrated seamlessly into the overall system.

### Do you use PC Worx software?

We offer you our library with the corresponding function blocks for this. The library is available free of charge on the Phoenix Contact website under "Downloads" for the QUINT-UPS/... products

Accessories				
				
	<b>Programming adapter</b>	<b>RS-232 data cable</b>	<b>Open End data cable</b>	<b>MINI DIN data cable</b>
Type	IFS-BT-PROG-ADAPTER	IFS-RS232-DATACABLE	IFS-OPEN-END-DATACABLE	IFS-MINI-DIN-DATACABLE
Order number	2905872	2320490	2320450	2320487
Description	<ul style="list-style-type: none"> <li>Bluetooth programming adapter for wireless communication between UPS module and UPS-CONF</li> </ul>	<ul style="list-style-type: none"> <li>Modbus communication with RS-232 interface</li> <li>COM server from Phoenix Contact for Ethernet communication</li> <li>Address higher-level controllers such as Inline controllers (ILCs) or Remote Field Controllers (RFCs) directly</li> <li>Use the Phoenix Contact Inline controller as a gateway and access other communication protocols</li> <li>Length: 2 m</li> </ul>	<ul style="list-style-type: none"> <li>Open cable for flexible communication</li> <li>Length: 2 m</li> </ul>	<ul style="list-style-type: none"> <li>Direct communication with the Inline controller (ILC) from the Phoenix Contact Inline system (100 series)</li> <li>Length: 2 m</li> </ul>

# Selection guide for QUINT UPS modules with integrated energy storage

## QUINT UPS

It is very easy to install in existing systems. Reap the benefits of IQ technology and minimal wiring effort. The maintenance-free energy storage comes with lead AGM technology.

## QUINT BUFFER

For bridging failures lasting a matter of seconds.

Both buffer modules are suitable for the DIN rail and combine an electronic switch-over unit and maintenance-free, capacitor-based energy storage in the same housing.

## QUINT CAP

For cyclic failures lasting up to 30 seconds. The USB interface makes it convenient to shut down your PC.

### Buffer times for QUINT UPS and QUINT BUFFER

Example: 5 A needs to be buffered for 20 minutes.

- 
- QUINT4-UPS/24DC/24DC/10/3.4AH

Power	Buffer time																													
	Seconds										Minutes										Hours									
	0.2	0.4	0.5	1	1.5	2	4	6	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																														
20 A																														
30 A																														
40 A																														

### Buffer times for QUINT CAP

Example: 5 A needs to be buffered for 40 seconds.

- 
- QUINT4-CAP/24DC/10/8KJ

Load current	Buffer time									
	Seconds					Minutes				
	15	20	30	40	50	1	2	3	5	
1 A										
2.5 A										
5 A										
6.25 A										
7.5 A										
10 A										
12.5 A										





Power supply    UPS module    Energy storage

	QUINT UPS 1~		QUINT BUFFER	
Input	18 ... 30 V DC	18 ... 30 V DC	22.5 ... 30 V DC	22.5 ... 30 V DC
W x H x D in mm	88 x 138 x 125	120 x 169 x 125	57 x 130 x 125	73 x 130 x 125
	<b>24 DC/5 A/1.3 Ah</b>	<b>24 DC/10 A/3.4 Ah</b>	<b>24 V/20 A</b>	<b>24 V/40 A</b>
Type	QUINT-UPS/ 24DC/24DC/5/1.3AH	QUINT-UPS/ 24DC/24DC/10/3.4AH	QUINT4-BUFFER/ 24DC/24DC/20	QUINT4-BUFFER/ 24DC/24DC/40A
Order number	<a href="#">2320254</a>	<a href="#">2320267</a>	<a href="#">2907913</a>	<a href="#">2908283</a>
Energy storage	Lead AGM technology	Lead AGM technology	Capacitor-based	Capacitor-based
Information:	<ul style="list-style-type: none"> <li>Integrated temperature sensor optimizes load currents, thereby increasing the service life</li> </ul>		<ul style="list-style-type: none"> <li>Energy storage is maintenance-free</li> </ul>	

	QUINT CAP		
Input	22.5 ... 30 V DC	22.5 ... 30 V DC	
W x H x D in mm	94 x 130 x 125	118 x 130 x 125	
	<b>24 DC/5 A</b>	<b>24 DC/10 A</b>	
Type	QUINT4-CAP/24DC/5/4KJ	QUINT4-CAP/24DC/10/8KJ	
Order number	<a href="#">2320539</a>	<a href="#">2320571</a>	
Energy storage	Capacitor-based	Capacitor-based	
Information:	<ul style="list-style-type: none"> <li>Ultra-CAP is maintenance-free</li> </ul>		

# Selection guide for UPS modules with integrated energy storage

## Particularly space-saving

UPS module and energy storage are in one housing. It's just a case of connecting a power supply upstream.

The energy storage can of course be replaced quickly and easily when it reaches the end of its service life.

## UNO UPS

Compact and narrow, it ensures long buffer times with the integrated lead AGM energy storage.

## STEP UPS

With the right power supply switched upstream, you have a minimal space requirement of just 198 mm on the DIN rail.

## TRIO AC UPS

The TRIO AC UPS with Push-in Technology for the DIN rail reliably supplies your AC loads in a space-saving manner. It delivers a pure sine curve at the output. The sine generated in battery operation is synchronous with the mains previously used for supply. Connected industrial PCs can be shut down via the integrated USB interface.

## Buffer times for TRIO AC UPS

1+1 ... An additional energy storage device of the same capacity (3.4 AH) of type UPS-BAT/VRLA/24DC/3.4AH (2320306) or QUINT-BAT/24DC/3.4AH (2866349) is required in this case.

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

Power	Buffer time												Hours	
	Minutes												1	1.5
	1	1.5	2	4	6	8	10	15	20	30	40	50	1	1.5
50 W													1+1	1+1
100 W										1+1	1+1	1+1		
150 W								1+1	1+1	1+1				
200 W							1+1	1+1	1+1					
250 W						1+1	1+1	1+1						
300 W					1+1	1+1	1+1							
400 W				1+1	1+1	1+1								
500 W			1+1	1+1	1+1									
600 W		1+1	1+1	1+1										

## Buffer times for UNO UPS and STEP UPS

Example: 2.5 A needs to be buffered for 10 minutes.

→ STEP-UPS/24DC/24DC/3A

Load current	Buffer time															Hours											
	Seconds							Minutes								1	2	3									
	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																											
1.5 A																											
2 A																											
2.5 A																											
3 A																											
4 A																											






Power supply






UPS module



Energy storage

	TRIO AC UPS 1~		Accessories
			
Input	184 ... 264 V AC	96 ... 138 V AC	<ul style="list-style-type: none"> <li>• For communication between UPS module and UPS-CONF</li> <li>• Length: 3 m</li> </ul>
W x H x D in mm	210 x 169 x 139	210 x 169 x 139	

	230 V / 750 VA	120 V / 750 VA	USB data cable
Type	TRIO-UPS-2G/ 1AC/1AC/230V/750VA	TRIO-UPS-2G/ 1AC/1AC/120V/750VA	MINI-SCREW- USB-DATACABLE
Order number	<a href="#">2905909</a>	<a href="#">2905908</a>	<a href="#">2908217</a>
Energy storage	Lead AGM technology	Lead AGM technology	

	UNO UPS 1~	STEP UPS 1~	
			
Input	23 ... 30 V DC	22.5 ... 29.5 V DC	10 ... 16.5 V DC
W x H x D in mm	110 x 90 x 90	108 x 90 x 61	108 x 90 x 61

	24 V / 60 W	24 DC / 24 DC / 3 A	12 DC / 12 DC / 4 A
Type	UNO-UPS/24DC/24DC/60W	STEP-UPS/24DC/24DC/3	STEP-UPS/12C/12DC/4
Order number	<a href="#">2905907</a>	<a href="#">2868703</a>	<a href="#">2868693</a>
Energy storage	Lead AGM technology	Lithium iron phosphate technology	Lithium iron phosphate technology

# Selection guide for UPS modules with integrated power supply

## Particularly space-saving

The UPS module and power supply are combined in the same housing. Only one energy storage is required to complete the UPS system.

## MINI UPS

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

## TRIO UPS

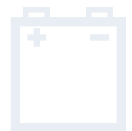
Energy storage devices with lead AGM technology buffer failures lasting up to two hours with 5 A load current.





Power supply







UPS module



Energy storage


	MINI UPS 1~	
		
Input	85 ... 264 V AC, 100 ... 350 V DC	85 ... 264 V AC, 100 ... 350 V DC
W x H x D in mm	67.5 x 99 x 107	67.5 x 99 x 107
	<b>24 DC / 2 A</b>	<b>12 DC / 4 A</b>
Type	MINI-DC-UPS/24DC/2	MINI-DC-UPS/12DC/4
Order number	<a href="#">2866640</a>	<a href="#">2866598</a>

	TRIO UPS 1~	Accessories for TRIO UPS		
				
Input	85 ... 264 V AC, 100 ... 350 V DC	• For further information, see page 55		
W x H x D in mm	60 x 130 x 118			
	<b>24 DC / 5 A</b>	<b>Software</b>	<b>USB data cable</b>	<b>Memory block</b>
Type	TRIO-UPS/1AC/24DC/5	UPS-CONF	IFS-USB-DATACABLE	UPS-CONFSTICK
Order number	<a href="#">2866611</a>	<a href="#">2320403</a>	<a href="#">2320500</a>	<a href="#">2986122/2901103</a>











## 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
0.5A																
1A																
1.5A																
2A																
3A																
4A																
5A																

Energy storage for MINI UPS				
				
Energy storage	Lead AGM technology	Lead AGM technology	Lead AGM technology	Lead AGM technology
W x H x D in mm	67.5 x 99 x 107	52 x 130 x 110	67.5 x 99 x 107	52 x 130 x 110
	<b>24 DC / 0.8 Ah</b>	<b>24 DC / 1.3 Ah</b>	<b>12 DC / 1.6 Ah</b>	<b>12 DC / 2.6 Ah</b>
Type	MINI-BAT/24DC/0.8AH	MINI-BAT/24DC/1.3AH	MINI-BAT/12DC/1.6AH	MINI-BAT/12DC/2.6AH
Order number	<a href="#">2866666</a>	<a href="#">2866417</a>	<a href="#">2866572</a>	<a href="#">2866569</a>





Energy storage for TRIO UPS				
				
Energy storage	Lead AGM technology	Lead AGM technology	Lead AGM technology	Lead AGM technology
W x H x D in mm	52 x 130 x 110	112 x 145 x 112	164 x 156 x 110	231 x 156 x 110
	<b>24 DC / 1.3 Ah</b>	<b>24 DC / 3.4 Ah</b>	<b>24 DC / 7.2 Ah</b>	<b>24 DC / 12 Ah</b>
Type	MINI-BAT/24DC/1.3AH	QUINT-BAT/24DC/3.4AH	QUINT-BAT/24DC/7.2AH	QUINT-BAT/24DC/12AH
Order number	<a href="#">2866417</a>	<a href="#">2866349</a>	<a href="#">2866352</a>	<a href="#">2866365</a>
Information	• Connection via pin cable lug, 14 mm			




## Product overview of accessories for power supplies





	Mounting on S7-300 rail		Mounting on level surfaces	
				
	<b>QUINT-PS adapter S7/1</b>	<b>QUINT-PS adapter S7/2</b>	<b>Adapter UWA 182/52</b>	<b>Adapter UWA 130</b>
Order number	<a href="#">2938196</a>	<a href="#">2938206</a>	<a href="#">2938235</a>	<a href="#">2901664</a>
Information	For: QUINT-PS/1AC/24DC/3.5 QUINT-PS/1AC/24DC/5 QUINT-PS/3AC/24DC/5	For: QUINT-PS/1AC/24DC/10 QUINT-PS/3AC/24DC/10 QUINT-PS/3AC/24DC/20	For: TRIO-PS from 10 A QUINT-PS QUINT-UPS QUINT4-BUFFER	For: QUINT-PS/1AC/24DC/40 QUINT-UPS/1AC/1AC/500VA QUINT4-PS

	Fan	Circuit breaker	Ethernet communication	
				
	<b>Fan for QUINT, QUINT-PS/FAN/4</b>	<b>Thermomagnetic circuit breakers for QUINT</b>	<b>FL COMSERVER UNI 232/422/485</b>	<b>ILC 131 ETH</b>
Order number	<a href="#">2320076</a>		<a href="#">2313452</a>	<a href="#">2700973</a>
Description	<ul style="list-style-type: none"> <li>• With the standard power supply mounting position, the temperature range increases by 10 K (max. ambient temperature of +70°C)</li> <li>• When the mounting position is rotated, position-dependent derating no longer applies</li> <li>• Tool-free mounting</li> </ul>	<ul style="list-style-type: none"> <li>• Device circuit breakers with the SFB tripping characteristic provide maximum overcurrent protection – even in large systems with long cable paths</li> <li>• You will find additional information on our comprehensive range of products in the product area on the Phoenix Contact website in the Protective Devices category</li> </ul>	<ul style="list-style-type: none"> <li>• Integration of serial RS-232, RS-422, and RS-485 interfaces</li> <li>• For machine and system access via Ethernet network</li> </ul>	<ul style="list-style-type: none"> <li>• Modular small-scale controller with Ethernet interface for coupling to other controllers or systems</li> </ul>

## Product overview of accessories for uninterruptible power supplies

	Energy storage mounting		Fuses for AC UPS	
				
	<b>BATTERY MOUNTING KIT</b>	<b>BATTERY MOUNTING CASE</b>	<b>FUSE 40 A/32 V ATOF</b>	<b>FUSE 10 A/400 V GRL</b>
Order number	2320788	2320458	2908357	2908358
Information	For: UPS-BAT/VRLA/24DC/38AH UPS-BAT/VRLA-WTR/24DC/13AH UPS-BAT/VRLA-WTR/24DC/26AH UPS-BAT/LI-ION/24DC/924WH	For: UPS-BAT/VRLA/24DC/38AH UPS-BAT/VRLA-WTR/24DC/13AH UPS-BAT/VRLA-WTR/24DC/26AH UPS-BAT/LI-ION/24DC/924WH	For: TRIO-UPS-2G/1AC/1AC/230V/750VA TRIO-UPS-2G/1AC/1AC/120V/750VA	For: TRIO-UPS-2G/1AC/1AC/230V/750VA TRIO-UPS-2G/1AC/1AC/120V/750VA QUINT-UPS/1AC/1AC/500VA

Fuses for UPS-BAT energy storage			
			
	<b>FUSE 15 A/32 V FK1</b>	<b>FUSE 25 A/32 V ATOF</b>	<b>FUSE 30 A/32 V ATOF</b>
Order number	2908360	2908366	2908365
Information	For: UPS-BAT/VRLA/24DC/1.3AH	For: UPS-BAT/VRLA/24DC/3.4AH UPS-BAT/VRLA/24DC/7.2AH UPS-BAT/VRLA/24DC/12AH UPS-BAT/VRLA/24DC/38AH UPS-BAT/VRLA-WTR/24DC/13AH UPS-BAT/VRLA-WTR/24DC/26AH UPS-BAT/LI-ION/24DC/924WH	For: UPS-BAT/LI-ION/24DC/120WH

Fuses for MINI-BAT and UNO-UPS energy storage			
			
	<b>FUSE 5 A/32 V FK1</b>	<b>FUSE 15 A/32 V FKS</b>	<b>FUSE 10 A/32 V FK1</b>
Order number	2908367	2908361	2908364
Information	For: MINI-BAT/24DC/0.8AH UNO-UPS/24DC/24DC/60W	For: MINI-BAT/24DC/1.3AH	For: MINI-BAT/12DC/1.6AH
			
			<b>FUSE 25 A/32 V FKS</b>
			2908363

# Approvals for QUINT POWER and TRIO POWER

		UL				CSA	Ship				EX													
	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	DNV GL Group	ABS - American Bureau of Shipping	BV - Bureau Veritas	LR - Lloyd's Register	NK - Nippon Kaiji Kyokai	RINA	ATEX	IEC Ex	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601, 2 x MOOP	Railway standard EN 50155, 50121-4	EAC	Startup at -40°C	Installation height
<b>QUINT POWER power supplies</b>																								
QUINT4-PS 1AC/24DC/5	2904600	•	•	•	•	•	•	•	*	*	*						•	•			•	•	c	
QUINT4-PS 1AC/24DC/10	2904601	•	•	•	•	•	•	•	*	*	*						•	•			•	•	c	
QUINT4-PS 1AC/24DC/20	2904602	•	•	•	•	•	•	•	*	*	*						•	•			•	•	c	
QUINT4-PS 1AC/48DC/10	2904611	•	•	•	*	•	•	*	*	*	*						*	•	•			•	•	c*
QUINT-PS/1AC/24DC/3.5	2866747	•	•	•	•	•	•	•	•	•	•	•	•			•	•	•	•			•	•	c
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/20	2866695	•	•	•	•	•	•	•									•	•	•			•	•	d
QUINT4-PS 3AC/24DC/5	2904620	•	•	•	•	•	•	•	*	*	*						•	•	•			•	•	c
QUINT4-PS 3AC/24DC/10	2904621	•	•	•	•	•	•	•	*	*	*						•	•	•			•	•	c
QUINT4-PS 3AC/24DC/20	2904622	•	•	•	•	•	•	•	*	*	*						•	•	•			•	•	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
<b>TRIO POWER power supplies</b>																								
TRIO-PS-2G/1AC/24DC/3/C2LPS	2902147	•	•	•	•	•		•														•	•	c
TRIO-PS-2G/1AC/24DC/5	2903148	•	•	•	•			•														•	•	c
TRIO-PS-2G/1AC/24DC/5/B+D	2903144	•	•	•	•			•														•	•	c
TRIO-PS-2G/1AC/24DC/10	2903149	•	•	•	•			*														•	•	c
TRIO-PS-2G/1AC/24DC/10/B+D	2902145	•	•	•	•			•														•	•	c
TRIO-PS-2G/1AC/24DC/20	2903151	•	•	•	•			*														•	•	b
TRIO-PS-2G/1AC/12DC/5/C2LPS	2903157	•	•	•	•	•																•	•	c
TRIO-PS-2G/1AC/12DC/10	2903158	•	•	•	•																	•	•	c
TRIO-PS-2G/1AC/48DC/5	2903159	•	•	•	•																	•	•	c
TRIO-PS-2G/1AC/48DC/10	2903160	•	•	•	•																	•	•	c
TRIO-PS-2G/3AC/24DC/5	2903153	•	•	•	•			•														•	•	c
TRIO-PS-2G/3AC/24DC/10	2903154	•	•	•	•			*														•	•	c
TRIO-PS-2G/3AC/24DC/20	2903155	•	•	•	•			*														•	•	c
TRIO-PS-2G/3AC/24DC/40	2903156	•	•	•	•																	•	•	b

\* Approval in preparation



# Approvals for UNO POWER and MINI POWER

		UL					CSA	Ship					EX											
		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	DNV GL Group	ABS - American Bureau of Shipping	BY - Bureau Veritas	LR - Lloyd's Register	NIK - Nippon Kaiji Kyokai	RINA	ATEX	IEC Ex	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601, 2 x MOOP	Railway standard EN 50155, 50121-4	EAC	Startup at -40°C	Installation height
<b>UNO POWER power supplies</b>																								
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
<b>MINI POWER power supplies</b>																								
MINI-PS-100-240AC/24DC/1.3	2866446	•	•	•	•	•															•			d
MINI-SYS-PS-100-240AC/24DC/1.5	2866983	•	•	•	•																•			a
MINI-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

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.



# Approvals for DC/DC converters

	CE	UL				CSA	Ship							EX													
		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	DNV GL Group	ABS - American Bureau of Shipping	BV - Bureau Veritas	LR - Lloyd's Register	NK - Nippon Kaiji Kyokai	RINA	ATEX	IEC Ex	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601, 2 x MOOP	Railway standard EN 50155, 50121-4	EAC	EN 50121	Startup at -40°C	Installation height		
<b>DC/DC converters</b>																											
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
UNO-PS/350-900DC/24DC/60W	2906300	•																								•	c
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	•	•	•														•					•				d

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.

# Approvals for redundancy modules and uninterruptible power supplies

		UL				CSA	Ship				EX													
		UL Listed UL 508	UL/C-UL Listed UL 508	UL/C-UL Recognized UL 60950	UL 1778	UL Listed ANSI/ISA-12.12.01 Class 1, 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	DNV GL Group	ABS - American Bureau of Shipping	BV - Bureau Veritas	LR - Lloyd's Register	NK - Nippon Kaiji Kyokai	RINA	ATEX	IEC Ex	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601	EAC	Startup at -40°C	Installation height
<b>Redundancy modules</b>																								
QUINT4-S-ORING/12-24DC/1x40	2907752	•	•	•	•				•	*	*	*				*	*					•	•	d
QUINT4-S-ORING/12-24DC/1x40/+	2907753	•	•	•	•				•	*	*	*				*	*					•	•	d
QUINT-ORING/24DC/2x10/1x20	2320173	•	•	•	•				•	•	•	•	•	•	•	•	•					•	•	d
QUINT-ORING/24DC/2x20/1x40	2320186	•	•	•	•				•	•	•	•	•	•	•	•	•					•	•	d
QUINT-ORING/24DC/2x40/1x80	2902879	•	•	•	•				•	•	•	•	•	•	•	•	•					•	•	d
QUINT4-DIODE/12-24DC/2x20/1x40	2907719	•	•	•	•																	•	•	d
QUINT4-DIODE/48DC/2x20/1x40	2907720	•	•	•	•																	•	•	d
TRIO2-DIODE/12-24DC/2x10/1x20	2907380	•	•	•	•				•	•	•	•	•	•								•	•	d
TRIO2-DIODE/12-24DC/2x20/1x40	2907379	•	•	•	•																	•	•	d
UNO-DIODE/5-24DC/2x10/1x20	2905489	•	•	•	•																	•	•	d
STEP-DIODE/5-24DC/2x5/1x10	2868606	•	•	•	•																	•	•	d
<b>Uninterruptible power supplies</b>																								
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/1AC/1AC/500VA	2320270	•			•	•																•		e
QUINT4-UPS/1AC/1AC/1KVA	2320283	•			•	•																		a
TRIO-UPS-2G/1AC/1AC/230V/750VA	2905909	•			•	•																•		e
TRIO-UPS-2G/1AC/1AC/120V/750VA	2905908	•			•	•																•		e
QUINT-UPS/24DC/24DC/5/1.3AH	2320254	•	•	•	•																	•		d
QUINT-UPS/24DC/24DC/10/3.4AH	2320267	•	•	•	•																	•		d
QUINT4-BUFFER/24DC/24DC/20	2907913	•	•	•	•																		•	b
QUINT4-BUFFER/24DC/24DC/40	2909283	•	•	•	•																		•	b
QUINT4-CAP/24DC/5/4KJ	2320539	•	•	•	•																		•	b
QUINT4-CAP/24DC/10/8KJ	2320571	•	•	•	•																		•	b
UNO-UPS/24DC/24DC/60W	2905907	•			•	•																•	•	e
STEP-UPS/24DC/24DC/3	2868703	•	•	•	•																	•	•	e
STEP-UPS/12DC/12DC/4	2868693	•	•	•	•																	•	•	e
TRIO-UPS/1AC/24DC/5	2866611	•	•	•	•				•													•		d
MINI-DC-UPS/24DC/2	2866640	•	•	•	•																	•		c
MINI-DC-UPS/12DC/4	2866598	•	•	•	•																	•		d

\* Approval in preparation



# Approvals for energy storage

		UL					CSA	Ship					EX											
	CE	UL Listed UL 508	UL/C-UL Listed UL 508	UL/C-UL 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	DNV GL Group	ABS - American Bureau of Shipping	BV - Bureau Veritas	LR - Lloyd's Register	NK - Nippon Kaiji Kyokai	RINA	ATEX	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601	EAC	Startup at -40°C	Installation height	
<b>Energy storage</b>																								
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-BAT/LI-ION/24DC/924 WH	2908232	•	•	•	•																		d	
UPS-CAP/24DC/10A/10KJ	2320377	•	•	•	•				•	•												•	•	d
UPS-CAP/24DC/20A/20KJ	2320380	•	•	•	•				•	•												•	•	d
STEP-BAT/LIPO/18.5DC/1.4AH	2320364	•		•															•			•	e	
QUINT-BAT/24DC/3.4AH	2866349	•							•	•												•	d	
QUINT-BAT/24DC/7.2AH	2866352	•							•	•												•	d	
QUINT-BAT/24DC/12AH	2866365	•							•	•												•	d	
MINI-BAT/24DC/0.8AH	2866666	•				•																•	d	
MINI-BAT/24DC/1.3AH	2866417	•				•																•	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

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.

# In dialog with customers and partners worldwide

Phoenix Contact is a globally present, Germany-based market leader. Our group is synonym for future-oriented components, systems, and solutions in the fields of electrical engineering, electronics, and automation. A global network across more than 100 countries, and 15,000 employees ensure a close proximity to our customers, which we believe is particularly important.

The wide variety of our innovative products makes it easy for our customers to find future-oriented solutions for different applications and industries. We especially focus on the fields of energy, infrastructure, process and factory automation.



You will find our complete product range at:  
[phoenixcontact.com](http://phoenixcontact.com)

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