Power supplies and UPS

2020/2021

PHOENIX CONTACT
INSPIRING INNOVATIONS

Power for superior system availability

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

With our QUINT, TRIO, UNO, and STEP product families, you will be equipped to handle competition on an international scale.

Cabinet Confidence

From connectivity to control, Phoenix Contact gives you the confidence you need in your production systems. Our longstanding commitment to quality and innovation will give you the peace of mind and competitive edge to succeed in today's highly complex manufacturing world.

Find out more with the web code

For detailed information, use the web codes provided in this brochure. Simply enter the # and the four-digit number in the search field on our website.

Web code: #1234 (example)

Or use the direct link:
phoenixcontact.net/webcode/#1234

Contents

Power supplies for every application

Our power supplies are used in a wide variety of sectors and industries. With their various functionalities, performance classes, and designs, they are always the right partner for your application.

- QUINT POWER: Automotive industry, systems manufacturing, process industry, ship building
- TRIO POWER: Machine building
- UNO POWER: Electromobility
- STEP POWER: Urban infrastructure, building automation

Power supplies – a comparison of your advantages

Our power supply product families offer a variety of options in design, power, and functionality. Choose the solution that works best for your requirements:

- QUINT POWER – powerful with maximum functionality
- TRIO POWER – robust with standard functionality
- UNO POWER – compact with basic functionality
- STEP POWER – for building automation

Shared features and differences

All Phoenix Contact power supplies increase system availability and feature high operational safety. The devices can be used worldwide due to their international approvals and wide-range inputs, and can also be connected in parallel and installed in outdoor control cabinets.

	STEP POWER	UNO POWER	TRIO POWER	QUINT POWER	
				<100 W	>100 W
Worldwide application with a wide-range input and international approval package	•	•	•	•	•
Maximum operating time with a high MTBF >500,000 h at +40°C	•	•	•	•	•
Can be switched in parallel for increased performance and redundancy	•	•	•	•	•
Outdoor installation permissible with a wide temperature range of -25°C ... +70°C	•	•	•	•	•
Can be used in household applications in accordance with EN 60335	•				
Active function monitoring via switching output for remote diagnostics			•	•	•
Three-phase devices continue to operate without errors, even if one phase fails permanently			•		•
Reliable startup of high loads with the dynamic boost power reserve			•	•	•
Easy system extension with the static boost power reserve				•*	•
Magnetic tripping of miniature circuit breakers with SFB Technology					•
Preventive function monitoring reports critical operating states before errors occur				•	•
Can be configured individually					•

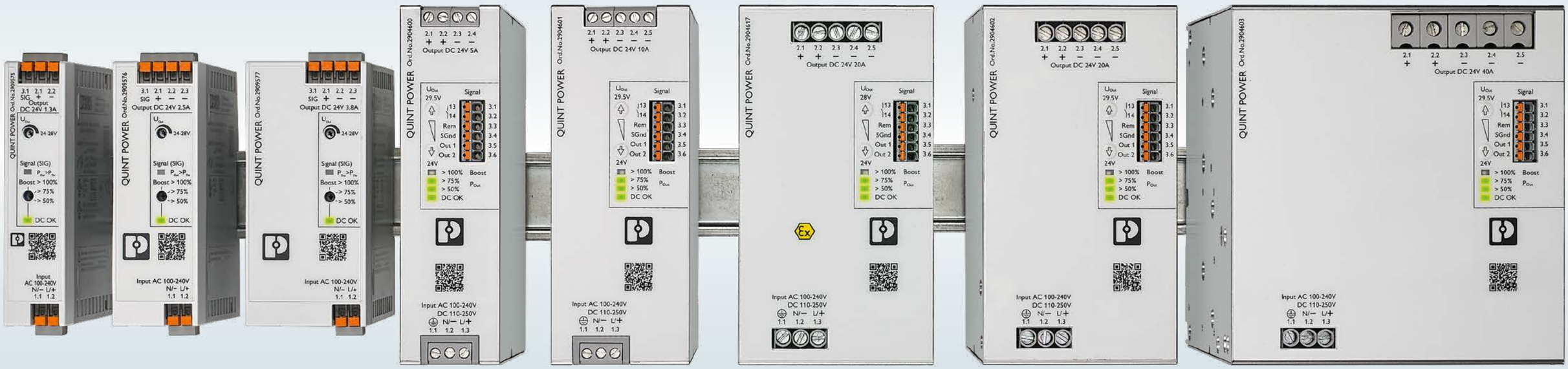
* Applies to the following devices: 2904597, 2904598, 2909575, 2909576, 2904605, 2904595

QUINT POWER power supplies

The QUINT POWER power supplies from 1 A to 40 A form the core of our QUINT portfolio.

This high-performance line of power supplies provides you with the combination of preventive function monitoring and exceptional power reserves in a compact size.

The powerful QUINT POWER power supplies with SFB Technology, preventive function monitoring, and configurable settings ensure the availability of your system.



QUINT POWER power supplies <100 W

Powerful and space-saving

For the first time, QUINT POWER provides superior system availability in the smallest size with a power range of up to 100 W. Preventive function monitoring and exceptional power reserves are now also available for applications in the low-power range with either Push-in or screw connection.

Web code: #1513

Your advantages

- Simple startup of heavy loads with dynamic power boost
- Preventive function monitoring reports critical operating states before errors occur
- High efficiency and long service life with low power dissipation and low heating
- Save space in the control cabinet with the narrow, slim-line design

QUINT POWER power supplies >100 W

Maximum functionality with SFB Technology

Our powerful QUINT POWER power supplies with SFB Technology are ideally suited for ensuring the availability of your system. The power reserve enables the trouble-free startup of high loads as well as the easy extension of your system. The combination of SFB Technology, preventive function monitoring, and long service life increases the availability of your application. The range of features is rounded out with the customized configuration of signaling thresholds and characteristic curves.

Web code: #1513

SFB Technology (Selective Fuse Breaking)

- Six times the nominal current for 15 ms triggers standard miniature circuit breakers quickly and reliably
- In the event of a short circuit, faulty current paths are disconnected selectively
- Faults are isolated to ensure that key system parts remain in operation without interruptions

For superior system availability, standard circuit breakers must be triggered magnetically to disconnect faulty current paths selectively. To ensure this, the SFB Technology supplies several times the nominal current for a short period, thus providing the necessary power reserve.

Designed by PHOENIX CONTACT

Your advantages

- SFB Technology selectively triggers standard circuit breakers; loads connected in parallel continue working without interruption
- Preventive function monitoring reports critical operating states before errors occur
- Power reserve for easy system extension with a static boost and sustained power of up to 125% and the ability to start heavy loads with a dynamic boost of up to 200% for five seconds
- High level of immunity with integrated gas discharge tube, more than 20 ms mains buffering
- Available preconfigured: from a batch quantity of just one

QUINT POWER <100 W

	QUINT POWER with Push-in connection, 1~		
			
Input	85 V AC ... 264 V AC	85 V AC ... 264 V AC	85 V AC ... 264 V AC
W x H x D in mm	22.5 x 106 x 90	32 x 106 x 90	45 x 106 x 90

	24 V/1.3 A	24 V/2.5 A	24 V/3.8 A
Type	QUINT4-PS/1AC/24DC/1.3/PT	QUINT4-PS/1AC/24DC/2.5/PT	QUINT4-PS/1AC/24DC/3.8/PT
Order No.	2909575	2909576	2909577
	12 V/2.5 A		**12 V/7.5 A**
Type	QUINT4-PS/1AC/12DC/2.5/PT		QUINT4-PS/1AC/12DC/7.5/PT
Order No.	2904605		2904607
	5 V/5 A		
Type	QUINT4-PS/1AC/5DC/5/PT		
Order No.	2904595		

	QUINT POWER with screw connection, 1~		
			
Input	85 V AC ... 264 V AC	85 V AC ... 264 V AC	85 V AC ... 264 V AC
W x H x D in mm	22.5 x 99 x 90	32 x 99 x 90	45 x 99 x 90

	24 V/1.3 A	24 V/2.5 A	24 V/3.8 A
Type	QUINT4-PS/1AC/24DC/1.3/SC	QUINT4-PS/1AC/24DC/2.5/SC	QUINT4-PS/1AC/24DC/3.8/SC
Order No.	2904597	2904598	2904599

QUINT POWER >100 W

	QUINT POWER 1~			
				
Input	85 V AC ... 264 V AC, 90 V DC ... 350 V DC	85 V AC ... 264 V AC, 90 V DC ... 350 V DC	85 V AC ... 264 V AC, 90 V DC ... 350 V DC	85 V AC ... 264 V AC, 90 V DC ... 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	120 x 130 x 140

	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A
Type	QUINT4-PS/1AC/24DC/5	QUINT4-PS/1AC/24DC/10	QUINT4-PS/1AC/24DC/20	QUINT4-PS/1AC/24DC/40
Order No.	2904600	2904601	2904602	2904603
		12 V/15 A		
Type		QUINT4-PS/1AC/12DC/15		
Order No.		2904608		
		48 V/5 A	**48 V/10 A**	
Type		QUINT4-PS/1AC/48DC/5	QUINT4-PS/1AC/48DC/10	
Order No.		2904610	2904611	

	QUINT POWER 3~			
				
Input	3 x 320 V AC ... 550 V AC, 2 x 360 V AC ... 550 V AC, +/- 300 V DC	3 x 320 V AC ... 550 V AC, 2 x 360 V AC ... 550 V AC, +/- 260 ... 300 V DC	3 x 320 V AC ... 550 V AC, 2 x 360 V AC ... 550 V AC, +/- 260 ... 300 V DC	3 x 320 V AC ... 550 V AC, 2 x 360 V AC ... 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	120 x 130 x 125

	24 V/5 A	24 V/10 A	24 V/20 A	24 V/40 A
Type	QUINT4-PS/3AC/24DC/5	QUINT4-PS/3AC/24DC/10	QUINT4-PS/3AC/24DC/20	QUINT4-PS/3AC/24DC/40
Order No.	2904620	2904621	2904622	2904623

	QUINT POWER* 1~ and 3~			
				
Input	85 V AC ... 264 V AC, 90 V DC ... 350 V DC	85 V AC ... 264 V AC, 90 V DC ... 350 V DC	85 V AC ... 264 V AC, 90 V DC ... 300 V DC	3 x 320 V AC ... 575 V AC, 450 V DC ... 800 V DC
W x H x D in mm	32 x 130 x 125	90 x 130 x 125	180 x 130 x 125	96 x 130 x 176

	1 AC/24 V/3.5 A	1 AC/12 V/20 A	1 AC/48 V/20 A	3 AC/48 V/20 A
Type	QUINT-PS/1AC/24DC/3.5	QUINT-PS/1AC/12DC/20	QUINT-PS/1AC/48DC/20	QUINT-PS/3AC/48DC/20
Order No.	2866747	2866721	2866695	2320827

* Devices with differing functions; additional information is available on the product pages at www.phoenixcontact.com

QUINT POWER power supplies >100 W

QUINT POWER with SFB Technology for extreme ambient conditions

The PCB coating (CO stands for coated) protects against dust, corrosive gases, and 100% humidity. Failures due to creepage currents and electrochemical migration caused by corrosion are also prevented. The components are protected within a wide temperature range of -40°C to +70°C.

DC/DC converters with the same properties are listed on page 31.

Redundancy modules for extreme conditions are listed on page 46.

QUINT POWER Plus version – the power supply for demanding applications

The QUINT POWER Plus version is the solution for demanding applications under extreme ambient conditions.

With integrated decoupling MOSFET for 1+1 and n+1 redundancy, the Plus version provides symmetrical load distribution and increases system availability. Furthermore, errors can be detected early on via configurable output current signaling thresholds. At the same time, you save time and space with reduced wiring work.

The Plus version with double OVP (Over Voltage Protection) also protects your system against voltage increases. In the event of an error, the output is switched off to protect the loads against overvoltages.

The functional safety standards and directives ensure reliable protection for people, the environment, and machinery.

The QUINT POWER Plus version satisfies these requirements (SIL 3, HFT = 1 in accordance with IEC 61508 and IEC 61511), thus ensuring maximum operational safety.

With a protective coating and ATEX and IECEx approval in accordance with the standards IEC 60079-0, IEC 60079-7, IEC 60079-11, and IEC 60079-15, it can also be used within the potentially explosive areas of zone 2.

The Plus version is rounded off with a wide temperature range of -40°C to +75°C for use under extreme ambient conditions.

	QUINT POWER 1~			
				
Input	85 V AC ... 264 V AC, 90 V DC ... 350 V DC	85 V AC ... 264 V AC, 90 V DC ... 350 V DC	85 V AC ... 264 V AC, 90 V DC... 350 V DC	
W x H x D in mm	70 x 130 x 125	50 x 130 x 125	70 x 130 x 125	
	24 V/20 A / +	**24 V/10 A/CO** New	**48 V/10 A/CO** New	
Type	QUINT4-PS/1AC/24DC/20/+	QUINT4-PS/1AC/24DC/10/CO	QUINT4-PS/1AC/48DC/10/CO	
Order No.	2904617	2904625	2904626	

	QUINT POWER* 1~ and 3~, with protective coating			
				
Input	1-phase, 85 V AC ... 264 V AC, 90 V DC ... 430 V DC	1-phase, 85 V AC ... 264 V AC, 90 V DC ... 430 V DC	1-phase, 85 V AC ... 264 V AC, 90 V DC ... 430 V DC	3-phase, 3 x 320 ... 575 V AC, 450 V DC ... 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
	1 AC/24 V/5 A/CO	**1 AC/ 24 V/10 A/CO**	**1 AC/24 V/20 A/CO**	**3 AC/24 V/20 A/CO**
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 No.	2320908	2320911	2320898	2320924

* Devices with differing functions; additional information is available on the product pages at www.phoenixcontact.com

Maximum protection for your system

For extreme operating conditions, use the ideally matched combination of the PLUGTRAB SEC surge protection device and the powerful fourth generation QUINT POWER power supply.

5-year warranty
If your fourth-generation QUINT POWER becomes damaged in the first five years of use despite using this combination, you will receive a free replacement.

Further information and conditions can be found at www.phoenixcontact.com under Order Number 2907928.

TRIO POWER power supplies

Robust with standard functionality

The TRIO POWER power supplies are characterized by standard functionality, high quality, and reliability. They are particularly well suited for use in machine building. All functions and the space-saving design are tailored to the stringent demands in this field.

The power supplies, which feature a robust electrical and mechanical design, ensure reliable supply to all loads, even under harsh ambient conditions.

Web code: #0497

Your advantages

- Very cost-effective with time-saving, tool-free Push-in connection and a slim design
- Reliable startup of high loads with dynamic power reserve, with 150% of the nominal current for a maximum of five seconds
- Electrically robust with a high electric strength
- Mechanically robust with high vibration and shock resistance

	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
	24 V/3 A/C2LPS*	**24 V/5 A**	**24 V/10 A**	**24 V/20 A**
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 No.	2903147	2903148	2903149	2903151
		24 V/5 A/B+D	**24 V/10 A/B+D**	
Type		TRIO-PS-2G/ 1AC/24DC/5/B+D	TRIO-PS-2G/ 1AC/24DC/10/B+D	
Order No.		2903144	2903145	
	12 V/5 A/C2LPS*	**12 V/10 A**		
Type	TRIO-PS-2G/ 1AC/12DC/5/C2LPS	TRIO-PS-2G/ 1AC/12DC/10		
Order No.	2903157	2903158		
			48 V/5 A	**48 V/10 A**
Type			TRIO-PS-2G/1AC/48DC/5	TRIO-PS-2G/1AC/48DC/10
Order No.			2903159	2903160

	TRIO POWER with Push-in connection, 3~			
				
Input	3 x 320 V AC ... 575 V AC, 2 x 360 V AC ... 575 V AC	3 x 320 V AC ... 575 V AC, 2 x 360 V AC ... 575 V AC	3 x 320 V AC... 575 V AC, 2 x 360 V AC ... 575 V AC	3 x 320 V AC ... 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
	24 V/5 A	**24 V/10 A**	**24 V/20 A**	**24 V/40 A**
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 No.	2903153	2903154	2903155	2903156

	TRIO POWER with Push-in connection, 3~
	
Input	3 x 320 V AC ... 575 V AC
W x H x D in mm	110 x 130 x 160

	72 V/14 A
Type	TRIO-PS-2G/3AC/72DC/14
Order No.	1076188

* NEC Class 2 output, certified in accordance with UL 1310 / Limited Power Source (LPS) in accordance with UL 60950-1

Power supplies

Device circuit breakers – suitable for all applications

Increase the availability of your system by safeguarding the output voltage of your power supply. Effectively protect your system against overload and short-circuit currents at the same time.

The complete portfolio of electronic circuit breakers also provides intelligent protection. Take advantage of the easy handling and simple product selection.

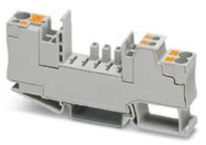
Your advantages

- Comprehensive portfolio provides suitable device protection for any requirement
- Control system statuses with intelligent analysis and fault signaling
- Easy startup with tool-free connection technology and intuitive operation

	Multi-channel electronic circuit breakers			
Web code: #1646				
	4-channel	**8-channel**	**4-channel**	**4-channel**
Nominal current	0.5 A ... 10 A	0.5 A ... 10 A	1 A ... 4 A*	1 A... 10 A
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 No.	2905743	2905744	2906031	2906032

	Single-channel electronic circuit breakers			
Web code: #1645				
	Single-channel	**Single-channel**	**Single-channel**	**Single-channel**
Nominal current	1 A ... 3 A*	1 A ... 8 A	2 A*	6 A
Type	PTCB E1 24DC/1-3A NO	PTCB E1 24DC/1-8A NO	PTCB E1 24DC/2A NO	PTCB E1 24DC/6A NO
Order No.	2909909	2908262	2909903	2909908

* NEC Class 2 outputs, in accordance with UL 1310

	Single-channel electronic circuit breakers			
Web code: #1645				
	Single-channel	**Single-channel**	**Single-channel**	**Base element / Push-in connection**
Nominal current	1 A	6 A	10 A	
Type	CB E1 24DC/1A NO P	CB E1 24DC/6A NO P	CB E1 24DC/10A NO P	CB 1/6-2/4 PT-BE
Order No.	2800901	2800905	2800907	2800929

	Thermomagnetic device circuit breakers			
Web code: #1647				
	F1	**SFB**	**M1**	**Base element / screw connection**
Nominal current	0.5 A	6 A	16 A	
Type	CB TM1 0.5A F1 P	CB TM1 6A SFB P	CB TM1 16A M1 P	CB 1/10-1/10 UT-BE
Order No.	2800857	2800841	2800856	2801305

UNO POWER power supplies

Compact with basic functionality

Thanks to their high power density, UNO POWER power supplies are the perfect solution, particularly in compact control cabinets. The efficient technology with low no-load losses and high efficiencies in a small housing covers loads from 25 W to 480 W.

The range of 18 devices covers output voltages of 5 to 48 V DC and includes six designs. The UNO UPS uninterruptible power supply and the UNO DIODE redundancy module suitable for the power supplies are also available.

Web code: #1512

Your advantages

- High energy efficiency of up to 94% with extremely low idling losses of less than 0.3 W
- Particularly compact, due to high power density
- Outdoor installation possible with a wide temperature range of -25°C to +70°C

	UNO POWER 1~		
			
Input	85 V AC ... 264 V AC	85 V AC ... 264 V AC	85 V AC ... 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
	24 V/30 W	**24 V/60 W**	**24 V/100 W**
Type	UNO-PS/1AC/24DC/30W	UNO-PS/1AC/24DC/60W	UNO-PS/1AC/24DC/100W
Order No.	2902991	2902992	2902993
			24 V/100 W/H**
Type			UNO-PS/1AC/24DC/100W/H
Order No.			1088851
			24 V/90 W/C2LPS*
Type			UNO-PS/1AC/24DC/90W/C2LPS
Order No.			2902994
		48 V/60 W	**48 V/100 W**
Type		UNO-PS/1AC/48DC/60W	UNO-PS/1AC/48DC/100W
Order No.		2902995	2902996
	15 V/30 W	**15 V/55 W**	**15 V/100 W**
Type	UNO-PS/1AC/15DC/30W	UNO-PS/1AC/15DC/55W	UNO-PS/1AC/15DC/100W
Order No.	2903000	2903001	2903002
	12 V/30 W	**12 V/55 W**	**12 V/100 W**
Type	UNO-PS/1AC/12DC/30W	UNO-PS/1AC/12DC/55W	UNO-PS/1AC/12DC/100W
Order No.	2902998	2902999	2902997
		12 V/55 W/H**	
Type		UNO-PS/1AC/12DC/55W/H	
Order No.		1088850	
	5 V/25 W	**5 V/40 W**	
Type	UNO-PS/1AC/5DC/25W	UNO-PS/1AC/5DC/40W	
Order No.	2904374	2904375	

	UNO POWER 1~			**UNO POWER 2~**
				
Input	85 V AC ... 264 V AC	85 V AC ... 264 V AC	85 V AC ... 264 V AC	264 V AC ... 575 V AC
W x H x D in mm	37 x 130 x 125	45 x 130 x 125	59 x 130 x 125	55 x 90 x 84
	24 V/150 W	**24 V/240 W**	**24 V/480 W**	**24 V/90 W/C2LPS***
Type	UNO-PS/1AC/24DC/150W	UNO-PS/1AC/24DC/240W	UNO2-PS/1AC/24DC/480W	UNO-PS/2AC/24DC/90W/C2LPS
Order No.	2904376	2904372	2910105	2904371

* NEC Class 2 output, certified in accordance with UL 1310 / Limited Power Source (LPS) in accordance with UL 60950-1
** Can be used in household applications in accordance with EN 60335

STEP POWER power supplies

For building automation

The STEP POWER power supplies have been specifically developed for building automation applications. The new generation of devices is among the first power supplies in the world with Efficiency Level VI. With EN 60335 certification, the power supplies can be used in all domestic applications. The Push-in connection of the 45° terminal blocks enables quick and easy commissioning. Furthermore, the terminal block provides twice the number of terminal points. The power of the new device generation has been increased by up to 100%, while the overall width has been reduced by one horizontal pitch. With the new 5 A device, a power supply in the higher power range is now available.

Web code: #2433

Your advantages

- Energy savings with efficiency in no-load and part-load operation (Efficiency Level VI)
- Save space in the control cabinet with the narrow design combined with up to 100% increased power
- Approval for household purposes (EN 60335) enables use in domestic applications for the first time, with built-in horizontal pitches (DIN 43880)
- Quick and easy startup with tool-free Push-in connection technology at a 45° angle with double terminal points

Efficiency standards for external power supplies

The new generation of the STEP POWER power supplies satisfies the most current highest efficiency standard requirements. With the combination of very high efficiencies and low no-load losses, the power supplies are the first DIN rail devices in the world rated with Efficiency Level VI.

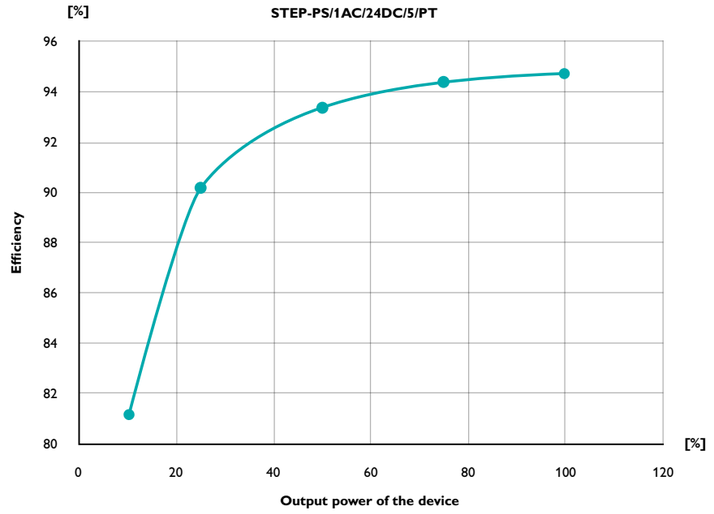
Back in the 1990s, the efficiency of external power supply units was just 50%. This prompted the United States Environmental Protection Agency to develop a voluntary program to promote energy efficiency and reduce pollution in 1992. However, it was only in 2004 that the first regulations were developed with minimum requirements on efficiency and load-free electricity consumption. A great deal has happened since then, and efforts are continually being made to significantly reduce the energy consumption of external power supply units. The result of these efforts, Efficiency Level VI, currently places the highest demands on energy efficiency.

In addition to Efficiency Level VI, the STEP POWER power supplies also satisfy the EU commission regulation on ecodesign requirements (EU) 2019/1782, which came into effect on April 1, 2020. The aim of this is also to improve the energy efficiency and environmental compatibility.

The new power supplies of the STEP POWER family currently have the highest efficiencies on the market.

- Efficiency during normal operation: >94.5%
- Efficiency during part-load operation: >90%

With the new 5 A power supply, a device is now available that provides twice the power compared to previous power supplies with an identical overall width (four horizontal pitches).



In no-load operation, the no-load losses of all STEP POWER power supplies are below 0.1 W or 0.21 W depending on performance class, and are therefore setting new standards.

Safe use of electrical devices

The new STEP POWER power supplies satisfy DIN EN 60335 for the first time. This standard describes the necessary requirements for the safety of electrical devices for household or commercial use.

Devices with a rated voltage of between 250 V and 480 V are found in bakery ovens in supermarkets, in large washing machines in hotels, and also in agriculture and in conventional residential buildings. Normally, these devices and machines are operated by users without specialist training. The electrical safety of these devices and their supply must therefore be taken very seriously.

The new STEP POWER power supplies satisfy both the requirements in the field of building automation and in the commercial sector.

STEP POWER with household approval (EN 60335)

	STEP POWER 1~			
				
Input	100 V AC ... 240 V AC 110 V DC ... 250 V DC	100 V AC ... 240 V AC 110 V DC ... 250 V DC	100 V AC ... 240 V AC 110 V DC ... 250 V DC	100 V AC ... 240 V AC 110 V DC ... 250 V DC
W x H x D in mm	18 x 90 x 55	36 x 90 x 55	54 x 90 x 55	72 x 90 x 55
	24 V/0.63 A New	**24 V/1.3 A** New	**24 V/2.5 A** New	**24 V/4 A** New
Type	STEP3-PS/1AC/24DC/0.63/PT	STEP3-PS/1AC/24DC/1.3/PT	STEP3-PS/1AC/24DC/2.5/PT	STEP3-PS/1AC/24DC/4/PT
Order No.	1088495	1088494	1088491	1140066
				24 V/5 A New
Type				STEP3-PS/1AC/24DC/5/PT
Order No.				1088478

STEP POWER

	STEP POWER, 1~			
		 Shallow design		
Input	85 V AC ... 264 V AC 95 V DC ... 250 V DC	85 V AC ... 264 V AC 95 V DC ... 250 V DC	85 V AC ... 264 V AC 95 V DC ... 250 V DC	85 V AC ... 264 V AC 95 V DC ... 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
	24 V/0.5 A	**24 V/0.75 A FL**	**24 V/0.75 A**	**24 V/1.75 A**
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 No.	2868596	2868622	2868635	2868648
	12 V/1 A	**12 V/1.5 A FL**	**12 V/1.5 A**	**12 V/3 A**
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 No.	2868538	2868554	2868567	2868570
	5 V/2 A			
Type	STEP-PS/1AC/5DC/2			
Order No.	2320513			

	STEP POWER 1~		STEP for 48 V AC	STEP for 277 V AC
				
Input	85 V AC ... 264 V AC 95 V DC ... 250 V DC	85 V AC ... 264 V AC 95 V DC ... 250 V DC	43 V AC ... 52 V AC 60 V DC ... 80 V DC	85 V AC ... 305 V AC 95 V DC ... 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
	24 V/2.5 A	**24 V/4.2 A**	**48 V AC/24 V DC/0.5 A**	**277 V AC/24 V DC/3.5 A**
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 No.	2868651	2868664	2868716	2904945
	15 V/4 A	**24 V/100 W/C2LPS***		
Type	STEP-PS/1AC/15DC/4	STEP-PS/1AC/24DC/3.8/C2LPS		
Order No.	2868619	2868677		
	12 V/5 A	**48 V/2 A**		
Type	STEP-PS/1AC/12DC/5	STEP-PS/1AC/48DC/2		
Order No.	2868583	2868680		
	5 V/6.5 A			
Type	STEP-PS/1AC/5DC/6.5			
Order No.	2868541			

* NEC Class 2 output, certified in accordance with UL 1310 / Limited Power Source (LPS) in accordance with UL 60950-1

DC/DC converters
For a regulated direct voltage

Avoid disturbances in your application by using DC/DC converters. The load is always supplied with a regulated direct voltage, even when using long cable lengths. Phoenix Contact provides:

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

QUINT DC/DC converters

Adapt voltages

DC/DC converters provide a regulated direct voltage. They regenerate voltages so that the load is always supplied with a regulated DC voltage, even in the case of long cable lengths. Furthermore, the electrical isolation ensures the establishment of independent supply systems.

QUINT DC/DC converters with SFB Technology, preventive function monitoring, long service life, and IECEx approval increase the availability of your application. Furthermore, the dynamic boost feature allows high loads to be started. In addition, you are free to choose the connection technology for the new generation.

Web code: #0152

SFB TECHNOLOGY

Your advantages

- SFB Technology selectively triggers standard circuit breakers; loads connected in parallel continue working without interruption
- Preventive function monitoring reports critical operating states before errors occur
- Power reserve for easy system extension with a static boost offering sustained power of up to 125% and the ability to start heavy loads with a dynamic boost of up to 200% for five seconds
- Free selection between Push-in and screw connection

Plus version for extreme ambient conditions

The Plus version of the DC/DC converter with integrated decoupling MOSFET for 1+1 and n+1 redundancy provides symmetrical load distribution and increases system availability. Furthermore, it satisfies the requirements for functional safety (SIL 2).

With a protective coating, and ATEX and IECEx approval in accordance with the standards IEC 60079-0, IEC 60079-7, IEC 60079-11, and IEC 60079-15, it can also be used within the potentially explosive areas of zone 2.

The new Plus version is rounded out with a wide temperature range of -40°C to +70°C for use under extreme ambient conditions.

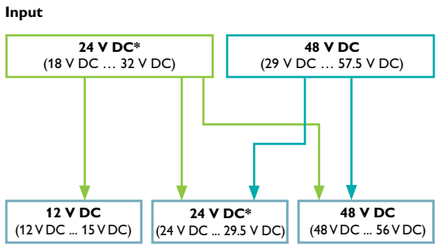
The protective PCB coating (CO stands for coated) protects against dust, corrosive gases, and also against 100% humidity. Failures due to creepage currents and electrochemical migration caused by corrosion are also prevented.

Fourth generation QUINT POWER voltage levels

The fourth generation of the DC/DC converters of the QUINT family is suitable for high powers with currents up to 20 A.

Thanks to the large input voltage range, all common input and output voltages in the performance classes up to 480 W are covered.

The IECEx approvals enable use in all industries, including the process industry.



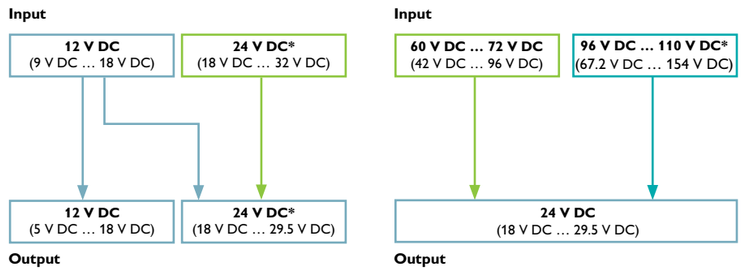
* From 14 ... 32 V DC during operation

Third generation QUINT POWER voltage levels

The third generation of the DC/DC converters of the QUINT family is suitable for high powers with currents up to 20 A.

The common input and output voltages in the performance classes up to 480 W are covered. The IECEx approvals for the devices with protective coating enable use in all industries, including the process industry.

The QUINT DC/DC converters with wide-range input are ideal for applications in the rail industry and power generation, for example.



* From 14 ... 32 V DC during operation

QUINT DC/DC converters

	QUINT DC/DC converters with Push-in connection			
				
Input	18 V DC ... 32 V DC	18 V DC ... 32 V DC	18 V DC ... 32 V DC	
W x H x D in mm	36 x 130 x 125	50 x 130 x 125	70 x 130 x 125	
	24 V/24 V/5 A	**24 V/24 V/10 A**	**24 V/24 V/20 A** New	
Type	QUINT4-PS/ 24DC/24DC/5/PT	QUINT4-PS/ 24DC/24DC/10/PT	QUINT4-PS/ 24DC/24DC/20/PT	
Order No.	2910119	2910120	2910121	

	QUINT DC/DC converters with Push-in connection			
				
Input	18 V DC ... 32 V DC	29 V DC ... 57.5 V DC	18 V DC ... 32 V DC	29 V DC ... 57.5 V DC
W x H x D in mm	36 x 130 x 125	36 x 130 x 125	50 x 130 x 125	50 x 130 x 125
	24 V/12 V/8 A	**48 V/24 V/5 A**	**24 V/48 V/5 A** New	**48 V/48 V/5 A** New
Type	QUINT4-PS/ 24DC/12DC/8/PT	QUINT4-PS/ 48DC/24DC/5/PT	QUINT4-PS/ 24DC/48DC/5/PT	QUINT4-PS/ 48DC/48DC/5/PT
Order No.	2910122	2910125	2910123	2910128

	QUINT DC/DC converters with screw connection			
				
Input	18 V DC ... 32 V DC	18 V DC ... 32 V DC	18 V DC ... 32 V DC	18 V DC ... 32 V DC
W x H x D in mm	36 x 130 x 125	50 x 130 x 125	70 x 130 x 125	70 x 130 x 125
	24 V/24 V/5 A	**24 V/24 V/10 A**	**24 V/24 V/20 A** New	**24 V/24 V/20 A/+** New
Type	QUINT4-PS/ 24DC/24DC/5/SC	QUINT4-PS/ 24DC/24DC/10/SC	QUINT4-PS/ 24DC/24DC/20/SC	QUINT4-PS/ 24DC/24DC/20/SC/+
Order No.	1046800	1046803	1046805	1046881

	QUINT DC/DC converters*			
				
Input	9 V DC ... 18 V DC	9 V DC ... 18 V DC		
W x H x D in mm	32 x 130 x 125	32 x 130 x 125		
	12 V/24 V/5 A	**12 V/12 V/8 A**		
Type	QUINT-PS/ 12DC/24DC/5	QUINT-PS/ 12DC/12DC/8		
Order No.	2320131	2905007		

	QUINT DC/DC converters*		… with protective coating	
				
Input	42 V DC ... 96 V DC	67.2 V DC ... 154 V DC	42 V DC ... 96 V DC	67.2 V DC ... 154 V DC
W x H x D in mm	48 x 130 x 125	48 x 130 x 125	48 x 130 x 125	48 x 130 x 125
	60 V ... 72 V/24 V/10 A	**96 V ... 110 V/24 V/10 A**	**60 V ... 72 V/24 V/10 A/CO**	**96 V ... 110 V/24 V/10 A/CO**
Type	QUINT-PS/ 60-72 DC/24DC/10	QUINT-PS/ 96-110 DC/24DC/10	QUINT-PS/ 60-72 DC/24DC/10/CO	QUINT-PS/ 96-110 DC/24DC/10/CO
Order No.	2905009	2905010	2905011	2905012

	QUINT DC/DC converters* with protective coating			
				
Input	18 V DC ... 32 V DC	18 V DC ... 32 V DC	18 V DC ... 32 V DC	
W x H x D in mm	32 x 130 x 125	48 x 130 x 125	82 x 130 x 125	
	24 V/24 V/5 A/CO	**24 V/24 V/10 A/CO**	**24 V/24 V/20 A/CO**	
Type	QUINT-PS/ 24DC/24DC/5/CO	QUINT-PS/ 24DC/24DC/10/CO	QUINT-PS/ 24DC/24DC/20/CO	
Order No.	2320542	2320555	2320568	

* Devices with differing functions; additional information is available on the product pages at www.phoenixcontact.com

MINI DC/DC converters

For low powers

MINI DC/DC converters are particularly suitable for measurement and control technology. Connection is quick and easy using COMBICON connectors. An LED and an active switching output monitor the output voltage.

The MINI DC/DC converters are suitable for low power ratings. They are available for voltages from 10 V DC to 75 V DC. They supply currents between 0.7 A and 2 A.

Web code: #0152

MINI POWER voltage levels

Input

12 V DC … 24 V DC (10 V DC … 32 V DC)	48 V DC … 60 V DC (36 V DC … 75 V DC)

5 V DC … 15 V DC (5 V DC … 15 V DC)	24 V DC (22.5 V DC … 28.5 V DC)	48 V DC (30 V DC … 56 V DC)

Output

	MINI DC/DC converters			Accessories*
				
Input	10 V DC ... 32 V DC	10 V DC ... 32 V DC	36 ... 75 V DC / 10 ... 32 V DC	1-phase, 10 V DC ... 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	22.5 x 99 x 107
	12 V ... 24 V/24 V/1 A	**12 V ... 24 V/5 ... 15 V/2 A**	**48 V ... 60 V/24 V/1 A**	**10 V AC ... 42 V AC/ 15 V DC ... 60 V DC/3 A***
Type	MINI-PS-12-24DC/24DC/1	MINI-PS-12-24DC/5-15DC/2	MINI-PS-48-60DC/24DC/1	MINI-PS-10-42AC/15-60DC/3
Order No.	2866284	2320018	2866271	2320199
	12 V ... 24 V/48 V/0.7 A			
Type	MINI-PS-12-24DC/48DC/0.7			
Order No.	2320021			

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

TRIO DC/DC converters

For decentralized power supply

The DC/DC converter with 1500 V DC supplies your system directly from the field and provides a reliable power supply even without a central grid. It is suitable for applications in photovoltaics and drive technology. In photovoltaic systems, it is even possible to start the central inverter with the TRIO DC/DC converter without a supply grid. In drive technology, the device also generates 24 V DC directly in the machine to supply the system controller.

Web code: #2431

Your advantages

- Specifically developed for the high DC voltages of photovoltaic systems
- Suitable for use in all photovoltaic systems with high input voltage due to conformity with standard UL 62109; supports potential-free grounding
- In photovoltaic systems, the central inverter can be started without an additional AC connection
- High system availability due to the robust design
- Quick and easy installation with Push-in connection

	TRIO DC/DC converters
	
Input	600 V DC ... 1500 V DC
W x H x D in mm	88.5 x 130 x 160
	1500 V/8 A New
Type	TRIO-PS-2G/1500DC/24DC/8
Order No.	1075240

UNO DC/DC converters

For direct supply

Supply your control cabinet directly from the photovoltaic system with the DC/DC converters of the UNO POWER range. The Combiner Box is supplied directly from the PV panel with the direct connection to string voltages of up to 1000 V DC. You therefore save additional installation costs and increase system efficiency. In a further expansion stage, the signal line can be replaced by a wireless connection.

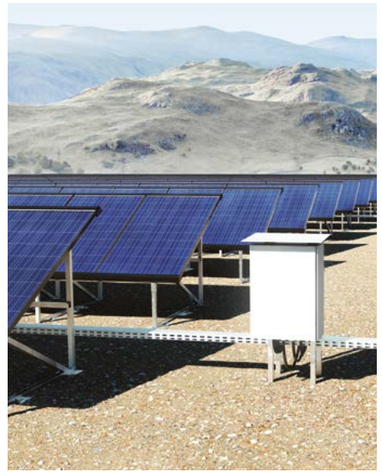
Web code: #0152

Your advantages

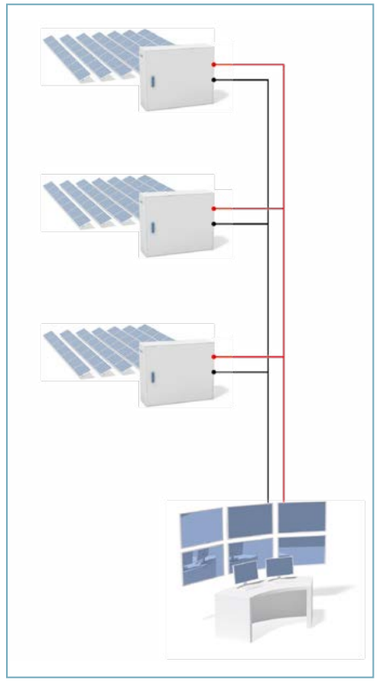
- Wide input voltage range of 300 V DC … 1000 V DC
- Direct field installation possible; an AC connection is no longer necessary
- Simplified approval of the overall system with UL 1741 certification for the DC/DC converter
- Low space requirement in the control box with the compact design and a high degree of efficiency
- Simplified startup with LED function monitoring

	UNO DC/DC converters
	
Input	350 V DC ... 900 V DC
W x H x D in mm	55 x 90 x 84

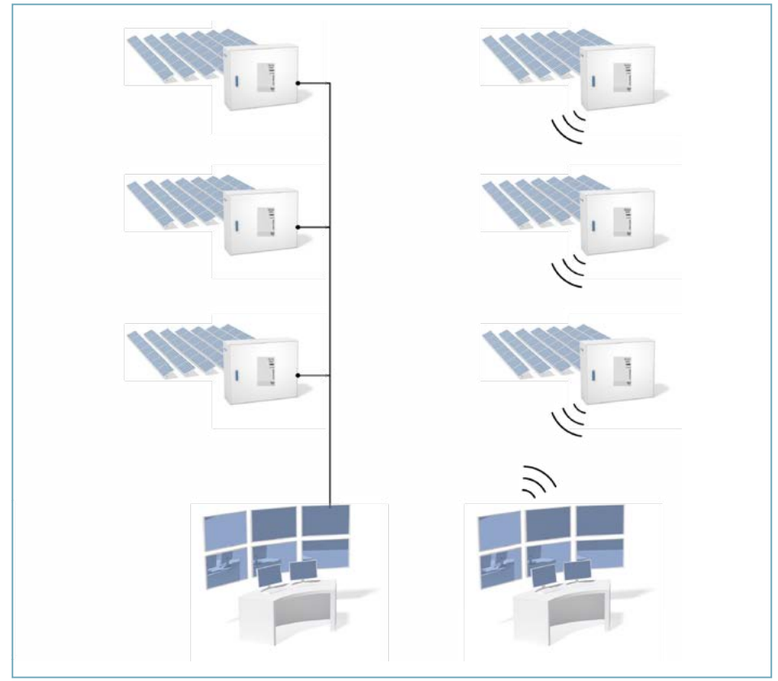
	350 DC ... 900 DC/24 DC/60 W
Type	UNO-PS/350-900DC/24DC/60W
Order No.	2906300



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

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

Inverters for converting direct current into alternating current

The QUINT inverter reliably converts direct current into alternating current.
The inverter from Phoenix Contact provides:

- A pure sine curve
- Consistent high-quality electric, without dangerous voltage fluctuations
- Trouble-free supply of voltage-sensitive loads

QUINT inverters

For generating alternating current

With the new DC/AC inverter in the QUINT POWER family, a compact solution is now available that generates alternating current in DC applications. Connect two DC/AC inverters in parallel to create a redundant system or to benefit from increased power. A three-phase grid can be created, for example for operating alternating current drives, by connecting three inverters in parallel.

Web code: #2426

Your advantages

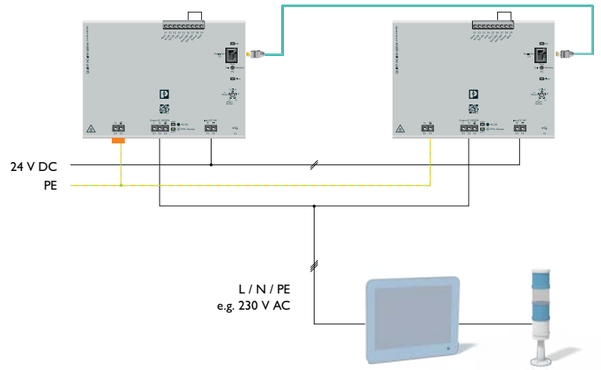
- Manual selection of AC output voltage via a signal terminal enables use worldwide
- A pure sine curve at the output
- USB interface for connection to industrial PCs and similar applications
- Can be switched in parallel for various applications
- Space-saving compact design

	QUINT DC/AC inverters
	
Input	20 V DC ... 30 V DC
W x H x D in mm	180 x 130 x 125

	480 W / 600 VA New
Type	QUINT4-INV/24DC/1AC/600VA/USB
Order No.	1067325

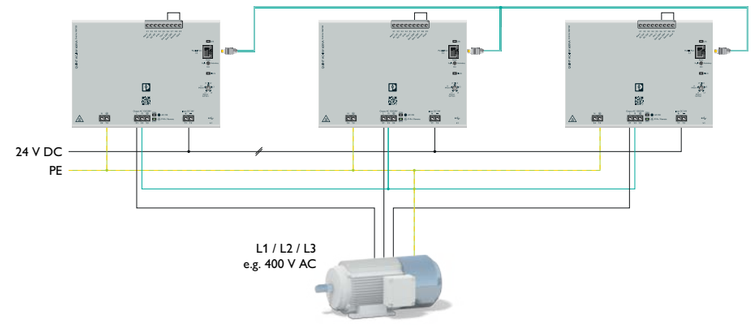
Parallel connection with synchronized AC output

Connect two devices in parallel to increase operational safety in the event of a power supply failure or to increase power. The output power can be doubled by using the DC/AC inverter. Communication between the two devices synchronizes the phase relation in both operating modes.



Three-phase grid for drive applications

Connect three devices in parallel to create a three-phase grid. The inverters communicate with each other in order to synchronize the 120° phase shift in real time. This allows alternating current drives to be operated.



Redundancy modules

Redundant power supply solutions are necessary in applications with high demands on operational safety. They ensure that the failure of one power supply unit does not result in system downtime.

A redundant system is the result of the parallel connection of two power supply units that are decoupled from one another. This decoupling via an active redundancy module or a simple diode ensures the high availability and productivity of your system.

Redundancy modules

QUINT SINGLE ORING

With the QUINT S-ORING you can increase your system availability and operational safety even further. Supply networks are decoupled and lines are disconnected continuously while they are routed to the load. In combination with the fourth generation of the QUINT POWER power supplies, the input voltage and decoupling section are monitored continuously. The Plus version and the VP version with protective circuit and overvoltage protection protect sensitive loads. Overvoltages are limited to <28.8 V DC or <30 V DC respectively.

Web code: #2180

Your advantages

- ☑ Consistent redundancy through to the load
- ☑ Constant monitoring of input voltage and decoupling path
- ☑ Energy savings of 70% with decoupling MOSFET
- ☑ Protection against overvoltages at the output (overvoltage protection) increases operational safety
- ☑ Protective coating with ATEX and IECEx approval for extreme ambient conditions

QUINT ORING with ACB Technology (Auto Current Balancing)

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

ACB Technology extends the service life of redundantly operated power supplies by evenly utilizing the power supply units. As a result of asymmetries, the load is often supplied by just one power supply unit, while the other power supply unit runs in no-load operation. This results in a thermal load on the working power supply unit and, therefore, rapid aging. Thanks to the use of modern MOSFET technology, the resulting thermal load is reduced by up to 70%. This lower level of power dissipation ensures that all the control cabinet components stay cooler and the service life of devices in the redundant system is doubled.

Designed by PHOENIX CONTACT

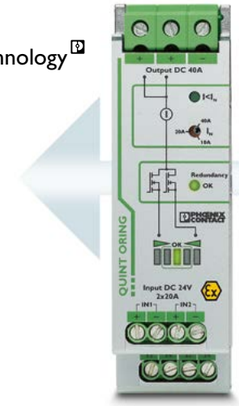
QUINT ORING active redundancy modules with ACB Technology

The three QUINT ORING modules feature ACB Technology and preventive function monitoring. The input voltage, output current, and decoupling path are monitored continuously, so a loss of redundancy can be reported early on. Two positive output terminals ensure consistent redundancy through to the load. The installed MOSFETS reduce the power dissipation to an extent that energy savings of around 70% are achieved. Overvoltage protection limits overvoltages to 32 V DC.

Auto Current Balancing Technology

Designed by PHOENIX CONTACT

50% power



50% power

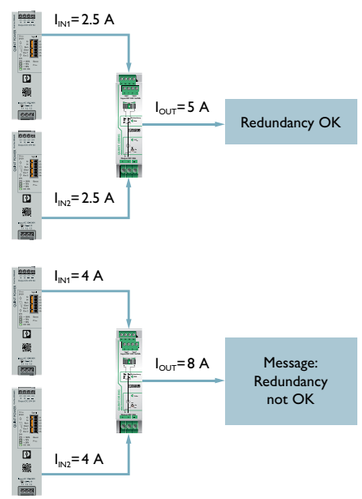
Detect and avoid critical states

The QUINT ORING modules monitor the load current and generate a warning as soon as a set value is exceeded. If the user connects additional loads to a redundant power supply as part of a system extension, it can result in a loss of redundancy, as described in the following example.

Two redundant power supplies, each with 5 A nominal current, supply a controller with the 5 A required.

If an additional load of 3 A is now connected, it can be supplied by the power supply's power reserve. The required current of 8 A will be supplied without a voltage dip.

However, there is no longer any redundancy, so if one of the two power supplies fails, the second device is no longer able to provide 8 A. The LED immediately warns the system operator that there is no longer any redundancy.

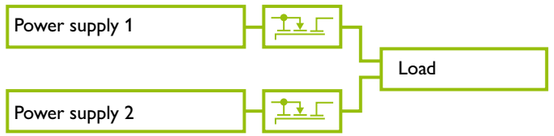


Active redundancy modules

Our 1- or 2-channel active redundancy module versions monitor themselves and the connection wiring through to the load. In combination with a QUINT POWER supply, you can extend the system to include complete redundancy monitoring from the AC feed-in to the DC load. By continually monitoring the AC and DC voltage levels, the respective wiring, and at the same time, the decoupling of the load current, critical operating states can be detected and signaled early on. The integrated MOSFET technology reduces the thermal loads, keeping self-heating to a minimum.

Decoupling and monitoring

An active, single-channel redundancy module provides a separate structure for the redundant system. In combination with the new QUINT POWER power supplies, your system is monitored continuously.

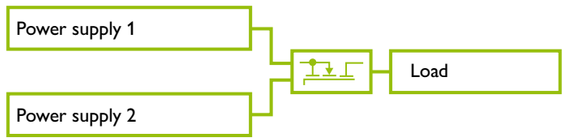


	QUINT S-ORING		
			
Input	8 V DC ... 30 V DC	8 V DC ... 27.5 V DC	8 V DC ... 26 V DC
W x H x D in mm	32 x 130 x 125	32 x 130 x 125	32 x 130 x 125
	12 V ... 24 V/1 x 40 A	**12 V ... 24 V/1 x 40 A/VP***	**12 V ... 24 V/1 x 40 A/+****
Type	QUINT4-ORING/12-24DC/1x40	QUINT4-S-ORING/12-24DC/1x40/VP	QUINT4-ORING/12-24DC/1x40/+
Order No.	2907752	1043418	2907753

* Overvoltages arising are limited to 30 V, ** Overvoltages arising are limited to 28.8 V

Decoupling, monitoring, and control

An active redundancy module provides decoupling for power supplies, monitoring input voltage, wiring, and load current.

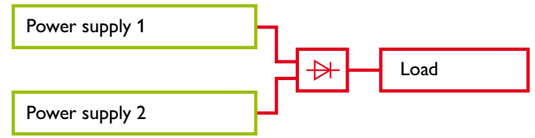


	QUINT ORING		Auto Current Balancing Technology Designed by PHOENIX CONTACT
			
Input	18 V DC ... 28 V DC	18 V DC ... 28 V DC	18 V DC ... 28 V DC
W x H x D in mm	32 x 130 x 125	38 x 130 x 125	66 x 130 x 125
	24 V/2 x 10 A/1 x 20 A	**24 V/2 x 20 A/1 x 40 A**	**24 V/2 x 40 A/1 x 80 A**
Type	QUINT-ORING/24DC/2x10/1x20	QUINT-ORING/24DC/2x20/1x40	QUINT-ORING/24DC/2x40/1x80
Order No.	2320173	2320186	2902879

Passive redundancy modules

Passive redundancy modules enable the simple decoupling of two power supplies on the DC side. This is useful in particular when power supplies are connected in parallel to increase power or for redundancy purposes. If one device fails due to malfunctions, the second power supply automatically takes over the entire supply for the DC load. The diode power losses arising during operation are dissipated completely as thermal energy to the control cabinet. The diode is not subject to preventive function monitoring, and the connecting cables through to the DC load are not monitored.

Simple decoupling via diodes



	QUINT DIODE	
		
Input	10 V DC ... 30 V DC	30 V DC ... 56 V DC
W x H x D in mm	50 x 130 x 125	50 x 130 x 125
	12 V ... 24 V/2 x 20 A/1 x 40 A	**48 V/2 x 20 A/1 x 40 A**
Type	QUINT4-DIODE/12-24DC/2x20/1X40	QUINT4-DIODE/48DC/2x20/1X40
Order No.	2907719	2907720

	TRIO DIODE		UNO DIODE	STEP DIODE
				
Input	10 V DC ... 30 V DC	10 V DC ... 30 V DC	4.5 V DC ... 30 V DC	4.5 V DC ... 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
	12 V ... 24 V/2 x 10 A/ 1 x 20 A	**12 V ... 24 V/2 x 20 A/ 1 x 40 A**	**5 V ... 24 V/2 x 10 A/ 1 x 20 A**	**5 V ... 24 V/2 x 5 A/ 1 x 10 A**
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 No.	2907380	2907379	2905489	2868606

Monitored

Not monitored

Uninterruptible power supplies

Mains interruptions can have serious consequences. Avoid risk by relying on our uninterruptible power supplies.

We provide the following solutions for high system availability, even in the event of a mains failure:

- DC and AC UPS modules with communication interfaces
- UPS modules with integrated power supply or energy storage system
- Comprehensive selection of energy storage systems

Uninterruptible power supplies

IQ Technology for an intelligent UPS system

Superior system availability, thanks to IQ Technology:

- You know the state of charge and remaining runtime of your energy storage system
- You will be warned of pending failures at an early stage, making it possible to plan servicing
- You can increase the service life of the energy storage system
- All relevant information is available to you on your industrial PC and higher-level controllers

Web code: #0154

IQ Technology

Designed by PHOENIX CONTACT

Uninterruptible power supply units with IQ Technology

- Battery management system (BMS) with IQ Technology
- Provides information on the remaining runtime, state of charge, and service life of the energy storage system
- Optimizes the charging characteristic for an even longer service life
- Interfaces enable integration into any industrial network

Uninterruptible power supplies (UPS) continue to deliver power even in the event of a mains failure. With IQ Technology, you're one step ahead: the devices advise on the charging state and the remaining runtime of the energy storage, optimize its service life, and warn of pending failures in good time. All relevant information is transferred to higher-level computers and controllers.

The intelligent UPS with IQ Technology monitors and optimizes energy storage, reduces maintenance effort, and increases the availability of your systems. It determines all relevant energy storage states. This ensures the crucial transparency required to guarantee the stability of the supply and the best possible utilization of the energy storage system at all times.

The intelligent battery management system calculates the remaining runtime available. It advises as soon as a threshold value is reached. In this way, your system works as long as possible and is shut down before the battery voltage runs out.

Intelligent charging
Adapts the charging current and thereby ensures fast recharging and availability.

Intelligent battery management SOC (State of Charge)
Describes the current state of charge and the remaining energy storage system runtime.

Intelligent battery control
Detects the connected battery type and increases its remaining service life by optimally adapting the charging characteristic.

Intelligent battery management SOH (State of Health)
Reports on the life remaining for the energy storage device and warns of pending failures in good time.

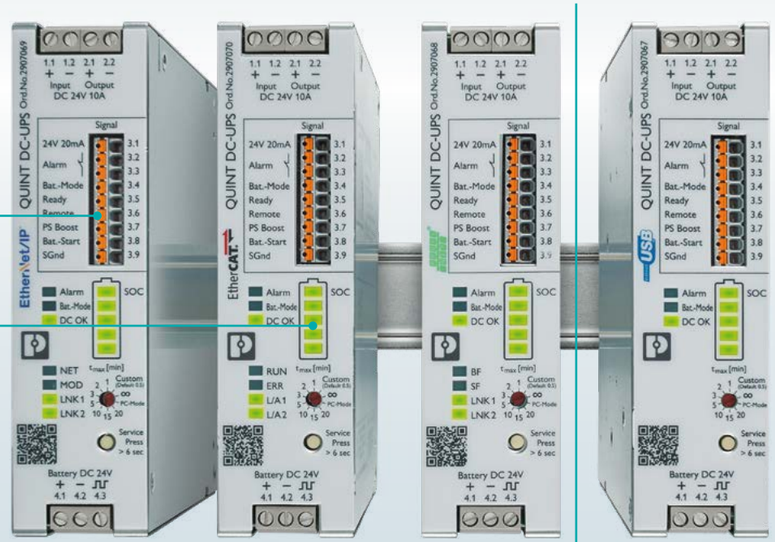
Interfaces
Easy integration into industrial networks:
- PROFINET
- EtherNet/IP™
- EtherCAT®
- USB

QUINT DC UPS uninterruptible power supplies – intelligent and communicative

With the intelligent QUINT DC UPS for integration into existing industrial networks, you are ready for Industry 4.0. With the QUINT DC UPS and the integrated interfaces for PROFINET, EtherNet/IP™, EtherCAT®, and USB; monitoring, configuration, and shutting the system down in a safe state are possible at all times anywhere in the world.

Signaling
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 energy storage system
- The energy storage system is being charged
- An alarm is present

The USB interface is suitable for:
- Monitoring and configuration with UPS-CONF
- Safe shutdown of industrial PCs with optimum utilization of the energy storage system
- Automatic startup when mains returns



Intelligent monitoring of the energy storage system
- Automatic detection of the battery type connected and service life increase with adaptive charging characteristics
- Adapting the charging current ensures fast recharging and availability of the energy storage system

The first intelligent QUINT DC UPS for integration into established industrial networks

Interfaces
The QUINT DC UPS can be easily integrated into the following existing industrial networks via various interfaces:
- PROFINET
- EtherNet/IP™
- EtherCAT®

All network technologies, devices with USB interface, and devices without an interface are available in all four performance classes (5 A, 10 A, 20 A, and 40 A).

2-port switch
Our QUINT DC UPS has a 2-port switch. The device can therefore be integrated flexibly into existing industrial networks.

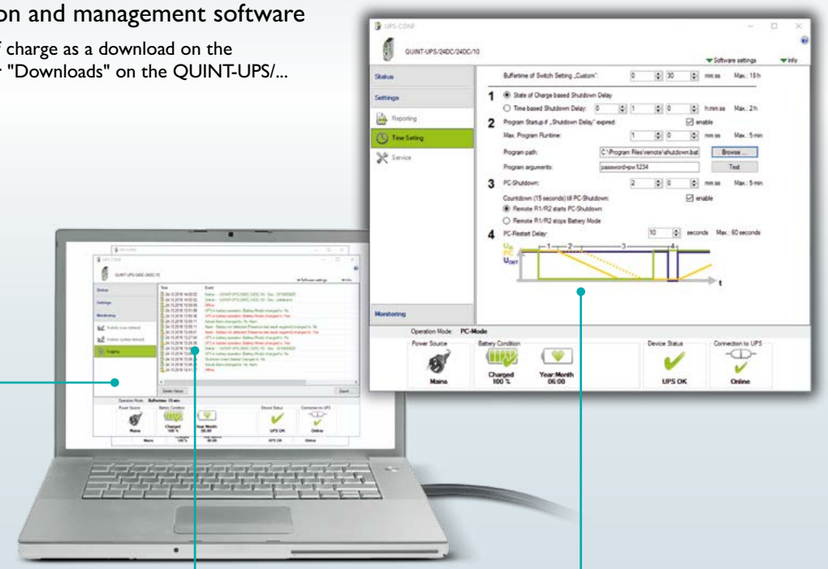
Extended load management
The extended load management system consists of the following functions:
- Energy monitoring – monitoring input and output voltages and the associated currents
- PC shutdown function – reliable shutdown of your industrial PC in the event of a mains failure without data loss, and automatic restart of the industrial PC when the mains power returns
- Cold-start function – UPS startup even without mains power

Function blocks
We include the corresponding function blocks for the following engineering environments so that the QUINT DC UPS can be started up quickly:
- PLCnext
- TIA Portal
- Studio 5000
- TwinCAT

Device descriptions
If the appropriate function block for your application is not available, you can create your own custom function blocks using our device descriptions.

UPS-CONF configuration and management software

The software is available free of charge as a download on the Phoenix Contact website under "Downloads" on the QUINT-UPS/... product pages.



Integrated data recorder
The log file archives events, e.g., when and for how long the QUINT UPS has bridged mains failures.

Configuration
Flexible adaptation of the QUINT UPS behavior to individual requirements.

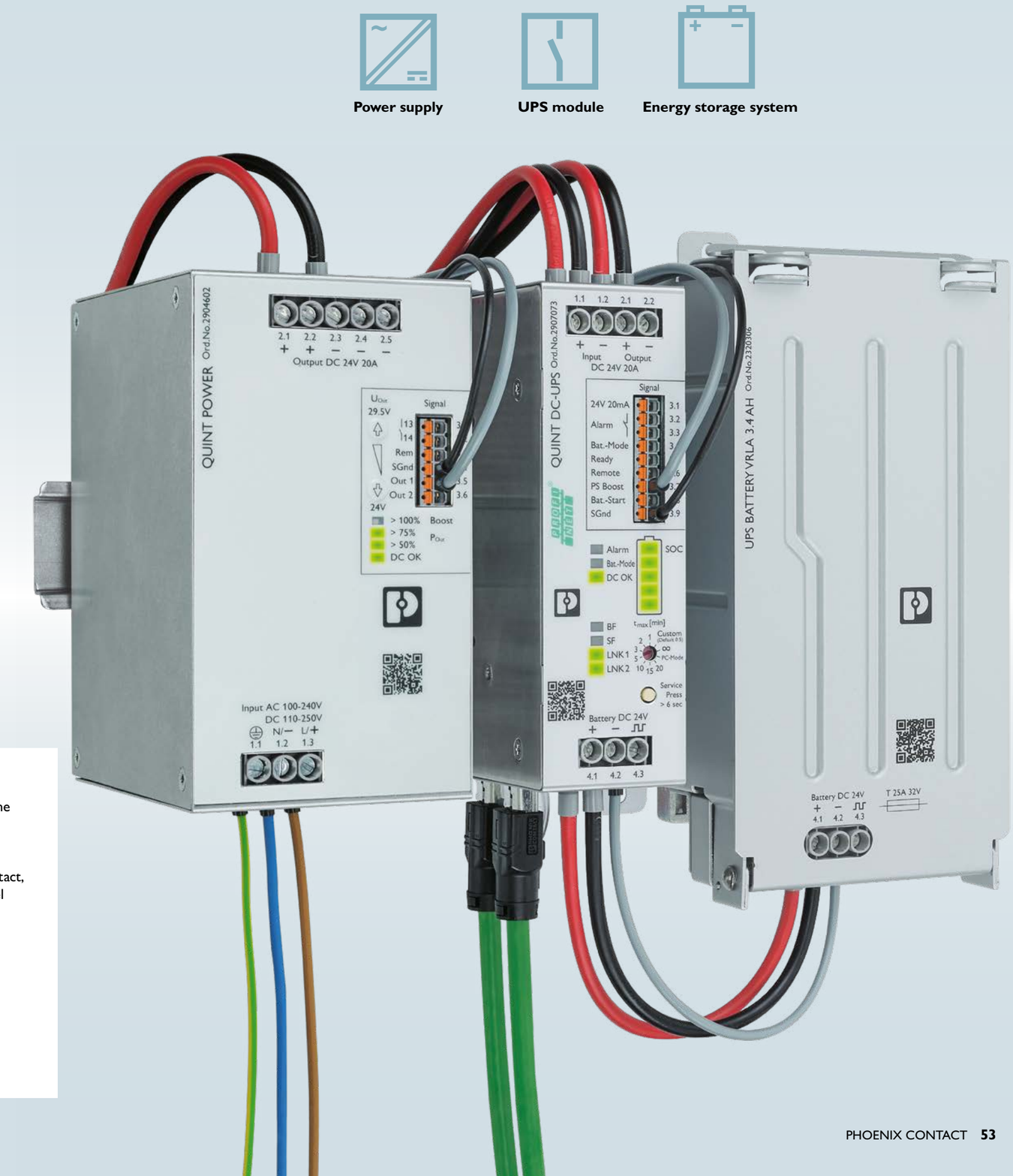
Preventive function monitoring
All relevant operating parameters are displayed graphically. Important messages appear in the foreground.

Uninterruptible power supplies

Intelligence in any combination

Create your own individual QUINT DC UPS solution tailored to your application:

1. Choose your power supply
2. Choose your UPS module
3. Choose your energy storage system



Intelligence for increasing system availability

Task
Supply an industrial PC consistently with 24 V DC.

Previous solution
One UPS with 3.4 Ah buffers 24 V DC / 5 A for 20 minutes under optimal conditions. Can the energy storage system actually bridge this time? The state of charge, performance, and remaining runtime of the energy storage system are unknown.

Solution with QUINT UPS
The intelligent QUINT UPS determines all relevant energy storage system states. This ensures the crucial transparency required to guarantee the stability of the supply and to optimize utilization of the energy storage system at all times.
The intelligent battery management detects the current state of charge of the connected energy storage system and uses it to calculate the remaining runtime available.

The QUINT UPS indicates whether the remaining buffer time is actually still 20 minutes. As soon as an adjustable threshold value has been reached, a warning message is sent via signal contact, via software, or directly to higher-level controllers.

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 for up to several hours.

The QUINT UPS for AC applications delivers a pure sine curve at the output. The sine wave generated during battery operation is synchronized to the grid previously used for supply. Only one energy storage system is required to safeguard your system.

IQ Technology

Designed by PHOENIX CONTACT

Substantial power reserve
- For mains and battery operation
- Power Boost static power reserve
- SFB Technology (Selective Fuse Breaking, page 11)

Adaptive current management
- For fast recharging and high energy storage system availability

Easy integration into industrial networks
- PROFINET
- EtherNet/IP™
- EtherCAT®
- USB

Seamless transition with online topology
- Classification in accordance with EN 62040-3: VFI-SS-111

Convection cooling
- Fan-free heat dissipation

Comprehensive signaling and configuration
- Floating relay contacts
- Signal contacts

Startup from the energy storage system
- Possible even without power supply input

Can be switched in parallel
- For redundancy and increased performance

USB interface
- For connection to industrial PCs and controllers

Optimized use of the buffer time and preventive monitoring of the energy storage system
- Intelligent battery management

Web code: #1992

Web code: #1988

Uninterruptible power supplies

Energy storage systems for QUINT UPS

With the energy storage systems for our modular series of uninterruptible power supplies, you will always have the right solution for your system.

- UPS-BAT/LI-ION for a long service life
- UPS-BAT/VRLA-WTR for use in extreme ambient temperatures
- UPS-BAT/VRLA for longer buffer times

Type	Typical buffer time	Temperature	Service life at +20°C	Service life at +50°C	Charging cycles at +20°C	Weight (standardized)
UPS-BAT/LI-ION…	>40 min	-20°C ... +58°C	15 years	2 years	7,000	0.45 kg
UPS-BAT/VRLA-WTR…	>5 h	-25°C ... +60°C	12 years	1.5 years	300	1.3 kg
UPS-BAT/VRLA…	>8 h	0°C ... +40°C	6 years … 9 years	1 year	250	1 kg

Particularly good product characteristics

Your advantages

- Fast installation with the automatic detection of the energy storage system and tool-free replacement during operation
- Constant communication with QUINT UPS for continuous monitoring and intelligent management
- Extremely long service life with optimized charging characteristics based on the technology and ambient conditions
- Immediate availability: all energy storage systems leave our warehouse fully charged

UPS-BAT/LI-ION...
- Long service life with long buffer times
- Lithium iron phosphate technology

UPS-BAT/VRLA-WTR...
(Valve Regulated Lead Acid / Wide Temperature Range)
- Longer buffer times at extreme temperatures
- Pure lead AGM technology (Absorbent Glass Mat)

UPS-BAT/VRLA...
(Valve Regulated Lead Acid)
- Longer buffer times
- Lead AGM technology (Absorbent Glass Mat)

QUINT DC UPS with IQ Technology – for industrial networks

The first intelligent UPS with integrated Ethernet interface for integration into established industrial networks. The UPS modules for 24 V DC with output currents ranging from 5 to 40 A allow you to create a custom solution combining a power supply, UPS module, and energy storage system. With IQ Technology and a powerful battery charger, the battery management system (BMS) ensures superior system availability.

Web code: #1992

Your advantages

- Intelligent battery management system provides battery state of health and state of charge
- Automatic recognition of the battery capacities and technologies (VRLA, WTR, LiFePO4)
- Monitoring of output current and voltage, as well as manual connection and disconnection of the system
- SFB Technology selectively trips standard miniature circuit breakers; loads connected in parallel continue working

	QUINT DC UPS*			IQ Technology Designed by PHOENIX CONTACT
				
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
	24 V/5 A/ PN	**24 V/10 A/ PN**	**24 V/20 A/ PN**	**24 V/40 A/ PN**
Type PROFINET	QUINT4-UPS/24DC/24DC/5/PN	QUINT4-UPS/24DC/24DC/10/PN	QUINT4-UPS/24DC/24DC/20/PN	QUINT4-UPS/24DC/24DC/40/PN
Order No.	2906993	2907068	2907073	2907079
	24 V/5 A/EIP	**24 V/10 A/EIP**	**24 V/20 A/EIP**	**24 V/40 A/EIP**
Type EtherNet/IP™	QUINT4-UPS/24DC/24DC/5/EIP	QUINT4-UPS/24DC/24DC/10/EIP	QUINT4-UPS/24DC/24DC/20/EIP	QUINT4-UPS/24DC/24DC/40/EIP
Order No.	2906994	2907069	2907074	2907080
	24 V/5 A/EC	**24 V/10 A/EC**	**24 V/20 A/EC**	**24 V/40 A/EC**
Type EtherCAT®	QUINT4-UPS/24DC/24DC/5/EC	QUINT4-UPS/24DC/24DC/10/EC	QUINT4-UPS/24DC/24DC/20/EC	QUINT4-UPS/24DC/24DC/40/EC
Order No.	2906996	2907070	2907076	2907081
	24 V/5 A/USB	**24 V/10 A/USB**	**24 V/20 A/USB**	**24 V/40 A/USB**
Type USB	QUINT4-UPS/24DC/24DC/5/USB	QUINT4-UPS/24DC/24DC/10/USB	QUINT4-UPS/24DC/24DC/20/USB	QUINT4-UPS/24DC/24DC/40/USB
Order No.	2906991	2907067	2907072	2907078
	24 V/5 A	**24 V/10 A**	**24 V/20 A**	**24 V/40 A**
Type without interface	QUINT4-UPS/24DC/24DC/5	QUINT4-UPS/24DC/24DC/10	QUINT4-UPS/24DC/24DC/20	QUINT4-UPS/24DC/24DC/40
Order No.	2906990	2907066	2907071	2907077

QUINT CHARGER
Additional charger for increasing the charging current

	
W x H x D in mm	60 x 130 x 126
	24 V/10 A New
Type	QUINT4-CHARGER/1AC/24DC/10
Order No.	2907990

QUINT DC UPS*
with dual output

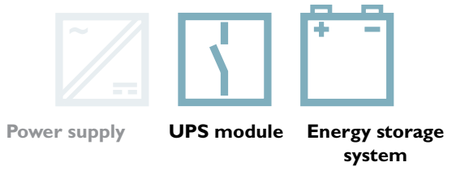
IQ Technology Designed by PHOENIX CONTACT

	
W x H x D in mm	35 x 130 x 125
12 V/5 A	**12 V/5 A; 24 V/10 A**
Type	QUINT-UPS/24DC/12DC/5/24DC/10
Order No.	2320461

* These devices support SFB Technology

Selection guide for QUINT DC UPS and energy storage system

Select the appropriate combination of a QUINT DC UPS and an energy storage system for your application.



	QUINT DC UPS			IQ Technology Designed by PHOENIX CONTACT	… with 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
	24 V/5 A	**24 V/10 A**	**24 V/20 A**	**24 V/40 A**	**12 V/5 A; 24 V/10 A**
Type	QUINT4-UPS 24DC/24DC/5...	QUINT4-UPS 24DC/24DC/10...	QUINT4-UPS 24DC/24DC/20...	QUINT4-UPS 24DC/24DC/40...	QUINT-UPS 24DC/12DC/5/24DC/10
Recommended energy storage system UPS-BAT/...	LI-ION VRLA-WTR VRLA/1.3 ... 12 AH (max. 40 AH)	LI-ION VRLA-WTR VRLA/1.3 ... 38 AH (max. 80 AH)	LI-ION VRLA-WTR VRLA/3.4 ... 38 AH (max. 100 AH)	LI-ION 924WH VRLA-WTR VRLA/7.2 ... 38 AH (max. 100 AH)	LI-ION VRLA/1.3 ... 38 AH (max. 60 AH)

These devices support SFB Technology.

	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
	120 Wh	**924 Wh**	**13 Ah**	**26 Ah**
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 No.	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	152 x 167 x 181	330 x 221 x 197
	1.3 Ah	**3.4 Ah**	**7.2 Ah**	**12 Ah**	**20 Ah** New	**38 Ah**
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/20AH	UPS-BAT/VRLA/ 24DC/38AH
Order No.	2320296	2320306	2320319	2320322	1109004	2320335

Buffer times for your QUINT DC UPS with the following energy storage systems: LI-ION and VRLA-WTR

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

→ ▭

→ QUINT4-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																								1+1	1+1
3 A																							1+1	1+1	
5 A																						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						
25 A																		1+1	1+1						
30 A																	1+1	1+1	1+1						
35 A																	1+1	1+1	1+1	1+1					
40 A																	1+1	1+1	1+1	1+1					

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

Buffer times for your QUINT DC UPS with VRLA energy storage systems

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

→ ▭

→ QUINT4-UPS/24DC/24DC/10A and UPS-BAT/VRLA/24DC/12AH

Load current	Buffer time																				
	Minutes													Hours							
	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																				1+1	1+1	
3 A																				1+1	1+1	
5 A																			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						
25 A															1+1	1+1						
30 A													1+1	1+1	1+1							
35 A												1+1	1+1	1+1	1+1							
40 A												1+1	1+1	1+1	1+1							

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

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

Select the appropriate combination of a QUINT AC-UPS/500VA and an energy storage system for your application.

Power supply **UPS module** **Energy storage system**

	QUINT AC UPS 1~ IQ Technology Designed by PHOENIX CONTACT
	
W x H x D in mm	180 x 130 x 125
	400 W/500 VA New
Type	QUINT4-UPS/1AC/1AC/500VA/USB
Order No.	1067327
Recommended energy storage system 1 x UPS-BAT/...	LI-ION VRLA-WTR VRLA/3.4 ... 38 AH

Accessories

USB data cable
MINI-SCREW-USB-DATACABLE
2908217
For communication between the UPS module and the UPS-CONF, length 3 m

Web code: #1988

	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
	120 Wh	**924 Wh**	**13 Ah**	**26 Ah**
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 No.	2320351	2908232	2320416	2320429

	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	152 x 167 x 181	330 x 221 x 197
	3.4 Ah	**7.2 Ah**	**12 Ah**	**20 Ah** New	**38 Ah**
Type	UPS-BAT/VRLA/ 24DC/3.4AH	UPS-BAT/VRLA/ 24DC/7.2AH	UPS-BAT/VRLA/ 24DC/12AH	UPS-BAT/VRLA/ 24DC/20AH	UPS-BAT/VRLA/ 24DC/38AH
Order No.	2320306	2320319	2320322	1109004	2320335

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

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

→ ■

→ QUINT4-UPS/1AC/1AC/500VA/USB and UPS-BAT/VRLA-WTR/24DC/26AH

	Buffer time																						
	Seconds							Minutes										Hours					
Power	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																									1+1
35 W																							1+1	1+1	
55 W																						1+1	1+1		
90 W																					1+1	1+1			
125 W																				1+1	1+1	1+1			
180 W																				1+1	1+1				
275 W																			1+1	1+1					
400 W																		1+1	1+1						

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

Buffer times for QUINT AC-UPS/500VA with VRLA energy storage systems

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

→ ■

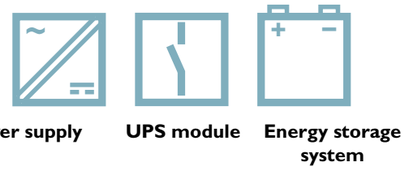
→ QUINT4-UPS/1AC/1AC/500VA/USB and UPS-BAT/VRLA/24DC/20AH

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

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

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

Select the appropriate combination of a QUINT AC-UPS/1kVA and an energy storage system for your application.



Power supply **UPS module** **Energy storage system**

	QUINT AC UPS 1~ IQ Technology Designed by PHOENIX CONTACT
	
W x H x D in mm	290 x 130 x 125
	900 W/1 kVA
Type	QUINT4-UPS/1AC/1AC/1KVA
Order No.	2320283
Recommended energy storage system 2 x UPS-BAT/...	LI-ION VRLA-WTR VRLA/3.4 ... 38 AH

Accessories

USB data cable
MINI-SCREW-USB-DATACABLE
2908217
For communication between the UPS module and the UPS-CONF, length 3 m

Web code: #1988

	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
	120 Wh	**924 Wh**	**13 Ah**	**26 Ah**
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 No.	2320351	2908232	2320416	2320429

	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	152 x 167 x 181	330 x 221 x 197
	3.4 Ah	**7.2 Ah**	**12 Ah**	**20 Ah** New	**38 Ah**
Type	UPS-BAT/VRLA/ 24DC/3.4AH	UPS-BAT/VRLA/ 24DC/7.2AH	UPS-BAT/VRLA/ 24DC/12AH	UPS-BAT/VRLA/ 24DC/20AH	UPS-BAT/VRLA/ 24DC/38AH
Order No.	2320306	2320319	2320322	1109004	2320335

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

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

→ ▭

→ QUINT4-UPS/1AC/1AC/1KVA and 2 x UPS-BAT/LI-ION/24DC/924WH

	Buffer time																			
	Minutes												Hours							
Power	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		
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			
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				
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				
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					
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					
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						
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: For the QUINT AC-UPS/1kVA, two energy storage systems of the same capacity are always required.
The data is based on an ambient temperature of +20°C.

Buffer times for your QUINT AC-UPS/1kVA with VRLA energy storage system

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

→ ▭

→ QUINT4-UPS/1AC/1AC/1KVA and 2 x UPS-BAT/VRLA/24DC/12AH

	Buffer time																			
	Minutes												Hours							
Power	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: For the QUINT AC-UPS/1kVA, two energy storage systems of the same capacity are always required.
The data is based on an ambient temperature of +20°C.

Selection guide for QUINT UPS modules with integrated energy storage system

Buffer modules

The QUINT CAP and QUINT BUFFER are both suitable for the DIN rail and combine an electronic switch-over unit and maintenance-free, capacitor-based energy storage system in the same housing.

QUINT CAP

QUINT CAP is for cyclic failures lasting up to several minutes. Your PC can be shut down conveniently with the USB interface.

QUINT BUFFER

The compact buffer module is for bridging failures within seconds.

QUINT UPS

Space saving and easy to install in existing systems. Simply connect a 24 V DC power supply unit upstream, and the UPS solution is complete. Utilize the benefits of IQ Technology and the minimum wiring outlay. The maintenance-free energy storage device is integrated.

Web code: #1989

	QUINT CAP	QUINT CAP		Accessories
Input	22.5 V DC ... 30 V DC	22.5 V DC ... 30 V DC	22.5 V DC ... 30 V DC	
W x H x D in mm	85 x 102.5 x 90	94 x 130 x 125	118 x 130 x 125	Length: 3 m
	24 DC/3,8 A New	**24 DC/5 A**	**24 DC/10 A**	**USB data cable**
Type	QUINT4-CAP/ 24DC/3.8/1KJ/PT	QUINT4-CAP/ 24DC/5/4KJ	QUINT4-CAP/ 24DC/10/8KJ	MINI-SCREW-USB-DATACABLE
Order No.	2320526	2320539	2320571	2908217
Information	Energy storage system based on maintenance-free double-layer capacitors	Energy storage system based on maintenance-free double-layer capacitors		For communication between the UPS module and the industrial PC

These devices support SFB Technology.

	QUINT UPS	IQ Technology Designed by PHOENIX CONTACT
Input	18 V DC ... 30 V DC	18 V DC ... 30 V DC
W x H x D in mm	88 x 138 x 125	120 x 169 x 125
	24 DC/5 A/1.3 Ah	**24 DC/10 A/3.4 Ah**
Type	QUINT-UPS/ 24DC/24DC/5/1.3AH	QUINT-UPS/ 24DC/24DC/10/3.4AH
Order No.	2320254	2320267
Energy storage systems	Lead AGM technology	Lead AGM technology
Information	Integrated temperature sensor optimizes charging currents, thereby increasing the service life	

These devices support SFB Technology.

	QUINT BUFFER	
Input	22.5 V DC ... 30 V DC	22.5 V DC ... 30 V DC
W x H x D in mm	57 x 130 x 125	73 x 130 x 125
	24 V/20 A	**24 V/40 A**
Type	QUINT4-BUFFER/ 24DC/20	QUINT4-BUFFER/ 24DC/40
Order No.	2907913	2908283
Information	Energy storage system based on maintenance-free electrolytic capacitors	

These devices support SFB Technology.

Buffer times for QUINT CAP

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

QUINT4-CAP/24DC/10/8KJ

Load current	Buffer time: Seconds 9	10	15	20	30	40	50	Minutes 1	2	3	5	10	30	40
0.05 A														
0.50 A														
1.00 A														
2.00 A														
2.50 A														
3.80 A														
5.00 A														
6.25 A														
7.50 A														
10.00 A														
12.50 A														

The data is based on an ambient temperature of +25°C.

Buffer times for QUINT UPS and QUINT BUFFER

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

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

Power	Buffer time: Seconds 0.2	0.4	0.5	1	1.5	2	4	6	8	16	30	Minutes 1	2	3	5	6	7	8	9	10	15	20	25	30	40	45	50	Hours 1	2	3
0.5 A																														
1 A																														
2 A																														
3 A																														
5 A																														
7 A																														
10 A																														
20 A																														
30 A																														
40 A																														

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

Selection guide for UPS modules with integrated energy storage system

Save space

This solution presents a UPS module and energy storage system combined in one housing. Just one power supply needs to be connected upstream.

The energy storage systems can be replaced quickly and easily when they reach the end of their service life.

TRIO AC UPS

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

Web code: #1987

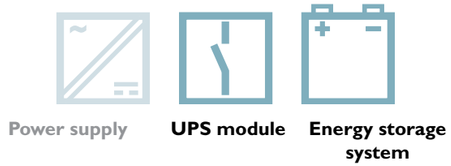
UNO UPS

The compact and narrow UNO UPS with integrated lead AGM energy storage system ensures long buffer times.

STEP UPS

The STEP DC UPS has been designed specifically for use in distribution boards. It requires a space of just 108 mm on the DIN rail.

Web code: #1990



	TRIO AC UPS 1~		Accessories
			
Input	184 V AC ... 264 V AC	96 V AC ... 138 V AC	
W x H x D in mm	210 x 169 x 139	210 x 169 x 139	Length: 3 m
	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 No.	2905909	2905908	2908217
Information	Energy storage system with lead AGM technology	Energy storage system with lead AGM technology	For communication between UPS module and UPS-CONF

	UNO UPS	STEP UPS	
			
Input	23 V DC ... 30 V DC	22.5 V DC ... 29.5 V DC	10 V DC ... 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/3/46WH	STEP-UPS/12C/12DC/4/46WH
Order No.	2905907	1081430	1082548
Energy storage systems	Lead AGM technology	Lithium-ion technology	Lithium-ion technology

Buffer times for TRIO AC UPS

1+1: An additional energy storage system 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.

	Buffer time													
	Minutes												Hours	
Power	1	1.5	2	4	6	8	10	15	20	30	40	50	1	1.5
50 W												1+1	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										

1+1: For the TRIO AC UPS, two energy storage systems of the same capacity are always required.
The data is based on an ambient temperature of +20°C.

Buffer times for UNO UPS and STEP UPS

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

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

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

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

Selection guide for UPS modules with integrated power supply

Small and flexible

The MINI UPS and TRIO UPS combine a power supply and electronic switch-over unit in the same housing. They ensure the operation of DC loads in the event of mains faults. Just one energy storage system is required to complete the UPS system.

Web code: #1991

MINI UPS

The MINI UPS, with its comprehensive signaling functions, is always used in applications where space-saving solutions are needed. The energy storage system with lead AGM technology enables buffer times at the nominal load of up to 40 minutes at output voltages of 24 V DC or 12 V DC.

TRIO UPS

Supply DC loads reliably and save space with the new uninterruptible TRIO power supplies. An input grid is no longer necessary for startup. Connected industrial PCs can be shut down easily via the integrated USB interface.

	TRIO DC UPS 1~		TRIO DC UPS 3~	Accessories
				
Input	100 V AC ... 240 V AC, 110 V DC ... 250 V DC	100 V AC ... 240 V AC, 110 V DC ... 250 V DC	3 x 400 V AC ... 500 V AC 2 x 400 V AC ... 500 V AC	For communication between the UPS module and the UPS-CONF, length 3 m
W x H x D in mm	60 x 130 x 115	68 x 130 x 160	88 x 130 x 160	

	24 DC/5 A	24 DC/10 A	24 DC/20 A	USB data cable
Type	TRIO-UPS-2G/1AC/24DC/5	TRIO-UPS-2G/1AC/24DC/10	TRIO-UPS-2G/3AC/24DC/20	MINI-SCREW-USB-DATACABLE
Order No.	2907160	2907161	2906367	2908217

Power supply | UPS module | Energy storage system

	MINI UPS 1~	
		
Input	85 V AC ... 264 V AC, 100 V DC ... 350 V DC	85 V AC ... 264 V AC, 100 V DC ... 350 V DC
W x H x D in mm	67.5 x 99 x 107	67.5 x 99 x 107

	24 DC/2 A	12 DC/4 A
Type	MINI-DC-UPS/24DC/2	MINI-DC-UPS/12DC/4
Order No.	2866640	2866598

	Energy storage systems for MINI UPS	
		
Energy storage systems	Lead AGM technology	Lead AGM technology
W x H x D in mm	67.5 x 99 x 107	52 x 130 x 110

	24 DC/0.8 Ah	24 DC/1.3 Ah
Type	MINI-BAT/24DC/0.8AH	MINI-BAT/24DC/1.3AH
Order No.	2866666	2866417
	12 DC/1.6 Ah	12 DC/2.6 Ah
Type	MINI-BAT/12DC/1.6AH	MINI-BAT/12DC/2.6AH
Order No.	2866572 2x	2866569 2x

	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	152 x 167 x 181	330 x 221 x 197

	3.4 Ah	7.2 Ah	12 Ah	20 Ah New	38 Ah
Type	UPS-BAT/VRLA/ 24DC/3.4AH	UPS-BAT/VRLA/ 24DC/7.2AH	UPS-BAT/VRLA/ 24DC/12AH	UPS-BAT/VRLA/ 24DC/20AH	UPS-BAT/VRLA/ 24DC/38AH
Order No.	2320306	2320319	2320322	1109004	2320335

Buffer times for MINI DC UPS

Select your MINI BAT for your MINI UPS here.
Example: 1 A is to be buffered for 20 minutes.

→ ▭

→ MINI-DC-UPS/24DC/2 and MINI-BAT/24DC/0.8AH

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

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

Buffer times for TRIO DC UPS with VRLA energy storage system

Select your energy storage system for your TRIO DC UPS here.
Example: 10 A is to be buffered for 10 minutes.

→ ▭

→ TRIO-UPS-2G/1AC/24DC/10 and UPS-BAT/VRLA/24DC/3.4AH

Load current	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																								1+1	1+1
3 A																							1+1	1+1	
5 A																						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						

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

Product overview: Accessories

	Mounting on level surfaces	
		
	Adapter UWA 182/52	**Adapter UWA 130**
Order No.	2938235	2901664
Information	For: QUINT-PS QUINT4-PS QUINT-UPS QUINT4-UPS/24DC/24DC/... QUINT4-UPS/1AC/1AC/500VA/USB QUINT4-CHARGER QUINT4-CAP QUINT4-BUFFER QUINT4-INV TRIO-PS from 10 A TRIO-UPS-2G/1AC/24DC/...	For: QUINT-PS QUINT4-PS QUINT4-UPS QUINT4-CHARGER QUINT4-CAP QUINT4-BUFFER QUINT4-INV TRIO-UPS-2G

	Programming adapters	Cooling fans
		
	TWN4 MIFARE NFC USB ADAPTER	**Fan for QUINT, QUINT-PS/FAN/4**
Order No.	2909681	2320076
Description	• Programming adapter for near field communication (NFC) • With USB interface • For configuring NFC-capable QUINT POWER power supplies wirelessly	• In the standard power supply mounting position, the temperature range increases by 10 K (max. ambient temperature of +70°C) • When the mounting position is rotated, position-dependent derating no longer applies • Tool-free mounting

Product overview: Accessories for uninterruptible power supplies

	Accessories for QUINT UPS			
				
	Programming adapters	**RS-232 data cable**	**Open end data cable**	**MINI DIN data cable**
Type	IFS-BT-PROG-ADAPTER	IFS-RS232-DATACABLE	IFS-OPEN-END-DATACABLE	IFS-MINI-DIN-DATACABLE
Order No.	2905872	2320490	2320450	2320487
Description	• Bluetooth programming adapter for wireless communication between the UPS module and the UPS-CONF	• 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 Phoenix Contact Inline controller as a gateway and access other communication protocols • Length: 2 m	• Open cable for flexible communication • Length: 2 m	• Direct communication with the Inline controller from the Phoenix Contact Inline system (100 series) • Length: 2 m

	Accessories for QUINT UPS				
					
	Software	**USB data cable**	**Memory block**	**Memory block**	**FL COMSERVER UNI 232/422/485**
Type	UPS-CONF	IFS-USB-DATACABLE	IFS-CONFSTICK	IFS-CONFSTICK-L	
Order No.	2320403	2320500	2986122	2901103	2313452
Description	• Available free of charge on the Phoenix Contact website under “Downloads” on the QUINT-UPS/... product pages	• For communication between the UPS module and the UPS-CONF • Length: 3 m	• For saving and transferring configured values to other QUINT UPS modules or for use as a service stick • With lock • Can remain in the UPS	• For saving and transferring configured values to other QUINT UPS modules or for use as a service stick • Without lock	• Integration of serial RS-232, RS-422, and RS-485 interfaces • For machine and system access via Ethernet network

	Energy storage system mounting		
			
	BATTERY MOUNTING KIT	**BATTERY MOUNTING CASE**	**BATTERY MOUNTING CASE**
Order No.	2320788	1134645	2320458
Information	For: UPS-BAT/VRLA/24DC/20AH 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/20AH UPS-BAT/VRLA-WTR/24DC/13AH	For: UPS-BAT/LI-ION/24DC/924WH UPS-BAT/VRLA-WTR/24DC/26AH UPS-BAT/VRLA/24DC/38AH

	Fuses for AC UPS		
			
	FUSE 40 A/32 V ATOF	**FUSE 10 A/400 V GRL**	
Order No.	2908357	2908358	
Information	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 QUINT4-UPS/1AC/1AC/500VA/USB	

	Fuses for UPS-BAT energy storage system		
			
	FUSE 15 A/32 V FK1	**FUSE 25 A/32 V ATOF**	**FUSE 30 A/32 V ATOF**
Order No.	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

	MINI-BAT and UNO-UPS fuses for energy storage systems			
				
	FUSE 5 A/32 V FK1	**FUSE 15 A/32 V FKS**	**FUSE 10 A/32 V FK1**	**FUSE 25 A/32 V FKS**
Order No.	1104162	2908361	2908364	2908363
Information	For: UNO-UPS/24DC/24DC/60W	For: MINI-BAT/24DC/1.3AH	For: MINI-BAT/12DC/1.6AH	For: MINI-BAT/12DC/2.6AH

	Replacement batteries for UPS-BAT/VRLA		Replacement batteries for UPS-BAT/VRLA/WTR	Replacement battery for UPS-BAT/LI-ION
				
	BAT-KIT 2X12V/1.3AH	**BAT-KIT 2X12V/38AH**	**BAT-KIT-WTR 2X12V/13AH**	**BAT-KIT 2V/120AH**
Order No.	2908665	2908237	2908368	2908370
	BAT-KIT 2X12V/3.4AH		**BAT-KIT-WTR 2X12V/26AH**	
Order No.	2908233		2908369	
	BAT-KIT 2X12V/7.2AH			
Order No.	2908234			
	BAT-KIT 2X12V/12AH			
Order No.	2908235			

Approvals for QUINT POWER

		UL						CSA		Ship					EX									
		CE	UL/C-UL listed 61010	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/IECEx	EAC-Ex	DeviceNet™	SEMI F47-0706 Compliance	CB Scheme	Medical stand. IEC 60601, 2 x MOOP	EN 50121-4, -5, -3-2	EAC	Startup at -40°C	Installation altitude
QUINT POWER power supplies with SFB Technology																									
QUINT4-PS/1AC/24DC/5	2904600	•			•	•	•		•	•	•	•	•	•						•	•			•	•	c
QUINT4-PS/1AC/24DC/10	2904601	•			•	•	•		•	•	•	•	•	•						•	•		•	•	•	c
QUINT4-PS/1AC/24DC/20	2904602	•			•	•	•		•	•	•	•	•	•						•	•		•	•	•	c
QUINT4-PS/1AC/24DC/20/+	2904617	•			•	•	•		•	•	•						•	•		•	•		•	•	•	c
QUINT4-PS/1AC/24DC/40	2904603	•			•	•	•		•	•	*									•	•		•	•	•	c
QUINT-PS/1AC/24DC/3.5	2866747	•		•		•	•		•	•	•	•	•	•	•	•			•	•	•	•		•		c
QUINT4-PS/1AC/12DC/15	2904608	•			•	•	•		•	•	•	*	*	*						•	•		•	•	•	c
QUINT-PS/1AC/12DC/20	2866721	•		•		•	•		•	•										•	•	•	•	•	•	d
QUINT4-PS/1AC/48DC/5	2904610	•			•	•	•		•	•	•	*	*	*						•	•		•	•	•	c
QUINT4-PS/1AC/48DC/10	2904611	•			•	•	•		•	•	•	•	•	•						•	•		•	•	•	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
QUINT4-PS/3AC/24DC/40	2904623	•			•	•	•		•	•	*									•	•		•	•	•	c
QUINT-PS/3AC/48DC/20	2320827	•		•		•	•		•	•											•		•	•	•	b
QUINT4-PS/1AC/24DC/10/CO	2904625	•			•	•	•		•	•	•	•	•	•						•	•		•	•	•	c
QUINT4-PS/1AC/48DC/10/CO	2904626	•			•	•	•		•	•	•	•	•	•						•	•		•	•	•	c
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
QUINT POWER power supplies <100 W																										
QUINT4-PS 1AC/24DC/1.3/PT	2909575	•	•				•	•			•									•	•		•	•	•	c
QUINT4-PS 1AC/24DC/1.3/SC	2904597	•	•				•	•			•									•	•		•	•	•	c
QUINT4-PS 1AC/24DC/2.5/PT	2909576	•	•				•	•			•									•	•		•	•	•	c
QUINT4-PS 1AC/24DC/2.5/SC	2904598	•	•				•	•			•									•	•		•	•	•	c
QUINT4-PS 1AC/24DC/3.8/PT	2909577	•	•				•	•			•									•	•		•	•	•	c
QUINT4-PS 1AC/24DC/3.8/SC	2904599	•	•				•	•			•									•	•		•	•	•	c
QUINT4-PS 1AC/5DC/5/PT	2904595	•	•				•	•			*									•	•		•	•	•	c
QUINT4-PS 1AC/12DC/2.5/PT	2904605	•	•				•	•			•									•	•		•	•		c
QUINT4-PS 1AC/12DC/7.5/PT	2904607	•	•				•				•									•	•		•	•	•	c

* Approval in preparation
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" on the respective product pages.

Approvals for TRIO POWER

		CE	UL/C-UL listed 61010	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	cCSAus 61010-2-201	DNV GL Group	ABS – American Bureau of Shipping	BV – Bureau Veritas	LR – Lloyd's Register	NK – Nippon Kaiji Kyokai	RINA	ATEX	IECEx	DeviceNet™	SEMI F47-0706 Compliance	CB Scheme	Medical stand. IEC 60601, 2 x MOOP	Railway standard EN 50155	EAC	Startup at -40°C	Installation altitude
		UL							CSA		Ship						EX									
TRIO POWER power supplies																										
TRIO-PS-2G/1AC/24DC/3/C2LPS	2903147	•			•	•	•	•			•									*•	•			•		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	2903145	•			•	•					•										•			•		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
TRIO-PS-2G/3AC/72DC/14	1076188	•	•																							b
TRIO POWER IP67 power supplies																										
TRIO-PS-IP67/1AC/24DC/20	1039830	•									•										•			•	•	b
TRIO-PS-IP67/3AC/24DC/20	1039829	•									•										•			•	•	c
TRIO CROSS POWER power supplies																										
EM-CPS-PS/3AC/24DC/5	1064922	•	•																		•				•	c
EM-CPS-PS/3AC/24DC/20/8C/IOL	1067898	•	•																		•				•	c

Approvals for UNO POWER

		UL						CSA		Ship						EX										
		CE	UL/C-UL listed 61010	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 60335-1 household standard	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 altitude
UNO POWER power supplies																										
UNO-PS/1AC/24DC/30W	2902991	•		•	•	•	•													•			•		a
UNO-PS/1AC/24DC/60W	2902992	•		•	•	•	•													•			•	•	d
UNO-PS/1AC/24DC/90W/C2LPS	2902994	•		•	•	•	•													•			•		a
UNO-PS/1AC/24DC/100W	2902993	•		•	•	•														•			•		a
UNO-PS/1AC/24DC/100W/H	1088851	•		•	•												•			•			•		a
UNO-PS/1AC/24DC/150W	2904376	•		•	•	•														•			•		c
UNO-PS/1AC/24DC/240W	2904372	•		•	•	•														•			•		a
UNO2-PS/1AC/24DC/480W	2910105	•	•																	•			•		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/55W/H	1088850	•		•	•												•			•			•		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

* Approval in preparation
a) max. 3000 m b) max. 4000 m c) max. 5000 m d) max. 6000 m e) max. 2000 m
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Approvals for STEP POWER

		CE	UL/C-UL listed 61010	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 60335-1 household standard	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 altitude
		UL						CSA		Ship						EX										
STEP POWER power supplies																										
STEP3-PS/1AC/24DC/0.63/PT	1088495	•	•			•	•										•			•			•		b
STEP3-PS/1AC/24DC/1.3/PT	1088494	•	•			•	•										•			•			•		b
STEP3-PS/1AC/24DC/2.5/PT	1088491	•	•			•	•										•			•			•		b
STEP3-PS/1AC/24DC/4/PT	1040066	•	•			•											•			•			•		b
STEP3-PS/1AC/24DC/5/PT	1088478	•	•			•											•			•			•		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	•		•	•		•													•			•		b
STEP-PS/1AC/5DC/6.5	2868541	•		•	•	•				•	•			•						•			•	•	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
STEP-PS/1AC/15DC/4	2868619	•		•	•	•				•	•			•						•			•	•	c
STEP-PS/1AC/48DC/2	2868680	•		•	•	•				•	•			•						•			•	•	d
STEP-PS/48AC/24DC/0.5	2868716	•		•	•		•													•			•	•	b
STEP-PS/277AC/24DC/3.5	2904945	•		•	•		•													•			•		a

Approvals for DC/DC converters

		UL						CSA			Ship						EX							
		CE	UL/C-UL listed 61010	UL/C-UL Listed UL 508	UL/C-UL Recognized UL 62109-1	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	RMRS	ATEX/IECEx	EAC-Ex	CB Scheme	Railway standard EN 50155:2007	Railway standard EN 50121-4	EAC	EN 50121-3-2	Startup at -40°C	Installation altitude
DC/DC converters																									
QUINT4-PS/24DC/24DC/5/PT	2910119	•					•				•	•	*	*	*	*	*	•	•	•			•	•	•	c
QUINT4-PS/24DC/24DC/5/SC	1046800	•					•				•	•	*	*	*	*	*	•	•	•			•	•	•	c
QUINT4-PS/24DC/24DC/10/PT	2910120	•					•				•	•	*	*	*	*	*	•	•	•			•	•	•	c
QUINT4-PS/24DC/24DC/10/SC	1046803	•					•				•	•	*	*	*	*	*	•	•	•			•	•	•	c
QUINT4-PS/24DC/24DC/20/PT	2910121	•									*	*	*	*	*	*	*	•		•			•	•	•	c
QUINT4-PS/24DC/24DC/20/SC	1046805	•									*	*	*	*	*	*	*	•		•			•	•	•	c
QUINT4-PS/24DC/24DC/20/SC/+	1046881	•									*	*	*	*	*	*	*	•		•			•	•	•	c
QUINT4-PS/24DC/12DC/8/PT	2910122	•					•				•	•	*	*	*	*	*	•	•	•			•	•	•	c
QUINT4-PS/24DC/48DC/5/PT	2910123	•									*	*	*	*	*	*	*									
QUINT4-PS/48DC/24DC/5/PT	2910125	•					•				•	•	*	*	*	*	*	•	•	•			•	•	•	c
QUINT4-PS/48DC/48DC/5/PT	2910128	•									*	*	*	*	*	*	*									
QUINT-PS/12DC/24DC/5	2320131	•		•		•	•				•	•	•	•	•	•				•		•	•	•	•	d
QUINT-PS/12DC/12DC/8	2905007	•		•		•	•													•		•	•	•	•	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
TRIO-PS-2G/1500DC/24DC/8	1075240	•			•															•			•		•	b
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

* Approval in preparation
a) max. 3000 m b) max. 4000 m c) max. 5000 m d) max. 6000 m e) max. 2000 m
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Approvals for inverters and redundancy modules

		UL					CSA		Ship						EX										
		CE	ANSI/UL 61010-1	ANSI/UL 61010-2-201	UL/C-UL Recognized UL 60950	UL 1778	UL 121201 Class I and II, Div 2 and Class III, Div 1 and 2 Hazardous Locations	CAN/CSA-C22.2 No. 61010-1	CAN/CSA-C22.2 No. 61010-2-201	DNV GL Group	ABS – American Bureau of Shipping	BV – Bureau Veritas	LR – Lloyd's Register	NK – Nippon Kaiji Kyokai	RINA	ATEX	IECEx	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme in acc. with IEC 61010-1	CB Scheme in acc. w. IEC 61010-2-201	EAC	Startup at -40°C	Installation altitude
Inverters																									
QUINT4-INV/24DC/1AC/600VA/USB	1067325	•	*	*			*	*	*											*	*				

		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/IECEx	EAC-Ex	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601	EAC	Startup at -40°C	Installation altitude
Redundancy modules																									
QUINT4-ORING/12-24DC/1x40	2907752	•		•	•		•				•									•		•	•	c
QUINT4-ORING/12-24DC/1x40/+	2907753	•		•	•		•				•						•	•		•		•	•	c
QUINT4-S-ORING/12-24DC/1x40/VP	1043418	•		•	•		•										•	•		•		•	•	c
QUINT-ORING/24DC/2x10/1x20	2320173	•		•	•		•				•	•	•	•	•	•	•	•		•		•	•	e
QUINT-ORING/24DC/2x20/1x40	2320186	•		•	•		•				•	•	•	•	•	•	•	•		•		•	•	e
QUINT-ORING/24DC/2x40/1x80	2902879	•		•	•		•				•	•	•	•	•	•				•		•	•	e
QUINT4-DIODE/12-24DC/2x20/1X40	2907719	•		•	•		•										•	•				•	•	e
QUINT4-DIODE/48DC/2x20/1X40	2907720	•		•	•		•										•	•				•	•	e
TRIO2-DIODE/12-24DC/2x10/1x20	2907380	•		•	•						•											•	•	e
TRIO2-DIODE/12-24DC/2x20/1x40	2907379	•		•	•						•											•	•	e
UNO-DIODE/5-24DC/2x10/1x20	2905489	•		•	•															•		•	•	e
STEP-DIODE/5-24DC/2x5/1x10	2868606	•		•	•															•		•	•	e

Approvals for uninterruptible power supplies

		UL								CSA		Ship						EX						
		CE	UL/C-UL listed 61010	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	SEMI F47-0706 Compliance	CB Scheme	Medical standard IEC 60601	EAC	Startup at -40°C	Installation altitude
Uninterruptible power supplies																								
QUINT4-UPS/24DC/24DC/5/PN	2906993	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/10/PN	2907068	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/20/PN	2907073	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/40/PN	2907079	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/5/EIP	2906994	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/10/EIP	2907069	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/20/EIP	2907074	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/40/EIP	2907080	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/5/EC	2906996	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/10/EC	2907070	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/20/EC	2907076	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/40/EC	2907081	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/5/USB	2906991	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/10/USB	2907067	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/20/USB	2907072	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/40/USB	2907078	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/5	2906990	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/10	2907066	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/20	2907071	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-UPS/24DC/24DC/40	2907077	•	•					•				*	*	*	*	*	*			•		•	•	b
QUINT4-CHARGER/1AC/24DC/10	2907990	•	•					•																
QUINT-UPS/24DC/12DC/5/24DC/10	2320461	•			•	•																•		e
QUINT4-UPS/1AC/1AC/500VA/USB	1067327	•					•	*														*		a
QUINT4-UPS/1AC/1AC/1KVA	2320283	•					•	•														•	•	a
TRIO-UPS-2G/1AC/1AC/230V/750VA	2905909	•					•	•														•		a
TRIO-UPS-2G/1AC/1AC/120V/750VA	2905908	•					•	•														•		a
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/3.8/1KJ/PT	2320526	•	•			•		•	•															
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/3/46WH	1081430	•			•	•																•		e
STEP-UPS/12DC/12DC/4/46WH	1082548	•			•	•																•		e

* Approval in preparation
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" on the respective product pages.

Approvals for energy storage systems

		UL							CSA		Ship						EX						
		CE	UL/C-UL listed 61010	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	SEMI F47-0706 Compliance	CB Scheme	Medical standard IEC 60601	EAC	Startup at -40°C	Installation altitude
Uninterruptible power supplies																								
TRIO-UPS-2G/1AC/24DC/5	2907160	•	•				•					*										•	•	d
TRIO-UPS-2G/1AC/24DC/10	2907161	•	•				•					*										•	•	d
TRIO-UPS-2G/3AC/24DC/20	2906367	•	•				•					*										•	•	d
MINI-DC-UPS/24DC/2	2866640	•	•		•		•	•																c
MINI-DC-UPS/12DC/4	2866598	•	•		•		•	•														•		d

		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	IECEx	DeviceNet™	SEMI F47-0706 Compliance Certificate PQ Star	CB Scheme	Medical standard IEC 60601	EAC	Startup at -40°C	Installation altitude
Energy storage systems																									
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/20AH	1109004	•		•	•		•				*	•										•		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/924WH	2908232	•		•	•		•															•		d
UPS-CAP/24DC/10A/10KJ	2320377	•		•	•		•				•	•										•	•	d
UPS-CAP/24DC/20A/20KJ	2320380	•		•	•		•				•	•										•	•	d
STEP-BAT/LI-ION/18.5DC/46WH	1081355	•																			•	•		e
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

Ongoing communication with customers and partners worldwide

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

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