Power Reliability

2023

Power supply solutions

Power supplies, DC/DC converters, redundancy modules, and uninterruptible power supplies

PHOENIX CONTACT

Power for superior system availability
Leading technology with outstanding quality

Supply your systems safely with our QUINT, TRIO, UNO, and STEP product families. These power supplies, DC/DC converters, redundancy modules, and uninterruptible power supplies are harmonized to the demands of various industries when it comes to functionality and design.

1 Power supplies

With various functionalities, performance classes, and designs, our power supplies are the right partner for your application.

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

2 DC/DC converters and DC/AC inverters

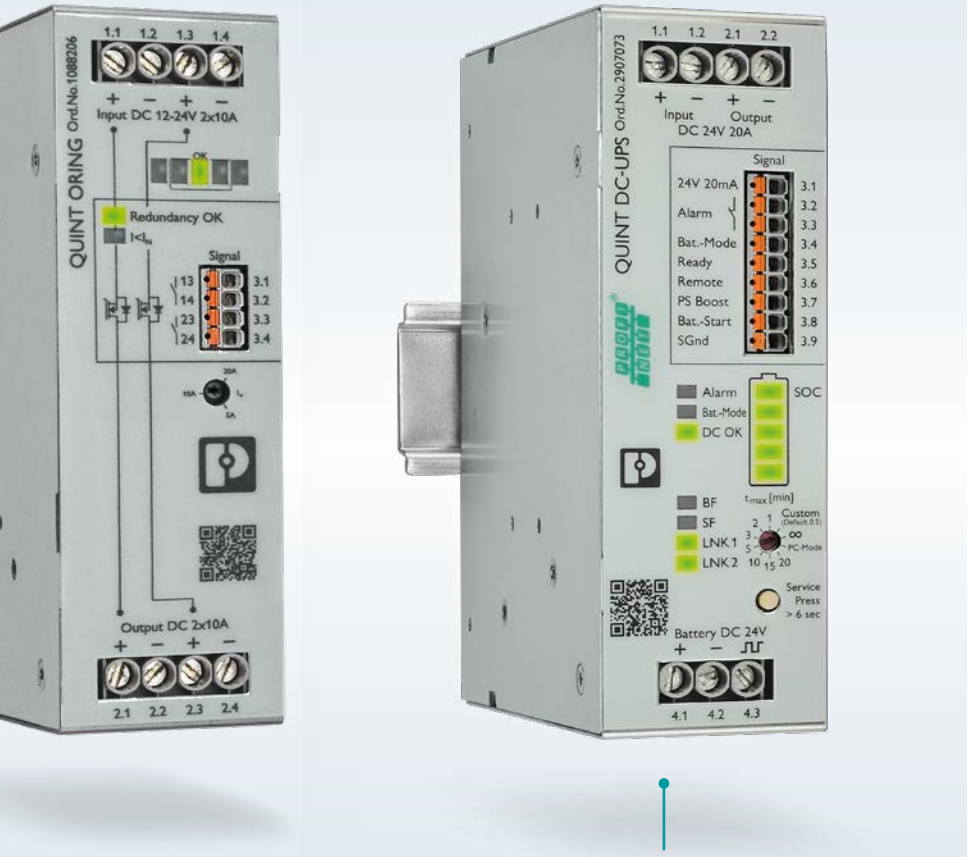
DC/DC converters supply your system with controlled DC voltage. With the DC/AC inverter, you are securely underway in your DC applications.

- DC/DC converters with SFB Technology for superior system availability and extreme applications
- DC/DC converters for the power range up to 100 W
- DC/DC converters for photovoltaic systems
- DC/AC inverters for generating alternating current

3 Redundancy modules

Our redundant solutions reliably secure systems with high demands on operational safety, preventing the failure of one power supply unit from resulting in a downtime of the entire system.

- Active redundancy modules decouple, monitor, and control up to the load
- Passive redundancy modules decouple power supplies



4 Uninterruptible power supplies

Use uninterruptible power supplies to supply your loads – even without a grid. We offer you the following solutions:

- POWER MANAGEMENT SUITE as configuration and management software
- DC UPS modules and AC UPS modules with an integrated interface, power supply, or energy storage device
- Comprehensive selection of energy storage devices
- DC UPS modules with integrated capacity and buffer modules

Content

Power supplies
Compare your advantages

1

Maximize the availability of your systems with high-quality power supplies featuring leading technology. The product families differ with regard to their design, power, and functionality, so you can select the option that works for you.

QUINT POWER >100 W

- Powerful with high functionality
- For power up to 1000 W
- SFB Technology
- Preventive function monitoring
- Easy system extension
- Startup of difficult loads
- High immunity to interference
- Part of the COMPLETE line system

More information starting on page 6

QUINT POWER <100 W

- Powerful and space-saving
- For power from 30 W to 100 W
- Preventive function monitoring
- Boost function for starting up difficult loads
- Choice of connection technology

More information starting on page 12

TRIO POWER

- Robust with standard functionality
- Solid plug-and-play solution for machine building
- Space-saving design
- Reliable due to dynamic boost with a powerful output characteristic curve
- Smart diagnostics with multicolor LEDs and grouping contact
- Optionally available with integrated device protection and IO-Link

More information starting on page 18

UNO POWER

- Compact with basic functionality
- High power density and low idling losses
- Active function monitoring
- Large product range for all voltage levels
- Narrow housing from 22.5 to 126 mm wide
- Alignable without minimum clearance to neighboring modules

More information starting on page 24

STEP POWER

- For industry and building automation
- Maximum energy efficiency due to very low idling losses and a high degree of efficiency
- Efficiency level VI
- EN 60335 enables use in domestic applications
- Push-in connection technology
- Flexible assembly can be snapped or screwed onto a level surface

More information starting on page 28

IP67 POWER

- IP67 degree of protection for decentral supply in the field
- Electrically and mechanically very robust due to high vibration and shock resistance and electric strength
- Selection of various device connections

More information starting on page 32

Shared features and differences

Power supplies of all product families enhance system availability. Each power supply features high operational safety, an international approval package, and a wide range input.

	QUINT POWER		TRIO POWER	UNO POWER	STEP POWER	IP67 POWER
	>100 W	<100 W				
Wide range input and international approval package enable worldwide use	•	•	•	•	•	•
Maximum operating time with high MTBF >500,000 h at +40°C	•	•	•	•	•	•
Can be switched in parallel for increased performance and redundancy	•	•	•	•	•	•
Wide temperature range of -25 to +70°C	•	•	•	•	•	•
Active function monitoring via switching output for remote diagnostics (DC-OK)	•	•	•	•		•[4]
Preventive function monitoring reports critical operating states before faults occur	•	•				
Reliable startup of difficult loads with the dynamic boost power reserve	•	•	•			•[4]
Easy system extension with the static boost power reserve	•	•[2]				•[5]
Magnetic tripping of miniature circuit breakers with SFB Technology	•					
Three-phase devices continue to operate without errors, even if one phase fails permanently	•		•			
Can be used in household applications in accordance with EN 60335					•	
Can be configured individually	•					
IO-Link interface	•[1]		•[3]			
Integrated electronic device protection			•[3]			

[1] Applies to the following devices: 1151047, 1151048
[2] Applies to the following devices: 2904597, 2904598, 2909575, 2909576, 2904605, 2904595
[3] Applies to the following devices: 1252696, 1252697
[4] Applies to the following devices: 1065976, 1111634, 1111664, 1039830, 1039829, 1395808
[5] Applies to the following device: 1395808

QUINT POWER
Powerful with SFB Technology

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

Your advantages >100 W

- SFB Technology selectively trips standard miniature circuit breakers
- Preventive function monitoring reports critical operating states before faults occur
- Power reserves enable easy system extension and starting up difficult loads
- High efficiency, long service life, and maximum immunity with integrated gas discharge tube
- Available preconfigured from a batch quantity of just 1

SFB Technology
Designed by Phoenix Contact

Technologies and advantages

SFB (Selective Fuse Breaking) Technology

For high system availability, standard miniature circuit breakers must be tripped magnetically so that faulty current paths can be switched off selectively. SFB Technology supplies several times the nominal current for a short period, thus providing the necessary power reserve.

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

SFB Technology
Designed by Phoenix Contact

QUINT POWER >100 W

SFB Technology
Designed by Phoenix Contact

Powerful with SFB Technology
Our powerful QUINT POWER power supplies with SFB Technology are ideally suited for safeguarding your system availability. The power reserve enables the easy extension of your system, as well as the trouble-free start-up of difficult loads. Static boost with sustained power of up to 125% is available for system extension. Dynamic boost of up to 200% for 5 s enables you to start difficult loads.

The range of features is rounded out by the customized configuration of signaling thresholds and characteristic curves.

QUINT POWER with IO-Link

SFB Technology
Designed by Phoenix Contact

The new communicative QUINT POWER power supply with IO-Link can be integrated into industrial networks quickly and easily.

With the integrated IO-Link interface, all the relevant operating data of the power supply, from the 3 AC side to the 24 V DC side, can be made available to the higher-level automation system. Calculating the usage-dependent service life enables predictive maintenance, raising preventative function monitoring to an entirely new level.

The power supply also enables configuration via IO-Link. The configuration is adopted directly after a device is replaced, saving time and avoiding user errors.

For more information, see page 10.

QUINT POWER >100 W

	QUINT POWER, 1~			SFB Technology Designed by Phoenix Contact
				
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
Item no.	2904600	2904601	2904602	2904603
		12 V / 15 A		
Type		QUINT4-PS/1AC/12DC/15		
Item no.		2904608		
		48 V / 5 A	**48 V / 10 A**	**48 V / 20 A**
Type		QUINT4-PS/1AC/48DC/5	QUINT4-PS/1AC/48DC/10	QUINT4-PS/1AC/48DC/20
Item no.		2904610	2904611	2904612

	QUINT POWER, 1~	SFB Technology Designed by Phoenix Contact
		
Input	85 V AC … 264 V AC 90 V DC … 350 V DC	
W x H x D in mm	70 x 130 x 125	

	110 V / 4 A	
Type	QUINT4-PS/1AC/110DC/4	
Item no.	2904613	

For more information on the previous generation of QUINT POWER, simply enter the web code into the search field on our website.

Web code: #1513

QUINT POWER >100 W

	QUINT POWER, 3~			SFB Technology Designed by Phoenix Contact
				
Input	3 x 320 V AC … 550 V AC 2 x 360 V AC … 550 V AC ± 195 V DC … 390 V DC	3 x 320 V AC … 550 V AC 2 x 360 V AC … 550 V AC ± 226 V DC … 390 V DC	3 x 320 V AC … 550 V AC 2 x 360 V AC … 550 V AC ± 226 V DC … 390 V DC	3 x 320 V AC … 550 V AC 2 x 360 V AC … 550 V AC ± 226 V DC … 390 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
Item no.	2904620	2904621	2904622	2904623
				48 V / 20 A
Type				QUINT4-PS/3AC/48DC/20
Item no.				2904627

High 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 Phoenix Contact power supply becomes damaged using this combination, you will receive a free replacement.

For more information on the Limited Lifetime Warranty, visit
www.phoenixcontact.com/llw

QUINT POWER with IO-Link

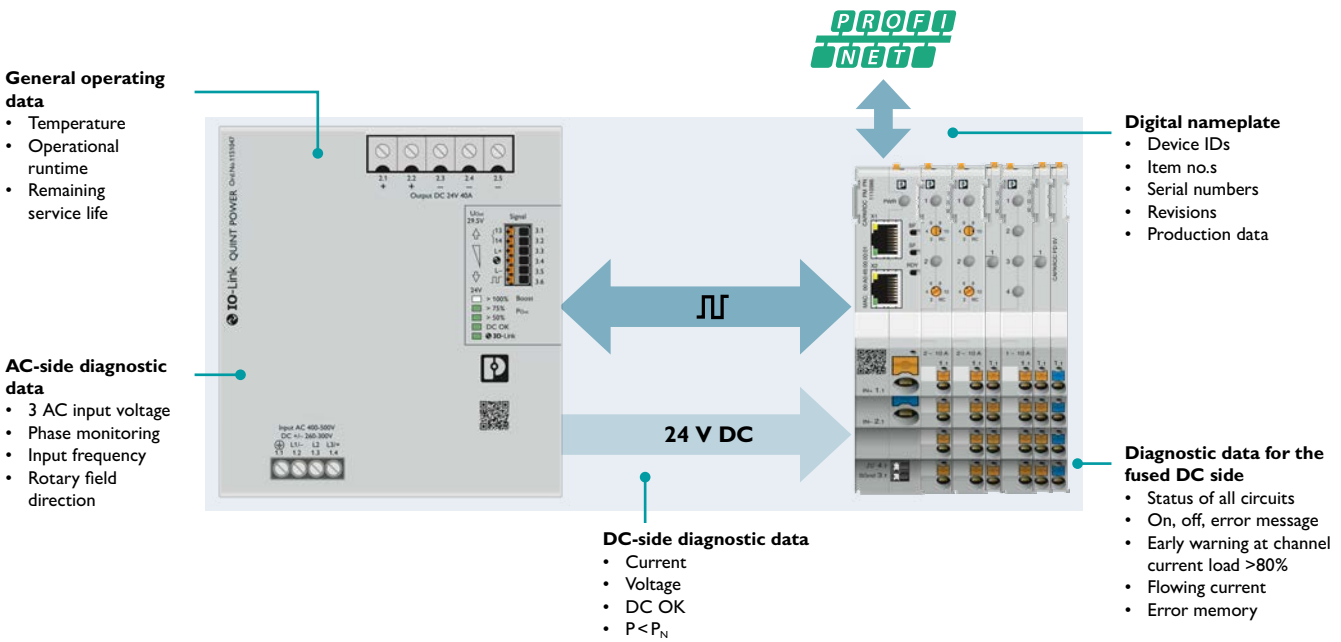
	QUINT POWER, 3~	
	 IO-Link	 IO-Link
Input	3 x 320 V AC … 550 V AC 2 x 360 V AC … 550 V AC ± 226 V DC … 390 V DC	3 x 320 V AC … 550 V AC 2 x 360 V AC … 550 V AC ± 226 V DC … 390 V DC
W x H x D in mm	70 x 130 x 125	120 x 130 x 125

	24 V / 20 A	24 V / 40 A
Type	QUINT4-PS/3AC/24DC/20/IOL	QUINT4-PS/3AC/24DC/40/IOL
Item no.	1151048	1151047

QUINT POWER and CAPAROC – the communicative 24 V supply system

Combine the QUINT POWER IOL power supply with the CAPAROC circuit breaker system or the intelligent QUINT4 DC UPS (from rev. 05). This will supply and protect your system even more intelligently.

Our communicative 24 V supply system increases the data transparency of the entire system and provides information on all relevant operating and diagnostic data. The central interface to the system communication between QUINT POWER and CAPAROC ensures simple and cost-efficient integration of the power supply into the network protocol of the circuit breaker system, and the PROFINET interface enables complete transparency and access to the entire system. A web server enables on-site access to operating states, error messages, and setting details of the system solution. The supply solution offers complete data consistency, from the primary side right through to the protected load circuits. Preventative function monitoring also helps you reduce downtimes to a minimum.



QUINT POWER for extreme environments

	QUINT POWER, 1~, with protective coating, integrated decoupling MOSFET SFB Technology Designed by Phoenix Contact		
			
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	50 x 130 x 125	70 x 130 x 125	120 x 130 x 140
	24 V / 10 A / +	**24 V / 20 A / +**	**24 V / 40 A / +** new
Type	QUINT4-PS/1AC/24DC/10/+	QUINT4-PS/1AC/24DC/20/+	QUINT4-PS/1AC/24DC/40/+
Item no.	2904616	2904617	2904618

	QUINT POWER, 1~, with protective coating SFB Technology Designed by Phoenix Contact		
			
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	
W x H x D in mm	50 x 130 x 125	70 x 130 x 125	
	24 V/10 A/CO	**48 V/10 A/CO**	
Type	QUINT4-PS/1AC/24DC/10/CO	QUINT4-PS/1AC/48DC/10/CO	
Item no.	2904625	2904626	

QUINT POWER Plus – the power supplies for demanding applications

The QUINT POWER Plus versions are the solution for complex applications under extreme ambient conditions.

With MOSFET integrated decoupling for 1+1 and n+1 redundancy, the Plus versions provide symmetrical load distribution and increase system availability. Faults can be detected early on by means of configurable output current signaling thresholds. At the same time, you will save time and space due to the reduced wiring effort.

The Plus variants have a double OVP (overvoltage protection) and thus also protect your system against an increase in voltage. In the event of an error, the output is switched off to protect the loads against overvoltages.

Functional safety standards and directives ensure reliable protection for people, the environment, and machinery. The QUINT POWER-Plus variants meet these requirements (SIL 3, HFT = 1 in accordance with IEC 61508 and IEC 61511) and thus ensure 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 zone 2 potentially explosive areas.

The Plus versions are rounded out by a wide temperature range of -40°C to +75°C for use under extreme ambient conditions.

Power supplies

QUINT POWER – powerful and space-saving

Our small QUINT POWER power supplies cover the power range from 30 to 100 W. These compact power supplies provide a perfect combination of preventive function monitoring and exceptional power reserves in a compact size.

Furthermore, you can choose between push-in and screw connection technology for these power supplies for the low-power range.

Your advantages <100 W

- ☑ Startup of difficult loads using dynamic boost
- ☑ Preventive function monitoring reports critical operating states before faults occur
- ☑ Unique EMC resistance and low emitted interference
- ☑ High efficiency and long service life with low power dissipation and low heating
- ☑ Compact, slim-line design saves space in the control cabinet

Technologies and advantages

QUINT POWER <100 W

Powerful and space-saving
In the power range of up to 100 W, QUINT POWER meets the most high system demands with a compact size. The devices feature preventative function monitoring and exceptional power reserves. The high electromagnetic compatibility and electric strength, combined with low interference, enables use in demanding applications. Moreover, the devices have a high efficiency of up to 93.7% and a long service life.

High environmental resistance and marine approvals complete the QUINT POWER power supplies in the low power range.

QUINT4-SYS for demanding applications

This power supply has been specially developed for the energy supply of compatible Phoenix Contact products via the DIN rail T-Bus bus connector. Furthermore, it can be directly latched onto the DIN rail.

The device features a protective coating and has IECEx, ATEX, and Hazloc approvals. The OVP (overvoltage protection) of <30 V DC protects your system against voltage increases. In the event of an error, the output is switched off to protect the loads against overvoltages. The output circuit is decoupled by a MOSFET.

The power supply for operational amplifiers

The QUINT4-PS/1AC/2X15DC/2/PT stands out with a high degree of reliability at a high power density. It is used in measurement and control technology. It is particularly well-suited for supplying operational amplifiers and sensors. For this purpose, it has two outputs with a nominal current of +15 V DC/2 A and -15 V DC/1.4 A, respectively.

Furthermore, with this power supply, the signaling of the DC OK contact can be set and power thresholds can be selected freely.

QUINT POWER <100 W

	QUINT POWER, with push-in connection, 1~		
			
Input	85 V AC … 264 V AC 88 V DC … 350 V DC	85 V AC … 264 V AC 88 V DC … 350 V DC	85 V AC … 264 V AC 88 V DC … 350 V DC
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
Item 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
Item no.	2904605		2904607
	5 V / 5 A		
Type	QUINT4-PS/1AC/5DC/5/PT		
Item no.	2904595		

	QUINT POWER, with push-in connection, 1~		
			
Input	85 V AC … 264 V AC 88 V DC … 275 V DC		
W x H x D in mm	45 x 106 x 90		

	2 x 15 V / 2 A		
Type	QUINT4-PS/1AC/2X15DC/2/PT		
Item no.	2904596		

QUINT POWER <100 W

	QUINT POWER, with screw connection, 1~		
			
Input	85 V AC … 264 V AC 88 V DC … 350 V DC	85 V AC … 264 V AC 88 V DC … 350 V DC	85 V AC … 264 V AC 88 V DC … 350 V DC
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
Item no.	2904597	2904598	2904599

	QUINT POWER, with screw connection, 1~		
			
Input	85 V AC … 264 V AC 88 V DC … 350 V DC		
W x H x D in mm	40 x 99 x 114		

	24 V / 2.5 A		
Type	QUINT4-SYS-PS/1AC/24DC/2.5/SC		
Item no.	2904614		

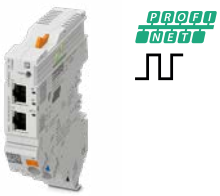
Device circuit breakers for power supplies

Device circuit breakers – suitable for everyone

An electrical system consists of many components that must work together in concert. Many loads are supplied by the same power supply in this type of arrangement. This creates dependencies that are critical to system availability.

Unscheduled machine downtime must be avoided at all costs. Therefore, it is very important to ensure that if there is a fault, any loads and circuits not involved remain unaffected by the fault. The supply voltage must likewise be maintained in the event of a fault. That is the only way to ensure smooth operation. If an overload or short circuit occurs, the best approach is to shut off the fault as soon as possible, depending on how high the current is. This is where device circuit breakers come in. The elements needed to ensure optimum device protection vary depending on the area of application and availability requirements. They differ from each other in how they are tripped, their shutdown behavior, and their tripping time. Furthermore, selection also depends on what precisely is needed in terms of protection and system availability.

CAPAROC power modules

				
	With S-R	**With PN**	**With IO-Link**	**Current rail**
Nominal current	45 A	45 A	45 A	45 A
Type	CAPAROC PM S-R	CAPAROC PM PN	CAPAROC PM IOL	CAPAROC CR 20
Item no.	1115661	1110986	1115670	1110989

CAPAROC circuit breaker modules

				
	1-channel	**2-channel**	**4-channel**	**Potential distributor**
Nominal current	1 A … 10 A	2 A … 10 A	1 A … 10 A	
Type	CAPAROC E1 12-24DC/1-10A	CAPAROC E2 12-24DC/2-10A	CAPAROC E4 12-24DC/1-10A	CAPAROC PD 0V
Item no.	1115649	1110984	1115658	1110987

Device circuit breakers for power supplies

Multi-channel electronic circuit breakers

				
	4-channel	**8-channel**		
Nominal current	0.5 A … 10 A	0.5 A … 10 A		
Type	CBM E4 24DC/0.5-10A NO-R	CBM E8 24DC/0.5-10A NO-R		
Item no.	2905743	2905744		

Compact multi-channel electronic circuit breakers

			 IO-Link	
4-channel	**N/O contact[1]**	**N/O contact**	**With IO-Link**	**Electrically isolating**
Nominal current	0.5 A … 10 A	0.5 A … 10 A	0.5 A … 10 A	0.5 A … 10 A
Type	CBMC E4 24DC/1-4A NO	CBMC E4 24DC/1-10A NO	CBMC E4 24DC/1-10A IOL	CBMC EG4 24DC/1-8A NO
Item no.	2906031	2906032	2910411	1065730

1-channel electronic circuit breakers

				
	1-channel[1]	**1-channel**	**1-channel[1]**	**1-channel** new
Nominal current	1 A … 4 A	1 A … 8 A	2 A	0.1 A ... 0.63 A
Type	PTCB E1 24DC/1-4A SI-R	PTCB E1 24DC/1-8A NO	PTCB E1 24DC/2A NO	PTCB E1 24DC/0.1-0.63A SI-R
Order No.	1135753	2908262	2909903	1441496

Modular thermomagnetic circuit breakers

Base element

				
	F1	**SFB**	**M1**	**Push-in 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 1/6-2/4 PT-BE
Item no.	2800857	2800841	2800856	2800929

[1] NEC Class 2 outputs, in accordance with UL 1310

TRIO POWER
Power supplies with standard functionality

TRIO POWER power supplies are the ideal solution for machine building. Compact, robust, and always reliable, the TRIO POWER 24 V power supply sets the new standard in machine building. It is the plug-and-play solution for the control cabinet: simply unpack, connect, and you're done!

Your advantages

- ☑ Save space with the TRIO's low overall width and direct inline capability
- ☑ Dynamic boost is robust and reliable with a powerful output characteristic curve
- ☑ Easy handling with push-in connection technology
- ☑ Smart diagnostics with multicolor LEDs and grouping relay contact for a clear status display, with optional IO-Link
- ☑ High system availability and power reliability in one device due to the integrated multichannel circuit breaker

Technologies and advantages

Save space

The vertically arranged front connection technology allows for narrow overall widths and saves space in the control cabinet. Due to TRIO POWER's inline capability, the available space can be used to its maximum. The low overall depth enables installation in 210 mm small housings.

Robust and reliable

TRIO POWER provides a powerful package for drive technology applications with up to 960 W output power in 1 AC and 3 AC versions. The dynamic boost (150%/5 s) enables difficult loads to be started. With the powerful output characteristic curve, even capacitive loads can be charged without any problems.

Easy handling

The easy handling of the power supplies are impressive: Push-in connection technology allows for quick and tool-free installation. Integrated marking fields can be used for easy EID and circuit marking. Due to an intuitive commissioning concept, the devices are quickly ready for use. The mechanical lock of the potentiometers ensures that the devices are also tamper-proof.

TRIO power supplies with device protection and IO-Link

All TRIO POWER power supplies feature smart diagnostics with multicolor LEDs and a collective alarm contact. This is used to signal all relevant states such as DC OK, overload, and short circuit.

Devices with integrated multi-channel device protection and an IO-Link interface for diagnostics and parameterization are optionally available. The compact devices reduce the installation work, space requirements in the control cabinet, and material costs.

TRIO POWER power supplies therefore provide a safe supply and protection in one device.

3nd generation TRIO POWER

	TRIO POWER, 1~		
			
Input	85 V AC … 264 V AC 90 V DC … 264 V DC	85 V AC … 264 V AC 90 V DC … 264 V DC	85 V AC … 264 V AC 90 V DC … 264 V DC
W x H x D in mm	35 x 135 x 120	40 x 135 x 132	55 x 135 x 132

	24 V / 5 A new	24 V / 10 A new	24 V / 20 A new
Type	TRIO3-PS/1AC/24DC/5	TRIO3-PS/1AC/24DC/10	TRIO3-PS/1AC/24DC/20
Item no.	1159037	1159038	1159039

	TRIO POWER with integrated device protection,1~		
	 IO-Link	 IO-Link	
Input	85 V AC … 264 V AC 90 V DC … 264 V DC	85 V AC … 264 V AC 90 V DC … 264 V DC	
W x H x D in mm	68 x 135 x 132	88 x 135 x 132	

	24 V / 10 A new	24 V / 20 A new	
Type	TRIO3-PS/1AC/24DC/10/4C/IOL	TRIO3-PS/1AC/24DC/20/8C/IOL	
Item no.	1252696	1252697	

	TRIO POWER, 3~		
			
Input	3 x 320 V AC … 550 V AC 2 x 360 V AC … 550 V AC	3 x 320 V AC … 550 V AC 2 x 360 V AC … 550 V AC	3 x 320 V AC … 550 V AC 2 x 360 V AC … 550 V AC
W x H x D in mm	40 x 135 x 132	60 x 135 x 132	90 x 135 x 167

	24 V / 10 A new	24 V / 20 A new	24 V / 40 A new
Type	TRIO3-PS/3AC/24DC/10	TRIO3-PS/3AC/24DC/20	TRIO3-PS/3AC/24DC/40
Item no.	1159042	1159044	1159045

2nd generation TRIO POWER

	TRIO POWER, 1~			
				
Input	85 V AC … 264 V AC 99 V DC … 275 V DC	85 V AC … 264 V AC 99 V DC … 275 V DC	85 V AC … 264 V AC 99 V DC … 275 V DC	85 V AC … 264 V AC 99 V DC … 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[1]	**24 V / 5 A / B+D[2]**	**24 V / 10 A / B+D[2]**	
Type	TRIO-PS-2G/ 1AC/24DC/3/C2LPS	TRIO-PS-2G/ 1AC/24DC/5/B+D	TRIO-PS-2G/ 1AC/24DC/10/B+D	
Item no.	2903147	2903144	2903145	
	12 V / 5 A / C2LPS[1]	**12 V / 10 A**		
Type	TRIO-PS-2G/ 1AC/12DC/5/C2LPS	TRIO-PS-2G/ 1AC/12DC/10		
Item no.	2903157	2903158		
			48 V / 5 A	**48 V / 10 A**
Type			TRIO-PS-2G/ 1AC/48DC/5	TRIO-PS-2G/ 1AC/48DC/10
Item no.			2903159	2903160

	TRIO POWER, 1~			
				
Input	187 V AC … 264 V AC 187 V DC … 420 V DC			
W x H x D in mm	42 x 130 x 160			

	48.5 V / 5 A			
Type	TRIO-PS-2G/ 230AC-400DC/48DC/5			
Item no.	1157806			

	TRIO POWER, 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		
W x H x D in mm	35 x 130 x 115	110 x 130 x 160		

	24 V / 5 A	**72 V / 14 A**		
Type	TRIO-PS-2G/ 3AC/24DC/5	TRIO-PS-2G/ 3AC/72DC/14		
Item no.	2903153	1076188		

[1] NEC Class 2 output, certified in accordance with UL 1310
[2] Bridge and Deck, optimized for use on the bridge of a ship

Power supplies

UNO POWER
Compact and highly efficient

With their high power density, UNO POWER power supplies are the perfect solution, particularly in compact control cabinets. The efficient technology in a small housing covers loads from 25 W to 960 W with low no-load losses and high efficiencies. The new, very narrow UNO POWER generation also stands out with its relay contact.

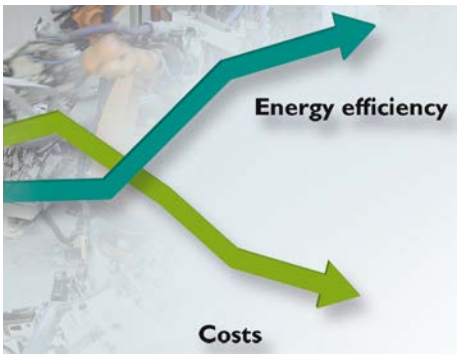
Your advantages

- Save space in the control cabinet with the narrow overall width
- Save energy with the high degree of efficiency
- Outdoor installation and reliable device startup at -40°C
- Easy output voltage system diagnostics with the floating switch contact and DC OK LED
- Alignable without minimum clearance to neighboring modules

Technologies and advantages

From 25 W to 960 W

UNO POWER provides high power in a small space.



Maximum energy efficiency

With efficiency coefficients of over 94% at nominal load, just a small amount of electrical energy is converted into undesired heat energy.

Household appliance approval

Certification in accordance with DIN EN 603351-1 of the 55W/H and the 100W/H device allow use in private households.

2nd generation UNO POWER

UNO POWER power supplies are optimal for use in industrial applications and urban infrastructure.

The new generation covers the performance class up to 960 W. For simple system diagnostics, there is a floating relay contact available for the performance classes from 120 W to 960 W.

Compared with other products on the market, using the UNO POWER power supply provides excellent energy savings, achieved through low no-load losses (below 0.3 W) and optimized efficiency.

In machine building, the UNO POWER power supplies are the ideal partner for small systems with basic requirements. In urban infrastructures, the devices stand out due to their Power over Ethernet capability for the voltage range of 48 V to 56 V.

UNO POWER for PoE applications

Eliminate the need for a separate power cable when installing devices in systems that are difficult to access. With industrial Power over Ethernet (PoE) solutions from Phoenix Contact, power supply and data transfer are combined in the same Ethernet cable.

The compact UNO POWER power supply ensures high availability in PoE applications. With its increased insulation resistance in accordance with IEEE 802.3bt, as well as lower EMC emitted interference at the DC output in accordance with EN 61204-3, it provides a high level of data integrity for your application.

2nd generation UNO POWER

	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	35 x 130 x 129	45 x 130 x 129	59 x 130 x 129

	24 V / 120 W	24 V / 240 W	24 V / 480 W
Type	UNO2-PS/1AC/24DC/120W	UNO2-PS/1AC/24DC/240W	UNO2-PS/1AC/24DC/480W
Item no.	1110466	1096432	2910105
		48 V / 240 W	
Type		UNO2-PS/1AC/48DC/240W	
Item no.		1110155	

	UNO POWER, 1~		
			
Input	85 V AC … 264 V AC		
W x H x D in mm	126 x 130 x 129		

	24 V / 960 W		
Type	UNO2-PS/1AC/24DC/960W		
Item no.	1110043		

1st generation UNO POWER

	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
Item no.	2902991	2902992	2902993
			24 V / 100 W / H[1]
Type			UNO-PS/1AC/24DC/100W/H
Item no.			1088851
			24 V / 90W / CLPS[2]
Type			UNO-PS/1AC/24DC/90W/C2LPS
Item no.			2902994
		48 V / 60 W	**48 V / 100 W**
Type		UNO-PS/1AC/48DC/ 60W	UNO-PS/1AC/48DC/100W
Item 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
Item 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
Item no.	2902998	2902999	2902997
		12 V / 55 W / H[1]	
Type		UNO-PS/1AC/12DC/ 55W/H	
Item no.		1088850	
	5 V / 25 W	**5 V / 40 W**	
Type	UNO-PS/1AC/ 5DC/ 25W	UNO-PS/1AC/ 5DC/ 40W	
Item no.	2904374	2904375	

	UNO POWER, 1~	UNO POWER, 2~	
			
Input	85 V AC … 264 V AC	2 x 264 V AC … 575 V AC	
W x H x D in mm	37 x 130 x 125	55 x 90 x 84	

	24 V / 150 W	**24 V / 90W / CLPS[2]**	
Type	UNO-PS/1AC/24DC/150W	UNO-PS/2AC/24DC/90W/C2LPS	
Item no.	2904376	2904371	

[1] Can be used in household applications in accordance with EN 60335
[2] NEC Class 2 output, certified in accordance with UL 1310

STEP POWER
For building automation

STEP POWER power supplies are optimally tailored to the needs of modern building automation in both industrial and residential applications. The low no-load losses and high degree of efficiency ensure maximum energy efficiency and meet the requirements of Efficiency Level VI.

Your advantages

- ☑ Energy savings with high efficiency in no-load and part-load operation (Efficiency Level VI)
- ☑ Save space in the control cabinet with the narrow and low-profile designs combined with increased performance (up to 100%)
- ☑ Approval for household purposes (EN 60335) allows use in domestic applications for the first time
- ☑ Quick and easy commissioning with tool-free push-in connection technology at a 45° angle with double terminal points

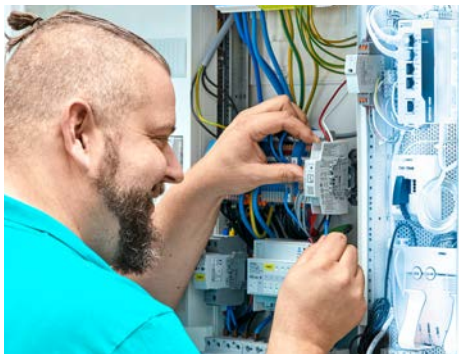
Technologies and advantages

Extreme ambient conditions

The PCB with protective coating ensures high availability even in demanding environmental conditions as low as -40 °C.

Power over Ethernet

The first power supply for small PoE applications with four to eight ports for use in the field of building automation.



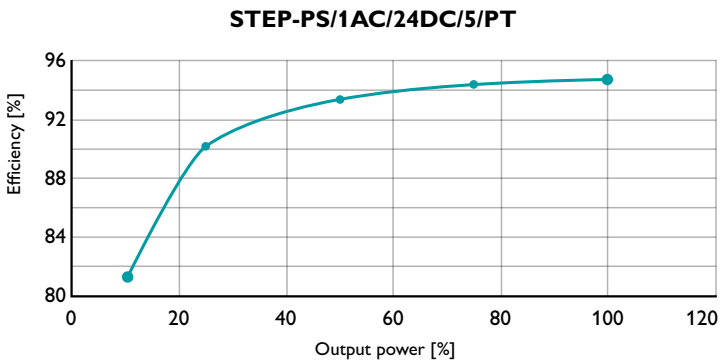
Save space in the control cabinet

The STEP POWER power supplies are ideal for use in distribution boards and flat control panels.

Efficiency Level VI and Ecodesign requirement

With low no-load losses of 0.1 W or 0.21 W and a high degree of efficiency, STEP POWER power supplies ensure optimum energy efficiency in buildings. The power supplies satisfy the high efficiency standard requirements, and therefore obtain Efficiency Level VI.

In addition, the European Ecodesign requirements are also fulfilled. The aim of this directive is also to improve the energy efficiency and environmental compatibility.



The graph shows an example of the degree of effectiveness of the STEP-PS/1AC/24DC/5/PT over the entire load range from 0 to 100%. From an output power of 25%, the degree of efficiency rises significantly above 90%. With a load of 75%, it even exceeds 94%.

Building automation

Whether it's in the home charger in front of the house, the sun protection in the office building, or the baking oven in the supermarket, power supplies meet stringent demands for the safety of electrical devices. In addition to the standard industrial approvals, the STEP POWER power supplies are certified for household purposes in accordance with DIN EN 60335-1 for the first time. This is why they are the ideal solution for domestic applications.

STEP POWER

	STEP POWER, 1~			
				
Input	85 V AC … 264 V AC 88 V DC … 350 V DC	85 V AC … 264 V AC 88 V DC … 350 V DC	85 V AC … 264 V AC 88 V DC … 350 V DC	85 V AC … 264 V AC 88 V DC … 350 V DC
W x H x D in mm	18 x 90 x 61	36 x 90 x 61	54 x 90 x 61	72 x 90 x 61

	24 V / 0.63 A[1]	**24 V / 1.3 A[1]**	**24 V / 2.5 A[1]**	**24 V / 4 A**
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
Item no.	1088495	1088494	1088491	1140066
			15 V / 4 A[1,2]	**24 V / 5 A**
Type			STEP3-PS/1AC/15DC/4/PT	STEP3-PS/1AC/24DC/5/PT
Item no.			1170956	1088478
	12 V / 1.3 A[1,2]	**12 V / 2.5 A[1,2]**	**12 V / 5 A[1,2]**	
Type	STEP3-PS/1AC/12DC/1.3/PT	STEP3-PS/1AC/12DC/2.5/PT	STEP3-PS/1AC/12DC/5/PT	
Item no.	1170952	1170953	1170955	
	5 V / 3 A[1,2]			
Type	STEP3-PS/1AC/5DC/3/PT			
Item no.	1170954			

	STEP POWER, 1~			
				
Input	85 V AC … 264 V AC 88 V DC … 275 V DC	85 V AC … 264 V AC 88 V DC … 275 V DC	108 V AC … 264 V AC 88 V DC … 275 V DC	
W x H x D in mm	72 x 90 x 43	72 x 90 x 43	72 x 90 x 61	

	24 V / 3.75 A / FL[1]	**24 V / 3.75 A / LED[1]**	**48 V / 2.5 A**	
Type	STEP3-PS/1AC/24DC/3.75/ PT/FL	STEP3-PS/1AC/24DC/3.75/PT/ LED	STEP3-PS/1AC/48DC/2.5/PT	
Item no.	1088486	1285036	1285035	

[1] NEC Class 2 output, certified to UL 1310
[2] Deviating input voltage range: 88 to 275 V DC

STEP POWER

	STEP POWER with PCB with protective coating,1~	
		
Input	85 V AC … 264 V AC 88 V DC … 275 V DC	
W x H x D in mm	72 x 90 x 43	

	24 V / 3.75 A / CO[1] new	
Type	STEP3-PS/1AC/24DC/3.75/PT/CO	
Item no.	1321105	

	STEP POWER with USB port,1~	
		
Input	85 V AC … 264 V AC 88 V DC … 275 V DC	85 V AC … 264 V AC 88 V DC … 275 V DC
W x H x D in mm	18 x 90 x 61	18 x 90 x 61

	5 V / 3 A / USB-A new	5 V / 3 A / USB-C new
Type	STEP3-PS/1AC/5DC/3/PT/USB-A	STEP3-PS/1AC/5DC/3/PT/USB-C
Item no.	1335699	1335698

[1] NEC Class 2 output, certified in accordance with UL 1310

Further information about the 2nd generation STEP POWER:
Simply enter the web code into the search field on our website.

Web code: #1930

Power supplies with IP67 degree of protection

The robust power supplies with an IP67 degree of protection are ideally suited for decentral supply in the field. The weather-resistant aluminum housing protects the devices against dust and water. This enables the power supplies to ensure high system availability even in harsh ambient conditions. Various device connections provide flexibility during assembly.

Your advantages

- Direct installation at the load in the field reduces cable lengths and saves space in the control cabinet
- The robust aluminum housing ensures high system availability with resistance to extreme ambient conditions (temperature, dust, and water)
- High shock and vibration resistance, plus electric strength
- Improved diagnostic options in the field with DC OK LED and AC OK LED
- NEC Class2 (P_{OUT} <100 W)

IP67 POWER

	TRIO POWER, 1~			
				
Input	85 V AC … 305 V AC 88 V DC … 275 V DC	90 V AC … 264 V AC 99 V DC … 275 V DC	90 V AC … 264 V AC 99 V DC … 275 V DC	108 V AC … 264 V AC
W x H x D in mm	100 x 164 x 53	136 x 240 x 53	136 x 240 x 53	136 x 240 x 53

	24 V / 3.75 A / M12-A[1]			
Type	TRIO-PS67/1AC/24DC/3.75/M12-A			
Item no.	1376306			
	24 V / 3.75 A / M12[1]		**24 V / 10 A / M12**	**24 V / 10 A / M12 / 5P** new
Type	TRIO-PS67/1AC/24DC/3.75/M12		TRIO-PS67/1AC/24DC/10/M12	TRIO-PS67/1AC/24DC/10/M12/5P
Item no.	1278165		1111634	1395808
	24 V / 3.75 A / INC[1]	**24 V / 8 A / INC**		
Type	TRIO-PS67/1AC/24DC/3.75/INC	TRIO-PS67/1AC/24DC/8/INC		
Item no.	1278302	1065976		
	24 V / 3.75 A / IPD[1]		**24 V / 10 A / IPD**	
Type	TRIO-PS67/1AC/24DC/3.75/IPD		TRIO-PS67/1AC/24DC/10/IPD	
Item no.	1278301		1111664	

DC/DC converters and DC/AC inverters Everything for the right voltage

2

Phoenix Contact DC/DC converters for regulated DC voltage are designed:

- With boost functions and SFB Technology
- For extreme requirements
- For photovoltaic applications

With the QUINT inverter, you can convert your direct current into alternating current reliably.

QUINT DC/DC converters for power ratings >100 W

With SFB Technology

More information starting on page 36

QUINT DC/DC converters for power ratings <100 W

With static and dynamic boost

More information starting on page 42

DC/DC converters for photovoltaic systems

For decentral power supply in the field

More information starting on page 44

QUINT inverters

For generating alternating current in DC applications

More information starting on page 46

QUINT DC/DC converter With SFB technology

Featuring high functionality and leading technologies, our QUINT DC/DC converters >100 W deliver safety and reliability. SFB Technology, static boost, dynamic boost, and preventive function monitoring ensure maximum system availability. You can also adjust signaling thresholds and characteristic curves individually.

SFB Technology

Designed by Phoenix Contact

Your advantages >100 W

- SFB Technology selectively trips standard miniature circuit breakers
- Preventive function monitoring reports critical operating states before faults occur
- Power reserves for easy system extension and starting up difficult loads
- High efficiency and long service life
- Free choice between push-in and screw connection

Technologies and advantages

Regulated DC voltage

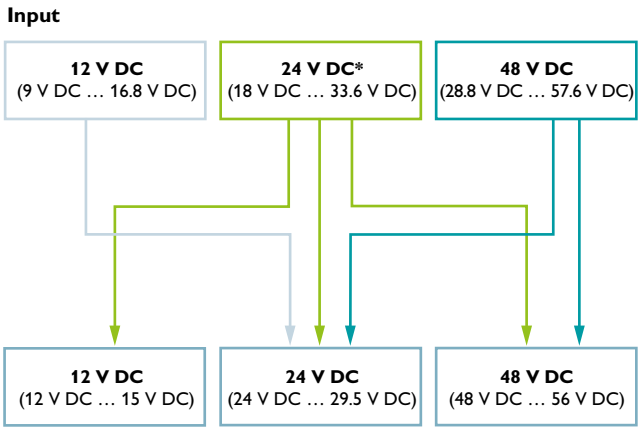
Avoid disturbances in your application by using DC/DC converters. They regenerate voltages so that the load is always supplied with a regulated DC voltage, even in the case of long cable lengths.

DC/DC converters can be used to alter the voltage level or allow the creation of independent supply systems by means of electrical isolation.

QUINT POWER >100 W

Powerful with SFB Technology
The DC/DC converters for the high power ranges have SFB Technology which ensures that standard miniature circuit breakers are selectively tripped so that loads connected in parallel can continue to operate without interruption.

These DC/DC converters are suitable for high power ratings with currents up to 20 A. Due to the large input voltage range, all common input and output voltages in performance classes up to 480 W are covered.



* From 14 V DC ... 33.6 V DC during operation

Plus version for extreme ambient conditions

The Plus version of the DC/DC converter with MOSFET integrated decoupling for 1+1 and n+1 redundancy provides symmetrical load distribution and increases system availability. It also satisfies the requirements for functional safety (SIL 2). It achieves SIL 3 in conjunction with the QUINT4-S-ORING/12-24DC/1X40/+ redundancy module.

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 in zone 2 potentially explosive areas.

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

The PCB protective 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.

QUINT POWER >100 W

	QUINT POWER, 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**
Type	QUINT4-PS/24DC/24DC/5/PT	QUINT4-PS/24DC/24DC/10/PT	QUINT4-PS/24DC/24DC/20/PT
Item no.	2910119	2910120	2910121

	QUINT POWER, with push-in connection		
			
Input	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	
	24 V / 12 V / 8 A	**24 V / 48 V / 5 A**	
Type	QUINT4-PS/24DC/12DC/8/PT	QUINT4-PS/24DC/48DC/5/PT	
Item no.	2910122	2910123	

	QUINT POWER, with push-in connection		
			
Input	9 V DC … 16.8 V DC	29 V DC … 57.6 V DC	29 V DC … 57.6 V DC
W x H x D in mm	36 x 130 x 125	36 x 130 x 125	50 x 130 x 125
	12 V / 24 V / 5 A	**48 V / 24 V / 5 A**	**48 V / 48 V / 5 A**
Type	QUINT4-PS/12DC/24DC/5/PT	QUINT4-PS/48DC/24DC/5/PT	QUINT4-PS/48DC/48DC/5/PT
Item no.	2910124	2910125	2910128

QUINT POWER >100 W

	QUINT POWER, 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	24 V / 24 V / 20 A / +
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/+
Item no.	1046800	1046803	1046805	1046881

	QUINT POWER, with push-in connection, with protective coating	
		
Input	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

	24 V / 24 V / 5 A / CO	24 V / 24 V / 10 A / CO
Type	QUINT4-PS/24DC/24DC/5/PT/CO	QUINT4-PS/24DC/24DC/10/PT/CO
Item no.	2910132	2910133

QUINT POWER

Power supplies for railway technology

Our QUINT POWER power supplies and QUINT POWER DC/DC converters are used both in signal technology and in rail vehicles. All devices feature high reliability and safety and are also suitable for installation in confined spaces.

Our high-availability power supplies and DC/DC converters are harmonized with the typical requirements of signal technology. With a high efficiency factor and the use of high-quality components, including long-life capacitors, our products feature high reliability (MTBF >500,000 h) and a long service life. They also have an extended temperature range and electronics with a protective coating for use in outdoor systems. DC/DC converters are used in the signal technology of signal boxes to convert control voltages. The built-in electrical isolation also decouples and suppresses two potentials, and an ungrounded supply network can be established. For digital signal boxes, we offer you converter solutions that can convert the direct current link voltage into conventional control voltage.

Our QUINT DC/DC converters in rail vehicles fulfill the high requirements for quality, zero maintenance, and reliability just like the QUINT power supplies do. We offer DC/DC converters for all standard voltage levels of various train types. We guarantee high availability with redundantly connected and decoupled DC/DC converters. Furthermore, all requirements applicable in railway technology are adhered to, including temperature, fire protection, resistance to EMC, vibration, and the environment, as well as the specific additional requirements of EN 50155.

3rd generation QUINT POWER

	QUINT POWER, with screw connection	
		
Input	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

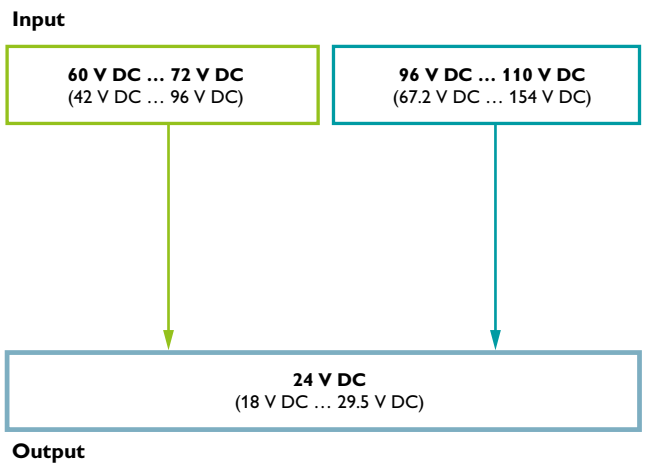
	60 V … 72 V / 24 V / 10 A	96 V … 110 V / 24 V / 10 A
Type	QUINT-PS/60-72DC/24DC/10	QUINT-PS/96-110DC/24DC/10
Item no.	2905009	2905010

	QUINT POWER, with screw connection, with protective coating	
		
Input	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

	60 V … 72 V / 24 V / 10 A / CO	96 V … 110 V / 24 V / 10 A / CO
Type	QUINT-PS/60-72DC/24DC/10/CO	QUINT-PS/96-110DC/24DC/10/CO
Item no.	2905011	2905012

3rd generation QUINT POWER with wide range input

The QUINT DC/DC converters with wide range input are ideal for a variety of applications, including the rail industry and power generation.



DC/DC converters and DC/AC inverters

QUINT POWER – Powerful with boost function

QUINT DC/DC converters are also available in the power range up to 100 W. Particularly powerful and space-saving, these converters feature high efficiency, preventive function monitoring, and static and dynamic boost.

The low housing depth of 89 mm enables installation in flat control cabinets, and the DNV-GL approval means they can be used in maritime environments. DC/DC converter start-up at -40°C ensures reliable operation, even under extreme ambient conditions.

In addition, you can choose between push-in and screw connection.

Your advantages <100 W

- ☑ Power reserves for easy system extension and the start up of difficult loads
- ☑ Preventive function monitoring reports critical operating states before faults occur
- ☑ High efficiency and long service life with low power dissipation and low heating
- ☑ Compact, slim-line design saves space in the control cabinet
- ☑ Choose between push-in and screw connection

QUINT POWER <100 W

	QUINT POWER, with push-in connection		
			
Input	9 V DC … 32 V DC	9 V DC … 32 V DC	22 V DC … 60 V DC
W x H x D in mm	22.5 x 106 x 90	32 x 106 x 90	45 x 106 x 90

	12 V … 24 V / 24 V / 1.3 A	12 V … 24 V / 24 V / 2.5 A	24 V … 48 V / 48 V / 2 A
Type	QUINT4-PS/12-24DC/24DC/1.3/PT	QUINT4-PS/12-24DC/24DC/2.5/PT	QUINT4-PS/24-48DC/48DC/2/PT
Item no.	1066716	1066714	1098676
	12 V … 24 V / 5 V … 15 V / 2.5 A		
Type	QUINT4-PS/12-24DC/5-15DC/2.5/PT		
Item no.	1066704		
		48 V … 110 V / 24 V / 2.5 A	
Type		QUINT4-PS/48-110DC/24DC/2.5/PT	
Item no.		1066708	

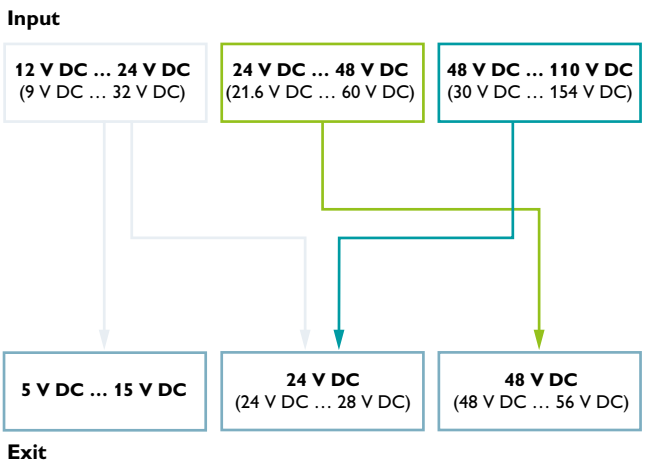
	QUINT POWER, with screw connection		
			
Input	9 V DC … 32 V DC	9 V DC … 32 V DC	
W x H x D in mm	22.5 x 99 x 90	32 x 99 x 90	

	12 V … 24 V / 24 V / 1.3 A	12 V … 24 V / 24 V / 2.5 A	
Type	QUINT4-PS/12-24DC/24DC/1.3/SC	QUINT4-PS/12-24DC/24DC/2.5/SC	
Item no.	1066703	1066718	

QUINT POWER <100 W

Powerful and space saving
These space-saving devices from the QUINT family offer high functionality from a power range of 30 W and also cover the power range of 60 W for the first time.

The low housing depth of 89 mm enables installation in flat control cabinets, and the DNV-GL approval means they can be used in maritime environments. Device start-up at -40°C ensures reliable operation under extreme ambient conditions.



DC/DC converters for photovoltaic applications For decentral power supply

The DC/DC converters in the TRIO POWER family supply your system directly from the field and provide a reliable power supply even without a central grid. They are particularly well-suited for photovoltaic applications, where they also allow the central inverter to be started without a supplying grid.

Your advantages

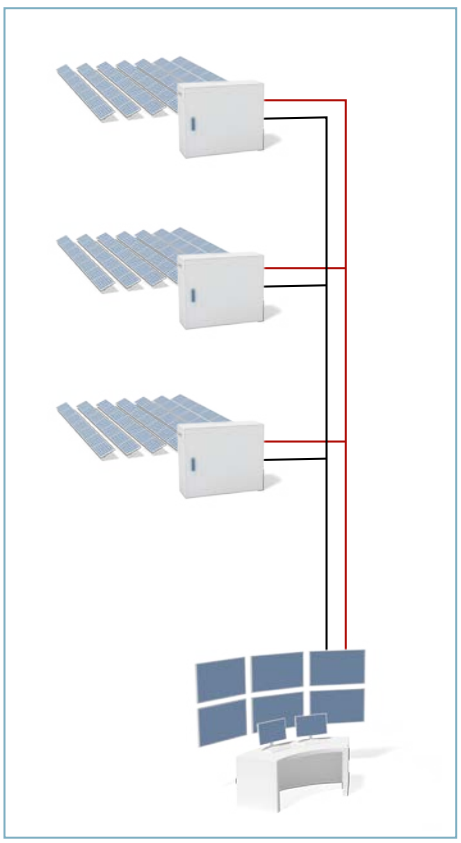
- Suitable for use in all photovoltaic systems with high input voltage due to conformity with standards UL 62109 and UL 1741
- High system availability with a robust design that ensures partial discharge resistance
- Direct, immediate supply from the solar field to the string monitoring function within string combiner boxes
- Quick and easy installation with push-in connection

DC/DC converters for photovoltaic applications

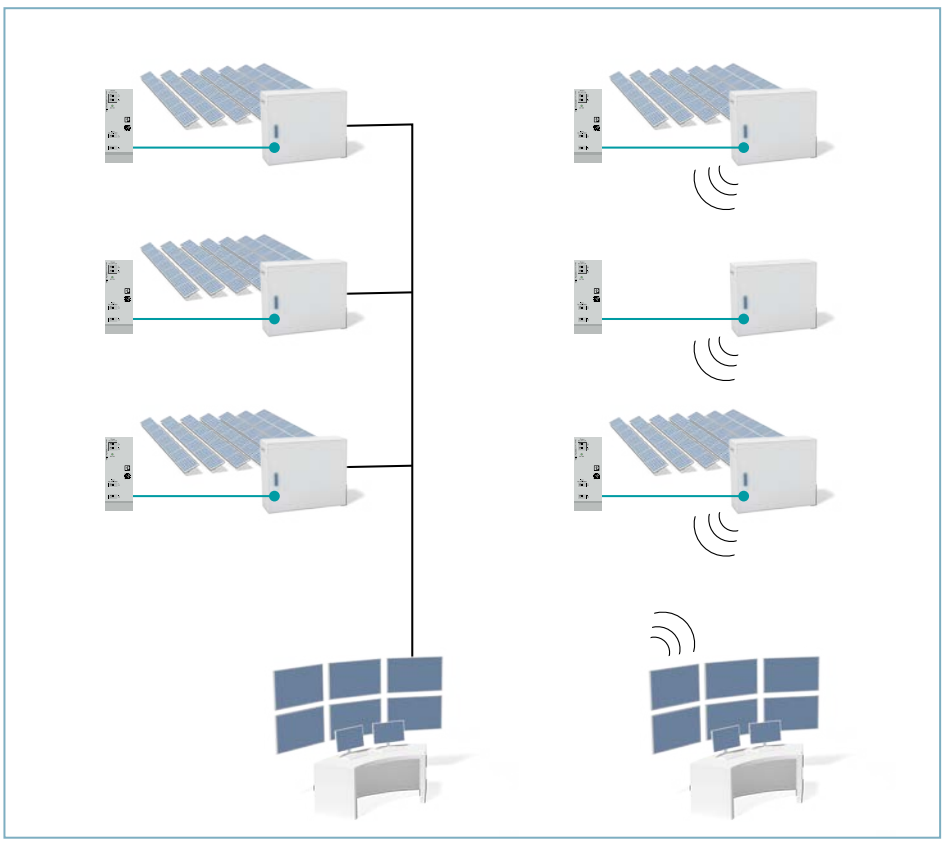
	TRIO POWER		UNO POWER
			
Input	450 V DC … 1650 V DC	510 V DC … 1650 V DC	300 V DC … 1000 V DC
W x H x D in mm	48 x 130 x 121	88.5 x 130 x 160	55 x 90 x 84

	1500 V / 24 V / 1.5 A	1500 V / 24 V / 8 A	350 V … 900 V / 24 V / 60 W
Type	TRIO-PS-2G/1500DC/24DC/1.5	TRIO-PS-2G/1500DC/24DC/8	UNO-PS/350-900DC/24DC/60W
Item no.	1107892	1075240	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.



The TRIO DC/DC converters and the UNO DC/DC converters enable direct connection to string voltages of up to 1500 V DC. This means that the combiner box is supplied directly from the photovoltaic panel and eliminates any additional installation costs.

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

QUINT inverters
For generating alternating current

The new DC/AC inverter in the QUINT POWER family offers a compact solution to generate alternating current in DC applications. It delivers a pure sine curve and current with constantly high quality. The inverter also ensures the trouble-free supply of voltage-sensitive loads.

Your advantages

- Manual selection of AC output voltage via signal terminal enables worldwide use
- Pure sine curve at the output
- USB interface for connection to industrial PCs and other devices
- Can be switched in parallel for various applications
- Compact design saves space

QUINT inverters

	QUINT inverter
	
Input	20 V DC … 30 V DC
W x H x D in mm	180 x 130 x 125

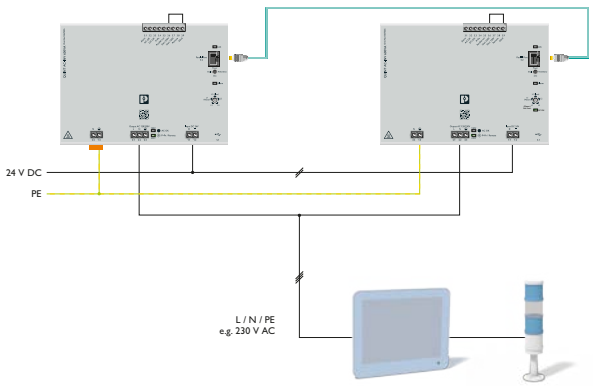
	480 W / 600 VA
Type	QUINT4-INV/24DC/1AC/600VA/USB
Item no.	1067325

	Accessories
	
W x H x D in mm	50 x 128 x 52

	PORT BRIDGE
Type	RJ45-PORT-BRIDGE/3XPARALLEL
Item no.	1205351

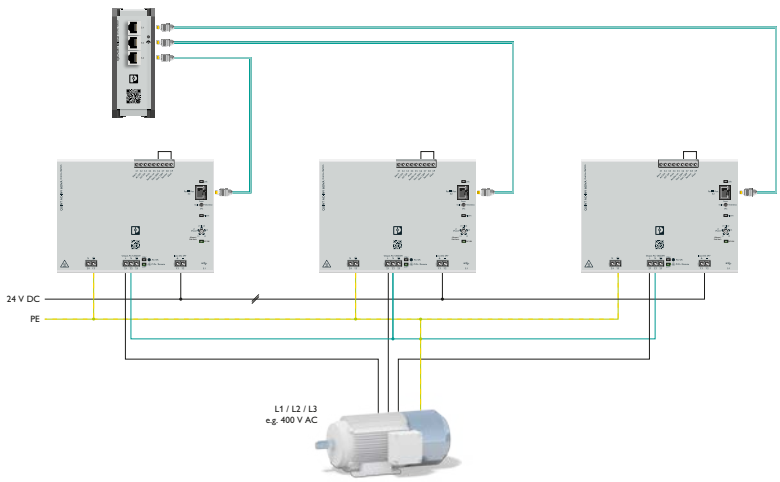
Parallel connection with synchronized AC output

Take advantage of the option to connect two devices in parallel. This increases the operational safety of your system in the event of a power supply failure (redundancy) or it gives you the option to increase the power. You can double the output power by using the DC/AC inverter. Communication between the two devices synchronizes the phase relation in both operating modes.



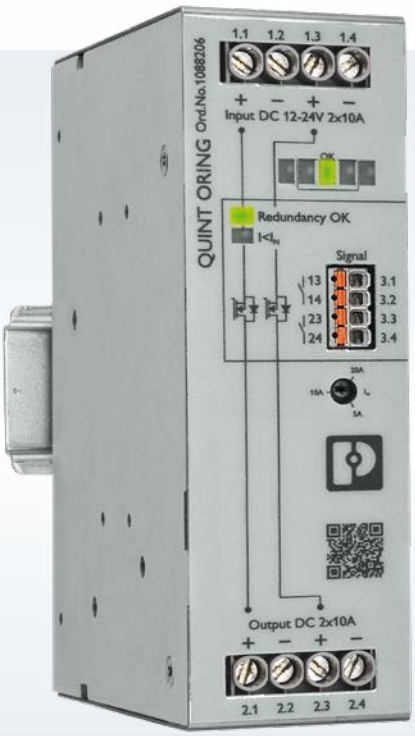
Three-phase grid for a drive application

Or, connect three devices in parallel to create a three-phase grid using the RJ45 adapter. The inverters communicate with each other in order to synchronize the 120° phase shift in real time. This enables operation of three-phase drives.



Redundancy modules
For maximum operational safety

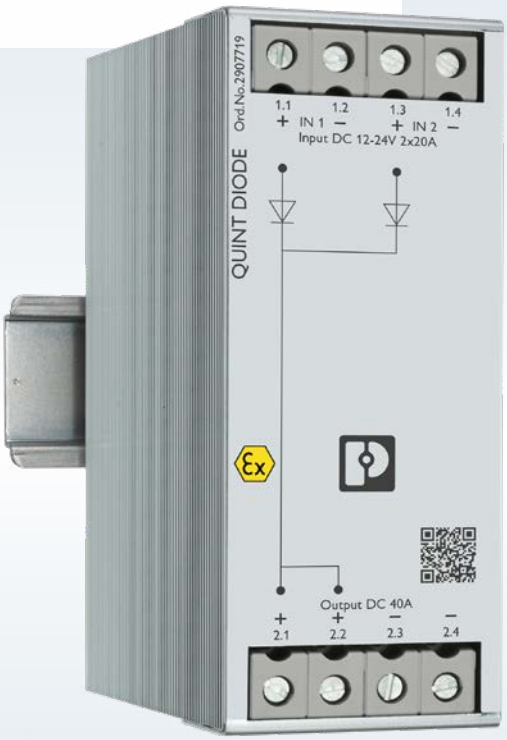
To prevent failures and downtime in complex applications, redundant power supply solutions are necessary. Two power supplies connected in parallel can be decoupled with either active or passive redundancy modules.



QUINT ORING

Provides permanent monitoring of the input voltage, output current, and decoupling section

More information starting on page 50



QUINT DIODE

Ensures constant redundancy through redundant wiring up to the load with two positive output terminals

More information starting on page 54

Active and passive redundancy

Active redundancy with MOSFETs
Our 1- or 2-channel active redundancy module versions monitor themselves and the connection wiring through to the load. In conjunction with a QUINT POWER 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 the simultaneous decoupling of the load current, critical operating states can be detected and signaled early on.

Passive redundancy with diodes
Diodes enable simple decoupling of two power supplies on the DC side. This is useful in particular when power supplies are in parallel connection 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 is not subject to preventive function monitoring, and the connecting cables through to the DC load are not monitored.

TRIO DIODE

With push-in connection for easy installation

More information starting on page 54

UNO DIODE

Compact diode module for decoupling power supply units connected in parallel

More information starting on page 54

STEP DIODE

Diode module for tight space in the control cabinet

More information starting on page 54

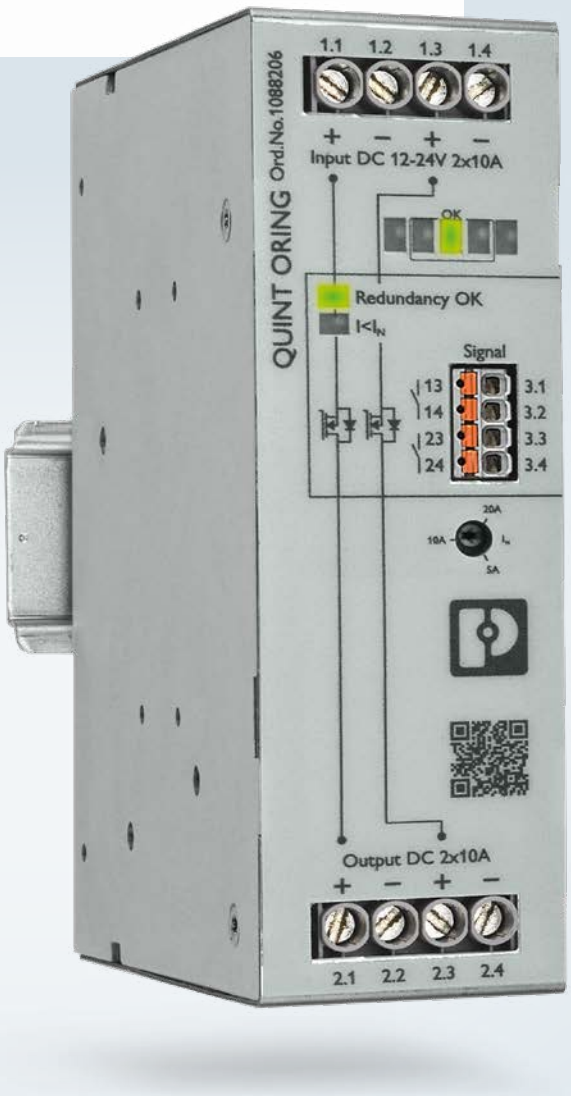
Redundancy modules

QUINT ORING
For decoupling, monitoring, and controlling

The new 4th generation QUINT ORING modules now feature application-specific surge protection, as well as two outputs that ensure maximum system availability. The ACB Technology (Auto Current Balancing) also doubles the service life of the redundantly-operated power supplies, and thus contributes to minimizing the costs of your system.

Auto Current Balancing Technology

Designed by PHOENIX CONTACT



Your advantages

- Preventive function monitoring through constant monitoring of the input voltage, output current, and decoupling section
- Consistent redundancy through to the load with two positive output terminals
- Service life doubled with uniform load distribution
- Energy savings of 70% with MOSFETs
- Protection against overvoltages at the output (overvoltage protection) increases operational safety

Active redundancy modules

	QUINT ORING		
			
Input	8 V DC … 29.5 V DC	8 V DC … 29.5 V DC	18 V DC … 28 V DC
W x H x D in mm	39 x 130 x 132	46 x 130 x 132	66 x 130 x 125

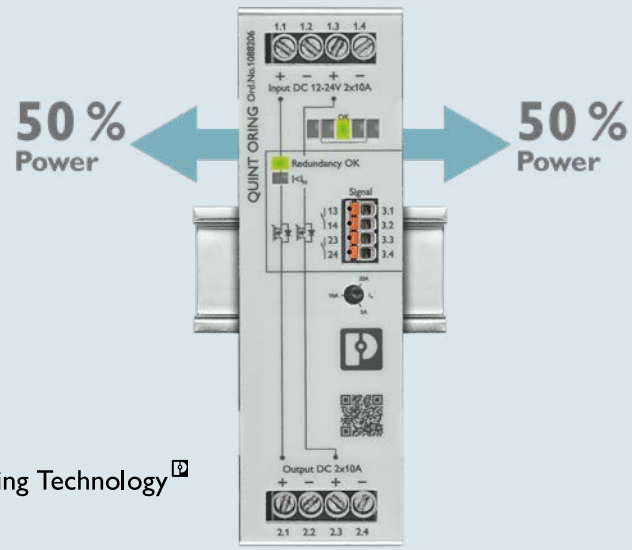
	12 V … 24 V / 2 x 10 A / 1 x 20 A[1]	12 V … 24 V / 2 x 20 A / 1 x 40 A[1]	24 V / 2 x 40 A / 1 x 80 A
Type	QUINT4-ORING/12-24DC/2X10/2X10	QUINT4-ORING/12-24DC/2X20/2X20	QUINT-ORING/24DC/2X40/1X80
Item no.	1088206	1088207	2902879

[1] The ATEX and IECEx approvals are in preparation. In the e-shop, there is the opportunity to choose between three additional overvoltage protection levels.

QUINT ORING with ACB Technology (Auto Current Balancing)

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. ACB Technology extends the service life of redundantly operated power supplies by evenly utilizing the power supply units.

With the use of modern MOSFET technology, the resulting thermal load is reduced by up to 70% compared to using a diode. The lower level of power dissipation ensures that all the control cabinet components stay cooler and doubles the overall service life of the redundant system.

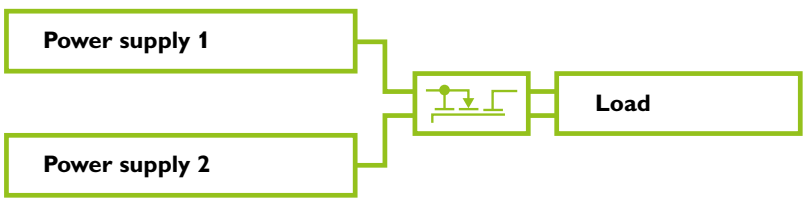


Auto Current Balancing Technology
Designed by PHOENIX CONTACT

Decoupling, monitoring, and control

The QUINT ORING ensures the decoupling of the power supplies and the constant monitoring of the input voltage and the output current. You will be warned at an early stage if there is any loss of redundancy.

A system consisting of two QUINT POWER power supplies and a QUINT ORING limits the output voltage to 32 V DC in case of a fault. In the e-shop, you can choose between three additional overvoltage levels for sensitive loads: 26.5 V, 28.8 V, and 30 V.



Redundancy modules

QUINT S-ORING for decoupling and monitoring

The QUINT S-ORING is an active, 1-channel redundancy module for the separate structuring of a redundant system.

In combination with the fourth generation of the QUINT POWER power supplies, the input voltage and decoupling section are monitored continuously. The preventive function monitoring feature indicates all critical operating states of the redundant system.

With the overvoltage protection (OVP), the devices protect sensitive loads against static surge voltages, thus maximizing operational safety:
VP version >30 V
(QUINT4-S-ORING/12-24DC/1x40/VP)
Plus version >28.8 V
(QUINT4-S-ORING/12-24DC/1x40/+)

Your advantages

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

Active redundancy modules

	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

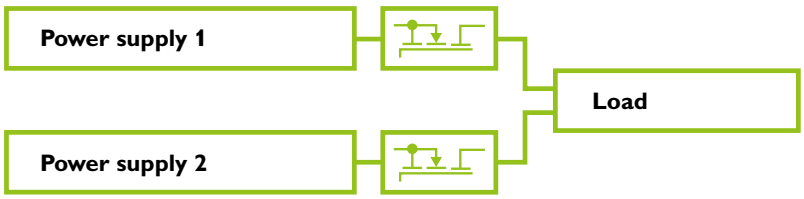
	12 V … 24 V / 1 x 40 A	12 V … 24 V / 1 x 40 A / VP[1]	12 V … 24 V / 1 x 40 A / +[2]
Type	QUINT4-S-ORING/12-24DC/1X40	QUINT4-S-ORING/12-24DC/1X40/VP	QUINT4-S-ORING/12-24DC/1X40/+
Item no.	2907752	1043418	2907753

[1] Surge voltages are limited to 30 V. [2] Surge voltages are limited to 28.8 V.

Decoupling and monitoring

For the separate structuring of a redundant system, the QUINT S-ORING is well-suited to be an active, 1-channel redundancy module.

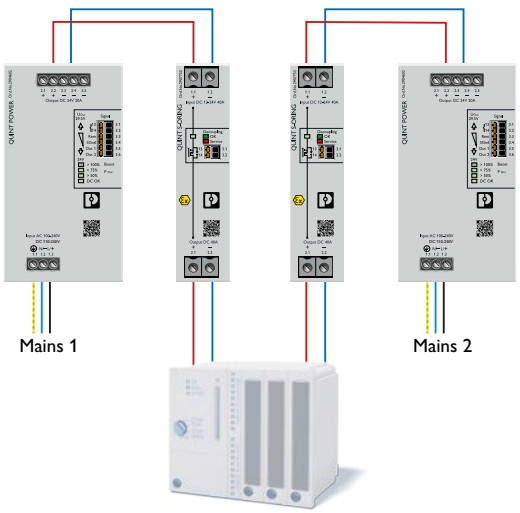
Combine the QUINT S-ORING with the 4th generation QUINT POWER power supply. You will have a fully monitored system that immediately reports critical operating states.



Operational safety comes first

Availability is generally a top priority, especially in process engineering systems. Overvoltage protection (OVP) protects downstream loads from surges greater than 30 V DC or 28.8 V DC at the output.

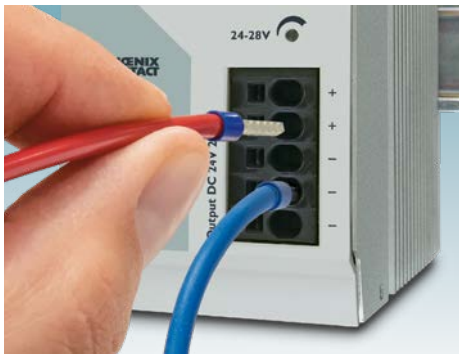
The redundant system from the QUINT POWER power supply and the active redundancy module QUINT4-S-ORING/+ ensure maximum operational safety with SIL certification. Use the system in applications with functional safety up to a safety integrity level of SIL 3 (IEC 61508).



Passive redundancy modules

QUINT DIODE

Robust design for high system availability, even under demanding ambient conditions



TRIO DIODE

With push-in connection for fast and easy installation

UNO DIODE and STEP DIODE

For decoupling small loads

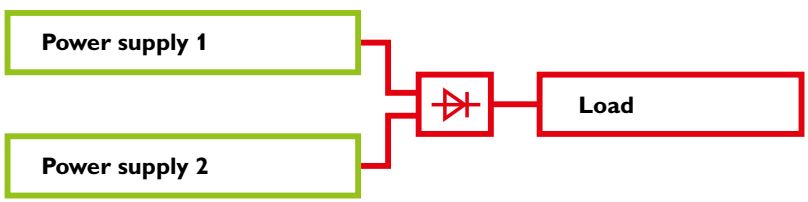
Redundancy modules for easy decoupling

Diode modules ensure safety when supplying the system.

STEP DIODE, UNO DIODE, TRIO DIODE, and QUINT DIODE are the ideal choice when it comes to easy decoupling of power supplies. They can be used for nominal voltages of 5 V DC to 48 V DC.

Decoupling via diodes

Easy decoupling of power supplies that are operated in parallel ensures a high level of availability. If the power supplies are decoupled, a short circuit no longer has any effect on the load.



Passive redundancy modules

	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
Item no.	2907719	2907720

	TRIO DIODE	
		
Input	10 V DC … 30 V DC	10 V DC … 30 V DC
W x H x D in mm	35 x 130 x 115	41 x 130 x 115

	12 V … 24 V / 2 x 10 A / 1 x 20 A	12 V … 24 V / 2 x 20 A / 1 x 40 A
Type	TRIO2-DIODE/12-24DC/2X10/1X20	TRIO2-DIODE/12-24DC/2X20/1X40
Item no.	2907380	2907379

	UNO DIODE	STEP DIODE
		
Input	4.5 V DC … 30 V DC	4.5 V DC … 30 V DC
W x H x D in mm	22.5 x 90 x 84	18 x 90 x 61

	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	UNO-DIODE/5-24DC/2X10/1X20	STEP3-DIODE/5-24DC/2X5/1X10/PT
Item no.	2905489	1283937

Uninterruptible power supplies
No problems during mains interruptions

4

Mains interruptions can have serious consequences. 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
- Comprehensive selection of energy storage devices

DC UPS

- QUINT UPS with IQ technology
- QUINT, UNO, and STEP UPS with integrated energy storage
- MINI and TRIO UPS with integrated power supply

More information starting on page 60

DC UPS with integrated capacity and buffer modules

- With double-layer capacitors
- With electrolytic capacitors

More information starting on page 82

AC UPS

- QUINT UPS with IQ technology
- TRIO UPS with integrated energy storage

More information starting on page 72

Energy storage

- Different storage technologies for your requirements

More information starting on page 80

Power management software

Monitor and configure several power supplies and UPS systems simultaneously with our POWER MANAGEMENT SUITE, free of charge. The intelligent communication functions inform you as soon as a situation becomes critical. This reduces the amount of maintenance work needed and increases the availability of your system. It supports all QUINT4 and TRIO 2G devices with USB or EtherNet/IP™ interfaces. The software is available to you to download on the Internet free of charge.

Server Client Agent

Your advantages

- ☑ Holistic system monitoring: Monitor several power supplies and UPS systems from different PCs
- ☑ Easy configuration: All connected systems can be configured via the user interface directly on the system or via a control room
- ☑ Clear, user-friendly dashboard
- ☑ PC shutdown: One or more PCs can be shut down in the event of a mains failure
- ☑ Modular setup: Environment tailored in accordance with the application

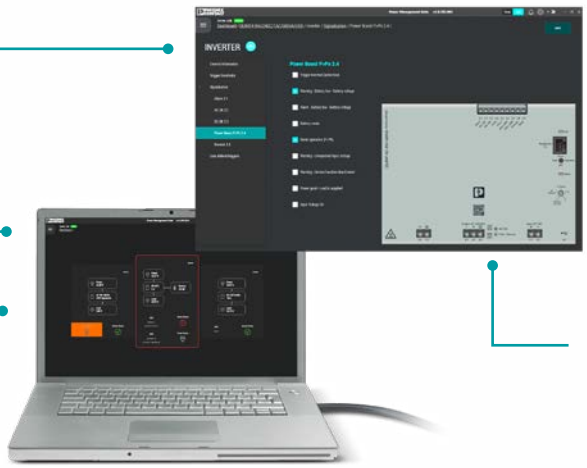
POWER MANAGEMENT SUITE

How our POWER MANAGEMENT SUITE works

Easy configuration
All connected systems can be configured via the user interface directly on the system or via a control room.

Dashboard
Clear, user-friendly dashboard with an overview of all systems at all times.

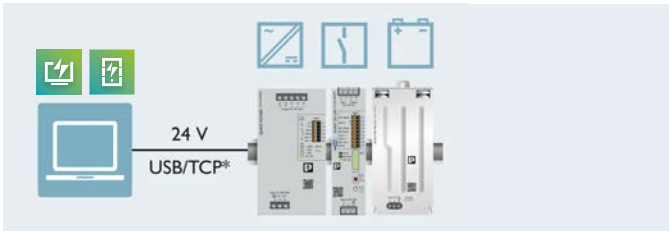
PC shutdown
One or more PCs can be shut down in the event of a mains failure.



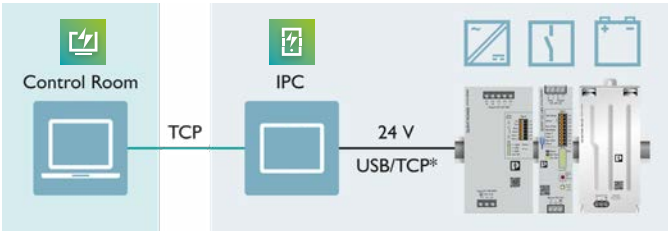
Integrated system monitoring
Monitor several power supplies and UPS systems from different PCs.

Modular setup
Environment specific to the application.

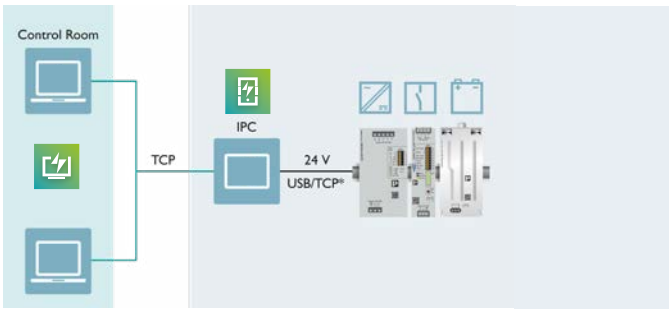
Applications



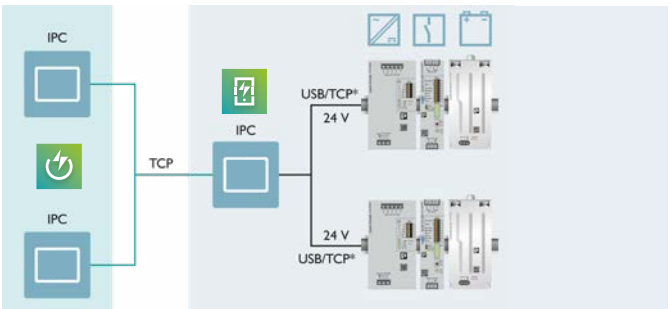
Single user
An industrial PC is connected directly to the Phoenix Contact power supply system via the USB or Ethernet cable. The system supplies the industrial PC with power. In the event of a mains failure, the system and the industrial PC undergo a controlled shutdown. In addition, the industrial PC is used to monitor and configure the system.



Local network type 1
An industrial PC is connected directly to the PHOENIX CONTACT power supply system via the USB or Ethernet cable. An additional PC connected to the local network can then be used to monitor and configure the system.



Local network type 2
You can also realize type 1 with several clients in a local network. To do so, install the POWER MANAGEMENT SUITE client module on an additional PC.



Local network type 3
In addition to type 2 in a local network, you also have the option of connecting your PC to several systems at the same time. To do so, you have to connect the industrial PC on which the POWER MANAGEMENT SUITE server is installed to an additional system via the USB or Ethernet cable.

Uninterruptible power supplies

Supply DC loads without mains
For risk-free system operation

Our uninterruptible power supplies for DC applications supply your application reliably even when the supply network fails.

Select your DC UPS: Intelligent with IQ technology or space-saving with integrated energy storage or integrated power supply.

DC UPS

QUINT UPS

You can find all QUINT UPS modules and their matching energy storage devices starting on page 60.

With integrated power supply

Space-saving solution – all you have to do is supplement the energy storage. Page 66

With integrated energy storage

Space-saving solution – all you have to do is connect the power supply upstream. Page 68

QUINT UPS for DC applications

Reliably protect your DC loads against power supply failure. The QUINT UPS for 24 V DC with output currents of 5 A to 40 A is suitable for mains interruptions that last for up to several hours.

Monitor and optimize your energy storage automatically with IQ Technology. The POWER MANAGEMENT SUITE configuration and management software and data cables from Phoenix Contact are available for this purpose.

Substantial power reserve
- For mains and battery operation
- Power Boost static power reserve
- SFB Technology (page 7)

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

IQ Technology

Designed by Phoenix Contact

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

TRIO UPS with integrated power supply

The TRIO DC UPS with integrated power supply supplies your DC loads reliably and with minimal space requirements.

You can easily shut down connected industrial PCs via the integrated USB interface. Startup from energy storage is possible even without power supply input, thus simplifying the commissioning process. You can safeguard your system for up to several hours with the large selection of energy storage devices. With POWER MANAGEMENT SUITE software, you can optimally adapt the behavior of the UPS to your application.

Find all TRIO UPS modules and their matching energy storage devices on page 67.

Uninterruptible power supplies

QUINT DC UPS with IQ Technology – for industrial networks

Presenting 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 A to 40 A enable you to create a custom solution consisting of a power supply, UPS module, and energy storage. With IQ Technology and a powerful battery charger, the battery management system (BMS) ensures high system availability.

You can find all QUINT devices with the matching energy storage devices on page 64.

IQ Technology

Designed by Phoenix Contact

Your advantages

- Simple evaluation of the state of health (SOH) and state of charge (SOC), with the intelligent battery management system (BMS)
- Automatic recognition of battery capacities and technologies (PB, 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 while loads connected in parallel continue to work

PROFINET® Modbus EtherNet/IP USB EtherCAT®

QUINT DC UPS

	QUINT UPS [1]			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
Item 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 (Modbus TCP)	QUINT4-UPS/ 24DC/24DC/5/EIP	QUINT4-UPS/ 24DC/24DC/10/EIP	QUINT4-UPS/ 24DC/24DC/20/EIP	QUINT4-UPS/ 24DC/24DC/40/EIP
Item 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
Item 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 (Modbus RTU)	QUINT4-UPS/ 24DC/24DC/5/USB	QUINT4-UPS/ 24DC/24DC/10/USB	QUINT4-UPS/ 24DC/24DC/20/USB	QUINT4-UPS/ 24DC/24DC/40/USB
Item 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
Item no.	2906990	2907066	2907071	2907077

[1] These devices support SFB Technology.

QUINT CHARGER – charging rectifier for DIN rails

With the QUINT CHARGER, the additional charging device for QUINT DC UPS, both lead and lithium batteries can be charged more quickly. The temperature-optimized charging process increases the service life of the energy storage, while the higher charging current reduces the charging time.

The two devices communicate via system communication, the coordinated system for optimized battery charging. The charging parameters are configured via the USB interface. Battery status is indicated via LEDs and signal contacts.

You can find the right energy storage device on page 66.

	QUINT CHARGER
	
W x H x D in mm	60 x 130 x 126

	24 V / 10 A
Type	QUINT4-CHARGER/1AC/24DC/10
Item no.	2907990

Uninterruptible power supplies

IQ Technology for an intelligent UPS system

IQ Technology is the key to an intelligent power supply solution. An intelligent UPS with IQ technology monitors and optimizes the energy storage, reduces maintenance effort, and increases your system availability.

It determines all relevant energy storage states. This ensures the crucial transparency required to guarantee supply stability and the best possible utilization of the energy storage devices at all times.

The intelligent battery management 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.

The connected energy storage device is detected automatically. The optimally adjusted charging characteristic maximizes the service life of the energy storage device. The adapted charging current provides the quickest possible recharging and availability of the energy storage device.

You can keep an eye on your system at all times with the intelligent IQ Technology devices. With the QUINT DC UPS and the QUINT CAP 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 and anywhere in the world.

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

With the intelligent QUINT DC UPS for integration into existing industrial networks, you are ready for Industry 4.0. The integrated interfaces enable you to monitor, configure, or shut down the system in a safe state at any time, regardless of location.

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 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.

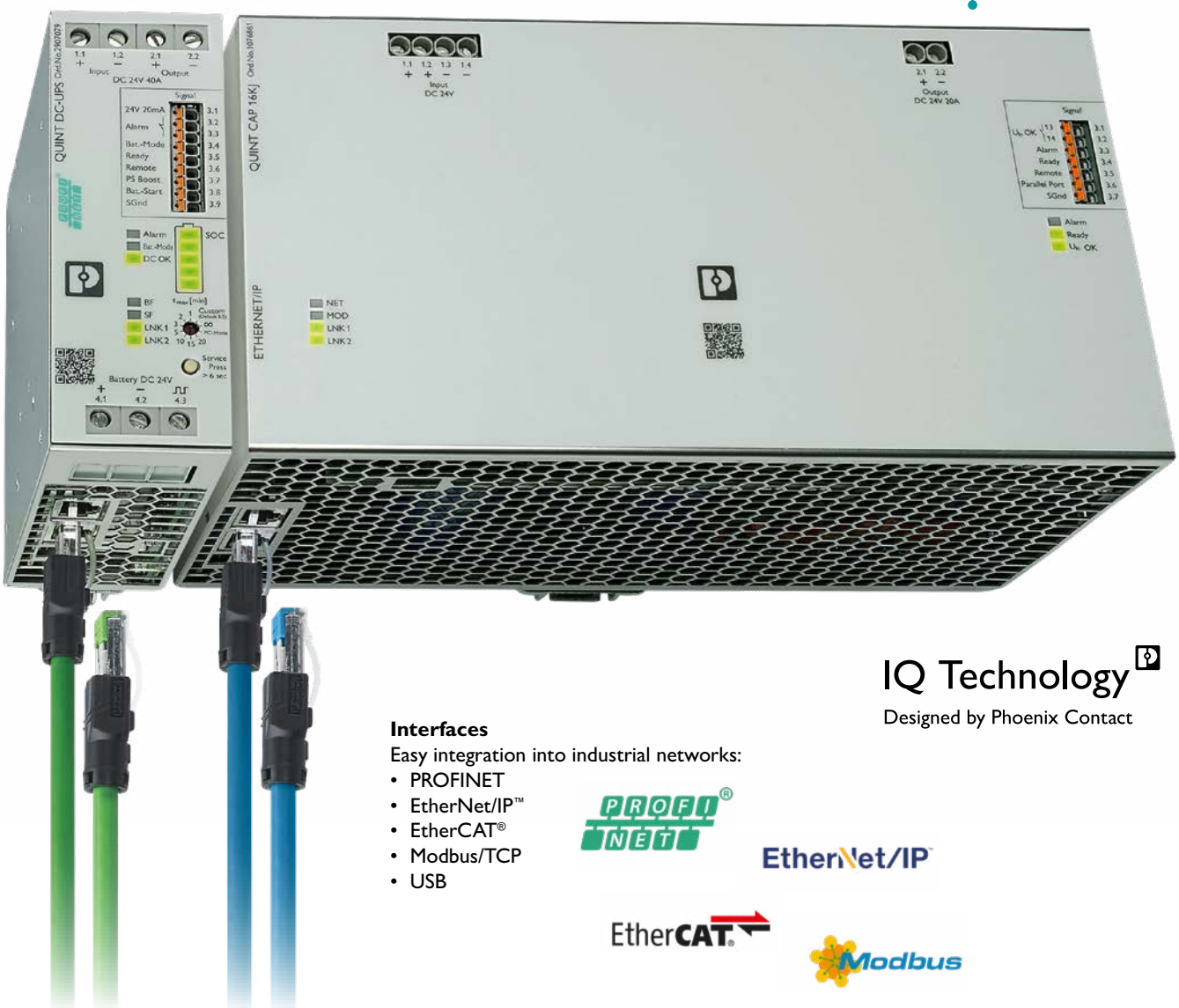
Extended load management
The extended load management system consists of the following functions:
- Energy monitoring: Monitoring input and output voltages and the associated currents
- PC shutdown function: Reliable shutdown of your industrial PC in the event of a mains failure without data loss, and 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 commissioned 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.

QUINT DC UPS

QUINT CAP



IQ Technology

Designed by Phoenix Contact

Interfaces
Easy integration into industrial networks:

- PROFINET
- EtherNet/IP™
- EtherCAT®
- Modbus/TCP
- USB

System communication
Detects the connected battery type and extends its remaining service life via an adapted charging characteristic.

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

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

Intelligent battery management SOH (State of Health)
Reports on the life remaining for the energy storage device and provides early warning of failures.

Help in choosing a DC UPS and energy storage device

Select your combination of QUINT DC UPS and energy storage device here.

The UPS modules for 24 V DC with output currents ranging from 5 A to 40 A enable you to create a custom solution consisting of a power supply, UPS module, and energy storage. The QUINT DC UPS is available with integrated interfaces for PROFINET, EtherNet/IP™, EtherCAT®, and USB. If no network connection is needed, there are also variants without an interface.

Power supply UPS module Energy storage

	UPS-BAT/LI	UPS-BAT/VRLA-WTR	
			
W x H x D in mm	135 x 202 x 110	172 x 177 x 178	358 x 174 x 169

	128 Wh	13 Ah	26 Ah
Type	UPS-BAT/LI/24DC/128WH	UPS-BAT/VRLA-WTR/ 24DC/13AH	UPS-BAT/VRLA-WTR/ 24DC/26AH
Item no.	1396415	2320416	2320429

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

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

→ ▭

→ QUINT4-UPS/24DC/24DC/20A and UPS-BAT/LI/24DC/128WH

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								
35 A															1+1	1+1	1+1								
40 A															1+1	1+1	1+1								

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

	QUINT UPS [1]				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 UPS-BAT/...	LI-ION VRLA-WTR PB (1.2 Ah … 40 Ah) (40 Ah max.)	LI-ION VRLA-WTR PB (1.2 Ah … 40 Ah) (80 Ah max.)	LI-ION VRLA-WTR PB (4 Ah … 40 Ah) (100 Ah max.)	LI-ION 924WH VRLA-WTR PB (7 Ah … 40 Ah) (100 Ah max.)	LI-ION VRLA-WTR PB (1.2 Ah … 40 Ah) (60 Ah max.)

[1] These devices support SFB Technology.

	UPS-BAT/PB					
						
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	155 x 168 x 183	333 x 173 x 199

	1.2 Ah	4 Ah	7 Ah	12 Ah	20 Ah	40 Ah
Type	UPS-BAT/PB/ 24DC/1.2AH	UPS-BAT/PB/ 24DC/4AH	UPS-BAT/PB/ 24DC/7AH	UPS-BAT/PB/ 24DC/12AH	UPS-BAT/PB/ 24DC/20AH	UPS-BAT/PB/ 24DC/40AH
Item no.	1274520	1274117	1274118	1274119	1348516	1354641

Buffer times for your QUINT DC UPS with the following PB energy storage devices:

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

→ ■

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

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

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

Help in choosing a DC UPS and energy storage device

Select your combination of UPS with integrated power supply and energy storage device here.

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

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

Power supply UPS module Energy storage

	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 V / 2 A	12 V / 4 A
Type	MINI-DC-UPS/24DC/2	MINI-DC-UPS/12DC/4
Item no.	2866640	2866598

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

	0.8 Ah	1.2 Ah
Type	MINI-BAT/24DC/0.8AH	MINI-BAT/24DC/1.3AH
Item no.	2866666	2866417
	1.6 Ah	**2.4 Ah**
Type	MINI-BAT/12DC/1.6AH	MINI-BAT/12DC/2.6AH
Item no.	2866572 2x	2866569 2x

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.

Load current	Buffer time: Minutes 2	3	5	6	7	8	9	10	20	30	40	45	50	Hour 1
0.5 A														
1 A														
1.5 A														
2 A														

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

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

	TRIO UPS, 1~			TRIO UPS, 3~
				
Input	85 V AC … 264 V AC 110 V DC … 250 V DC	85 V AC … 264 V AC 110 V DC … 250 V DC	85 V AC … 264 V AC 110 V DC … 250 V DC	3 x 320 V AC … 575 V AC 2 x 360 V AC … 550 V AC
W x H x D in mm	60 x 130 x 115	68 x 130 x 160	88 x 130 x 160	88 x 130 x 160

	24 V / 5 A	24 V / 10 A	24 V / 20 A new	24 V / 20 A
Type	TRIO-UPS-2G/1AC/24DC/5	TRIO-UPS-2G/1AC/24DC/10	TRIO-UPS-2G/1AC/24DC/20	TRIO-UPS-2G/3AC/24DC/20
Item no.	2907160	2907161	1105556	2906367

	UPS-BAT/PB					
						
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	155 x 168 x 183	333 x 173 x 199

	1.2 Ah	4 Ah	7 Ah	12 Ah	20 Ah	40 Ah
Type	UPS-BAT/PB/ 24DC/1.2AH	UPS-BAT/PB/ 24DC/4AH	UPS-BAT/PB/ 24DC/7AH	UPS-BAT/PB/ 24DC/12AH	UPS-BAT/PB/ 24DC/20AH	UPS-BAT/PB/ 24DC/40AH
Item no.	1274520	1274117	1274118	1274119	1348516	1354641

Buffer times for your TRIO DC UPS with the following PB energy storage devices:

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

TRIO-UPS-2G/1AC/24DC/10 and UPS-BAT/PB/24DC/4AH

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

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

Help in choosing a DC UPS

Select your QUINT DC UPS with integrated energy storage device here.

QUINT DC UPS

The QUINT DC UPS is extremely space-saving and can be retrofitted in existing systems very easily. Simply connect a 24 V DC power supply unit upstream, and the UPS solution is complete. When the energy storage devices have exceeded their service life, they can be quickly and easily replaced.

- IQ Technology: Based on the ambient temperature, the UPS will calculate the optimal charging currents and, in the process, increase the service life of the energy storage device
- Minimal wiring effort
- Maintenance-free energy storage device with lead AGM technology

	QUINT UPS[1]	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 V / 5 A / 1.2 Ah	24 V / 10 A / 4 Ah
Type	QUINT-UPS/ 24DC/ 24DC/ 5/1.3AH	QUINT-UPS/ 24DC/ 24DC/10/3.4AH
Item no.	2320254	2320267
Energy storage	Lead AGM technology	Lead AGM technology
Information	Integrated temperature sensor optimizes charging currents, thereby increasing the service life	

[1] These devices support SFB Technology.

Buffer times for QUINT UPS:

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

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

Performance	Buffer time: Seconds 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.

Select your combination of a DC UPS with an integrated energy storage device here.

UNO DC UPS
Harmonized with the UNO POWER power supply range, the UNO UPS with 60 W output power is available. The uninterruptible power supply operates flexibly at input voltages ranging from 22.5 to 29.5 V DC. The integrated lead AGM energy storage ensures long buffer times of up to 45 minutes.

STEP DC UPS
The STEP UPS has been designed specifically for use in distribution boards. The uninterruptible power supply operates flexibly at input voltages ranging from 22.5 to 29.5 V DC. For 24 V, the integrated lithium-ion energy storage device ensures long buffer times of up to 90 minutes. The 12 V version operates at input voltages ranging from 10 V DC to 16.5 V DC. The output current is buffered for up to 45 minutes.

	UNO UPS	STEP UPS	
			
Input	22.5 V DC … 29.5 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 84	108 x 90 x 71	108 x 90 x 71

	24 V / 60 W	24 V / 3 A / 46 Wh	12 V / 4 A / 46 Wh
Type	UNO-UPS/24DC/24DC/60W	STEP-UPS/24DC/24DC/3/46WH	STEP-UPS/12DC/12DC/4/46WH
Item no.	2905907	1081430	1082548
Energy storage	Lead AGM technology	Lithium-ion technology	Lithium-ion technology

Buffer times for UNO UPS and STEP UPS:

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

→ ▭
→ STEP-UPS/24DC/24DC/3A/46WH

Load current	Buffer time: Seconds							Minutes														Hours			
	0.2	0.4	1	2	8	16	30	1	2	3	5	6	7	8	9	10	15	20	25	30	40	45	50	1	1.5	2.5	5
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.

Supplying AC loads without mains supply For online and offline operation

Our uninterruptible power supplies for AC applications provide a pure sine curve at the output. The sine wave generated in battery operation is synchronized to the grid previously used for supply.

Select your AC UPS: Intelligent with IQ technology or space-saving with integrated energy storage.

AC UPS

QUINT AC-UPS/500VA

Buffers 400 W for up to 2 hours. You can find the right energy storage device starting on page 72.

QUINT AC-UPS/1KVA

For a seamless transition with online topology, find the right energy storage device starting on page 74.

TRIO AC UPS

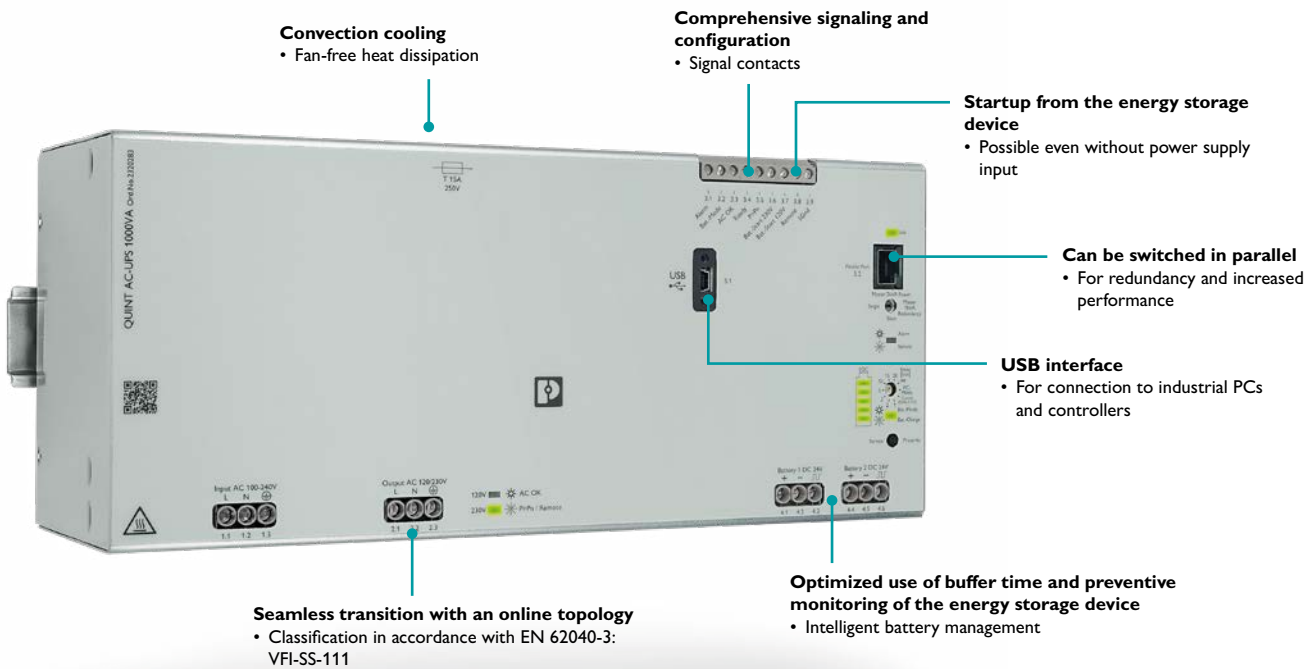
The integrated energy storage device saves more space in the control cabinet. You can find the versions with 120 V and 230 V starting on page 76.

QUINT AC UPS

The clever IQ Technology in the QUINT UPS for AC applications monitors and optimizes the operation of your energy storage device. To supply your processes and applications as long as possible, use the complete energy content. You will be warned at an early stage of possible failures, because your UPS detects the remaining expected life of the energy storage device.

At the same time, the UPS detects the current performance of the energy storage device. The different energy storage types available allow the optimized operation of your system.

The UPS can be integrated via the USB interface, which means it can be connected to higher-level controllers. The QUINT AC UPS delivers a pure sine curve at the output. The sine wave generated during battery operation is synchronized to the grid previously used for supply, allowing seamless transition.



Help in choosing a AC UPS

Select your combination of a QUINT AC UPS/500VA and an energy storage device here.

With this new QUINT AC UPS, you can also reliably protect smaller loads up to 500 VA. Only one energy storage device is needed to safeguard your system.

	UPS-BAT/LI	UPS-BAT/VRLA-WTR	
			
W x H x D in mm	135 x 202 x 110	172 x 177 x 178	358 x 174 x 169

	128 Wh	13 Ah	26 Ah
Type	UPS-BAT/LI/24DC/128WH	UPS-BAT/VRLA-WTR/ 24DC/13AH	UPS-BAT/VRLA-WTR/ 24DC/26AH
Item no.	1396415	2320416	2320429

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

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

→ ■

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

Performance	Buffer time																							
	Seconds							Minutes										Hours						
	0.2	0.4	2	8	15	20	40	1	2	3	5	10	20	30	40	45	50	1	2	3	5	8	10	15
15 W																								
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					
400 W																		1+1						

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

	QUINT UPS, 1~ IQ Technology Designed by Phoenix Contact
	
W x H x D in mm	180 x 130 x 125

	400 W / 500 VA / USB
Type	QUINT4-UPS/ 1AC/1AC/500VA/USB
Item no.	1067327
Recommended energy storage device UPS-BAT/…	LI VRLA-WTR PB (4 Ah … 40 Ah)

	UPS-BAT/PB				
					
W x H x D in mm	85 x 191 x 110	135 x 202 x 110	202 x 202 x 110	155 x 168 x 183	333 x 173 x 199

	4 Ah	7 Ah	12 Ah	20 Ah	40 Ah
Type	UPS-BAT/PB/ 24DC/4AH	UPS-BAT/PB/ 24DC/7AH	UPS-BAT/PB/ 24DC/12AH	UPS-BAT/PB/ 24DC/20AH	UPS-BAT/PB/ 24DC/40AH
Item no.	1274117	1274118	1274119	1348516	1354641

Buffer times for QUINT AC UPS/500VA with the following PB energy storage devices:

Select your energy storage for your QUINT AC UPS/500VA (120 / 230 V application) here.
Example: 125 W needs to be buffered for 50 minutes.

→ ■
→ QUINT4-UPS/1AC/1AC/500VA/USB and UPS-BAT/VRLA/24DC/12AH

Performance	Buffer time																								
	Seconds							Minutes										Hours							
	0.2	0.4	2	8	15	20	40	1	2	3	5	10	20	30	40	45	50	1	2	3	5	8	10	15	20
15 W																								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 devices of the same capacity are required in this case. The data is based on an ambient temperature of +20°C.

Help in choosing a AC UPS

Select your combination of QUINT AC UPS/1KVA and energy storage device here.

With this QUINT AC UPS, you can also reliably protect large loads up to 1 kVA. Only one energy storage device is required to safeguard your system.

Power supply UPS module Energy storage

	UPS-BAT/LI	UPS-BAT/VRLA-WTR	
			
W x H x D in mm	135 x 202 x 110	172 x 177 x 178	358 x 174 x 169

	128 Wh	13 Ah	26 Ah
Type	UPS-BAT/LI/24DC/128WH	UPS-BAT/VRLA-WTR/ 24DC/13AH	UPS-BAT/VRLA-WTR/ 24DC/26AH
Item no.	1396415	2320416	2320429

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

Select your energy storage device for your QUINT AC UPS/1KVA (120 / 230 V application) here. Example: 400 W needs to be buffered for 15 minutes.

→ 1+1

→ QUINT4-UPS/1AC/1AC/1KVA and 2 x UPS-BAT/LI/24DC/128WH

Perfor-mance	Buffer time																		
	Minutes												Hours						
	2	3	4	5	8	10	15	20	25	30	40	50	1	1.5	2	3	4	6	9
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
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		
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			
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				
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					
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					
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						
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							
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: For the QUINT AC UPS/1KVA, two energy storage devices of the same capacity are always required. The data is based on an ambient temperature of +20°C.

	QUINT UPS, 1~ IQ Technology Designed by Phoenix Contact
	
W x H x D in mm	290 x 130 x 125

	900 W / 1000 VA / USB
Type	QUINT4-UPS/ 1AC/1AC/1KVA
Item no.	2320283
Recommended energy storage device UPS-BAT/…	LI VRLA-WTR PB (4 Ah … 40 Ah)

	UPS-BAT/PB				
					
W x H x D in mm	85 x 191 x 110	135 x 202 x 110	202 x 202 x 110	155 x 168 x 183	333 x 173 x 199

	4 Ah	7 Ah	12 Ah	20 Ah	40 Ah
Type	UPS-BAT/PB/ 24DC/4AH	UPS-BAT/PB/ 24DC/7AH	UPS-BAT/PB/ 24DC/12AH	UPS-BAT/PB/ 24DC/20AH	UPS-BAT/PB/ 24DC/40AH
Item no.	1274117	1274118	1274119	1348516	1354641

Buffer times for your QUINT AC UPS/1KVA with the following PB energy storage devices:

Select your energy storage device for your QUINT AC UPS/1KVA (120 / 230 V application) here. Example: 400 W needs to be buffered for 50 minutes:

→ 1+1

→ QUINT4-UPS/1AC/1AC/1KVA and 2 x UPS-BAT/PB/24DC/20AH

Performance	Buffer time																			
	Minutes												Hours							
	2	3	4	5	8	10	15	20	25	30	40	50	1	1.5	2	3	4	6	9	10
100 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1
200 W	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1	1+1		
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					
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						
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						
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							
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: For the QUINT AC UPS/1KVA, two energy storage devices of the same capacity are always required. The data is based on an ambient temperature of +20°C.

Help in choosing tha AC UPS

TRIO AC UPS with integrated energy storage

The TRIO AC UPS with integrated energy storage saves space in your control cabinet. The UPS module and energy storage device are combined in one housing. This makes retrofitting existing systems particularly easy.

The TRIO 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, allowing seamless transition. The module can also be started without mains supply via the energy storage device.

Select your combination of TRIO AC UPS with an integrated energy storage device here.

The TRIO AC UPS with Push-in Technology for DIN rails saves space and reliably supplies your AC loads.

The UPS module delivers a pure sine curve at the output. The sine wave generated in battery operation is synchronized to the grid previously used for supply. Connected industrial PCs can be shut down via the integrated USB interface.

	TRIO UPS, 1~	
		
Input	96 V AC … 138 V AC	184 V AC … 264 V AC
W x H x D in mm	210 x 170 x 136	210 x 170 x 136

	120 V / 750 VA	**230 V / 750 VA**
Type	TRIO-UPS-2G/1AC/1AC/120V/750VA	TRIO-UPS-2G/1AC/1AC/230V/750VA
Item no.	2905908	2905909
Information	Energy storage device with lead AGM technology	Energy storage device with lead AGM technology

Buffer times for TRIO AC UPS:

1+1: An additional energy storage device of the same capacity (4 Ah) of type UPS-BAT/PB/24DC/4AH (1274117) is required in this case.

Perfor-mance	Buffer time													
	Minutes												Hours	
	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										

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

Energy storage
For the optimal supply of your system

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

Technologies and advantages

UPS-BAT/LI…

For a long service life with long buffer times.
- Lithium iron phosphate technology

UPS-BAT/VRLA-WTR…

For longer buffer times at extreme temperatures.
- Pure lead AGM

UPS-BAT/PB…

For long buffer times under normal conditions.
- Lead AGM

Intelligent energy storage for QUINT UPS

Choose among our various storage mediums. Do you need a longer service life or very long buffer times? Would you like energy storage that is maintenance-free, or would you like to use it in extreme ambient temperatures? Whatever your requirements, we have the right energy storage for you.

All energy storage devices also feature the following properties:
- Quick installation with automatic detection of the energy storage 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, as all energy storage devices leave our warehouse fully charged

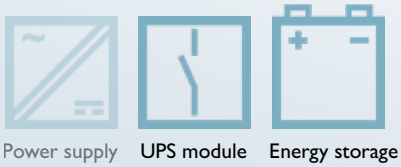
Type	Temperature	Service life at +20°C	Service life at +50°C	Charging cycles at +20°C
UPS-BAT/LI…	-20°C … +60°C	10 years	2 years	1,500
UPS-BAT/VRLA-WTR…	-25°C … +60°C	12 years	1.5 years	300
UPS-BAT/PB…	0°C … +40°C	6 years … 8 years	1 year	250

Uninterruptible power supplies

DC UPS with integrated capacity
Intelligent protection during mains failures

The QUINT CAP modules with integrated interface can be integrated easily into industrial networks. The DC UPS with integrated capacity prevents cyclic failures of up to several minutes and combines an electronic switchover unit and energy storage device in one housing.

PROFINET® Modbus EtherNet/IP USB EtherCAT®



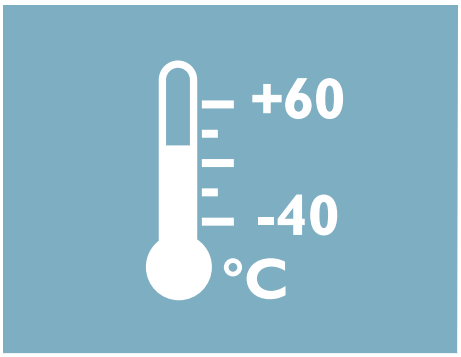
Your advantages

- Easy integration into industrial networks with freely selectable interface: USB/Modbus/RTU, PROFINET, EtherNet/IP™/Modbus/TCP, EtherCAT®
- Long service life with maintenance-free double-layer capacitors
- Reliable startup of difficult loads with static boost
- Comprehensive signaling with preventive function monitoring that reports critical operating states
- Extension of the buffer time with parallel connection of up to four devices

Buffer modules and DC UPS modules with integrated capacity

Maintenance-free

- High reliability
- Long service life
- High cycle rates >500,000



Flexible fields of application

- Modular design
- Temperature range: -40°C ... +60°C
- Easy to integrate into existing networks

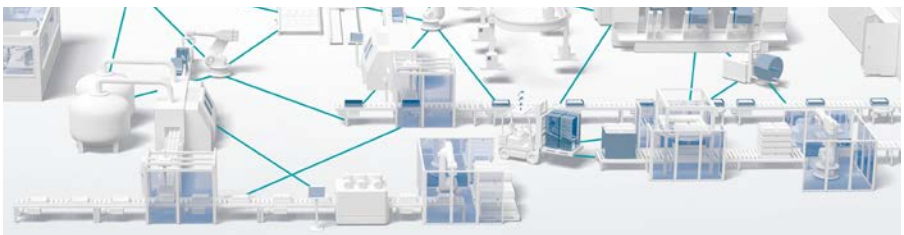
Effective protection

- Inrush current control and optimal starting of loads through soft start function
- Protection from overload and overheating
- Protection from overvoltages and undervoltages

QUINT CAP – DC UPS with integrated capacity

The maintenance-free QUINT CAP modules prevent cyclic failures lasting up to several minutes. With their integrated interface, they can be integrated easily into industrial networks. They combine an electronic switchover unit and energy storage in the same housing, and thus save space. Maintenance-free double-layer capacitors are used as energy storage devices.

Depending on the application, modules are available with 1 kJ, 4 kJ, 8 kJ, and even 16 kJ, with or without communication interface. QUINT CAP modules are ideal for use in the fields of machine building, intralogistics, infrastructure, and the wind industry.



With the POWER MANAGEMENT SUITE, a software for easy and fast configuration and monitoring of your UPS system is available in the free download area.

For more information on this, see page 56.

QUINT BUFFER – A buffer module with electrolytic capacitors

The compact QUINT buffer module bridges failures within seconds. It combines an electronic switchover unit and an energy storage device in one housing. The capacity module stores the energy required to bridge mains failures in maintenance-free electrolytic capacitors.

- Maximum energy efficiency
- High system availability due to long capacitor service life
- Wide temperature range of -40°C to +70°C
- Static boost for starting up difficult loads
- Integrated “soft start” for limiting the inrush current and preventing power supply unit overload
- Comprehensive signaling on the device (LEDs and signal terminals)
- Reliability and safety with integrated safety functions

Help in choosing a DC UPS with integrated capacity

Select your DC UPS with integrated capacity here.

	QUINT CAP[1]			
				
Input	22.5 V DC … 30 V DC	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	244 x 130 x 125

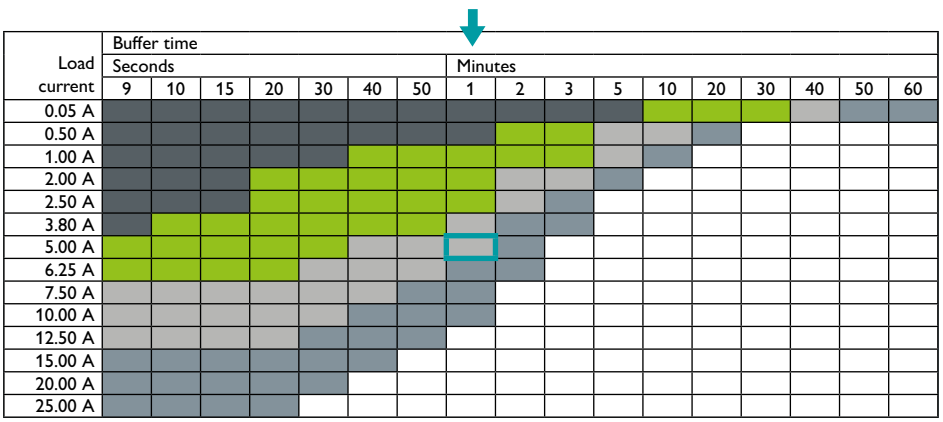
	24 V / 3.8 A	24 V / 5 A	24 V / 10 A	24 V / 20 A
Type	QUINT4-CAP/24DC/3.8/1KJ/PT	QUINT4-CAP/24DC/5/4KJ	QUINT4-CAP/24DC/10/8KJ	QUINT4-CAP/24DC/20/16KJ/USB
Item no.	2320526	2320539	2320571	1065635
				24 V / 20 A / PN
Type				QUINT4-CAP/24DC/20/16KJ/PN
Item no.				1076860
				24 V / 20 A / EIP
Type				QUINT4-CAP/24DC/20/16KJ/EIP
Item no.				1076861
				24 V / 20 A / EC
Type				QUINT4-CAP/24DC/20/16KJ/EC
Item no.				1076858
Information	Energy storage device based on maintenance-free double-layer capacitors			

[1] These devices support SFB Technology.

Buffer times for QUINT CAP:

Example: 5 A is to be buffered for one minute.

→ ▭
→ QUINT4-CAP/24DC/10/8KJ



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

Help in choosing buffer modules

Select the right QUINT BUFFER here.

	QUINT BUFFER[1]	
		
Input	22.5 V DC … 30 V DC	22.5 V DC … 30 V DC
W x H x D in mm	56 x 130 x 125	72 x 130 x 125

	24 V / 20 A	24 V / 40 A
Type	QUINT4-BUFFER/24DC/20	QUINT4-BUFFER/24DC/40
Item no.	2907913	2908283
Information	Energy storage device based on maintenance-free electrolytic capacitors	

[1] These devices support SFB Technology.

Buffer times for QUINT BUFFER:

Example: 1 A is to be buffered for one second.

→ ■
→ QUINT4-BUFFER/24DC/40

Perfor-mance	Buffer time in seconds														
	0.1	0.3	0.4	0.5	1	1.5	6	7	9	12	14	16	18	19	25	30
0.10 A																
0.25 A																
0.50 A																
0.75 A																
1.00 A																
5.00 A																
10.00 A																
20.00 A																
30.00 A																
40.00 A																
50.00 A																

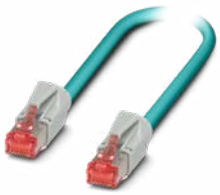
The data is based on an ambient temperature of +20°C.

Accessories – product overview

	Mounting on level surfaces	
		
	Adapter UWA 182/52	**Adapter UWA 130**
Item no.	2938235	2901664
Description	For: QUINT-PS QUINT4-PS QUINT4-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 (1 kW) QUINT4-PS QUINT4-UPS QUINT4-CHARGER QUINT4-CAP QUINT4-BUFFER QUINT4-INV TRIO-UPS-2G

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

Accessories – product overview

	Accessories for 4th generation QUINT UPS and 2nd generation TRIO UPS				
					
	Software	**USB data cable**	**Ethernet data cable**	**PROFINET data cable**	**IoT gateway**
Type	POWER MANAGEMENT SUITE	MINI-SCREW-USB-DATACABLE	Network cable – NBC-R4AC/1,0-93E/R4AC	Patch cable – NBC-R4AC/1,0-93B/R4AC	IoT gateway – CLOUD IOT GATEWAY
Item no.	1252232	2908217	1408933	1408968	1031235
Type			Network cable – NBC-R4AC/2,0-93E/R4AC	Patch cable – NBC-R4AC/2,0-93B/R4AC	
Item no.			1408934	1408969	
Type			Network cable – NBC-R4AC/5,0-93E/R4AC	Patch cable – NBC-R4AC/5,0-93B/R4AC	
Item no.			1408935	1408970	
Type			Network cable – NBC-R4RC/10,0-94B/R4RC	Patch cable – NBC-R4AC/10,0-93B/R4AC	
Item no.			1408963	1408971	

	Accessories for 3rd generation QUINT UPS			
				
	Configuration software	**USB data cable**	**Memory block**	**Interface converter**
Type	UPS-CONF	IFS-USB-DATACABLE	IFS-CONFSTICK	FL COMSERVER UNI 232/422/485
Item no.	2320403	2320500	2986122	2313452
Type		IFS-BT-PROG-ADAPTER	IFS-CONFSTICK-L	
Item no.		2905872	2901103	
Type		IFS-RS232-DATACABLE		
Item no.		2320490		
Type		IFS-OPEN-END-DATACABLE		
Item no.		2320450		
Type		IFS-MINI-DIN-DATACABLE		
Item no.		2320487		

Accessories – product overview

	Energy storage device mounting		
			
	BATTERY MOUNTING KIT	**BATTERY MOUNTING CASE**	**BATTERY MOUNTING CASE**
Item no.	2320788	1134645	2320458
Information	For: UPS-BAT/PB/24DC/20AH UPS-BAT/PB/24DC/40AH UPS-BAT/VRLA-WTR/24DC/13AH UPS-BAT/VRLA-WTR/24DC/26AH	For UPS-BAT/PB/24DC/20AH UPS-BAT/VRLA-WTR/24DC/13AH	For: UPS-BAT/VRLA-WTR/24DC/26AH UPS-BAT/PB/24DC/20AH UPS-BAT/PB/24DC/40AH UPS-BAT/VRLA-WTR/24DC/13AH

	Replacement batteries for UPS-BAT/PB	Replacement batteries for UPS-BAT/VRLA/WTR	Replacement batteries for UPS-BAT/LI
			
	UPS-BAT-KIT 2X12/1.2AH	**UPS-BAT-KIT-WTR 2X12V/13AH**	**UPS-BAT-KIT-LI/24DC/64WH**
Item no.	1283114	2908368	1446073
	UPS-BAT-KIT 2X12/4AH	**UPS-BAT-KIT-WTR 2X12V/26AH**	
Item no.	1283116	2908369	
	UPS-BAT-KIT 2X12/7AH		
Item no.	1283119		
	UPS-BAT-KIT 2X12/12AH		
Item no.	1283121		
	UPS-BAT-KIT 2X12/20AH		
Item no.	1185595		
	UPS-BAT-KIT 2x12/40AH		
	1383182		64

Accessories – product overview

	Fuses for AC UPS		
			
	FUSE 40A/32V ATOF	**FUSE 10A/400V GRL**	**FUSE 25A / 58V TAC ATO**
Item no.	2908357	2908358	1021340
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	For: QUINT4-UPS/1AC/1AC/1KVA

	Fuses for energy storage		
			
	FUSE 15A/32V FK1	**FUSE 25A/32V ATOF**	**FUSE 5A/32V FK-1**
Item no.	2908360	2908366	2908367
Information	For: UPS-BAT/PB/24DC/1.2AH	For: UPS-BAT/PB/24DC/4AH UPS-BAT/PB/24DC/7AH UPS-BAT/PB/24DC/12AH UPS-BAT/PB/24DC/20AH UPS-BAT/PB/24DC/40AH UPS-BAT/VRLA-WTR/24DC/13AH UPS-BAT/VRLA-WTR/24DC/26AH UPS-BAT/LI/24DC/128WH MINI-BAT/12DC/2.6AH	For: UNO-UPS/24DC/24DC/60W MINI-BAT/24DC/0.8AH

	Fuses for energy storage		
			
	FUSE 15A/32V FKS ATO	**FUSE 10A/32V FK1**	
Item no.	2908361	2908364	
Information	For: MINI-BAT/24DC/1.3AH QUINT-UPS/24DC/24DC/5/1.3AH QUINT-UPS/24DC/24DC/10/3.4AH	For: MINI-BAT/12DC/1.6AH	

Power supply approvals

			UL							CSA		Ship						Ex									
		CE/UKCA	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	CSA 22.2 No 61010-1 CSA 22.2 No 61010-2-201	DNV	ABS – American Bureau of Shipping	BV – Bureau Veritas	LR Lloyd's Register	NK – Nippon Kaiji Kyokai	RINA	ATEX/UK-Ex/IECEx	CCC-Ex	DeviceNet™	SEMI F47-0706 Compliance	CB Scheme	Med. standard IEC 60601, 2 x MOOP	EN 50121-4, -5, -3-2	Startup at -40°C	Installation altitude
QUINT POWER power supplies >100 W																											
QUINT4-PS/1AC/24DC/5	2904600	•			•	•	•		•		•	•	•	•	•					•	•		•	•	c
QUINT4-PS/1AC/24DC/10	2904601	•			•	•	•		•		•	•	•	•	•					•	•		•	•	c
QUINT4-PS/1AC/24DC/10/CO	2904625	•			•	•	•		•		•	•	•	•	•					•	•		•	•	c
QUINT4-PS/1AC/24DC/10/+	2904616	•			•	•	•		•		•	•	•	•	•		•	•		•	•		•	•	c
QUINT4-PS/1AC/24DC/20	2904602	•			•	•	•		•		•	•	•	•	•					•	•		•	•	c
QUINT4-PS/1AC/24DC/20/+	2904617	•			•	•	•		•		•	•	•	•	•		•	•		•	•		•	•	c
QUINT4-PS/1AC/24DC/40	2904603	•			•	•	•		•		•	•	•	•	•					•	•		•	•	c
QUINT4-PS/1AC/24DC/40/+	2904618	•			•	•	•		•		•	*	*	*	*		•	*		•	•		•	•	c
QUINT4-PS/1AC/12DC/15	2904608	•			•	•	•		•		•	•	•	•	•					•	•		•	•	c
QUINT4-PS/1AC/48DC/5	2904610	•			•	•	•		•		•	•	•	•	•					•	•		•	•	c
QUINT4-PS/1AC/48DC/10	2904611	•			•	•	•		•		•	•	•	•	•					•	•		•	•	c
QUINT4-PS/1AC/48DC/10/CO	2904626	•			•	•	•		•		•	•	•	•	•					•	•		•	•	c
QUINT4-PS/1AC/48DC/20	2904612	•		•		•	•		•		*	*	*	•							•		•	•	c
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/20/IOL	1151048	•			•	•	•		•		•	*	*	•	•					•	•		•	•	c
QUINT4-PS/3AC/24DC/40	2904623	•			•	•	•		•		•	•	•	•	•					•	•		•	•	c
QUINT4-PS/3AC/24DC/40/IOL	1151047	•			•	•	•		•		•	*	*	•	•					•	•		•	•	c
QUINT4-PS/3AC/48DC/20	2904627	•		•		•	•		•		•	*	*	•							•		•	•	c
QUINT4-PS/1AC/110DC/4	2904613	•	•			•	•			•	•	*	*	•	•					•	•		•	•	b

* 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 relevant product pages.

		UL							CSA		Ship						Ex								
		CE/UKCA	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	CSA 22.2 No 61010-1 CSA 22.2 No 61010-2-201	DNV	ABS – American Bureau of Shipping	BV – Bureau Veritas	LR Lloyd's Register	NK – Nippon Kaiji Kyokai	RINA	ATEX/UK-Ex/IECEx	CCC-Ex	DeviceNet™	SEMI F47-0706 Compliance	CB Scheme	Med. standard IEC 60601, 2 x MOOP	EN 50121-4, -5, -3-2	Startup at -40°C	Installation altitude
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-SYS-PS/1AC/24DC/2.5/SC	2904614	•	•				•	•			•						•	*		•	•		•	•	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
QUINT4-PS/1AC/2x15DC/2/PT	2904596	•	•				•	•		•	•									•	•		•	•	c

Power supply approvals

		UL						CSA		Ship						Ex									
		CE/UKCA	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 61010-2-201	DNV	ABS – American Bureau of Shipping	BV – Bureau Veritas	LR Lloyd's Register	NK – Nippon Kaiji Kyokai	RINA	ATEX/UK-Ex/IECEx	CCC-Ex	DeviceNet™	SEMI F47-0706 Compliance	CB Scheme	Med. standard IEC 60601, 2 x MOOP	Railway standard EN 50155	Startup at -40°C	Installation altitude
TRIO POWER power supplies																									
TRIO-PS-2G/1AC/24DC/3/C2LPS	2903147	•			•	•	•	•			•									•	•			•	c
TRIO3-PS/1AC/24DC/5	1159037	•	•				•				•									•	•			•	c
TRIO-PS-2G/1AC/24DC/5/B+D	2903144	•			•	•					•									•	•				c
TRIO3-PS/1AC/24DC/10	1159038	•	•				•				•									•	•			•	c
TRIO-PS-2G/1AC/24DC/10/B+D	2903145	•			•	•					•									•	•				c
TRIO3-PS/3AC/24DC/10/4C/IOL	1252696	•	•				•	•												•	•			•	c
TRIO3-PS/1AC/24DC/20	1159039	•	•				•				•									•	•			•	c
TRIO3-PS/3AC/24DC/20/8C/IOL	1252697	•	•				•	•												•	•			•	c
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
TRIO3-PS/3AC/24DC/10	1159042	•	•				•													•	•			•	c
TRIO3-PS/3AC/24DC/20	1159044	•	•				•													•	•			•	c
TRIO3-PS/3AC/24DC/40	1159045	•	•				•													•	•			•	c
TRIO-PS-2G/3AC/72DC/14	1076188	•	•																		•				b
TRIO-PS-2G/230AC-400DC/48DC/5	1157806	•	•																		•				e
TRIO CROSS POWER power supplies																									
EM-CPS-PS/3AC/24DC/5	1064922	•	•																		•			•	c
EM-CPS-PS/3AC/24DC/20/8C/IOL	1067898	•	•																		•			•	c

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 relevant product pages.

		UL					CSA		Ship						Ex									
		CE/UKCA	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	ABS – American Bureau of Shipping	BV – Bureau Veritas	LR Lloyd's Register	NK – Nippon Kaiji Kyokai	RINA	ATEX/UK-Ex/IECEx	CCC-Ex	IEC 60335-1 household standard	PoE standard IEEE 802.3 (145.4.1 insulation)	SEMI F47-0706 Compliance	CB Scheme	Railway standard EN 50155, 50121-4	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
UNO2-PS/1AC/24DC/120W	1110466	•	•			•														•	•			a
UNO-PS/1AC/24DC/150W	2904376	•		•	•	•															•			c
UNO2-PS/1AC/24DC/240W	1096432	•	•			•														•	•			a
UNO2-PS/1AC/24DC/480W	2910105	•	•			•														•	•			a
UNO2-PS/1AC/24DC/960W	1110043	•	•			•														•	•			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
UNO2-PS/1AC/48DC/240W	1110155	•	•			•													•	•	•			a
UNO-PS/2AC/24DC/90W/C2LPS	2904371	•		•	•	•	•														•			b

Power supply approvals

			UL					CSA		Ship															
		CE/UKCA	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	ABS – American Bureau of Shipping	BV – Bureau Veritas	LR Lloyd's Register	NK – Nippon Kaiji Kyokai	RINA	PoE standard IEEE 802.3 (145.4.1 insulation)	IEC 60335-1 household standard	LED-standard EN 61347-2-13	Charging systems for electric vehicles ICE 61851-21-2	SEMI F47-0706 Compliance	DeviceNet™ LED standard EN 61347-2-13	CB Scheme	Startup at -40°C	Installation altitude
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/3.75/PT/FL	1088486	•	•			•	•										•		•		•	•		b
STEP3-PS/1AC/24DC/3.75/PT/LED	1285036	•	•			•	•										•	•	•		•	•		b
STEP3-PS/1AC/24DC/3.75/PT/CO	1321105	•	•			•	•										•		•		•	•	•	b
STEP3-PS/1AC/24DC/4/PT	1040066	•	•			•											•		•		•	•		b
STEP3-PS/1AC/24DC/5/PT	1088478	•	•			•											•		•		•	•		b
STEP3-PS/1AC/5DC/3/PT	1170954	•	•			•	•										•		•		•	•		b
STEP3-PS/1AC/5DC/3/PT/USB-A	1335699	•	•			•	•										•		*		•	•		b
STEP3-PS/1AC/5DC/3/PT/USB-C	1335698	•	•			•	•										•		*		•	•		b
STEP3-PS/1AC/12DC/1.3/PT	1170952	•	•			•	•										•		•		•	•		b
STEP3-PS/1AC/12DC/2.5/PT	1170953	•	•			•	•										•		•		•	•		b
STEP3-PS/1AC/12DC/5/PT	1170955	•	•			•	•										•		•		•	•		b
STEP3-PS/1AC/15DC/4/PT	1170956	•	•			•	•										•		•		•	•		b
STEP3-PS/1AC/48DC/2.5/PT	1285035	•	•			•										•	•		•		•	•		c
POWER IP67 power supplies																									
TRIO-PS67/1AC/24DC/3.75/INC	1278302	•	•				•															•		b
TRIO-PS67/1AC/24DC/3.75/M12	1278165	•	•				•															•		b
TRIO-PS67/1AC/24DC/3.75/M12-A	1376306	•	•				•															•		b
TRIO-PS67/1AC/24DC/3.75/IPD	1278301	•	•				•															•		b
TRIO-PS67/1AC/24DC/8/INC	1065976	•	•																			•	•	b
TRIO-PS67/1AC/24DC/10/M12	1111634	•	•																			•	•	b
TRIO-PS67/1AC/24DC/10/M12/5P	1395808	•	•																			•	•	b
TRIO-PS67/1AC/24DC/10/IPD	1111664	•	•																			•	•	b
TRIO-PS-IP67/1AC/24DC/20	1039830	•							•													•	•	b
TRIO-PS-IP67/3AC/24DC/20	1039829	•							•													•	•	b

* 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 DC/DC converters

			UL									Ship							Ex							
		CE/UKCA	UL/C-UL listed 61010	UL/C-UL listed UL 508	UL/C-UL recognized UL 62109-1	UL/C-UL recognized UL 1741	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	DNV	ABS – American Bureau of Shipping	BV – Bureau Veritas	LR Lloyd's Register	NK – Nippon Kaiji Kyokai	RINA	RMRS	ATEX/UK-Ex/IECEx	CCC-Ex	CB Scheme	Railway standard EN 50155:2007	Railway standard EN 50121-4	EN 50121-3-2	Startup at -40°C	Installation altitude
QUINT POWER DC/DC converters >100 W																										
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	•	•					•			•		•	•	•					•			•	•	c
QUINT4-PS/48DC/24DC/5/PT	2910125	•	•					•			•	•	•	•	•					•			•	•	c
QUINT4-PS/48DC/48DC/5/PT	2910128	•	•					•			•		•	•	•					•			•	•	c
QUINT4-PS/12DC/24DC/5/PT	2910124	•	•					•			•		•	•	•					•			•	•	c
QUINT-PS/60-72DC/24DC/10	2905009	•		•			•	•												•		•	•	•	d
QUINT-PS/96-110DC/24DC/10	2905010	•		•			•	•												•		•	•	•	d
QUINT4-PS/24DC/24DC/5/PT/CO	2910132	•	•					•			•		•	•	•			•	•	•			•	•	c
QUINT4-PS/24DC/24DC/10/PT/CO	2910133	•	•					•			•		•	•	•			•	•	•			•	•	c
QUINT-PS/60-72DC/24DC/10/CO	2905011	•		•			•	•												•	•	•	•	•	d
QUINT-PS/96-110DC/24DC/10/CO	2905012	•		•			•	•												•	•	•	•	•	d
QUINT POWER DC/DC converters <100 W																										
QUINT4-PS/12-24DC/24DC/1.3/PT	1066716	•	•					•			•									•		•	•	•	c
QUINT4-PS/12-24DC/24DC/1.3/SC	1066703	•	•					•			•									•		•	•	•	c
QUINT4-PS/12-24DC/24DC/2.5/PT	1066714	•	•					•			•									•		•	•	•	c
QUINT4-PS/12-24DC/24DC/2.5/SC	1066718	•	•					•			•									•		•	•	•	c
QUINT4-PS/24-48DC/48DC/2/PT	1098676	•	•					•			•									•		•	•	•	c
QUINT4-PS/48-110DC/24DC/2.5/PT	1066708	•	•					•			•									•		•	•	•	c
QUINT4-PS/12-24DC/5-15DC/2.5/PT	1066704	•	•					•			•									•		•	•	•	c

Approvals for DC/DC converters and invwerters

		UL								Ship							Ex								
		CE/UKCA	UL/C-UL listed 61010	UL/C-UL listed UL 508	UL/C-UL recognized UL 62109-1	UL/C-UL recognized UL 1741	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	DNV	ABS – American Bureau of Shipping	BV – Bureau Veritas	LR Lloyd's Register	NK – Nippon Kaiji Kyokai	RINA	RMRS	ATEX/UK-Ex/IECEx	CCC-Ex	CB Scheme	Railway standard EN 50155:2007	Railway standard EN 50121-4	EN 50121-3-2	Startup at -40°C	Installation altitude
DC/DC converters																									
UNO-PS/350-900DC/24DC/60W	2906300	•				•														•				•	c
TRIO-PS-2G/1500DC/24DC/1.5	1107892	•				•														•					b
TRIO-PS-2G/1500DC/24DC/8	1075240	•			•															•				•	b

		UL					CSA		Ship						Ex								
		CE/UKCA	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	ABS – American Bureau of Shipping	BV – Bureau Veritas	LR Lloyd's Register	NK – Nippon Kaiji Kyokai	RINA	ATEX/UK-Ex/ IECEx	CCCEx	DeviceNet™	SEMI F47-0706 Compliance	CB Scheme IEC 61010-1	CB Scheme IEC 61010-2-201	Startup at -40°C	Installation altitude
Inverters																							
QUINT4-INV/24DC/1AC/600VA/USB	1067325	•	•	•		•	•	•	•	*										•	•		a

* 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 redundancy modules

		UL						CSA		Ship						Ex							
		CE/UKCA	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	ABS – American Bureau of Shipping	BV – Bureau Veritas	LR Lloyd's Register	NK – Nippon Kaiji Kyokai	RINA	ATEX/UK-Ex/IECEx	CCC-Ex	DeviceNet™	SEMI F47-0706 Compliance	CB Scheme	Medical standard IEC 60601	Startup at -40°C	Installation altitude
Redundancy modules																							
QUINT4-ORING/24DC/2x10/2x10	1088206	•		•	•		•				•						*	*			•		•	e
QUINT4-ORING/12-24DC/2x20/2x20	1088207	•		•	•		•				•						*	*			•		•	e
QUINT-ORING/24DC/2x40/1x80	2902879	•		•	•		•				•	•	•	•	•	•					•		•	e
QUINT4-S-ORING/12-24DC/1x40	2907752	•		•	•		•				•										•		•	c
QUINT4-S-ORING/12-24DC/1x40+	2907753	•		•	•		•				•						•	•			•		•	c
QUINT4-S-ORING/12-24DC/1x40/VP	1043418	•		•	•		•				•						•	•			•		•	c
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
STEP3-DIODE/5-24DC/2x5/1x10/PT	128-3937	•		•	•		•				•										•		•	e

Approvals for uninterruptible power supplies

		UL								CSA		Ship						Ex							
		CE/UKCA	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	ABS – American Bureau of Shipping	BV – Bureau Veritas	LR Lloyd's Register	Nippon Kaiji Kyokai	RINA	ATEX/UK-Ex/ IECEx	CCC-Ex	SEMI F47-0706 Compliance	CB Scheme	Medical standard IEC 60601	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	•	•					•																b
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	•			•	•		•																e
QUINT-UPS/24DC/24DC/10/3.4AH	2320267	•			•	•		•																e
QUINT4-BUFFER/24DC/24DC/20	2907913	•			•	•		•													•		•	b
QUINT4-BUFFER/24DC/24DC/40	2909283	•			•	•		•													•		•	b
QUINT4-CAP/24DC/3.8/1KJ/PT	2320526	•	•					•	•												•		•	b
QUINT4-CAP/24DC/5/4KJ	2320539	•			•	•		•													•		•	b
QUINT4-CAP/24DC/10/8KJ	2320571	•			•	•		•													•		•	b
QUINT4-CAP/24DC/20/USB	1065635	•	•					•													•		•	b
QUINT4-CAP/24DC/20/PN	1076860	•	•					•													•		•	b
QUINT4-CAP/24DC/20/EIP	1076861	•	•					•													•		•	b
QUINT4-CAP/24DC/20/EC	1076858	•	•					•													•		•	b

* 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.

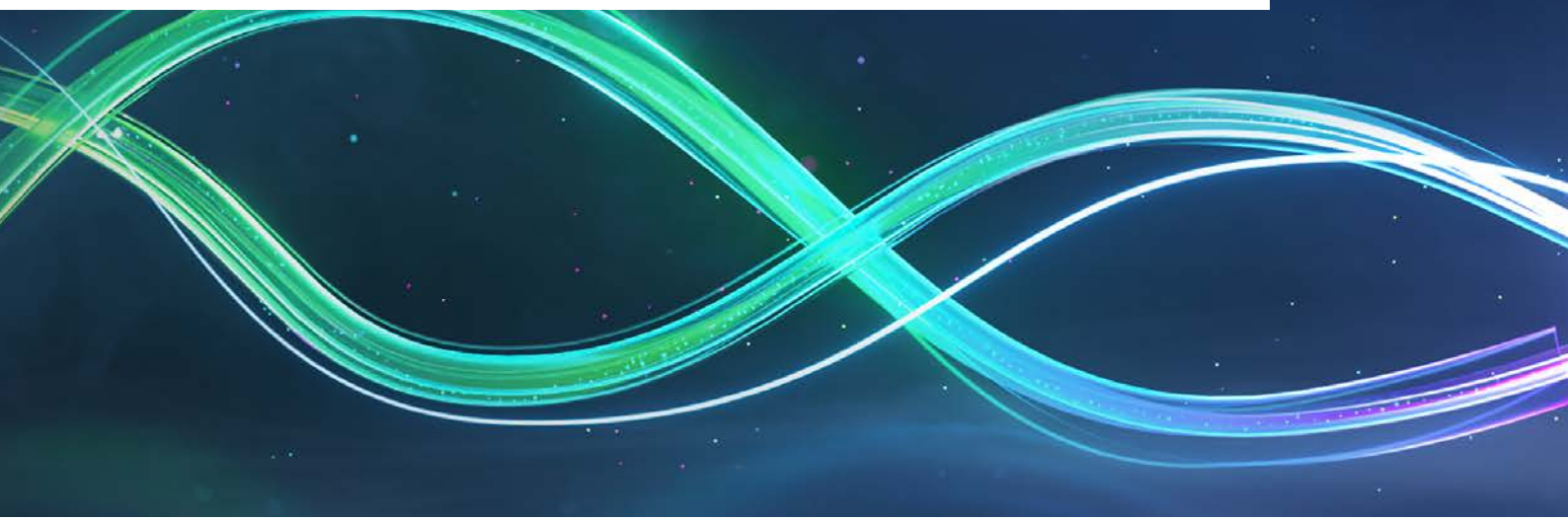
Approvals for energy storage devices

		UL							CSA		Ship						Ex							
		CE/UKCA	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	ABS – American Bureau of Shipping	BV – Bureau Veritas	LR Lloyd's Register	IEC/EN 60945	RINA	ATEX/UK-Ex/ IECEx	CCC-Ex	SEMI F47-0706 Compliance	CB Scheme	Medical standard IEC 60601	Startup at -40°C	Installation altitude
Uninterruptible power supplies																								
UNO-UPS/24DC/24DC/60W	2905907	•				•															•			e
STEP-UPS/24DC/24DC/3/46WH	1081430	•			•	•															•			e
STEP-UPS/12DC/12DC/4/46WH	1082548	•			•	•															•			e
TRIO-UPS-2G/1AC/24DC/5	2907160	•	•									•			•	•							•	b
TRIO-UPS-2G/1AC/24DC/10	2907161	•	•									•			•	•							•	b
TRIO2-UPS/1AC/24DC/20	1105556	•	•									•			•	•							•	b
TRIO-UPS-2G/3AC/24DC/20	2906367	•	•									•			•	•							•	b
MINI-DC-UPS/24DC/2	2866640	•	•		•			•																c
MINI-DC-UPS/12DC/4	2866598	•	•		•			•																d

		UL						CSA		Ship						Ex								
		CE/UKCA	UL/C-UL 61010	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	ABS – American Bureau of Shipping	BV – Bureau Veritas	LR Lloyd's Register	NK – Nippon Kaiji Kyokai	RINA	ATEX/UK-Ex/ IECEx	CCC-Ex	DeviceNet™	SEMI F47-0706 Compliance	CB Scheme	Medical standard IEC 60601	Startup at -40°C	Installation altitude
Energy storage																								
UPS-BAT/PB/24DC/1.2AH	1274520	•	•				•				•	•	•	•										c
UPS-BAT/PB/24DC/4AH	1274117	•	•				•				•	•	•	•										c
UPS-BAT/PB/24DC/7AH	1274118	•	•				•				•	•	•	•										c
UPS-BAT/PB/24DC/12AH	1274119	•	•				•				•	•	•	•										c
UPS-BAT/PB/24DC/20AH	1348516	•	•				•				•	•	•	•										c
UPS-BAT/PB/24DC/40AH	1354641	•	•				•				•	•	•	•										c
UPS-BAT/VRLA-WTR/24DC/13AH	2320416	•		•	•		•				•	•	•	•							•			c
UPS-BAT/VRLA-WTR/24DC/26AH	2320429	•		•	•		•				•	•	•	•							•			c
UPS-BAT/LI/24DC/128WH	1396415	•	•				•																	c
STEP-BAT/LI-ION/18.5DC/46WH	1081355	•																			•			e
MINI-BAT/24DC/0.8AH	2866666	•																						c
MINI-BAT/24DC/1.3AH	2866417	•																						c
MINI-BAT/12DC/1.6AH	2866572	•																						c
MINI-BAT/12DC/2.6AH	2866569	•																						c

Power Reliability – endless possibilities
Solutions for superior system availability

The increasing need for electrification, networking, and automation leads to a growing dependency on reliable power supply solutions. For efficient system operation, we offer the solutions that combine surge protection, EMC filters, energy measuring devices, power supplies, and circuit breakers. Choose Phoenix Contact, a partner who provides you with holistic concepts for high system availability.



Surge protection

Our coordinated product portfolio of surge protection enables the implementation of protection concepts for almost any application.

EMC filters

EMC filters limit and filter high-frequency interference voltages and currents for an EMC-compliant power supply.

Energy monitoring

Efficient monitoring provides the basis for reliable energy management. Our coordinated measuring devices enable efficient energy data acquisition.

Power Reliability

Power supplies

Supply your applications safely and reliably. Choose from our range: AC/DC power supplies, DC/DC converters, DC/AC inverters, or power electronics.

Redundancy modules and UPS

With our redundancy modules and uninterruptible power supplies, you can prevent plant shutdowns and power failures.

Device circuit breakers

Electronic, thermomagnetic, and thermal device circuit breakers protect your equipment against overload and short circuit.

Build with confidence

Our Limited Lifetime Warranty is our promise to you that the products you install in your control cabinets are built to last. In industry and infrastructure, we stand with you. Simply register and relax. Isn't it time you trusted Phoenix Contact to build your cabinet confidence?

Register today at: **www.phoenixcontact.com/LLW**

Notes

Notes

Open communication with customers and partners worldwide

Phoenix Contact is a global market leader based in Germany. We are known for producing future-oriented products and solutions for the electrification, networking, and automation of all sectors of the economy and infrastructure. With a global network reaching across more than 100 countries with over 22,000 employees, we maintain close relationships with our customers, something we believe is essential for our common success.

Our wide range of innovative products makes it easy for our customers to implement the latest technology in a variety of applications and industries. This especially applies to the target markets of energy, infrastructure, industry, and mobility.

You can find your local partner at

phoenixcontact.com

MNR 1314669/2023-03-01/02

3010997307

PHOENIX CONTACT