DC/DC converters adapt voltages

QUINT and MINI DC/DC converters alter the voltage level. They regenerate the voltage at the end of long cables or provide for the setup of independent supply systems through electrical isolation.

The DC/DC converters of the QUINT range are suitable for high powers, with currents up to 20 A. The DC/DC converters of the MINI range are suitable for low powers, with currents up to 2 A.

Web code: #0152

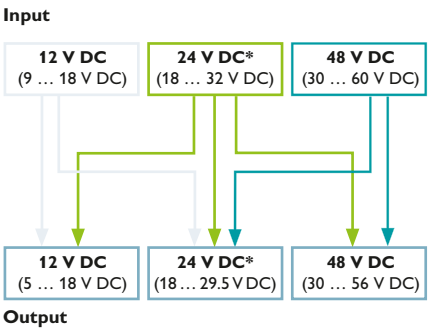
Your advantages QUINT DC/DC converters

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

Overview of the voltage levels

QUINT DC/DC converters

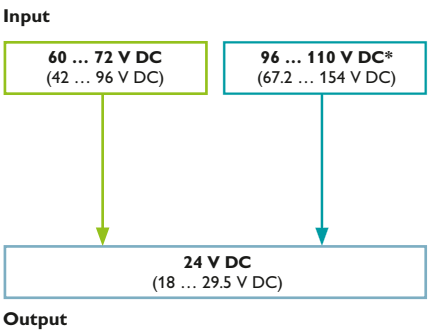
All common input and output voltages in performance classes up to 480 W. For all industries, also for devices with approvals for the process industry.



* During operation from 14 ... 32 V DC

QUINT DC/DC converters with wide-range input

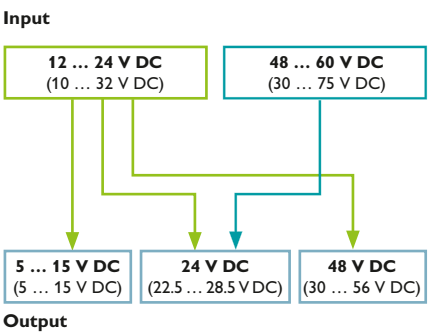
High degree of flexibility thanks to wide input range, e.g. for railway applications or energy generation.



MINI DC/DC converters

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

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



Product overview DC/DC converters

	QUINT DC/DC converters			SFB TECHNOLOGY
				
Input	18 ... 32 V DC	18 ... 32 V DC	18 ... 32 V DC	9 ... 18 V DC
W x H x D in mm	32 x 130 x 125	48 x 130 x 125	82 x 130 x 125	32 x 130 x 125
	24 V / 24 V / 5 A	**24 V / 24 V / 10 A**	**24 V / 24 V / 20 A**	**12 V / 24 V / 5 A**
Type	QUINT-PS/24DC/24DC/5	QUINT-PS/24DC/24DC/10	QUINT-PS/24DC/24DC/20	QUINT-PS/12DC/24DC/5
Order number	2320034	2320092	2320102	2320131
	24 V / 12 V / 8 A	**24 V / 48 V / 5 A**		**12 V / 12 V / 8 A**
Type	QUINT-PS/24DC/12DC/8	QUINT-PS/24DC/48DC/5		QUINT-PS/12DC/12DC/8
Order number	2320115	2320128		2905007

				
Input	30 ... 60 V DC	30 ... 60 V DC	42 ... 96 V DC	67.2 ... 154 V DC
W x H x D in mm	32 x 130 x 125	48 x 130 x 125	48 x 130 x 125	48 x 130 x 125
	48 V / 24 V / 5 A	**48 V / 48 V / 5 A**	**60 ... 72 V / 24 V / 10 A**	**96 ... 110 V / 24 V / 10 A**
Type	QUINT-PS/48DC/24DC/5	QUINT-PS/48DC/48DC/5	QUINT-PS/60-72DC/24DC/10	QUINT-PS/96-110DC/24DC/10
Order number	2320144	2905008	2905009	2905010

	MINI DC/DC converters		Accessories*
			
Input	10 ... 32 V DC / 36 ... 75 V DC	10 ... 32 V DC / 36 ... 75 V DC	Single-phase, 10 ... 42 V AC
W x H x D in mm	22.5 x 99 x 107	22.5 x 99 x 107	22.5 x 99 x 107
	12 ... 24 V / 24 V / 1 A	**48 ... 60 V / 24 V / 1 A**	**10 ... 42 V AC / 15 ... 60 V DC / 3 A***
Type	MINI-PS-12-24DC/24DC/1	MINI-PS-48-60DC/24DC/1	MINI-PS-10-42AC/15-60DC/3
Order number	2866284	2866271	2320199
	12 ... 24 V / 5 ... 15 V / 2 A	**12 ... 24 V / 48 V / 0.7 A**	
Type	MINI-PS-12-24DC/5-15DC/2	MINI-PS-12-24DC/48DC/0.7	
Order number	2320018	2320021	

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

Product overview DC/DC converters, with protective coating

	QUINT DC/DC converters, with protective coating		
			
Input	18 ... 32 V DC	18 ... 32 V DC	18 ... 32 V DC
W x H x D in mm	32 x 130 x 125	48 x 130 x 125	82 x 130 x 125

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

		
Input	42 ... 96 V DC	67.2 ... 154 V DC
W x H x D in mm	48 x 130 x 125	48 x 130 x 125

	60 ... 72 V/24 V/10 A/CO	96 ... 110 V/24 V/10 A/CO
Type	QUINT-PS/60-72DC/24DC/10/CO	QUINT-PS/96-110DC/24DC/10/CO
Order number	2905011	2905012

DC/DC converters for frequency converters

These DC/DC converters are specifically designed for connection to frequency converters. In the event of a mains failure, the DC intermediate circuit voltage of the inverter continues to supply all connected 24 V loads without interruption. The maintenance-free buffer solution allows a controlled machine stop in the event of a mains failure.

TRIO POWER, 1 DC	
	
Input	450 V DC ... 840 V DC
W x H x D in mm	115 x 130 x 152.5

	24 V/20 A
Type	TRIO-PS/600DC/24DC/20
Order number	2866530

QUINT POWER, 2 AC / 1 DC	
	
Input	2 x 360 ... 575 V AC, 450 ... 840 V DC
W x H x D in mm	120 x 130 x 125

	24 V/20 A
Type	QUINT-PS/2AC/1DC/24DC/20
Order number	2320830

UNO DC/DC converters

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

Web code: #0152

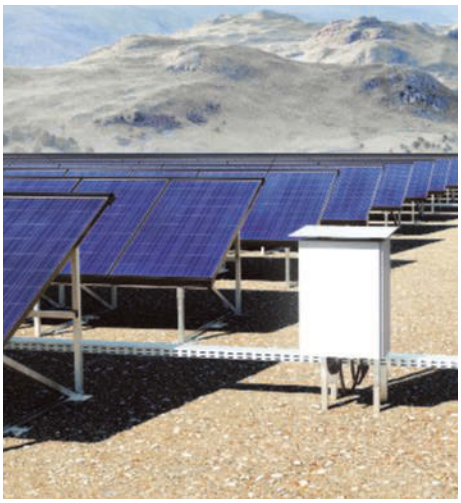
Your advantages

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

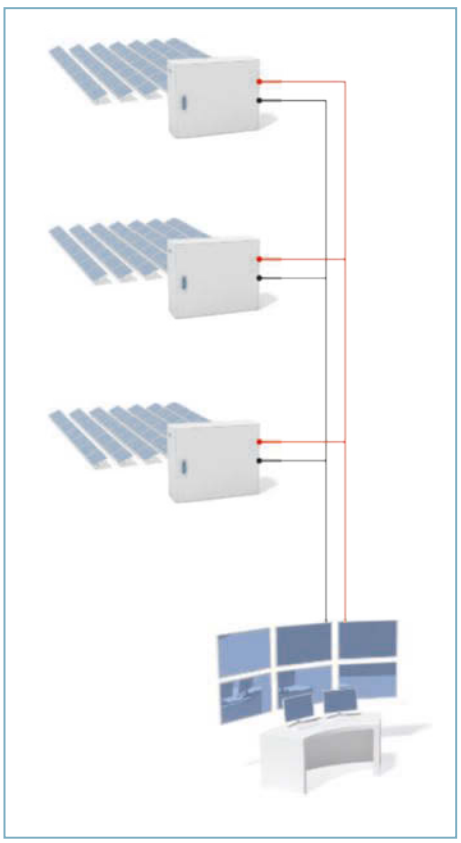
Product overview UNO DC/DC converters

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

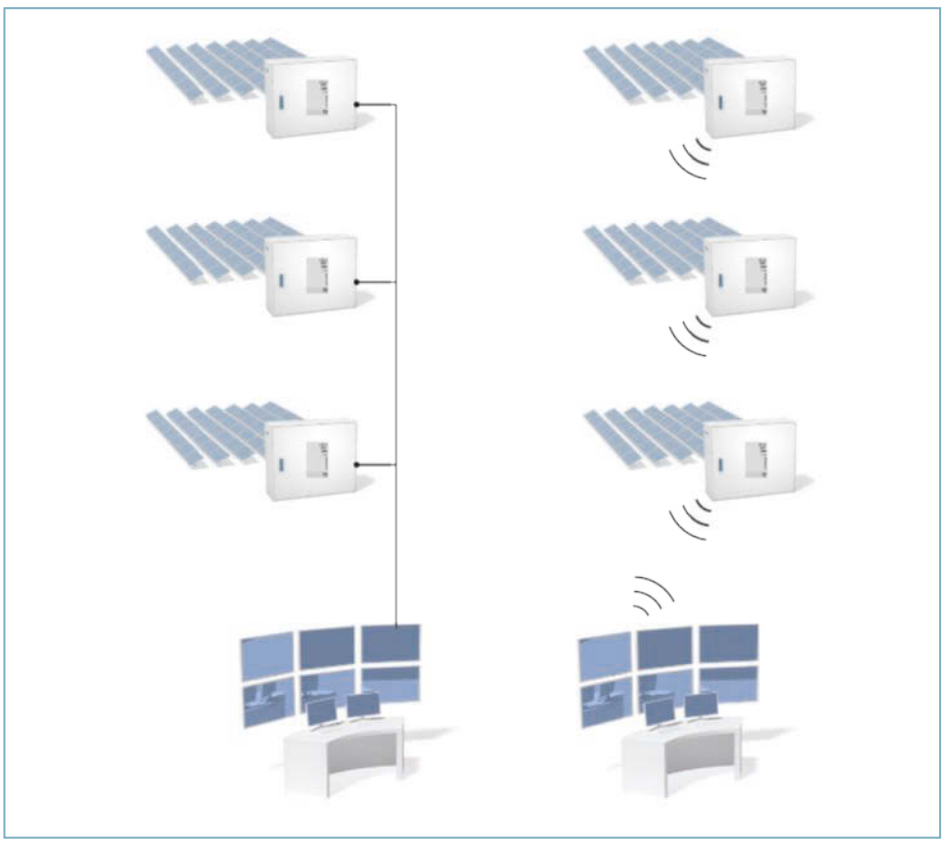
	350 ... 900 DC / 24 DC / 60 W
Type	UNO-PS/350-900DC/24DC/60W
Order number	2906300



Connection options for Combiner Boxes in photovoltaic systems



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



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

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

Redundancy modules

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

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

Decoupling, monitoring, and control

The ACB (Auto Current Balancing) Technology of the QUINT ORING modules doubles the service life of redundantly operated power supplies by evenly utilizing the power supply units.
In a system consisting of two QUINT POWER power supplies and one QUINT ORING, the input voltage, output current, and decoupling path are monitored continuously so that a loss of redundancy can be reported early on.

Web code: #0153

Your advantages QUINT ORING

- Preventive function monitoring, through constant monitoring of the input voltage, output current, and decoupling section
- Consistent redundancy up to the load with two positive output terminals
- Service life doubled, thanks to uniform load distribution
- Energy savings of 70%, thanks to the use of MOSFETs
- Overvoltage Protection limits surge voltages to 32 V

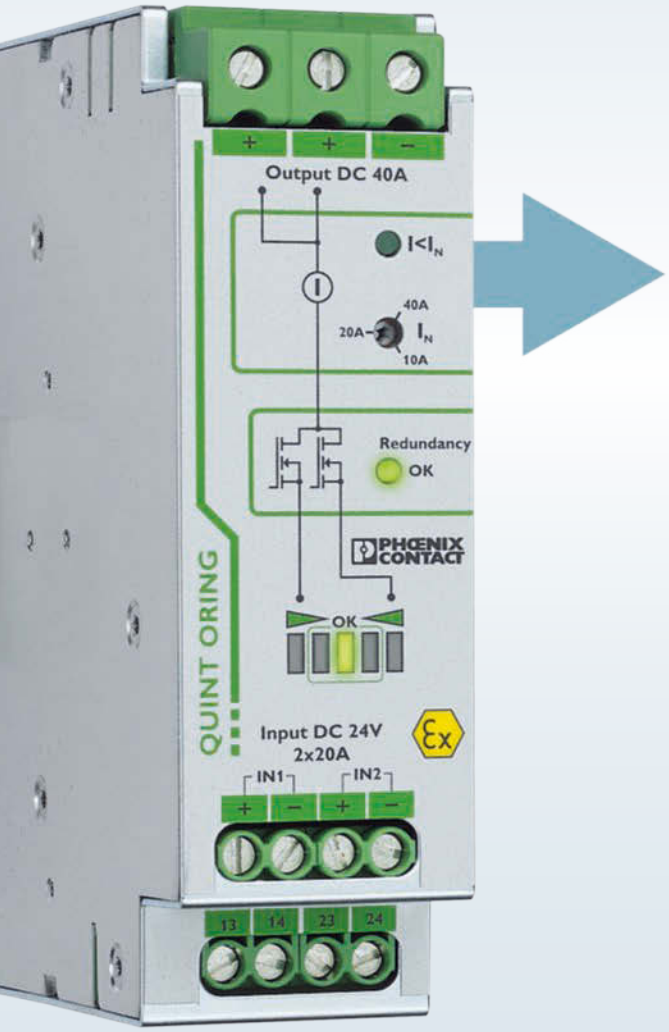
ACB Technology

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. The ACB Technology ensures symmetrical loading of the two power supplies and therefore double the service life of the redundant system.

Designed by PHOENIX CONTACT

Auto Current Balancing Technology

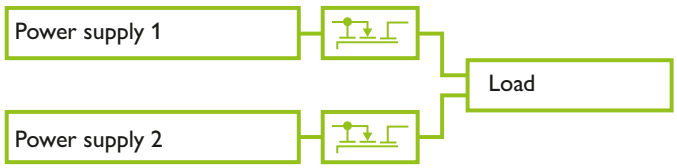
Designed by PHOENIX CONTACT



Product overview redundancy modules

Decoupling and monitoring

Active, single-channel redundancy module for the separate structuring of a redundant system. In combination with the new QUINT POWER power supplies, your system is monitored continuously.



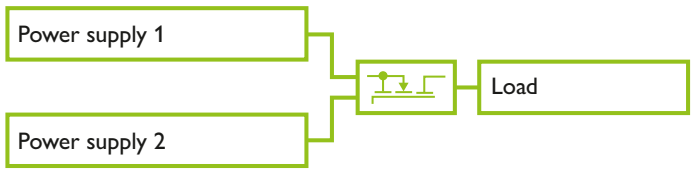
	QUINT S-ORING	
		
Input	12 ... 24 V DC	12 ... 24 V DC
W x H x D in mm	32 x 130 x 125	32 x 130 x 125

	12 ... 24 V/1 x 40 A	12 ... 24 V/1 x 40 A/+
Type	QUINT4-S-ORING/12-24DC/1x40	QUINT4-S-ORING/12-24DC/1x40/+
Order number	2907752	2907753

The plus version for higher demands:
- OVP (overvoltage protection)
- Protective coating
- ATEX/IECEx

Decoupling, monitoring, and control

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

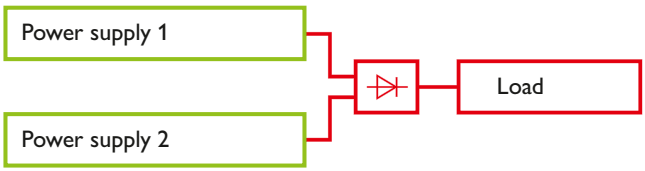


	QUINT ORING		Auto Current Balancing Technology Designed by PHOENIX CONTACT
			
Input	18 ... 28 V DC	18 ... 28 V DC	18 ... 28 V DC
W x H x D in mm	32 x 130 x 125	38 x 130 x 125	66 x 130 x 125

	24 V/2 x 10 A/1 x 20 A	24 V/2 x 20 A/1 x 40 A	24 V/2 x 40 A/1 x 80 A
Type	QUINT-ORING/24DC/2x10/1x20	QUINT-ORING/24DC/2x20/1x40	QUINT-ORING/24DC/2x40/1x80
Order number	2320173	2320186	2902879

Decoupling via diodes

Simple decoupling via diodes.



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

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

Monitored

Not monitored