

## DC/DC converters - QUINT-PS/48DC/48DC/5 - 2905008

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Primary-switched QUINT DC/DC converter for DIN rail mounting with SFB (selective fuse breaking) technology, input: 48 V DC, output: 48 V DC/5 A

### Product Description

QUINT DC/DC converter with maximum functionality.

DC/DC converters alter the voltage level, regenerate the voltage at the end of long cables or enable the creation of independent supply systems by means of electrical isolation. QUINT DC/DC converters magnetically and therefore quickly trip circuit breakers with six times the nominal current, for selective and therefore cost-effective system protection. In addition, the high system availability is ensured by preventive function monitoring which reports critical operating states before errors can occur.

### Why buy this product

- ✓ Reliable starting of difficult loads, thanks to the static POWER BOOST power reserve with up to 125% nominal current permanently
- ✓ Preventive function monitoring indicates critical operating states before errors occur
- ✓ Constant voltage: output voltage regenerated even at the end of long cables
- ✓ Support conversion to various voltage levels
- ✓ Electrical isolation: for setting up independent supply systems



### Key Commercial Data

Packing unit	1 STK
Weight per Piece (excluding packing)	1,120.000 g
Custom tariff number	85044030
Country of origin	China

### Technical data

#### Dimensions

Width	48 mm
Height	130 mm
Depth	125 mm

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#### Dimensions

Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	51 mm

#### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C Derating: 2,5 %/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Noise immunity	EN 61000-6-2:2005

#### Input data

Nominal input voltage range	48 V DC
Input voltage range	30 V DC ... 60 V DC
Current consumption	7 A (48 V, I <sub>BOOST</sub> )
Inrush surge current	< 6 A (typical)
Power failure bypass	> 10 ms (48 V DC)
Input fuse	15 A (internal (device protection))
Type of protection	Transient surge protection
Protective circuit/component	Varistor

#### Output data

Nominal output voltage	48 V DC ±1 %
Setting range of the output voltage (U <sub>Set</sub> )	30 V DC ... 56 V DC (> 48 V DC, constant capacity restricted)
Nominal output current (I <sub>N</sub> )	5 A (-25 °C ... 60 °C)
POWER BOOST (I <sub>Boost</sub> )	6.25 A (-25°C ... 40°C permanent, U <sub>OUT</sub> = 48 V DC )
Selective Fuse Breaking (I <sub>SFB</sub> )	30 A (12 ms)
Derating	60 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	Yes
Max. capacitive load	Unlimited
Active current limitation	7 A
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 2 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage ±10 %)
Residual ripple	< 20 mV <sub>PP</sub>
Peak switching voltages nominal load	< 10 mV <sub>PP</sub> (20 MHz)
Maximum power dissipation in no-load condition	2.7 W

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### Technical data

#### General

Net weight	0.9 kg
Efficiency	> 93 %
Insulation voltage input/output	1.5 kV (type test)
	1 kV (routine test)
Protection class	III
	> 872000 h (40°C)
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically

#### Connection data, input

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	8 mm
Screw thread	M3

#### Connection data, output

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	7 mm
Screw thread	M3

#### Connection data for signaling

Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
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Conductor cross section AWG min.	24
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## Technical data

### Connection data for signaling

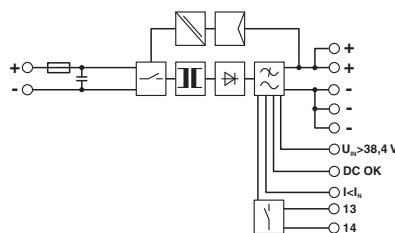
Screw thread	M3
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### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Noise immunity	EN 61000-6-2:2005
Standards/regulations	EN 61000-4-2
	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-5
	EN 61000-4-6
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard – Safety extra-low voltage	EN 60950-1 (SELV)
	EN 60204 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950
	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Vibration (operation)	< 15 Hz, amplitude $\pm 2.5$ mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.
Rail applications	EN 50121-4

## Drawings

Block diagram



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### Classifications

#### eCl@ss

eCl@ss 5.1	27210901
eCl@ss 6.0	27210901
eCl@ss 8.0	27210901

#### ETIM

ETIM 5.0	EC002046
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### Approvals

#### Approvals

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#### Approvals

#### EAC

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#### Ex Approvals

UL Listed / cUL Listed / cULus Listed

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#### Approval details

EAC 7500651.22.01.00242
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### Accessories

#### Accessories

#### Assembly adapter

Assembly adapters - UTA 107/30 - 2320089



Universal DIN rail adapter

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## DC/DC converters - QUINT-PS/48DC/48DC/5 - 2905008

### Accessories

#### Assembly adapters - UWA 182/52 - 2938235



Universal wall adapter for securely mounting the power supply in the event of strong vibrations. The power supply is screwed directly onto the mounting surface. The universal wall adapter is attached at the top/bottom.

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#### Assembly adapters - QUINT-PS-ADAPTERS7/1 - 2938196



Assembly adapter for QUINT-PS... power supply on S7-300 rail

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### Power supply

#### Power supply unit - QUINT-PS/1AC/48DC/10 - 2866682



Primary-switched QUINT POWER power supply for DIN rail mounting with SFB (Selective Fuse Breaking) Technology, input: 1-phase, output: 48 V DC/10 A

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### Redundancy module

#### Redundancy module - TRIO-DIODE/48DC/2X10/1X20 - 2866527



Redundancy module with function monitoring, 48 V DC, 2x 10 A, 1x 20 A

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