

DC/DC converters - QUINT-PS/12DC/12DC/8 - 2905007

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Primary-switched QUINT DC/DC converter for DIN rail mounting with SFB (selective fuse breaking) technology, input: 12 V DC, output: 12 V DC/8 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) | 860.000 g |
| Custom tariff number | 85044030 |
| Country of origin | China |

Technical data

Dimensions

| | |
|--------|--------|
| Width | 32 mm |
| Height | 130 mm |
| Depth | 125 mm |

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Technical data

Dimensions

| | |
|----------------------------------|--------|
| Width with alternative assembly | 122 mm |
| Height with alternative assembly | 130 mm |
| Depth with alternative assembly | 35 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 | 12 V DC |
| Input voltage range | 9 V DC ... 18 V DC |
| Current consumption | 12 A (12 V, I _{BOOST}) |
| Inrush surge current | < 6 A (typical) |
| Power failure bypass | > 3 ms (12 V DC) |
| Input fuse | 25 A (internal (device protection)) |
| Type of protection | Transient surge protection |
| Protective circuit/component | Varistor |

Output data

| | |
|---|--|
| Nominal output voltage | 12 V DC ±1 % |
| Setting range of the output voltage (U _{Set}) | 5 V DC ... 18 V DC (> 12 V DC, constant capacity restricted) |
| Nominal output current (I _N) | 8 A (-25 °C ... 60 °C) |
| POWER BOOST (I _{Boost}) | 10 A (-25°C ... 40°C permanent, U _{OUT} = 12 V DC) |
| Selective Fuse Breaking (I _{SFB}) | 48 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 | 15 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 _{PP} |
| Peak switching voltages nominal load | < 10 mV _{PP} (20 MHz) |
| Maximum power dissipation in no-load condition | 1.5 W |
| Power loss nominal load max. | 11.8 W |

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Technical data

General

| | |
|---------------------------------|---|
| Net weight | 0.8 kg |
| Efficiency | > 89 % |
| Insulation voltage input/output | 1.5 kV (type test) 1 kV (routine test) |
| Protection class | III |
| MTBF (IEC 61709, SN 29500) | > 1614000 h (25 °C) > 920000 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 ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| 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 ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| 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 ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section AWG min. | 24 |

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Technical data

Connection data for signaling

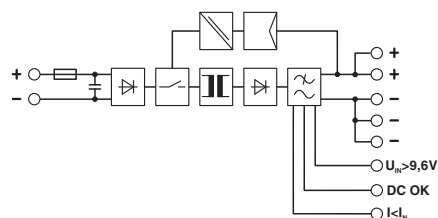
| | |
|----------------------------------|----|
| Conductor cross section AWG max. | 12 |
| Screw thread | M3 |

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 ± 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 |
|----------|----------|

Approvals

Approvals

Approvals

EAC

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

| |
|-------------------------|
| EAC 7500651.22.01.00242 |
|-------------------------|

Accessories

Accessories

Assembly adapter

Assembly adapters - UTA 107/30 - 2320089



Universal DIN rail adapter

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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.

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



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

Power supply

Power supply unit - QUINT-PS/1AC/12DC/15 - 2866718



Primary-switched QUINT POWER power supply for DIN rail mounting with SFB (Selective Fuse Breaking) Technology, input: 1-phase, output: 12 V DC/15 A

Power supply unit - QUINT-PS/1AC/12DC/20 - 2866721



Primary-switched QUINT POWER power supply for DIN rail mounting with SFB (Selective Fuse Breaking) Technology, input: 1-phase, output: 12 V DC/20 A

Redundancy module

Redundancy module - TRIO-DIODE/12-24DC/2X10/1X20 - 2866514



Redundancy module with function monitoring, 12-24 V DC, 2x 10 A, 1x 20 A

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Accessories

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