

DC/DC converter, with protective coating - QUINT-PS/24DC/24DC/20/CO - 2320568

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Primary-switched QUINT DC/DC converter for DIN rail mounting with SFB (Selective Fuse Breaking) Technology, with protective coating, input: 24 V DC, output: 24 V DC/20 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. The high level of system availability is additionally ensured, thanks to preventive function monitoring, as it reports critical operating states before errors occur.

Product Features

- 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
- Optimum protection with dip coating for 100 % humidity



Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	2000.0 g
Custom tariff number	85044030
Country of origin	China

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Technical data

Dimensions

Width	82 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	85 mm

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating, 2.5 %/K, startup at -40°C type-tested)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	100 % (at 25 °C, non-condensing)
Noise immunity	EN 61000-6-2:2005

Input data

Nominal input voltage range	24 V DC
Input voltage range	18 V DC ... 32 V DC
Current consumption	28 A (24 V, I _{BOOST})
Inrush surge current	< 26 A (typical)
Power failure bypass	> 10 ms (24 V DC)
Choice of suitable circuit breakers	40 A ... 50 A (Characteristics B, C, D, K)
Type of protection	Transient surge protection
Protective circuit/component	Varistor

Output data

Nominal output voltage	24 V DC $\pm$ 1 %
Setting range of the output voltage (U _{Set})	18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)
Nominal output current (I _N)	20 A (-25 °C ... 60 °C)
POWER BOOST (I _{Boost})	25 A (-25°C ... 40°C permanent, U _{OUT} = 24 V DC)
Selective Fuse Breaking (I _{SFB})	120 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	Approximately 29 A
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 2 % (change in load, dynamic 10 % ... 90 %)

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Output data

	< 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	2.2 W
Power loss nominal load max.	39 W

General

Net weight	1.7 kg
Efficiency	> 92 %
Insulation voltage input/output	1.5 kV (type test)
	1 kV (routine test)
Protection class	III
	> 554000 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	Screw connection
Conductor cross section solid min.	0.5 mm ²
Conductor cross section solid max.	16 mm ²
Conductor cross section flexible min.	0.5 mm ²
Conductor cross section flexible max.	16 mm ²
Conductor cross section AWG min.	8
Conductor cross section AWG max.	6
Stripping length	10 mm
Screw thread	M3

Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	6 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	4 mm ²
Conductor cross section AWG min.	12
Conductor cross section AWG max.	10
Stripping length	8 mm
Screw thread	M3

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Technical data

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
Conductor cross section AWG max.	12
Screw thread	M3

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Shock	30g in each direction, according to IEC 60068-2-27
Noise immunity	EN 61000-6-2:2005
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-6
Standard – Electrical equipment of machines	EN 60204-1
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
Shipbuilding approval	Germanischer Lloyd (EMC 1)
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)
Rail applications	EN 50121-4
ATEX	# II 3 G Ex nA nC IIC T4 Gc
	TÜV 13 ATEX 090645X
IECEX	Ex nA nC IIC T4 Gc
	IECEX TUN 13.0024X

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Classifications

eCl@ss

eCl@ss 4.0	27040702
eCl@ss 4.1	27040702
eCl@ss 5.0	27242213
eCl@ss 5.1	27049002
eCl@ss 6.0	27049002
eCl@ss 7.0	27049002
eCl@ss 8.0	27210901

ETIM

ETIM 3.0	EC001039
ETIM 4.0	EC002540
ETIM 5.0	EC002046

UNSPSC

UNSPSC 6.01	30211502
UNSPSC 7.0901	39121004
UNSPSC 11	39121004
UNSPSC 12.01	39121004
UNSPSC 13.2	39121004

Approvals

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UL Recognized / UL Listed / cUL Recognized / cUL Listed / GL / EAC / LR / RINA / NK / EAC / BV / DNV / ABS / EAC / BV / DNV / cULus Recognized / cULus Listed

Ex Approvals

UL Listed / cUL Listed / IECEx / ATEX / cULus Listed

Approvals submitted

Approval details

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GL

EAC

LR

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NK

EAC

BV

DNV

mm²/AWG/kcmil

4

Nominal current I_N

15 A

Nominal voltage U_N

750 V

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Approvals

ABS

EAC

BV

DNV	
mm²/AWG/kcmil	4
Nominal current I _N	15 A
Nominal voltage U _N	750 V

cULus Recognized 

cULus Listed 

Drawings

Block diagram

