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DC/DC converters - QUINT-PS/96-110DC/24DC/10 - 2905010

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Primary-switched QUINT DC/DC converter with wide range input for DIN rail mounting with SFB (selective fuse breaking) technology, input: 96 - 110 V DC, output: 24 V DC/10 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.



Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 908313

Technical data

Dimensions

Width	48 mm
Height	130 mm
Depth	125 mm
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

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Input data

Nominal input voltage range	96 V DC ... 110 V DC
Input voltage range	67.2 V DC ... 154 V DC
Inrush surge current	< 10 A (typical)
Power failure bypass	> 10 ms (96 V DC)
Input fuse	10 A 150 V DC (internal (device protection))
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	18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)
Nominal output current	10 A (-40 °C ... 60 °C)
POWER BOOST (I_{Boost})	12.5 A (-40°C ... 40°C permanent, $U_{OUT} = 24$ V DC)
Selective Fuse Breaking (I_{SFB})	60 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	18 A
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 2 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage \pm 10 %)
Residual ripple	< 20 mV _{PP}
Peak switching voltages nominal load	< 10 mV _{PP} (20 MHz)
Maximum power dissipation in no-load condition	4 W (U_{IN} 110 V DC)
Power loss nominal load max.	24 W

General

Net weight	0.9 kg
Efficiency	> 92 % (U_{IN} 96 V DC / U_{OUT} 24 V DC)
	> 92 % (U_{IN} 110 V DC / U_{OUT} 24 V DC)
Insulation voltage input/output	1.5 kV (type test)
	1 kV (routine test)
Protection class	I
MTTF/ MTBF (IEC 61709, SN 29500)	> 1357000 h (25 °C)
	> 772000 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
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Connection data, input

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
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
Standards/regulations	EN 61000-4-3
	EN 61000-4-4
	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

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Standards and Regulations

	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

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

Approvals

EAC

Ex Approvals

UL Listed / cUL Listed

Approvals submitted

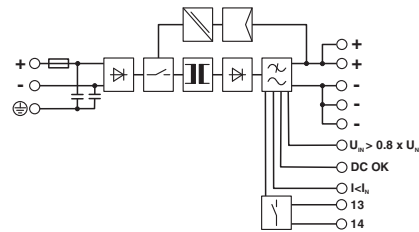
Approval details

EAC

Drawings

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Block diagram



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