

DC/DC converters - QUINT-PS/24DC/24DC/10 - 2320092

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Primary-switched QUINT DC/DC converter for DIN rail mounting, input: 24 V DC, output: 24 V DC/10 A, with integrated SFB (selective fuse breaking) technology, including mounted universal DIN rail adapter UTA 107/30

Product description

The QUINT 24 V/10 A DC/DC converter converts a DC voltage of 18 V ... 32 V to an adjustable, regulated, and electrically isolated 24 V output voltage. If no regulated and stable 24 V DC voltage is available to supply a load, the DC/DC converter ensures the adjustment of the 24 V load: from an unregulated DC voltage, an adjustable output voltage of 18 V ... 29.5 V is generated.

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
- ✓ Electrical isolation: for setting up independent supply systems
- ✓ Constant voltage: output voltage regenerated even at the end of long cables
- ✓ Support conversion to various voltage levels



Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	1125.8 GRM
Custom tariff number	85044030
Country of origin	China

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

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Technical data

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)
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	24 V DC
Input voltage range	18 V DC ... 32 V DC
Current consumption	14 A (24 V, I _{BOOST})
Inrush surge current	< 15 A (typical)
Power failure bypass	> 12 ms (24 V DC)
Input fuse	25 A (internal (device protection))
Choice of suitable fuses	16 A ... 20 A (Characteristics B, C, D, K)
Type of protection	Transient surge protection
Protective circuit/component	Varistor

Output data

Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	10 A (-25 °C ... 60 °C)
	12.5 A (with POWER BOOST, -25°C ... 40°C permanently, U _{OUT} = 24 V DC)
	60 A (SFB technology, 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
Current limitation	Approx. 18 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 NO-Load	1.6 W
Power loss nominal load max.	24 W

General

Net weight	0.9 kg
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Technical data

General

Efficiency	> 92 %
Insulation voltage input/output	1.5 kV (type test) 1 kV (routine test)
Protection class	III
MTBF (IEC 61709, SN 29500)	> 763000 h (According to EN 29500)
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Standard – Electrical equipment of machines	EN 60204
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
Shipbuilding approval	Germanischer Lloyd (EMC 1)
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)

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 stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil 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 stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²

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Technical data

Connection data, output

Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
Stripping length	7 mm

Signaling

Output name	DC OK active
Output description	$U_{OUT} > 0.9 \times U_N$: High signal
Maximum inrush current	< 20 mA (short-circuit resistant)
Status display	"DC OK" LED green
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm
Screw thread	M3
Output name	POWER BOOST, active
Output description	$I_{OUT} < I_N$: High signal
Maximum inrush current	< 20 mA (short-circuit resistant)
Status display	"BOOST" LED yellow/ $I_{OUT} > I_N$: LED on
Output name	U_{IN} OK, active
Output description	$U_{IN} > 19.2$ V: High signal
Maximum inrush current	≤ 20 mA (short-circuit resistant)
Status display	LED " $U_{IN} < 19.2$ V" yellow/ $U_{IN} < 19.2$ V DC: LED on
Output name	DC OK floating
Output description	Relay
Output voltage	≤ 30 V AC/DC
Maximum inrush current	≤ 100 mA
Note on status display	$U_{OUT} > 0.9 \times U_N$: Contact closed

Classifications

eCl@ss

eCl@ss 4.0	27250311
eCl@ss 4.1	27250311

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Classifications

eCl@ss

eCl@ss 5.0	27242213
eCl@ss 5.1	27242213
eCl@ss 6.0	27049005
eCl@ss 7.0	27049005
eCl@ss 8.0	27210901

ETIM

ETIM 4.0	EC002542
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

Approvals

Approvals


UL Recognized / UL Listed / cUL Recognized / cUL Listed / IECCE CB Scheme / GL / ABS / BV / RINA / NK / LR / DNV / cULus Recognized / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approvals submitted

Approval details

UL Recognized 

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Approvals

UL Listed

cUL Recognized

cUL Listed

IECEE CB Scheme

GL

ABS

BV

RINA

NK

LR

DNV

mm ² /AWG/kcmil	4
Nominal current I _N	15 A
Nominal voltage U _N	750 V

cULus Recognized

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Approvals



Drawings

Block diagram

