

DC/DC converters - QUINT-PS/24DC/24DC/ 5 - 2320034

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QUINT DC/DC converter, with SFB technology, primary-switched, input: 24 V DC, output: 24 V DC/5 A

Product description

The QUINT 24 V/5 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.

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	0
Minimum order quantity	1
Catalog page	Page 608 (IF-2011)
GTIN	 4 046356 482035
Custom tariff number	85044082
Country of origin	CHINA

Technical data

Input data

Nominal input voltage	24 V DC
DC input voltage range	18 V DC ... 32 V DC
DC input voltage range	14 V DC ... 18 V DC (Consider derating during operation)
Current consumption	7 A (24 V, IBOOST)
Inrush surge current	< 15 A (typical)
Power failure bypass	> 10 ms (24 V DC)
Input fuse	15 A (internal (device protection))
Permissible backup fuse	B10
Permissible backup fuse	B16

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Input data

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 constant capacity)
Output current	5 A (-25 °C ... 60 °C)
Output current	6.25 A (with POWER BOOST, -25°C ... 40°C permanently, UOUT = 24 V DC)
Output current	30 A (SFB technology, 12 ms)
Magnetic fuse tripping	C2
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	Approximately 7.2 A
Control deviation	< 1 % (change in load, static 10% ... 90%)
Control deviation	< 2 % (change in load, dynamic 10% ... 90%)
Control deviation	< 0.1 % (change in input voltage $\pm 10\%$)
Residual ripple	< 20 mVPP
Peak switching voltages nominal load	< 10 mVPP (20 MHz)
Maximum power dissipation NO-Load	2.4 W
Power loss nominal load max.	11.4 W

General data

Width	32 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	35 mm
Net weight	0.7 kg
Efficiency	> 92 %
Insulation voltage input/output	1 kV (routine test)
Insulation voltage input/output	1.5 kV (type test)
Degree of protection	IP20
Protection class	III
MTBF (IEC 61709, SN 29500)	> 500000 h
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	$\leq 95\%$ (at 25 °C, no condensation)
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Can be aligned: Horizontally 0 mm, vertically 50 mm
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC

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General data

Noise immunity	EN 61000-6-2:2005
Standard – Electrical equipment of machines	EN 60204-1
Standard - Safety of transformers	EN 61558-2-17
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)
Standard – Safety extra-low voltage	EN 60204-1 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
UL approvals	UL/C-UL listed UL 508
UL approvals	UL/C-UL Recognized UL 60950
UL approvals	UL listed ANSI/ISA-12.12.01 class I, division 2, groups A, B, C, D

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
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	UOUT > 0.9 x UN: 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

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Signaling

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	IOUT < IN: High signal
Maximum inrush current	< 20 mA (short-circuit resistant)
Status display	"BOOST" LED yellow/IOUT > IN : LED on
Output name	UIN OK, active
Output description	UIN > 19.2 V: High signal
Maximum inrush current	< 20 mA (short-circuit resistant)
Status display	LED "UIN < 19.2 V" yellow/UIN < 19.2 V DC: LED on

Classifications

eclass

eCl@ss 4.0	27250311
eCl@ss 4.1	27250311
eCl@ss 5.0	27242213
eCl@ss 5.1	27242213
eCl@ss 6.0	27049005
eCl@ss 7.0	27049005

etim

ETIM 4.0	EC002542
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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 / IECCE CB Scheme / GL / ABS / BV / cULus Recognized / cUL Listed

Ex Approvals


UL Listed / cUL Listed / cULus Recognized

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Approvals

Approvals submitted

Approval details

UL Recognized 

UL Listed 

cUL Recognized 


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IECEE CB Scheme

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Accessories

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DC/DC converters - QUINT-PS/24DC/24DC/ 5 - 2320034

Accessories

Assembly adapters - UWA 182/52 - 2938235



Universal wall adapter

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



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

Drawings

Block diagram

