

DC/DC converters - QUINT-PS- 24DC/24DC/10 - 2866378

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QUINT DC/DC converter, primary-switched, input: 24 V DC, output: 24 V DC/10 A

Product Description

The QUINT DC-DC converter 24 V/10 A converts the DC voltage from 18 V ... 32 V to an adjustable, controlled and galvanically separated 24 V output voltage. If no regulated and stable 24 V DC voltage is available to supply a load, DC-DC converters ensure the adjustment of the 24 V load: A non-regulated DC voltage is converted to an adjustable output voltage of 22.5 V ... 28.5 V. Due to electrical isolation, the DC voltage circuits are electrically isolated from each other in a safe way. With a design width of only 80 mm, the housing is extremely slim. The floating DC-OK output and an LED are available for signaling.



Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	1371.6 g
Custom tariff number	85044030
Country of origin	China

Technical data

Dimensions

Width	80 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	83 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

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Ambient conditions

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
Nominal input voltage range	24 V DC
Input voltage range	18 V DC ... 32 V DC
Frequency range DC	0 Hz
Current consumption	typ. 11.4 A (24 V)
Inrush surge current	< 20 A (typical)
Power failure bypass	> 3 ms (24 V DC)
Input fuse	25 A (slow-blow, internal)
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})	22.5 V DC ... 28.5 V DC (> 24 V DC, constant capacity restricted)
Nominal output current (I_N)	10 A (-25 °C ... 60 °C)
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	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 \pm 10 %)
Residual ripple	< 60 mV _{PP}
Output power	240 W
Typical response time	< 1 s
Maximum power dissipation in no-load condition	< 2 W
Power loss nominal load max.	< 28 W

General

Net weight	0.95 kg
Operating voltage display	Green LED
Efficiency	> 88 %
Insulation voltage input/output	1 kV (routine test)
	1.5 kV (type test)

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Technical data

General

Protection class	III
MTBF (IEC 61709, SN 29500)	> 500000 h
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Can be aligned: Horizontally 0 mm, vertically 50 mm

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	7 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

Signaling

Output name	DC OK active
Output description	U _{OUT} > 21.5 V: High signal
Maximum switching voltage	≤ 24 V DC
Output voltage	+ 24 V DC
Continuous load current	≤ 40 mA
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 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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Signaling

Conductor cross section AWG max.	12
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm
Screw thread	M3
Output name	DC OK floating
Output description	$U_{OUT} > 21.5 \text{ V}$: Contact closed
Maximum switching voltage	$\leq 30 \text{ V AC/DC}$
Continuous load current	$\leq 1 \text{ A}$
Status display	"DC OK" LED green

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC directive 89/336/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 - Safety of transformers	EN 61558-2-17
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
Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment	EN 50178
Shipbuilding approval	Germanischer Lloyd (EMC 2), ABS, DNV
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950
	UL/C-UL Listed UL 1604 Class I, Division 2, Groups A, B, C, D
Vibration (operation)	$< 15 \text{ Hz}$, amplitude $\pm 2.5 \text{ mm}$ (according to IEC 60068-2-6)

Classifications

eCl@ss

eCl@ss 4.0	27230209
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Classifications

eCl@ss

eCl@ss 4.1	27230209
eCl@ss 5.0	27230209
eCl@ss 5.1	27230209
eCl@ss 6.0	27230209
eCl@ss 7.0	27230209
eCl@ss 8.0	27210901

ETIM

ETIM 2.0	EC001039
ETIM 3.0	EC001039
ETIM 4.0	EC000599
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 / DNV / EAC / EAC / cULus Recognized / cULus Listed

Ex Approvals


UL Listed / cUL Listed / cULus Listed

Approvals submitted


Approval details

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Approvals

UL Recognized 

UL Listed 

cUL Recognized 


cUL Listed 

GL

DNV

EAC

EAC

cULus Recognized 

cULus Listed 

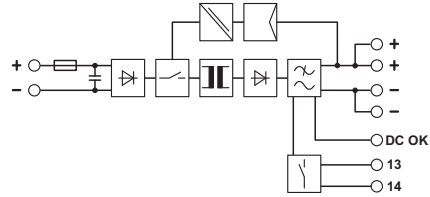
Drawings

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Diagram

Block diagram

POWER
BOOST



Dimensional drawing

