

## 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
GTIN	 4 017918 987169
GTIN	4017918987169

### 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
Max. permissible relative humidity (operation)	95 % (at 25 °C, non-condensing)
Climatic class	3K3 (in acc. with EN 60721)

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### Technical data

#### Ambient conditions

Degree of pollution	2
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#### 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)
Mains buffering	> 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
Feedback resistance	35 V DC
Protection against surge voltage on the output	Yes, limited to approx. 35 V DC
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 <sub>PP</sub>
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)
Protection class	III
Degree of protection	IP20

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### Technical data

#### General

MTBF (IEC 61709, SN 29500)	> 500000 h
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: horizontally 0 mm, vertically 50 mm

#### Connection data, input

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
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 <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
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 <sub>OUT</sub> > 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 <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm
Screw thread	M3

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### Technical data

#### Signaling

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
Noise immunity	EN 61000-6-2:2005
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-2
Contact discharge	8 kV
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 2 GHz
Test field strength	10 V/m
Standards/regulations	EN 61000-4-4
	EN 61000-6-3
	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Voltage	10 V
Standards/regulations	EN 61000-4-11
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	DNV GL (EMC A), ABS
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950-1
	UL/C-UL Listed UL 1604 Class I, Division 2, Groups A, B, C, D
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Vibration (operation)	< 15 Hz, amplitude $\pm 2.5 \text{ mm}$ (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.

#### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;

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

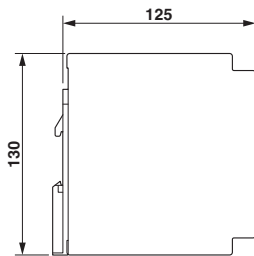
## Technical data

### Environmental Product Compliance

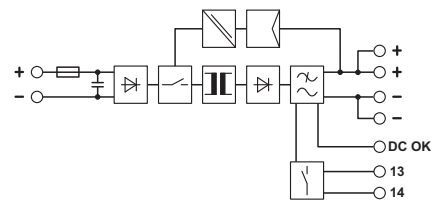
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"
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## Drawings

Dimensional drawing



Block diagram



## Approvals

### Approvals

#### Approvals

DNV / GL / ABS / UL Listed / UL Recognized / cUL Recognized / cUL Listed / EAC / EAC / cULus Recognized / cULus Listed

#### Ex Approvals

UL Listed / cUL Listed / cULus Listed

### Approval details

DNV		<a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a>	E-13904
GL		<a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a>	26734-05 HH
ABS		<a href="http://www.eagle.org/eagleExternalPortalWEB/">http://www.eagle.org/eagleExternalPortalWEB/</a>	15-HG1384628-PDA
UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528

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## Approvals

UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 211944
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cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 211944
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
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EAC		EAC-Zulassung
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EAC		RU C- DE.A*30.B.01082
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cULus Recognized		
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cULus Listed		
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