

## 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

package_quantity	1
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)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	95 % (at 25 °C, no condensation)
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 DC	18 V DC ... 32 V DC
Frequency range DC	0 Hz

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### Technical data

#### Input data

<b>Current consumption</b>	typ. 11.4 A (24 V)
<b>Inrush surge current</b>	< 20 A (typical)
<b>Power failure bypass</b>	> 3 ms (24 V DC)
<b>Input fuse</b>	25 A (slow-blow, internal)
<b>Type of protection</b>	Transient surge protection
<b>Protective circuit/component</b>	Varistor

#### Output data

<b>Nominal output voltage</b>	24 V DC $\pm$ 1%
<b>Setting range of the output voltage</b>	22.5 V DC ... 28.5 V DC (> 24 V constant capacity)
<b>Output current</b>	10 A (-25 °C ... 60 °C)
<b>Derating</b>	60 °C ... 70 °C (2.5%/K)
<b>Connection in parallel</b>	Yes, for redundancy and increased capacity
<b>Connection in series</b>	Yes
<b>Max. capacitive load</b>	Unlimited
<b>Current limitation</b>	Approx. 18 A
<b>Control deviation</b>	< 1 % (change in load, static 10% ... 90%)
<b>Control deviation</b>	< 2 % (change in load, dynamic 10% ... 90%)
<b>Control deviation</b>	< 0.1 % (change in input voltage $\pm$ 10%)
<b>Residual ripple</b>	< 60 mV <sub>PP</sub>
<b>Maximum power dissipation NO-Load</b>	< 2 W
<b>Power loss nominal load max.</b>	< 28 W

#### General

<b>Net weight</b>	0.95 kg
<b>Operating voltage display</b>	Green LED
<b>Efficiency</b>	> 88 %
<b>Insulation voltage input/output</b>	1 kV (routine test)
<b>Insulation voltage input/output</b>	1.5 kV (type test)
<b>Protection class</b>	III
<b>MTBF (IEC 61709, SN 29500)</b>	> 500000 h
<b>Mounting position</b>	horizontal DIN rail NS 35, EN 60715
<b>Assembly instructions</b>	Can be aligned: Horizontally 0 mm, vertically 50 mm
<b>Electromagnetic compatibility</b>	Conformance with EMC directive 89/336/EC
<b>Standard – Electrical equipment of machines</b>	EN 60204
<b>Standard - Safety of transformers</b>	EN 61558-2-17
<b>Standard - Electrical safety</b>	EN 60950-1/VDE 0805 (SELV)
<b>Shipbuilding approval</b>	Germanischer Lloyd (EMC 2), ABS, DNV
<b>Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations</b>	EN 50178/VDE 0160 (PELV)
<b>Standard – Safety extra-low voltage</b>	EN 60950-1 (SELV)
<b>Standard – Safety extra-low voltage</b>	EN 60204 (PELV)

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### General

<b>Standard - Safe isolation</b>	DIN VDE 0100-410
<b>Standard - Safe isolation</b>	DIN VDE 0106-1010
<b>Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment</b>	DIN VDE 0106-101
<b>UL approvals</b>	UL/C-UL listed UL 508
<b>UL approvals</b>	UL/C-UL Recognized UL 60950
<b>UL approvals</b>	UL/C-UL Listed UL 1604 Class I, Division 2, Groups A, B, C, D

### Connection data, input

<b>Connection method</b>	Pluggable screw connection
<b>Conductor cross section solid min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section stranded min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	24
<b>Conductor cross section AWG/kcmil max</b>	12
<b>Stripping length</b>	7 mm
<b>Screw thread</b>	M3

### Connection data, output

<b>Connection method</b>	Pluggable screw connection
<b>Conductor cross section solid min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section stranded min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	24
<b>Conductor cross section AWG/kcmil max</b>	12
<b>Stripping length</b>	7 mm

### Signaling

<b>Output name</b>	DC OK active
<b>Output description</b>	U <sub>OUT</sub> > 21.5 V: High signal
<b>Maximum switching voltage</b>	≤ 24 V DC
<b>Output voltage</b>	+ 24 V DC
<b>Continuous load current</b>	≤ 40 mA
<b>Status display</b>	"DC OK" LED green
<b>Conductor cross section solid min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section stranded min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	24
<b>Conductor cross section AWG/kcmil max</b>	12
<b>Tightening torque, min</b>	0.5 Nm

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## Technical data

### Signaling

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

## classifications

### eCl@ss

<b>eCl@ss 4.0</b>	27230209
<b>eCl@ss 4.1</b>	27230209
<b>eCl@ss 5.0</b>	27230209
<b>eCl@ss 5.1</b>	27230209
<b>eCl@ss 6.0</b>	27230209
<b>eCl@ss 7.0</b>	27230209
<b>eCl@ss 8.0</b>	27230209

### ETIM

<b>ETIM 2.0</b>	EC001039
<b>ETIM 3.0</b>	EC001039
<b>ETIM 4.0</b>	EC000599
<b>ETIM 5.0</b>	EC002540

### UNSPSC

<b>UNSPSC 6.01</b>	30211502
<b>UNSPSC 7.0901</b>	39121004
<b>UNSPSC 11</b>	39121004
<b>UNSPSC 12.01</b>	39121004
<b>UNSPSC 13.2</b>	39121004

## approvals

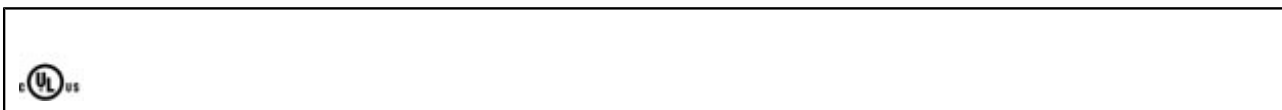
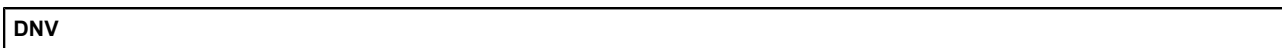
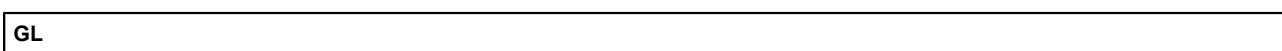
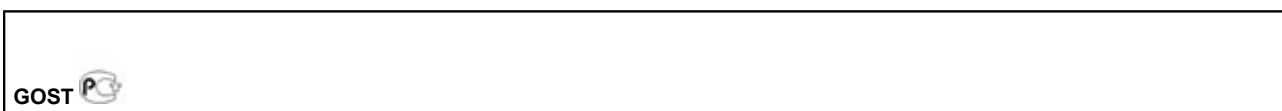
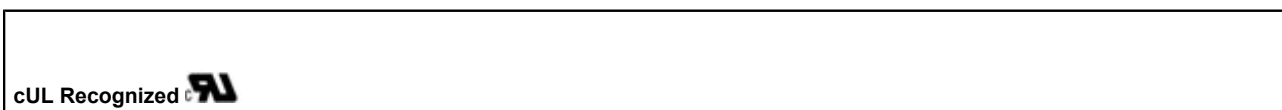
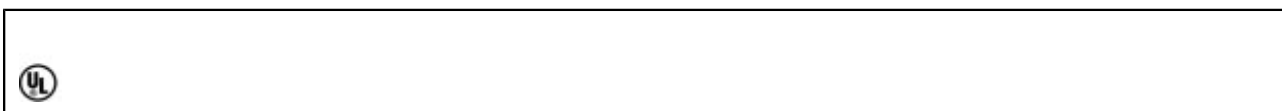
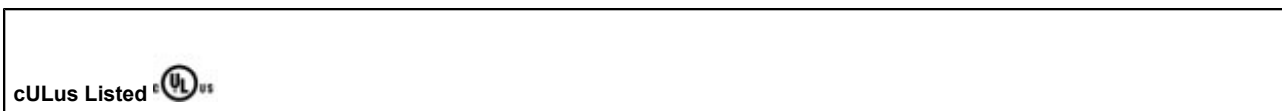
UL Listed / cUL Listed / cULus Listed / UL Recognized / UL Listed / cUL Recognized / GOST / cUL Listed / GL / DNV / cULus Recognized / cULus Listed /

### Approval details



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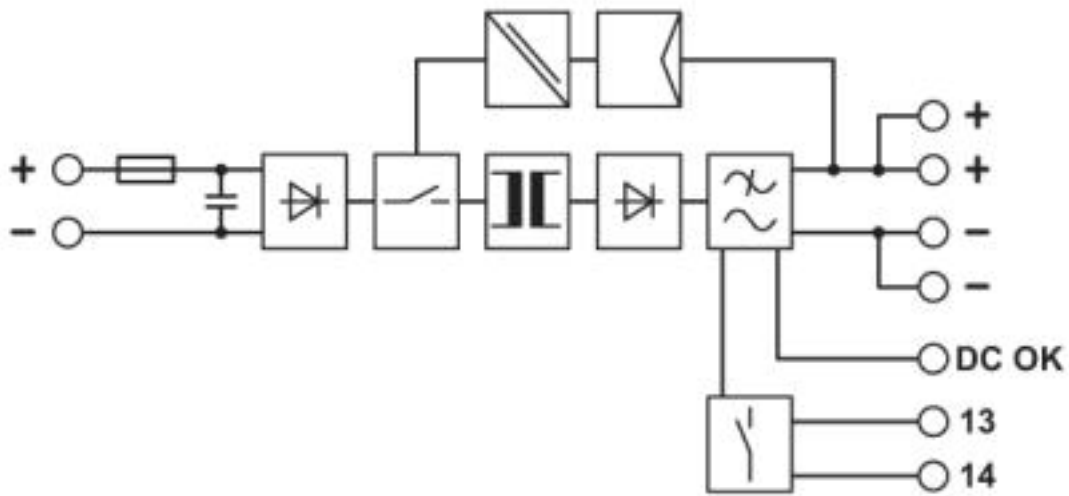
## approvals



## Drawings

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Block diagram

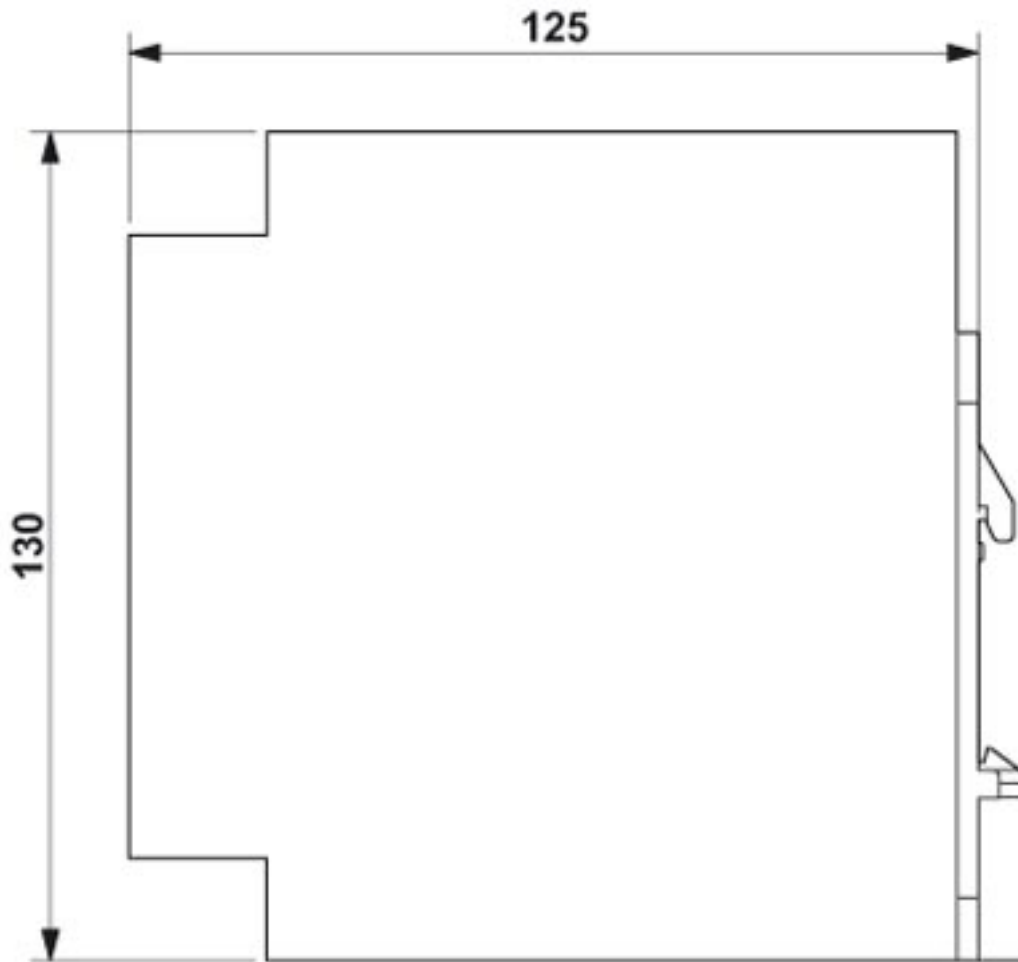


Diagram

POWER BOOST

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

Dimensioned drawing



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