

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

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://download.phoenixcontact.com>)



Primary-switched QUINT DC/DC converter for DIN rail mounting, input: 24 V DC, output: 24 V DC/5 A, with integrated SFB (selective fuse breaking) technology, including mounted universal DIN rail adapter UTA 107/30

### 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.

### 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
- 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

package_quantity	1
GTIN	4046356482035

### Technical data

#### Dimensions

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

#### 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

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

### Technical data

#### Input data

Nominal input voltage	24 V DC
Nominal input voltage range	18 V DC ... 32 V DC
Nominal input voltage range	14 V DC ... 18 V DC (Consider derating during operation)
Input voltage range DC	18 V DC ... 32 V DC
Input voltage range DC	14 V DC ... 18 V DC (Consider derating during operation)
Current consumption	7 A (24 V, I <sub>BOOST</sub> )
Inrush surge current	< 15 A (typical)
Power failure bypass	> 10 ms (24 V DC)
Input fuse	15 A (internal (device protection))
Choice of suitable fuses	10 A ... 16 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	5 A (-25 °C ... 60 °C)
Output current	6.25 A (with POWER BOOST, -25°C ... 40°C permanently, U <sub>OUT</sub> = 24 V DC)
Output current	30 A (SFB technology, 12 ms)
Magnetic fuse tripping	B2
Magnetic fuse tripping	B4
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 ±10%)
Residual ripple	< 20 mV <sub>PP</sub>
Peak switching voltages nominal load	< 10 mV <sub>PP</sub> (20 MHz)
Maximum power dissipation NO-Load	2.4 W
Power loss nominal load max.	11.4 W

#### General

Net weight	0.7 kg
Efficiency	> 92 %
Insulation voltage input/output	1.5 kV (type test)
Insulation voltage input/output	1 kV (routine test)
Protection class	III

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

### Technical data

#### General

<b>MTBF (IEC 61709, SN 29500)</b>	> 890000 h (According to EN 29500)
<b>Mounting position</b>	horizontal DIN rail NS 35, EN 60715
<b>Assembly instructions</b>	Alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
<b>Electromagnetic compatibility</b>	Conformance with EMC Directive 2004/108/EC
<b>Standard – Electrical equipment of machines</b>	EN 60204-1
<b>Standard - Electrical safety</b>	EN 60950-1/VDE 0805 (SELV)
<b>Shipbuilding approval</b>	Germanischer Lloyd (EMC 1)
<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 60204-1 (PELV)
<b>Standard - Safe isolation</b>	DIN VDE 0100-410
<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 ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

#### 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>	8 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> > 0.9 x U <sub>N</sub> : High signal
<b>Maximum inrush current</b>	< 20 mA (short-circuit resistant)

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

### Technical data

#### Signaling

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 stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
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 <sub>OUT</sub> < I <sub>N</sub> : High signal
Maximum inrush current	< 20 mA (short-circuit resistant)
Status display	"BOOST" LED yellow/I <sub>OUT</sub> > I <sub>N</sub> : LED on
Output name	U <sub>IN</sub> OK, active
Output description	U <sub>IN</sub> > 19.2 V: High signal
Maximum inrush current	< 20 mA (short-circuit resistant)
Status display	LED "U <sub>IN</sub> < 19.2 V" yellow/U <sub>IN</sub> < 19.2 V DC: LED on

### classifications

#### eCl@ss

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	27210901
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

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

## approvals

UL Listed / cUL Listed / cULus Listed / UL Recognized / UL Listed / cUL Recognized / cUL Listed / IECB Scheme / GL / ABS / BV / RINA / NK / LR / cULus Recognized / cULus Listed /

### Approval details

UL Listed

cUL Listed

cULus Listed

UL Recognized

cUL Recognized

IEC CB Scheme

GL

ABS

BV

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

approvals

RINA

NK

LR

cULus Recognized 



accessories

### Power supply

QUINT-PS/ 1AC/24DC/10 - 2866763



QUINT-PS/ 3AC/24DC/10 - 2866705



### Redundancy module

QUINT-ORING/24DC/2X10/1X20 - 2320173



### Assembly adapter

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

accessories

UTA 107/30 - 2320089



---

UWA 182/52 - 2938235

---

QUINT-PS-ADAPTERS7/1 - 2938196



---

### Thermomagnetic device circuit breakers

CB TM1 1A SFB P - 2800836



---

CB TM1 2A SFB P - 2800837



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

### accessories

CB TM1 12A SFB P - 2800844



CB TM1 16A SFB P - 2800845



### Drawings

Block diagram

