

## DC/DC converters - QUINT-PS/48DC/24DC/ 5 - 2320144

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Primary-switched QUINT DC/DC converter for DIN rail mounting with SFB (Selective Fuse Breaking) Technology, input: 48 V DC, output: 24 V DC/5 A

### Product description

QUINT DC/DC converter with maximum functionality

DC/DC converters alter the voltage level, regenerate the voltage at the end of long cables or enable the creation of independent supply systems by means of electrical isolation.

QUINT DC/DC converters magnetically and therefore quickly trip circuit breakers with six times the nominal current, for selective and therefore cost-effective system protection. The high level of system availability is additionally ensured, thanks to preventive function monitoring, as it reports critical operating states before errors occur.

### 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

Packing unit	1 pc
Weight per Piece (excluding packing)	858.8 GRM
Custom tariff number	85044030
Country of origin	China

### Technical data

#### Dimensions

Width	32 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm

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### Technical data

#### Dimensions

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, non-condensing)
Noise immunity	EN 61000-6-2:2005

#### Input data

Nominal input voltage	48 V DC
Input voltage range	30 V DC ... 60 V DC
Current consumption	3.5 A (48 V DC)
Inrush surge current	< 5 A (typical)
Power failure bypass	> 14 ms (48 V DC)
Input fuse	10 A (slow-blow, internal)
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)
	6.25 A (with POWER BOOST, -25°C ... 40°C permanently, U <sub>OUT</sub> = 24 V DC)
	30 A (SFB technology, 12 ms)
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 6.9 A
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 2 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage ±10 %)
Residual ripple	< 25 mV <sub>PP</sub>
Peak switching voltages nominal load	< 5 mV <sub>PP</sub> (20 MHz)
Maximum power dissipation NO-Load	2.7 W

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### Technical data

#### Output data

Power loss nominal load max.	11 W
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#### General

Net weight	0.7 kg
Efficiency	> 91.5 %
Insulation voltage input/output	1.5 kV (type test) 1 kV (routine test)
Protection class	III
MTBF (IEC 61709, SN 29500)	> 995000 h
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Standard – Electrical equipment of machines	EN 60204-1
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 60204-1 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
UL approvals	UL/C-UL listed UL 508 UL/C-UL Recognized UL 60950 UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

#### 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 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.	18
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 <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>

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### Technical data

#### Connection data, output

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.	18
Conductor cross section AWG/kcmil max	12
Stripping length	7 mm

#### Signaling

Output name	DC OK active
Output description	$U_{OUT} > 0.9 \times U_N$ : High signal
Maximum inrush current	< 20 mA (short-circuit resistant)
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.	18
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	$I_{OUT} < I_N$ : High signal
Maximum inrush current	< 20 mA (short-circuit resistant)
Status display	"BOOST" LED yellow/ $I_{OUT} > I_N$ : LED on
Output name	$U_{IN}$ OK, active
Output description	$U_{IN} > 38.4$ V: high signal
Maximum inrush current	< 20 mA (short-circuit resistant)
Status display	LED " $U_{IN} < 38.4$ V" yellow/ $U_{IN} < 38.4$ 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	27210901
eCl@ss 6.0	27210901

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### Classifications

#### eCl@ss

eCl@ss 7.0	27210901
eCl@ss 8.0	27210901

#### ETIM

ETIM 4.0	EC002540
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

#### Approvals

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#### Approvals

UL Recognized / UL Listed / cUL Recognized / cUL Listed / IECCE CB Scheme / cULus Recognized / cULus Listed

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#### Ex Approvals

UL Listed / cUL Listed / cULus Listed

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#### Approvals submitted

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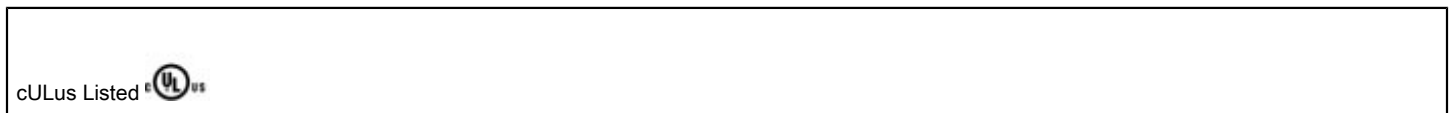
#### Approval details

UL Recognized
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UL Listed
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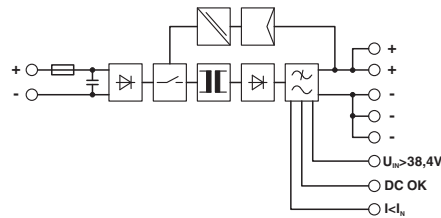
# DC/DC converters - QUINT-PS/48DC/24DC/ 5 - 2320144

## Approvals



## Drawings

Block diagram



## Данный компонент на территории Российской Федерации

### Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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