DC/DC converters - QUINT-PS/24DC/12DC/ 8 - 2320115

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Primär getakteter QUINT DC/DC-Wandler zur Tragschienenmontage, Eingang: 24 V DC, Ausgang: 12 V DC / 8 A, mit integrierter SFB Technology (Selective Fuse Breaking Technology), inkl. montiertem Universaltragschienenadapter UTA 107/30

Product description

The QUINT 12 V/8 A DC/DC converter converts a DC voltage of 18 V ... 32 V to an adjustable, regulated, and electrically isolated 12 V output voltage. If no regulated and stable 12 V DC voltage is available to supply a load, the DC/DC converter ensures the adjustment of the 12 V load: from an unregulated DC voltage, an adjustable output voltage of 10 V ... 18 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
- Electrical isolation: for setting up independent supply systems
- Constant voltage: output voltage regenerated even at the end of long cables
- Support conversion to various voltage levels

Key commercial data

Packing unit	1 PCE
GTIN	4 046356 482233
Custom tariff number	85044082
Country of origin	CHINA

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	

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Technical data

Input data

Input voltage range DC	
Current consumption	6 A
Inrush surge current	< 15 A (typical)
Power failure bypass	> 10 ms (24 V DC)
Input fuse	15 A (internal (device protection))
Type of protection	Transient surge protection
Protective circuit/component	Varistor

Output data

Nominal output voltage	12 V DC ±1%
Setting range of the output voltage	5 V DC ... 18 V DC (> 12 V constant capacity)
Output current	8 A (-25 °C ... 60 °C)
Output current	10 A (with POWER BOOST, -25 °C ... 40 °C permanent, U_{OUT} = 12 V DC)
Output current	48 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	Approx. 15 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_{PP}
Peak switching voltages nominal load	< 10 mV_{PP} (20 MHz)
Maximum power dissipation NO-Load	2 W
Power loss nominal load max.	10.5 W

General data

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
Net weight	0.7 kg

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Technical data

General data

Efficiency	> 90 %
Insulation voltage input/output	1.5 kV (type test)
Insulation voltage input/output	1 kV (routine test)
Degree of protection	IP20
Protection class	III
MTBF (IEC 61709, SN 29500)	> 843000 h (According to EN 29500)
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)
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
Noise immunity	EN 61000-6-2:2005
Standard – Electrical equipment of machines	EN 60204
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
Shipbuilding approval	Germanischer Lloyd (EMC 1)
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)
Standard – Safety extra-low voltage	EN 60204 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
UL approvals	UL/C-UL listed UL 508
UL approvals	UL/C-UL Recognized UL 60950
UL approvals	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 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section stranded min.	0.2 mm²
Conductor cross section stranded max.	2.5 mm²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
Stripping length	8 mm
Screw thread	M3

Connection data, output

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Technical data

Connection data, output

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section stranded min.	0.2 mm²
Conductor cross section stranded max.	2.5 mm²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
Stripping length	7 mm

Signaling

Output name	DC OK active
Output description	U_{OUT} > 0.9 x 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 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section stranded min.	0.2 mm²
Conductor cross section stranded max.	2.5 mm²
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_{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} > 19.2 V: High signal
Maximum inrush current	≤ 20 mA (short-circuit resistant)
Status display	LED "U_{IN} < 19.2 V" yellow/U_{IN} < 19.2 V DC: LED on

Classifications

ETIM

ETIM 4.0	EC002542
ETIM 5.0	EC002046

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Classifications

UNSPSC

UNSPSC 11	39121004
UNSPSC 12.01	39121004
UNSPSC 13.2	39121004
UNSPSC 6.01	30211502
UNSPSC 7.0901	39121004

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

Approvals

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Approvals

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

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approvals submitted

Approval details

UL Recognized

UL Listed

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Accessories

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Accessories

Power supply unit - QUINT-PS/ 1AC/24DC/10 - 2866763

Primär getaktete QUINT Stromversorgung zur Tragschienenmontage, Eingang: 1-phasig, Ausgang: 24 V DC / 10 A, mit integrierter SFB Technology (Selective Fuse Breaking Technology), inkl. montiertem Universaltragschienenadapter UTA 107

Power supply unit - QUINT-PS/ 3AC/24DC/10 - 2866705

Primär getaktete QUINT Stromversorgung zur Tragschienenmontage, Eingang: 3-phasig, Ausgang: 24 V DC / 10 A, mit integrierter SFB Technology (Selective Fuse Breaking Technology), inkl. montiertem Universaltragschienenadapter UTA 107

Redundancy module - TRIO-DIODE/12-24DC/2X10/1X20 - 2866514

Redundancy module with function monitoring, 12-24 V DC, 2x 10 A, 1x 20 A

Assembly adapters - UTA 107/30 - 2320089

Universal DIN rail adapter

Assembly adapters - UWA 182/52 - 2938235

Universal wall adapter

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Accessories

Assembly adapters - QUINT-PS-ADAPTERS7/1 - 2938196

Assembly adapter for QUINT-PS... power supply on S7-300 rail

Thermomagnetic device circuit breaker - CB TM1 1A SFB P - 2800836

Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

Thermomagnetic device circuit breaker - CB TM1 2A SFB P - 2800837

Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

Thermomagnetic device circuit breaker - CB TM1 3A SFB P - 2800838

Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

Thermomagnetic device circuit breaker - CB TM1 4A SFB P - 2800839

Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

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Accessories

Thermomagnetic device circuit breaker - CB TM1 12A SFB P - 2800844

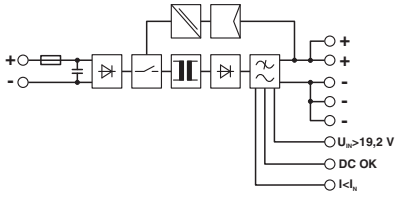
Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

Thermomagnetic device circuit breaker - CB TM1 16A SFB P - 2800845

Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

Drawings

Block diagram



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