

QUINT-PS/24DC/24DC/ 5

Order No.: 2320034



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QUINT DC/DC converter, with SFB technology, primary-switched,
input: 24 V DC, output: 24 V DC/5 A



Commercial data

EAN	 4 046356 482035
Pack	1
Customs tariff	85044082
Country of Origin	CN
Catalog page information	Page 608 (IF-2011)

Product notes

WEEE/RoHS-compliant since:
18/12/2008



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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.

Technical data

Input data

Nominal input voltage	24 V DC
DC input voltage range	18 V DC ... 32 V DC
	14 V DC ... 18 V DC (Consider derating during operation)
DC frequency range	0 Hz
Current consumption	Typ. 7 A (24 V DC)
Inrush surge current	< 15 A (typical)
Power failure bypass	> 10 ms (24 V DC)
Buffer period	350 s (5 A)
Input fuse	15 A (internal (device protection))
Permissible backup fuse	B10
	B16
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	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, $U_{OUT} = 24$ V DC)
	30 A (SFB technology, 12 ms)
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%)
	< 2 % (change in load, dynamic 10% ... 90%)
	< 0.1 % (change in input voltage $\pm 10\%$)
Residual ripple	< 20 mV _{PP}
Peak switching voltages nominal load	< 10 mV _{PP} (20 MHz)
Maximum power dissipation idling	2.4 W
Power loss nominal load max.	11.4 W

General data

Width	32 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
	35 mm
Net weight	0.7 kg
Efficiency	> 92 %
Insulation voltage input/output	1 kV (routine test)
	1.5 kV (type test)
Degree of protection	IP20
Protection class	III
MTBF (IEC 61709, SN 29500)	> 500000 h
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	Can be aligned: Horizontally 0 mm, vertically 50 mm
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Noise immunity	EN 61000-6-2:2005
Standard – Electrical equipment of machines	EN 60204-1
Standard - Safety of transformers	EN 61558-2-17
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)
	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

Connection data, input

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm ²

Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Conductor cross section AWG/kcmil min.	24
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 ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
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	$U_{OUT} > 0.9 \times U_N$: High signal
Maximum inrush current	< 20 mA (short-circuit resistant)
Status display	"DC OK" LED green
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
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
Output name	DC OK floating
Output description	U _{OUT} > 0.9 x U _N : Relays closed
Type of signaling	LED, relay contact

Certificates



Certification

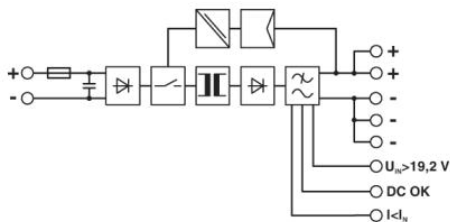
CB, CUL, CUL Listed, UL, UL Listed

Accessories

Item	Designation	Description
General		
2938196	QUINT-PS-ADAPTERS7/1	Assembly adapter for QUINT-PS... power supply on S7-300 rail
2320089	UTA 107/30	Universal DIN rail adapter
2938235	UWA 182/52	Universal wall adapter

Drawings

Block diagram



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