Extract from the online catalog

QUINT-PS/ 3AC/24DC/20/CO

Order No.: 2320924

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DIN rail power supply unit 24 V DC/20 A/CO, dip-coated circuit board, primary-switched, 3-phase. For the first time, SFB (selective fuse breaking) technology can also be used to trigger standard circuit breakers quickly and reliably.

Commercial data	
GTIN (EAN)	4 046356 605601
sales group	H031
Pack	1 pcs.
Catalog page information	Page 625 (IF-2011)

Product notes

WEEE/RoHS-compliant since: 07/20/2010

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Product description

QUINT POWER power supply units – Maximum system availability with SFB technology

Compact power supply units of the new QUINT POWER generation maximize the availability of your system. With the SFB technology (Selective Fuse Breaking Technology), six times the nominal current for 12 ms, even the standard power circuit-breakers can now also be triggered reliably and quickly. Faulty current paths are switched off selectively, the fault is located and important system parts continue to operate. Comprehensive diagnostics are provided through constant monitoring of output voltage and current. This preventive function monitoring visualizes critical operating modes and reports them to the control unit before an error can occur.

Technical data

Input data

Nominal input voltage	3x 400 V AC ... 500 V AC
AC input voltage range	3x 320 V AC ... 575 V AC
DC input voltage range	450 V DC ... 800 V DC
AC frequency range	45 Hz ... 65 Hz
DC frequency range	0 Hz
Current consumption	3x 1.6 A (400 V AC)
	3x 1.3 A (500 V AC)
	2x 3.2 A (400 V AC)
	Approx. 2x 2.8 A (500 V AC)
Inrush surge current	< 20 A (typical)
Power failure bypass	> 20 ms (400 V AC)
	> 30 ms (500 V AC)
Permissible backup fuse	B6
	B10
	B16
Additional text	AC: 3 x circuit breaker - recommended fuse
Type of protection	Transient surge protection
Protective circuit/component	Varistor, gas-filled surge arrester

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	20 A (-25°C ... 60°C, U_{OUT} = 24 V DC)
	26 A (with POWER BOOST, -25°C ... 40°C permanently, U_{OUT} = 24 V DC)
	120 A (SFB technology, 12 ms)
Magnetic fuse tripping	B16
	C6
Derating	60 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	Yes
Residual ripple	< 40 mV_{PP} (with nominal values)
Peak switching voltages nominal load	< 40 mV_{PP} (at nominal values, 20 MHz)
Maximum power dissipation idling	11 W

Power loss nominal load max.	40 W

General data

Width	69 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	125 mm
Height with alternative assembly	130 mm
	72 mm
Net weight	1.5 kg
Efficiency	> 93 % (at 400 V AC and nominal values)
Insulation voltage input/output	4 kV AC (type test)
	2 kV AC (routine test)
Degree of protection	IP20
Protection class	I
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)	100 % (at 25 °C, no condensation)
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Can be aligned: 5 mm horizontally, 15 mm next to active components, 5 cm vertically
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Standard – Electrical equipment of machines	EN 60204
Standard - Safety of transformers	IEC 61558-2-17
Standard - Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Shipbuilding approval	Germanischer Lloyd (EMC 1), ABS, LR, RINA, NK, DNV, BV
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	IEC 60950-1 (SELV) and EN 60204 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
	DIN VDE 0106-1010
Standard – Protection against electric shock	DIN 57100-410
Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment	DIN VDE 0106-101
Standard – Limitation of mains harmonic currents	EN 61000-3-2

Standard – Equipment safety	GS (tested safety)
Approval - requirement of the semiconductor industry with regard to mains voltage dips	SEMI F47-0706 Compliance Certificate
Certificate	CB Scheme
UL approvals	UL applied for
Surge voltage category	II

Connection data, input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	6 mm²
Conductor cross section stranded min.	0.2 mm²
Conductor cross section stranded max.	4 mm²
Conductor cross section AWG/kcmil min.	18
Conductor cross section AWG/kcmil max	10
Stripping length	7 mm
Screw thread	M4

Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	6 mm²
Conductor cross section stranded min.	0.2 mm²
Conductor cross section stranded max.	4 mm²
Conductor cross section AWG/kcmil min.	12
Conductor cross section AWG/kcmil max	10
Stripping length	7 mm

Signaling

Output name	DC OK active
Output description	U_{OUT} > 0.9 x U_N: High signal
Output voltage	+ 24 V DC
Maximum inrush current	min. 20 mA (short-circuit resistant)
Continuous load current	≤ 20 mA
Status display	U_{OUT} > 0.9 x U_N: "DC OK" LED green
Note on status display	U_{OUT} < 0.9 x U_N: Flashing "DC OK" LED
Conductor cross section solid min.	0.2 mm²

Conductor cross section solid max.	6 mm²
Conductor cross section stranded min.	0.2 mm²
Conductor cross section stranded max.	4 mm²
Conductor cross section AWG/kcmil min.	18
Conductor cross section AWG/kcmil max	10
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm
Screw thread	M4
Output name	DC OK floating
Output description	Relay contact, U_{OUT} > 0.9 x U_N: Contact closed
Maximum switching voltage	≤ 30 V AC/DC
Maximum inrush current	≤ 1 A
Continuous load current	≤ 1 A
Status display	U_{OUT} > 0.9 x U_N: "DC OK" LED green
Note on status display	U_{OUT} < 0.9 x U_N: Flashing "DC OK" LED
Output name	POWER BOOST, active
Output description	I_{OUT} < I_N: High signal
Output voltage	+ 24 V DC
Maximum inrush current	min. 20 mA (short-circuit resistant)
Continuous load current	≤ 20 mA
Status display	I_{OUT} > I_N: LED "BOOST" yellow

Certificates / Approvals

Certification	CB, CSA, CUL, GL, GOST, UL, UL Listed

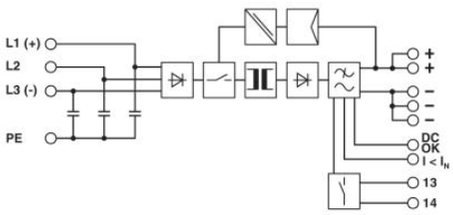
Accessories

Item	Designation	Description
General		
2938206	QUINT-PS-ADAPTERS7/2	Assembly adapter for QUINT POWER 10A on S7-300 rail

2320076	QUINT-PS/FAN/4	The fan for QUINT-PS/1AC and .../3AC power supply units can be mounted without the need for tools or other accessories. By using the fan, optimum cooling is ensured at high ambient temperatures or if the mounting position is rotated.
2938235	UWA 182/52	Universal wall adapter

Diagrams/Drawings

Block diagram



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