

QUINT-PS/ 3AC/24DC/ 5


Order No.: 2866734



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DIN rail power supply unit 24 V DC/5 A, primary switched-mode, 3-phase. The SFB technology (Selective Fuse Breaking Technology) can now also be used to trigger standard power circuit breakers reliably and quickly.



Commercial data	
EAN	 4 046356 155441
E-number	5246052
Pack	1
Customs tariff	85044082
Catalog page information	Page 584 (IF-2011)

Product notes

WEEE/RoHS-compliant since:
2005-01-01



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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
	2x 360 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 0.8 A (400 V AC)
	3x 0.7 A (500 V AC)
Inrush surge current	< 15 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 \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, U _{OUT} = 24 V DC)
	7.5 A (with POWER BOOST, -25°C ... 40°C permanently, U _{OUT} = 24 V DC)
	30 A (SFB technology, 12 ms)
Magnetic fuse tripping	B2
	C2
Derating	60 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	Yes
Residual ripple	PP (with nominal values)
Peak switching voltages nominal load	PP (at nominal values, 20 MHz)
Maximum power dissipation NO-Load	4 W
Power loss nominal load max.	14 W

General data

Width	40 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	43 mm
Net weight	0.7 kg
Operating voltage display	Green LED
Efficiency	> 89 % (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 ()
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: 5 mm horizontally, 15 mm next to active components, 5 cm vertically
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Noise immunity	EN 61000-6-2:2005
Low Voltage Directive	Conformance with LV directive 2006/95/EC
Standard – Electrical equipment of machines	EN 60204
Standard - Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Shipbuilding approval	Germanischer Lloyd (EMC 2), 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
Information technology equipment - safety (CB scheme)	CB Scheme
UL approvals	UL Listed UL 508
	UL/C-UL Recognized UL 60950 (3-wire + PE, star net)
	UL listed ANSI/ISA-12.12.01 class I, division 2, groups A, B, C, D
Surge voltage category	III

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.	20
Conductor cross section AWG/kcmil max	12
Stripping length	7 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.	20
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 switching voltage	+ 24 V DC
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} N: Flashing "DC OK" LED
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.	20
Conductor cross section AWG/kcmil max	12
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm
Screw thread	M3
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} N: Flashing "DC OK" LED
Output name	POWER BOOST, active
Output description	I _{OUT} N: High signal
Maximum switching voltage	+ 24 V DC
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



Certification ABS, BV, CB, CSA, CUL, GL, GOST, LR, NK, UL, UL Listed

Certification Ex: CUL-EX LIS, UL-EX LIS

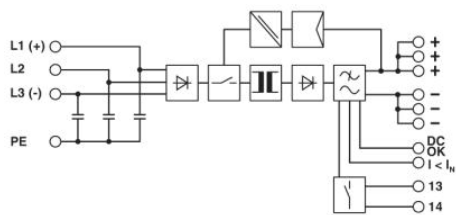
Certifications applied for:

Accessories

Item	Designation	Description
General		
2800836	CB TM1 1A SFB P	Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.
2800837	CB TM1 2A SFB P	Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.
2320157	QUINT-DIODE/12-24DC/2X20/1X40	DIN rail diode module 12-24 V DC/2x20 A or 1x40 A. Uniform redundancy up to the consumer.
2320173	QUINT-ORING/24DC/2X10/1X20	Active redundancy module with ACB technology and monitoring functions
2938196	QUINT-PS-ADAPTERS7/1	Assembly adapter for QUINT-PS... power supply on S7-300 rail
2320076	QUINT-PS/FAN/4	The fan for QUINT-PS/1AC and .../3AC 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.
2868606	STEP-DIODE/5-24DC/2X5/1X10	Redundancy module, 5-24 V DC, 2x 5 A, 1x 10 A
2866514	TRIO-DIODE/12-24DC/2X10/1X20	Redundancy module with function monitoring, 12-24 V DC, 2x 10 A, 1x 20 A
2320089	UTA 107/30	Universal DIN rail adapter
2938235	UWA 182/52	Universal wall adapter

Drawings

Block diagram



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