

Power supply unit - QUINT-PS/ 3AC/24DC/20 - 2866792

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Primary-switched QUINT power supply for DIN rail mounting, input: 3-phase, output: 24 V DC/20 A, with integrated SFB (selective fuse breaking) technology, including mounted universal DIN rail adapter UTA 107

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.

Product Features

- Reliable starting of difficult loads
- High level of system availability even in the event of permanent phase failure
- Preventive function monitoring



Key commercial data

package_quantity	1
GTIN	4046356152907

Technical data

Dimensions

Width	69 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	125 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	72 mm

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating, startup at -40°C type-tested)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	95 % (at 25 °C, no condensation)
Noise immunity	EN 61000-6-2:2005

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Input data

Nominal input voltage range	3x 400 V AC ... 500 V AC
Input voltage range AC	3x 320 V AC ... 575 V AC
Input voltage range AC	2x 360 V AC ... 575 V AC (Not approved by UL)
Input voltage range DC	450 V DC ... 800 V DC
AC frequency range	45 Hz ... 65 Hz
Frequency range DC	0 Hz
Current consumption	3x 1.6 A (400 V AC)
Current consumption	3x 1.3 A (500 V AC)
Current consumption	approx. 2x 3.2 A (400 V AC)
Current consumption	approx. 2x 2.8 A (500 V AC)
Inrush surge current	< 20 A (typical)
Power failure bypass	> 20 ms (400 V AC)
Power failure bypass	> 30 ms (500 V AC)
Choice of suitable fuses	6 A ... 16 A (Characteristics B, C, D, K)
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	20 A (-25°C ... 60°C, U _{OUT} = 24 V DC)
Output current	26 A (with POWER BOOST, -25°C ... 40°C permanently, U _{OUT} = 24 V DC)
Output current	120 A (SFB technology, 12 ms)
Magnetic fuse tripping	B2
Magnetic fuse tripping	B4
Magnetic fuse tripping	B6
Magnetic fuse tripping	B10
Magnetic fuse tripping	B16
Magnetic fuse tripping	C2
Magnetic fuse tripping	C4
Magnetic fuse tripping	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 NO-Load	11 W
Power loss nominal load max.	40 W

General

Net weight	1.5 kg
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Technical data

General

Operating voltage display	Green LED
Efficiency	> 93 % (at 400 V AC and nominal values)
Insulation voltage input/output	4 kV AC (type test)
Insulation voltage input/output	2 kV AC (routine test)
Protection class	I
MTBF (IEC 61709, SN 29500)	> 534000 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
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 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
Standard - Safe isolation	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 approvals	UL/C-UL Recognized UL 60950 (3-wire + PE, star net)
UL approvals	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Surge voltage category	III

Connection data, input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	6 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	4 mm ²
Conductor cross section AWG/kcmil min.	18
Conductor cross section AWG/kcmil max	10
Stripping length	7 mm
Screw thread	M4

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Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	6 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	4 mm ²
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	$U_{OUT} > 0.9 \times U_N$: High signal
Output voltage	+ 24 V DC
Maximum inrush current	min. 20 mA (short-circuit resistant)
Continuous load current	≤ 20 mA
Status display	$U_{OUT} > 0.9 \times U_N$: "DC OK" LED green
Note on status display	$U_{OUT} < 0.9 \times U_N$: Flashing "DC OK" LED
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	6 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	4 mm ²
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, $U_{OUT} > 0.9 \times U_N$: Contact closed
Maximum switching voltage	≤ 30 V AC/DC
Maximum inrush current	≤ 1 A
Continuous load current	≤ 1 A
Status display	$U_{OUT} > 0.9 \times U_N$: "DC OK" LED green
Note on status display	$U_{OUT} < 0.9 \times U_N$: 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

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classifications

eCl@ss

eCl@ss 4.0	27040702
eCl@ss 4.1	27040702
eCl@ss 5.0	27049002
eCl@ss 5.1	27049002
eCl@ss 6.0	27049002
eCl@ss 7.0	27049002
eCl@ss 8.0	27049002

ETIM

ETIM 2.0	EC001039
ETIM 3.0	EC001039
ETIM 4.0	EC000599
ETIM 5.0	EC002540

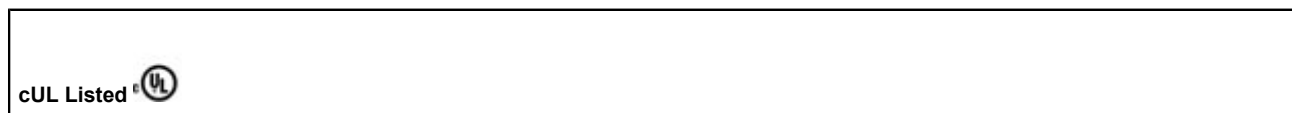
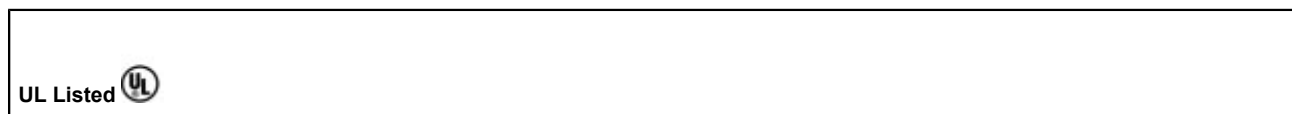
UNSPSC

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

approvals


UL Listed / cUL Listed / cULus Listed / CSA / UL Recognized / UL Listed / cUL Recognized / GOST / LR / GL / BV / DNV / ABS / NK / RINA / BSH / IECCE CB Scheme / SEMI F47 / Bauartgeprüft / cULus Recognized /

Approval details



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approvals

cULus Recognized  US

accessories

Mounting rail adapter

UTA 107 - 2853983



Assembly adapter

UWA 182/52 - 2938235

QUINT-PS-ADAPTERS7/2 - 2938206



Fan

QUINT-PS/FAN/4 - 2320076



Redundancy module

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accessories

QUINT-DIODE/12-24DC/2X20/1X40 - 2320157



QUINT-ORING/24DC/2X20/1X40 - 2320186



Thermomagnetic device circuit breakers

CB TM1 1A SFB P - 2800836



CB TM1 2A SFB P - 2800837



CB TM1 3A SFB P - 2800838



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accessories

CB TM1 4A SFB P - 2800839



CB TM1 5A SFB P - 2800840



CB TM1 6A SFB P - 2800841



CB TM1 8A SFB P - 2800842



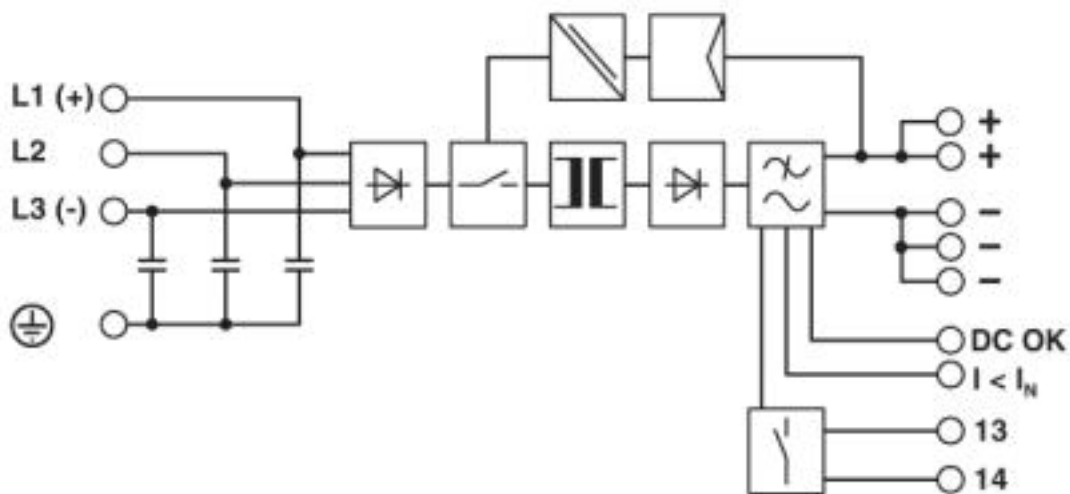
CB TM1 10A SFB P - 2800843



Drawings

Power supply unit - QUINT-PS/ 3AC/24DC/20 - 2866792

Block diagram



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