

# Power supply unit - QUINT-PS/ 3AC/24DC/20/CO - 2320924

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Primary-switched QUINT power supply for DIN rail mounting, input: 3-phase, output: 24 V DC/20 A, dip-coated PCB, 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

- For maximum system availability
- Reliable starting of difficult loads with the static POWER BOOST power reserve with up to 1.5 times the nominal current permanently
- Fast tripping of standard circuit breakers with dynamic power reserve SFB (selective fuse breaking) technology with up to 6 times the nominal current for 12 ms
- Preventive function monitoring



## Key commercial data

package_quantity	1
GTIN	4046356605601

## 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)	-40 °C ... 70 °C (> 60 °C derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C

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## Technical data

### Ambient conditions

<b>Max. permissible relative humidity (operation)</b>	100 % (at 25 °C, no condensation)
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### Input data

<b>Nominal input voltage range</b>	3x 400 V AC ... 500 V AC
<b>Input voltage range AC</b>	3x 320 V AC ... 575 V AC
<b>Input voltage range DC</b>	450 V DC ... 800 V DC
<b>AC frequency range</b>	45 Hz ... 65 Hz
<b>Frequency range DC</b>	0 Hz
<b>Current consumption</b>	3x 1.6 A (400 V AC)
<b>Current consumption</b>	3x 1.3 A (500 V AC)
<b>Current consumption</b>	2x 3.2 A (400 V AC)
<b>Current consumption</b>	approx. 2x 2.8 A (500 V AC)
<b>Inrush surge current</b>	< 20 A (typical)
<b>Power failure bypass</b>	> 15 ms (400 V AC)
<b>Power failure bypass</b>	> 25 ms (500 V AC)
<b>Choice of suitable fuses</b>	6 A ... 16 A (Characteristics B, C, D, K)
<b>Type of protection</b>	Transient surge protection
<b>Protective circuit/component</b>	Varistor, gas-filled surge arrester

### Output data

<b>Nominal output voltage</b>	24 V DC $\pm$ 1%
<b>Setting range of the output voltage</b>	18 V DC ... 29.5 V DC (> 24 V constant capacity)
<b>Output current</b>	20 A (-25°C ... 60°C, U <sub>OUT</sub> = 24 V DC)
<b>Output current</b>	26 A (with POWER BOOST, -25°C ... 40°C permanently, U <sub>OUT</sub> = 24 V DC)
<b>Output current</b>	120 A (SFB technology, 12 ms)
<b>Magnetic fuse tripping</b>	B2
<b>Magnetic fuse tripping</b>	B4
<b>Magnetic fuse tripping</b>	B6
<b>Magnetic fuse tripping</b>	B10
<b>Magnetic fuse tripping</b>	B16
<b>Magnetic fuse tripping</b>	C2
<b>Magnetic fuse tripping</b>	C4
<b>Magnetic fuse tripping</b>	C6
<b>Derating</b>	60 °C ... 70 °C (2.5%/K)
<b>Connection in parallel</b>	Yes, for redundancy and increased capacity
<b>Connection in series</b>	Yes
<b>Residual ripple</b>	< 40 mV <sub>PP</sub> (with nominal values)
<b>Peak switching voltages nominal load</b>	< 40 mV <sub>PP</sub> (at nominal values, 20 MHz)
<b>Maximum power dissipation NO-Load</b>	11 W
<b>Power loss nominal load max.</b>	40 W

### General

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## Technical data

### General

<b>Net weight</b>	1.5 kg
<b>Efficiency</b>	> 93 % (at 400 V AC and nominal values)
<b>Insulation voltage input/output</b>	4 kV AC (type test)
<b>Insulation voltage input/output</b>	2 kV AC (routine test)
<b>Protection class</b>	I
<b>MTBF (IEC 61709, SN 29500)</b>	> 534000 h (According to EN 29500)
<b>Mounting position</b>	horizontal DIN rail NS 35, EN 60715
<b>Assembly instructions</b>	Alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
<b>Electromagnetic compatibility</b>	Conformance with EMC Directive 2004/108/EC
<b>Standard – Electrical equipment of machines</b>	EN 60204
<b>Standard - Safety of transformers</b>	IEC 61558-2-17
<b>Standard - Electrical safety</b>	IEC 60950-1/VDE 0805 (SELV)
<b>Shipbuilding approval</b>	Germanischer Lloyd (EMC 1), ABS, LR, RINA, NK, DNV, BV
<b>Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations</b>	EN 50178/VDE 0160 (PELV)
<b>Standard – Safety extra-low voltage</b>	IEC 60950-1 (SELV) and EN 60204 (PELV)
<b>Standard - Safe isolation</b>	DIN VDE 0100-410
<b>Standard - Safe isolation</b>	DIN VDE 0106-1010
<b>Standard – Protection against electric shock</b>	DIN 57100-410
<b>Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment</b>	DIN VDE 0106-101
<b>Standard – Limitation of mains harmonic currents</b>	EN 61000-3-2
<b>Standard - Equipment safety</b>	BG (design tested)
<b>Approval - requirement of the semiconductor industry with regard to mains voltage dips</b>	SEMI F47-0706 Compliance Certificate
<b>Information technology equipment - safety (CB scheme)</b>	CB Scheme
<b>UL approvals</b>	UL/C-UL listed UL 508
<b>UL approvals</b>	UL/C-UL Recognized UL 60950
<b>UL approvals</b>	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
<b>Surge voltage category</b>	III

### Connection data, input

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

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## Technical data

### Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	6 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	4 mm <sup>2</sup>
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	$\leq 20$ 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 <sup>2</sup>
Conductor cross section solid max.	6 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	4 mm <sup>2</sup>
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	$\leq 30$ V AC/DC
Maximum inrush current	$\leq 1$ A
Continuous load current	$\leq 1$ 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	$\leq 20$ mA
Status display	$I_{OUT} > I_N$ : LED "BOOST" yellow

# Power supply unit - QUINT-PS/ 3AC/24DC/20/CO - 2320924

## 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 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

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UL Listed / cUL Listed / cULus Listed / CSA / UL Recognized / UL Listed / cUL Recognized / GOST / GL / IECCEB Scheme / Bauartgeprüft / cULus Recognized /

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### Approval details

UL Listed
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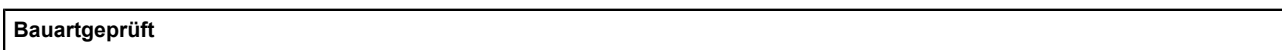
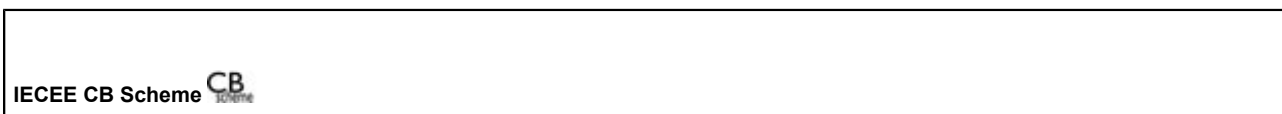
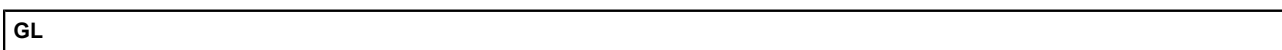
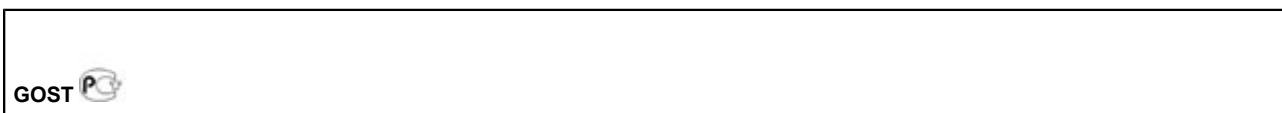
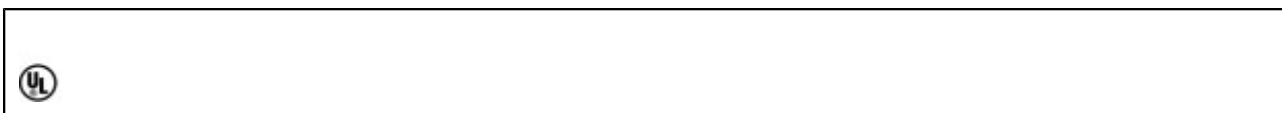
cUL Listed
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cULus Listed
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CSA
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# Power supply unit - QUINT-PS/ 3AC/24DC/20/CO - 2320924

approvals



accessories

## Mounting rail adapter

UTA 107 - 2853983



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## Assembly adapter

## Power supply unit - QUINT-PS/ 3AC/24DC/20/CO - 2320924

accessories

UWA 182/52 - 2938235

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QUINT-PS-ADAPTERS7/2 - 2938206



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### Fan

QUINT-PS/FAN/4 - 2320076



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### Redundancy module

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



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



## Power supply unit - QUINT-PS/ 3AC/24DC/20/CO - 2320924

accessories

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



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### Thermomagnetic device circuit breakers

CB TM1 1A SFB P - 2800836



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CB TM1 2A SFB P - 2800837



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CB TM1 3A SFB P - 2800838



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CB TM1 4A SFB P - 2800839





## Power supply unit - QUINT-PS/ 3AC/24DC/20/CO - 2320924

### accessories

CB TM1 5A SFB P - 2800840



CB TM1 6A SFB P - 2800841



CB TM1 8A SFB P - 2800842



CB TM1 10A SFB P - 2800843



CB TM1 12A SFB P - 2800844



CB TM1 16A SFB P - 2800845

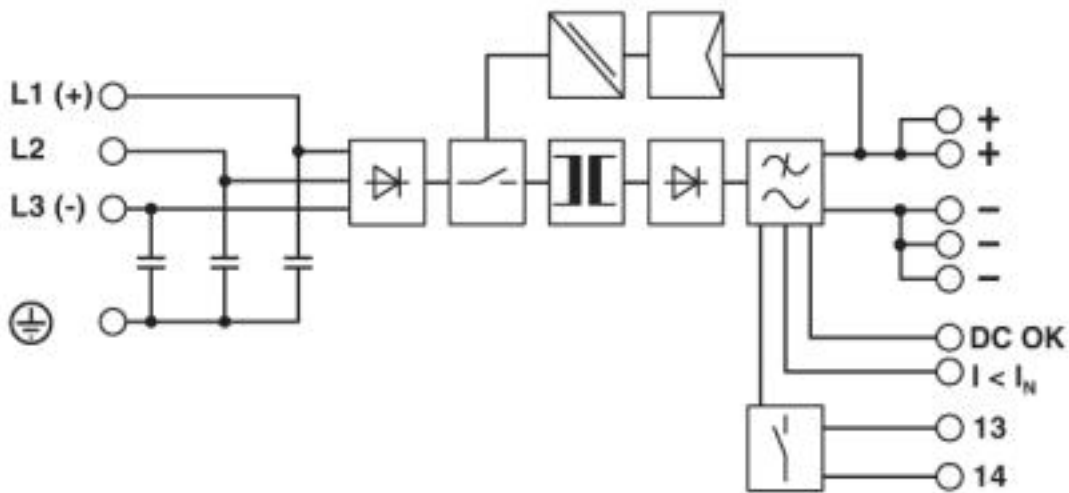


# Power supply unit - QUINT-PS/ 3AC/24DC/20/CO - 2320924

accessories

## Drawings

Block diagram



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