

# Power supply unit, dip coated - QUINT-PS/ 1AC/24DC/20/CO - 2320898

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Primary-switched QUINT power supply for DIN rail mounting, input: 1-phase, output: 24 V DC/20 A, dip-coated PCB, with integrated SFB technology (selective fuse breaking technology).

## Product Description

QUINT POWER power supply units – Superior 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 superior 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

<b>package_quantity</b>	1
<b>GTIN</b>	4046356520003

## Technical data

### Dimensions

<b>Width</b>	90 mm
<b>Height</b>	130 mm
<b>Depth</b>	125 mm
<b>Width with alternative assembly</b>	122 mm
<b>Height with alternative assembly</b>	130 mm
<b>Depth with alternative assembly</b>	93 mm

### Ambient conditions

<b>Degree of protection</b>	IP20
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### Ambient conditions

<b>Ambient temperature (operation)</b>	-40 °C ... 70 °C (> 60 °C derating)
<b>Ambient temperature (storage/transport)</b>	-40 °C ... 85 °C
<b>Max. permissible relative humidity (operation)</b>	100 % (at 25 °C, non-condensing)
<b>Noise immunity</b>	EN 61000-6-2:2005

### Input data

<b>Input voltage range</b>	85 V AC ... 264 V AC
<b>Input voltage range</b>	90 V DC ... 410 V DC +5 % (UL 508: ≤ 250 V DC)
<b>Short-term input voltage</b>	300 V AC
<b>AC frequency range</b>	45 Hz ... 65 Hz
<b>Frequency range DC</b>	0 Hz
<b>Current consumption</b>	7 A (120 V AC)
<b>Current consumption</b>	3.1 A (230 V AC)
<b>Current consumption</b>	6.3 A (110 V DC)
<b>Current consumption</b>	2.7 A (250 V DC)
<b>Inrush surge current</b>	< 20 A (typical)
<b>Power failure bypass</b>	> 20 ms (120 V AC)
<b>Power failure bypass</b>	> 20 ms (230 V AC)
<b>Input fuse</b>	12 A (slow-blow, internal)
<b>Choice of suitable fuses</b>	10 A ... 16 A (AC: Characteristics B, C, D, K)
<b>Type of protection</b>	Transient surge protection
<b>Protective circuit/component</b>	Varistor

### Output data

<b>Nominal output voltage</b>	24 V DC ±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>Output current</b>	26 A (U <sub>in</sub> ≥ 100 V AC)
<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>Control deviation</b>	< 1 % (change in load, static 10 % ... 90 %)
<b>Control deviation</b>	< 2 % (change in load, dynamic 10 % ... 90 %)
<b>Control deviation</b>	< 0.1 % (change in input voltage ±10 %)
<b>Residual ripple</b>	< 30 mV <sub>PP</sub> (with nominal values)
<b>Maximum power dissipation NO-Load</b>	8 W
<b>Power loss nominal load max.</b>	40 W

### General

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## Technical data

### General

<b>Net weight</b>	1.7 kg
<b>Efficiency</b>	> 93 % (for 230 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>	> 520000 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>Noise emission</b>	EN 50081-2
<b>Low Voltage Directive</b>	Conformance with LV directive 2006/95/EC
<b>ATEX</b>	# II 3 G Ex nA nC IIC T4 Gc
<b>ATEX</b>	SIQ 14 ATEX 137 X
<b>IECEX</b>	Ex nA nC IIC T4 Gc
<b>IECEX</b>	IECEX SIQ 14.0001X
<b>Standard – Electrical equipment of machines</b>	EN 60204
<b>Standard - Electrical safety</b>	IEC 60950-1/VDE 0805 (SELV)
<b>Shipbuilding approval</b>	Germanischer Lloyd (EMC 1, only with upstream filter), 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>Standard - Approval for medical use</b>	IEC 60601
<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
<b>DeviceNet approval</b>	DeviceNet™ Power Supply Conformance Tested

### Connection data, input

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## Technical data

### Connection data, input

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.	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 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
Maximum inrush current	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
Note on status display	$I_{OUT} < I_N$ : LED ON
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

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## Technical data

### Signaling

Continuous load current	$\leq 1 \text{ A}$
Status display	$U_{\text{OUT}} > 0.9 \times U_{\text{N}}$ : "DC OK" LED green
Note on status display	$U_{\text{OUT}} < 0.9 \times U_{\text{N}}$ : Flashing "DC OK" LED
Output name	POWER BOOST, active
Output description	$I_{\text{OUT}} < I_{\text{N}}$ : High signal
Output voltage	+ 24 V DC
Maximum inrush current	min. 20 mA (short-circuit resistant)
Continuous load current	$\leq 20 \text{ mA}$
Status display	$I_{\text{OUT}} > I_{\text{N}}$ : LED "BOOST" yellow

## 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 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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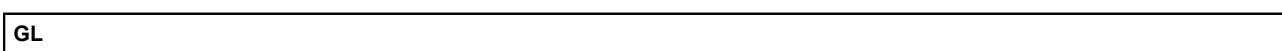
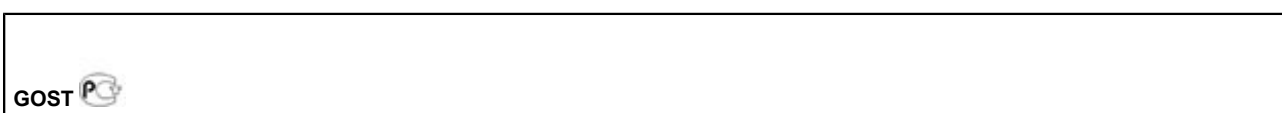
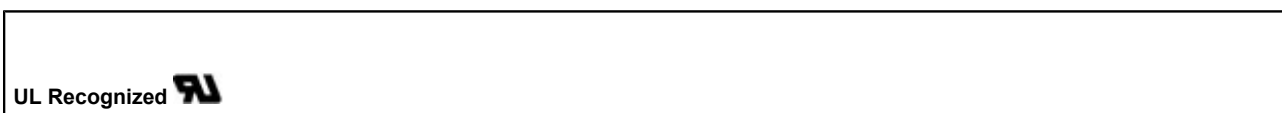
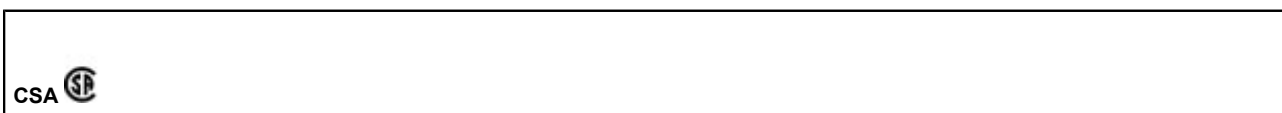
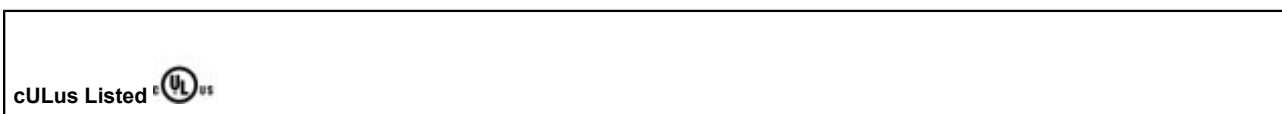
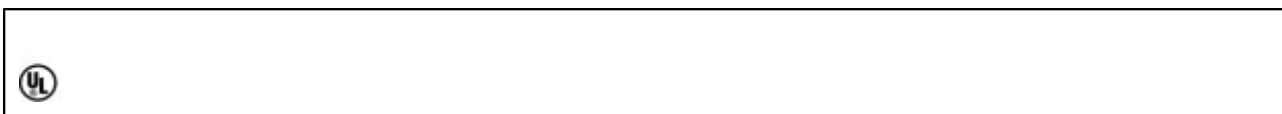
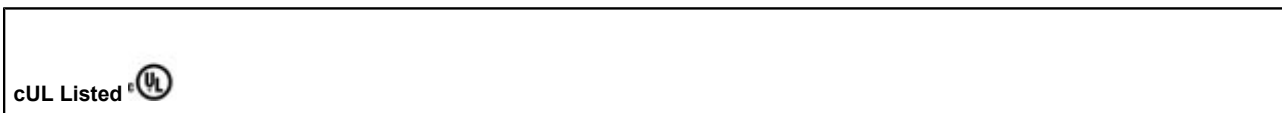
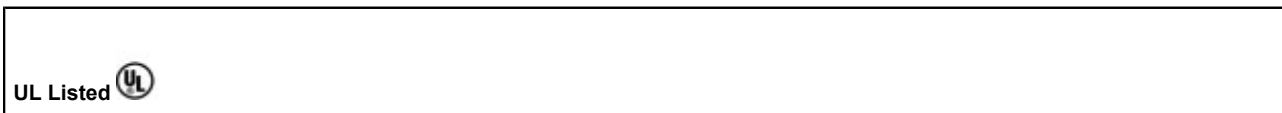
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## Approval details

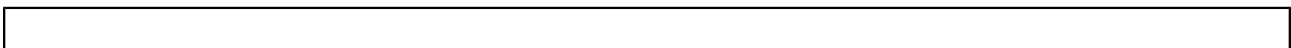
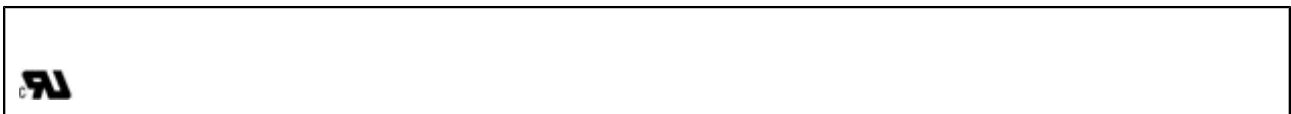
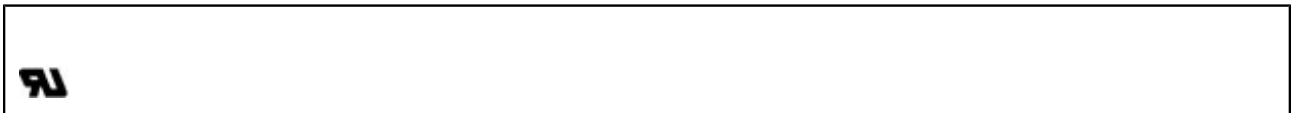
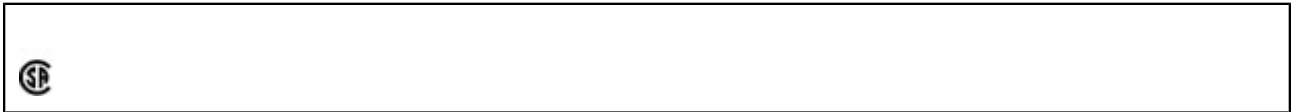
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approvals



# Power supply unit, dip coated - QUINT-PS/ 1AC/24DC/20/ CO - 2320898

approvals



accessories

**Mounting rail adapter**

## Power supply unit, dip coated - QUINT-PS/ 1AC/24DC/20/ CO - 2320898

accessories

UTA 107 - 2853983



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### Assembly adapter

UWA 182/52 - 2938235



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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





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accessories

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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



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### 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



# Power supply unit, dip coated - QUINT-PS/ 1AC/24DC/20/CO - 2320898

## accessories

CB TM1 16A SFB P - 2800845



## accessories

ME-MAX-NEF/QUINT20A - 2319919



## Drawings

### Block diagram

