

# Power supply unit - QUINT-PS/ 1AC/24DC/ 3.5 - 2866747

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Primary-switched QUINT power supply for DIN rail mounting, input: 1-phase, output: 24 V DC/3.5 A, with integrated SFB (selective fuse breaking) technology, including mounted universal DIN rail adapter UTA 107/30

## 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 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
- For maximum system availability
- Preventive function monitoring



## Key commercial data

package_quantity	1
GTIN	4046356113779

## Technical data

### Dimensions

Width	32 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	35 mm

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, no condensation)

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## Technical data

### Ambient conditions

<b>Noise immunity</b>	EN 61000-6-2:2005
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### Input data

<b>Nominal input voltage range</b>	100 V AC ... 240 V AC
<b>Input voltage range AC</b>	85 V AC ... 264 V AC
<b>Input voltage range DC</b>	90 V DC ... 350 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>	1.4 A (120 V AC)
<b>Current consumption</b>	0.8 A (230 V AC)
<b>Inrush surge current</b>	< 20 A (typical)
<b>Power failure bypass</b>	> 20 ms (120 V AC)
<b>Power failure bypass</b>	> 80 ms (230 V AC)
<b>Input fuse</b>	5 A (slow-blow, internal)
<b>Choice of suitable fuses</b>	6 A ... 20 A (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 $\pm$ 1%
<b>Setting range of the output voltage</b>	18 V DC ... 29.5 V DC (> 24 V constant capacity)
<b>Output current</b>	3.5 A (-25°C ... 60°C, U <sub>OUT</sub> = 24 V DC)
<b>Output current</b>	4 A (with POWER BOOST, -25°C ... 40°C permanently, U <sub>OUT</sub> = 24 V DC)
<b>Output current</b>	15 A (SFB technology, 12 ms)
<b>Output current</b>	4 A (U <sub>IN</sub> $\geq$ 100 V AC)
<b>Magnetic fuse tripping</b>	B2
<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 $\pm$ 10%)
<b>Residual ripple</b>	< 50 mV <sub>PP</sub> (with nominal values)
<b>Maximum power dissipation NO-Load</b>	3.5 W
<b>Power loss nominal load max.</b>	11 W

### General

<b>Net weight</b>	0.5 kg
<b>Operating voltage display</b>	Green LED
<b>Efficiency</b>	> 88 % (for 230 V AC and nominal values)
<b>Insulation voltage input/output</b>	4 kV AC (type test)

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## Technical data

### General

Insulation voltage input/output	2 kV AC (routine test)
Protection class	I
MTBF (IEC 61709, SN 29500)	> 820000 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
Noise emission	EN 50081-2
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, 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)
Standard - Approval for medical use	IEC 60601
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
UL approvals	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Surge voltage category	III
DeviceNet approval	DeviceNet™ Power Supply Conformance Tested

### Connection data, input

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	20
Conductor cross section AWG/kcmil max	12
Stripping length	7 mm
Screw thread	M3

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## Technical data

### Connection data, output

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
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 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.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
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, $U_{OUT} > 0.9 \times U_N$ : Contact closed
Maximum switching voltage	30 V AC/DC
Maximum switching voltage	24 V DC
Maximum inrush current	$\leq 0.5$ A
Maximum inrush current	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	20 mA (short-circuit resistant)
Continuous load current	$\leq 20$ 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	27242213
eCl@ss 5.1	27242213
eCl@ss 6.0	27049005
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

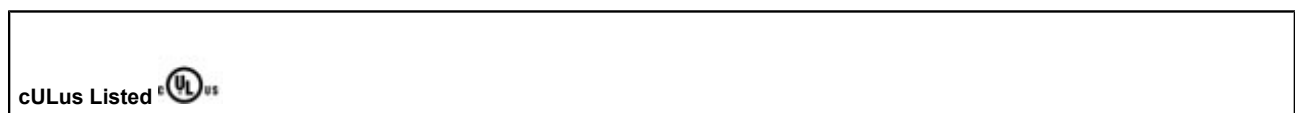
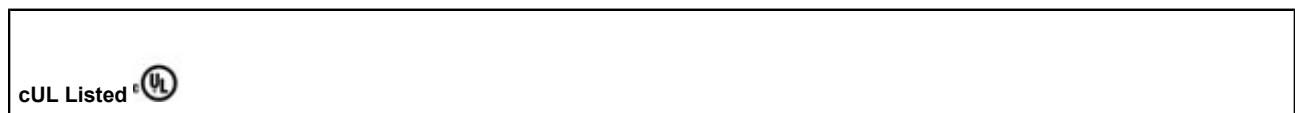
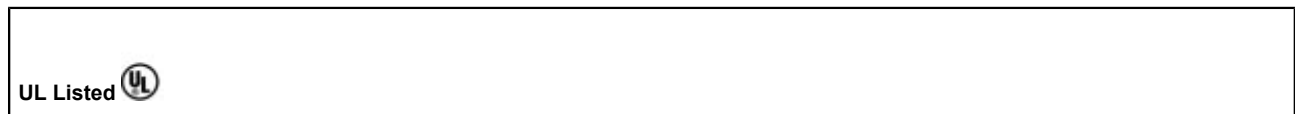
### UNSPSC

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 / ABS / NK / RINA / DeviceNet™ / IECCEB Scheme / SEMI F47 / cULus Recognized /

### Approval details



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approvals

UL Recognized

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SEMI F47

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accessories

### Assembly adapter

UTA 107/30 - 2320089



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UWA 182/52 - 2938235

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QUINT-PS-ADAPTERS7/1 - 2938196



### Fan

QUINT-PS/FAN/4 - 2320076



### Redundancy module

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



# Power supply unit - QUINT-PS/ 1AC/24DC/ 3.5 - 2866747

accessories

QUINT-ORING/24DC/2X10/1X20 - 2320173



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



## Thermomagnetic device circuit breakers

CB TM1 1A SFB P - 2800836



## Drawings

Block diagram

