

# Power supply unit - QUINT-PS/ 1AC/24DC/40 - 2866789

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Primary-switched QUINT power supply for DIN rail mounting, input: 1-phase, output: 24 V DC/40 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

- For maximum system availability
- 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
- Reliable starting of difficult loads with the static POWER BOOST power reserve with up to 1.5 times the nominal current permanently
- Preventive function monitoring



## Key commercial data

package_quantity	1
GTIN	4046356421720

## Technical data

### Dimensions

Width	180 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	183 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)

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## Technical data

### Ambient conditions

Noise immunity	EN 61000-6-2:2005
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### Input data

Nominal input voltage range	100 V AC ... 240 V AC
Nominal input voltage range	120 V DC ... 300 V DC (UL 508: ≤ 250 V DC)
Input voltage range AC	85 V AC ... 264 V AC
Input voltage range DC	90 V DC ... 300 V DC (UL 508: ≤ 250 V DC)
Short-term input voltage	max. 300 V AC
AC frequency range	45 Hz ... 65 Hz
Frequency range DC	0 Hz
Current consumption	8.8 A (120 V AC)
Current consumption	4.6 A (230 V AC)
Current consumption	8.8 A (120 V DC)
Current consumption	4.2 A (250 V DC)
Inrush surge current	< 15 A (typical)
Power failure bypass	> 20 ms (120 V AC)
Power failure bypass	> 20 ms (230 V AC)
Input fuse	20 A (fast blow, internal)
Choice of suitable fuses	16 A ... 20 A (Characteristics B, C, D, K)
Type of protection	Transient surge protection
Protective circuit/component	Varistor

### Output data

Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	40 A (-25°C ... 60°C, U <sub>OUT</sub> = 24 V DC)
Output current	45 A (with POWER BOOST, -25°C ... 40°C permanently, U <sub>OUT</sub> = 24 V DC)
Output current	215 A (SFB technology, 12 ms)
Output current	215 A (U <sub>in</sub> ≥ 100 V AC, ≥ 120 V DC)
Magnetic fuse tripping	B2
Magnetic fuse tripping	B4
Magnetic fuse tripping	B6
Magnetic fuse tripping	B10
Magnetic fuse tripping	B16
Magnetic fuse tripping	B25
Magnetic fuse tripping	C2
Magnetic fuse tripping	C4
Magnetic fuse tripping	C6
Magnetic fuse tripping	C13
Derating	60 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased power (see data sheet Section 15/Parallel operation function)

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## Technical data

### Output data

Connection in series	Yes
Residual ripple	< 30 mV <sub>PP</sub> (with nominal values)
Maximum power dissipation NO-Load	14 W
Power loss nominal load max.	80 W

### General

Net weight	3.3 kg
Efficiency	> 92 % (for 230 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)	> 530000 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, 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 0106-101
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	BG (design tested)
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

### 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>

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### Technical data

#### Connection data, input

Conductor cross section stranded max.	4 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	14
Conductor cross section AWG/kcmil max	10
Stripping length	7 mm
Screw thread	M3

#### Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.5 mm <sup>2</sup>
Conductor cross section solid max.	16 mm <sup>2</sup>
Conductor cross section stranded min.	0.5 mm <sup>2</sup>
Conductor cross section stranded max.	16 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	8
Conductor cross section AWG/kcmil max	6
Stripping length	10 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	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.	24
Conductor cross section AWG/kcmil max	10
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
Maximum switching voltage	24 V DC
Maximum inrush current	0.5 A
Maximum inrush current	1 A
Continuous load current	1 A
Status display	$U_{OUT} > 0.9 \times U_N$ : "DC OK" LED green

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## Technical data

### Signaling

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

## classifications

### eCl@ss

<b>eCl@ss 4.0</b>	27040702
<b>eCl@ss 4.1</b>	27040702
<b>eCl@ss 5.0</b>	27049002
<b>eCl@ss 5.1</b>	27049002
<b>eCl@ss 6.0</b>	27049002
<b>eCl@ss 7.0</b>	27049002
<b>eCl@ss 8.0</b>	27049002

### ETIM

<b>ETIM 2.0</b>	EC001039
<b>ETIM 3.0</b>	EC001039
<b>ETIM 4.0</b>	EC000599
<b>ETIM 5.0</b>	EC002540

### UNSPSC

<b>UNSPSC 6.01</b>	30211502
<b>UNSPSC 7.0901</b>	39121004
<b>UNSPSC 11</b>	39121004
<b>UNSPSC 12.01</b>	39121004
<b>UNSPSC 13.2</b>	39121004

## approvals

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

### Approval details

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approvals

cUL Listed 

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BV-CPS

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BV

ABS

RINA

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### approvals

NK

DNV

LR

SEMI F47

Bauartgeprüft

cULus Recognized  US

### accessories

#### Mounting rail adapter

UTA 107 - 2853983



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#### Assembly adapter

UWA 130 - 2901664



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UWA 182/52 - 2938235

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accessories

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### Fan

QUINT-PS/FAN/4 - 2320076



### Redundancy module

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





## Power supply unit - QUINT-PS/ 1AC/24DC/40 - 2866789

### accessories

CB TM1 3A SFB P - 2800838



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



# Power supply unit - QUINT-PS/ 1AC/24DC/40 - 2866789

accessories

CB TM1 12A SFB P - 2800844



CB TM1 16A SFB P - 2800845



## Drawings

Block diagram

