

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 technology (selective fuse breaking).

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

- 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 superior 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, non-condensing)

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Technical data

Ambient conditions

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

Input voltage range	85 V AC ... 264 V AC
Input voltage range	90 V DC ... 350 V DC
Short-term input voltage	300 V AC
AC frequency range	45 Hz ... 65 Hz
Frequency range DC	0 Hz
Current consumption	1.4 A (120 V AC)
Current consumption	0.8 A (230 V AC)
Inrush surge current	< 20 A (typical)
Power failure bypass	> 20 ms (120 V AC)
Power failure bypass	> 80 ms (230 V AC)
Input fuse	5 A (slow-blow, internal)
Choice of suitable fuses	6 A ... 20 A (AC: Characteristics B, C, D, K)
Type of protection	Transient surge protection
Protective circuit/component	Varistor

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	3.5 A (-25°C ... 60°C, $U_{OUT} = 24$ V DC)
Output current	4 A (with POWER BOOST, -25°C ... 40°C permanently, $U_{OUT} = 24$ V DC)
Output current	15 A (SFB technology, 12 ms)
Output current	4 A ($U_{in} \geq 100$ V AC)
Derating	60 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	Yes
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
Control deviation	< 2 % (change in load, dynamic 10 % ... 90 %)
Control deviation	< 0.1 % (change in input voltage ± 10 %)
Residual ripple	< 50 mV _{PP} (with nominal values)
Maximum power dissipation NO-Load	3.5 W
Power loss nominal load max.	11 W

General

Net weight	0.5 kg
Operating voltage display	Green LED
Efficiency	> 88 % (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

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Technical data

General

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 ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Conductor cross section AWG/kcmil min.	20
Conductor cross section AWG/kcmil max	12
Stripping length	7 mm
Screw thread	M3

Connection data, output

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Technical data

Connection data, output

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
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	≤ 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 ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
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	≤ 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
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	≤ 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

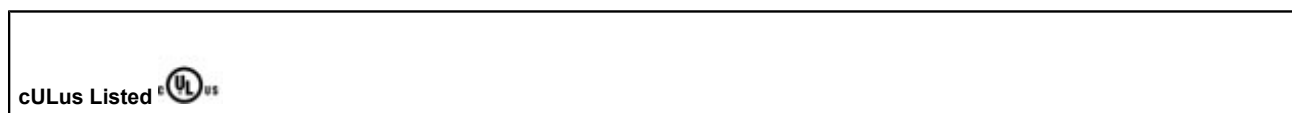
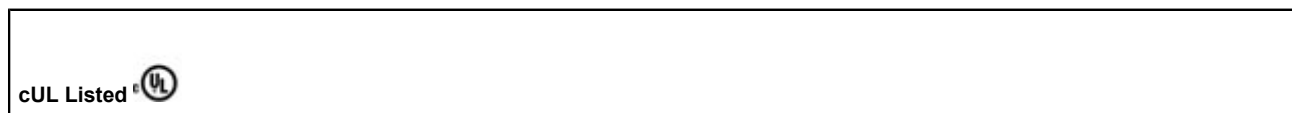
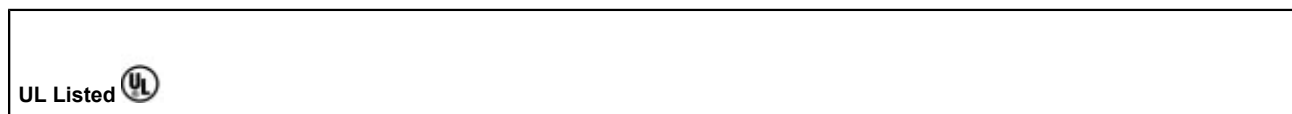
UNSPSC

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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UL Recognized

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RINA

DeviceNet™

IECEE CB Scheme

SEMI F47

cULus Recognized

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accessories

Assembly adapter

UTA 107/30 - 2320089



UWA 182/52 - 2938235



QUINT-PS-ADAPTERS7/1 - 2938196



Fan

QUINT-PS/FAN/4 - 2320076



Redundancy module

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



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accessories

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



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



Thermomagnetic device circuit breakers

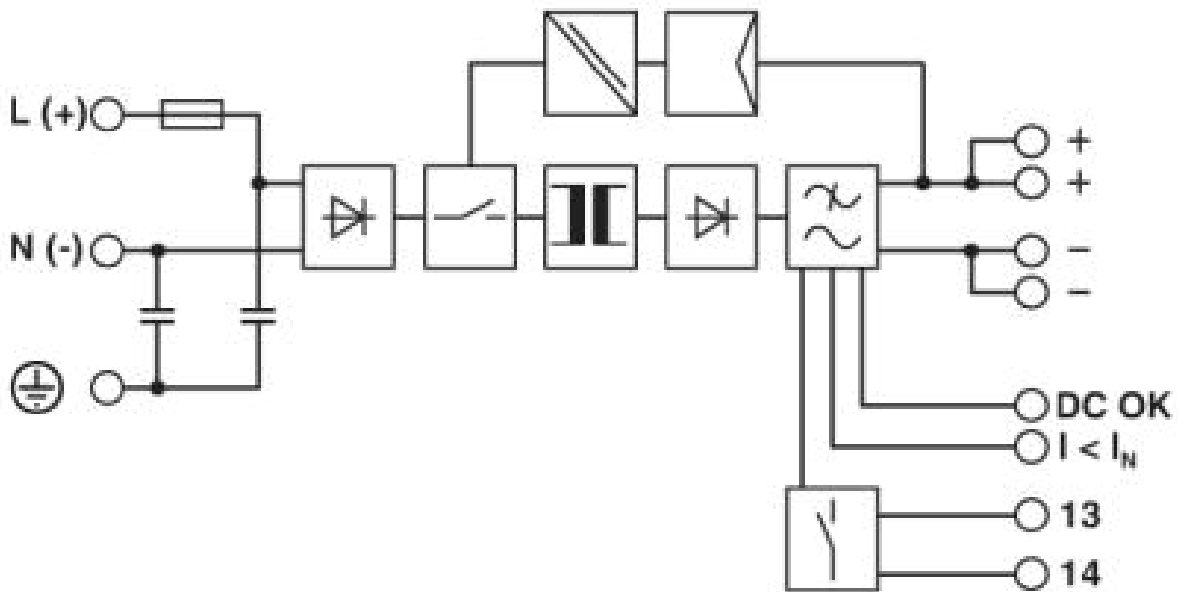
CB TM1 1A SFB P - 2800836



Drawings

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

Block diagram



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