

Power supply unit - QUINT-PS/3AC/24DC/ 5 - 2866734

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Primary-switched QUINT POWER power supply for DIN rail mounting with SFB (Selective Fuse Breaking) Technology, input: 3-phase, output: 24 V DC/5 A

Product description

QUINT POWER power supplies with maximum functionality

QUINT POWER circuit breakers magnetically and therefore quickly trip at six times the nominal current, for selective and therefore cost-effective system protection. The high level of system availability is additionally ensured, thanks to preventive function monitoring, as it reports critical operating states before errors occur.

Reliable starting of heavy loads takes place via the static power reserve POWER BOOST. Thanks to the adjustable voltage, all ranges between 5 V DC ... 56 V DC are covered.

Why buy this product

- High level of system availability even in the event of permanent phase failure
- Reliable starting of difficult loads
- Preventive function monitoring
-



Key commercial data

Packing unit	1 pc
GTIN	 4 046356 155441
Weight per Piece (excluding packing)	700.0 g
Custom tariff number	85044030
Country of origin	Thailand

Technical data

Dimensions

Width	40 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	43 mm

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Technical data

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating, 2.5 %/K, startup at -40°C type-tested)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Noise immunity	EN 61000-6-2:2005

Input data

Nominal input voltage range	3x 400 V AC ... 500 V AC
Input voltage range	3x 320 V AC ... 575 V AC
	2x 360 V AC ... 575 V AC
	450 V DC ... 800 V DC
AC frequency range	45 Hz ... 65 Hz
Frequency range DC	0 Hz
Inrush surge current	< 15 A (typical)
Power failure bypass	> 20 ms (400 V AC)
	> 30 ms (500 V AC)
Choice of suitable fuses	6 A ... 16 A (AC: Characteristics B, C, D, K)
Type of protection	Transient surge protection
Protective circuit/component	Varistor, gas-filled surge arrester

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)
Nominal output current	5 A (-25°C ... 60°C, U _{OUT} = 24 V DC)
POWER BOOST	7.5 A (-25°C ... 40°C permanent, U _{OUT} = 24 V DC)
SFB technology current reserve	30 A (12 ms)
Derating	60 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	Yes
Residual ripple	< 20 mV _{PP} (with nominal values)
Peak switching voltages nominal load	< 20 mV _{PP} (at nominal values, 20 MHz)
Maximum power dissipation NO-Load	4 W
Power loss nominal load max.	14 W

General

Net weight	0.7 kg
Operating voltage display	Green LED
Efficiency	> 89 % (at 400 V AC and nominal values)
Insulation voltage input/output	4 kV AC (type test)
	2 kV AC (routine test)
Protection class	I
	> 635000 h (40°C)

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General

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
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
	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)
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/C-UL Recognized UL 60950-1 (3-wire + PE, star net)
	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	Pluggable screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	20
Conductor cross section AWG max.	12
Stripping length	7 mm
Screw thread	M3

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 flexible min.	0.2 mm ²

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Connection data, output

Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	20
Conductor cross section AWG max.	12
Stripping length	7 mm
Screw thread	M3

Signaling

Output name	DC OK active
Output description	$U_{OUT} > 0.9 \times U_N$: High signal
Maximum switching voltage	+ 24 V DC
Output voltage	+ 24 V DC
Maximum inrush current	min. 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
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	20
Conductor cross section AWG 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 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
Maximum switching voltage	+ 24 V DC
Output voltage	+ 24 V DC
Maximum inrush current	min. 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	27049002
eCl@ss 5.1	27049002
eCl@ss 6.0	27049002
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

Approvals

Approvals

CSA / UL Recognized / UL Listed / cUL Recognized / LR / GL / BV / ABS / NK / RINA / IECCEB Scheme / SEMI F47 / cUL Recognized / BV / ABS / RINA / SEMI F47 / CSA / UL Recognized / UL Listed / LR / GL / NK / IECCEB Scheme / EAC / EAC / cULus Recognized

Ex Approvals

UL Listed / cUL Listed / UL Listed / cUL Listed / cULus Listed


Approvals submitted


Approval details


CSA

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Approvals

UL Recognized 

UL Listed 

cUL Recognized 

LR


GL

BV


ABS

NK

RINA

IECEE CB Scheme 

SEMI F47

cUL Recognized 

BV

ABS


RINA

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Approvals

SEMI F47

CSA 


UL Recognized 

UL Listed 

LR


GL

NK

IECEE CB Scheme 

EAC

EAC

cULus Recognized 

Accessories

Accessories

Assembly adapter

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Accessories

Assembly adapters - UTA 107/30 - 2320089



Universal DIN rail adapter

Assembly adapters - UWA 182/52 - 2938235



Universal wall adapter

Assembly adapters - QUINT-PS-ADAPTERS7/1 - 2938196



Assembly adapter for QUINT-PS... power supply on S7-300 rail

Fan

Fan - QUINT-PS/FAN/4 - 2320076



The fan for QUINT-PS/1AC and .../3AC can be mounted without the need for tools or other accessories. By using the fan, optimum cooling is ensured at high ambient temperatures or if the mounting position is rotated.

Redundancy module

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



DIN rail diode module 12-24 V DC/2x20 A or 1x40 A. Uniform redundancy up to the consumer.

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Accessories

Redundancy module, with protective coating - QUINT-ORING/24DC/2X10/1X20 - 2320173



Active QUINT redundancy module for DIN rail mounting with ACB technology (Active Current Balancing) and monitoring functions, input: 24 V DC, output: 24 V DC/2 x 10 A or 1 x 20 A, including mounted universal DIN rail adapter UTA 107/30

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



Redundancy module with function monitoring, 12-24 V DC, 2x 10 A, 1x 20 A

Thermomagnetic device circuit breakers

Thermomagnetic device circuit breaker - CB TM1 1A SFB P - 2800836



Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

Thermomagnetic device circuit breaker - CB TM1 2A SFB P - 2800837



Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

Drawings

Block diagram

