

Power supply unit - QUINT-PS/3AC/24DC/10 - 2866705

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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/10 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.

Product Features

- 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 |
| Weight per Piece (excluding packing) | 1400.0 g |
| Custom tariff number | 85044030 |
| Country of origin | Thailand |

Technical data

Dimensions

| | |
|----------------------------------|--------|
| Width | 60 mm |
| Height | 130 mm |
| Depth | 125 mm |
| Width with alternative assembly | 122 mm |
| Height with alternative assembly | 130 mm |

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Dimensions

| | |
|---------------------------------|-------|
| Depth with alternative assembly | 63 mm |
|---------------------------------|-------|

Ambient conditions

| | |
|--|--|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -25 °C ... 70 °C (> 60 °C Derating: 2,5 %/K) |
| 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 |
| Maximum altitude | 4500 m |

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 |
| Discharge current to PE | < 3.5 mA |
| Current consumption | 3x 1.2 A (400 V AC) |
| | 3x 1 A (500 V AC) |
| | 0.4 A (600 V DC) |
| Inrush surge current | < 15 A (typical) |
| Power failure bypass | > 30 ms (400 V AC) |
| | > 46 ms (500 V AC) |
| Choice of suitable circuit breakers | 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 (U_{Set}) | 18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted) |
| Nominal output current (I_N) | 10 A (-25°C ... 60°C, $U_{OUT} = 24$ V DC) |
| POWER BOOST (I_{Boost}) | 15 A (-25°C ... 40°C permanent, $U_{OUT} = 24$ V DC) |
| Selective Fuse Breaking (I_{SFB}) | 60 A (12 ms) |
| 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 %) |
| | < 3 % (change in load, dynamic 10 % ... 90 %) |

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Output data

| | |
|--|---|
| | < 0.1 % (change in input voltage ± 10 %) |
| Residual ripple | < 20 mV _{PP} (with nominal values) |
| Output power | 240 W |
| Typical response time | < 0.45 s |
| Peak switching voltages nominal load | < 20 mV _{PP} (at nominal values, 20 MHz) |
| Maximum power dissipation in no-load condition | 7 W |
| Power loss nominal load max. | 19 W |

General

| | |
|---------------------------------|---|
| Net weight | 1.1 kg |
| Operating voltage display | Green LED |
| Efficiency | > 93 % (at 400 V AC and nominal values) |
| Insulation voltage input/output | 4 kV AC (type test) 2 kV AC (routine test) |
| Protection class | I |
| MTBF (IEC 61709, SN 29500) | > 1100000 h (25 °C) > 630000 h (40°C) > 280000 s (60°C) |
| Mounting position | horizontal DIN rail NS 35, EN 60715 |
| Assembly instructions | Alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically |

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. | 16 |
| 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 |
| Conductor cross section flexible max. | 2.5 mm ² |

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Connection data, output

| | |
|----------------------------------|------|
| Conductor cross section AWG min. | 16 |
| Conductor cross section AWG max. | 12 |
| Stripping length | 7 mm |
| Screw thread | M3 |

Connection data for signaling

| | |
|---------------------------------------|---------------------|
| 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. | 16 |
| Conductor cross section AWG max. | 12 |
| Screw thread | M3 |

Standards and Regulations

| | |
|--|--|
| Electromagnetic compatibility | Conformance with EMC Directive 2004/108/EC |
| Shock | 30g in each direction, according to IEC 60068-2-27 |
| Noise immunity | EN 61000-6-2:2005 |
| Connection in acc. with standard | CSA |
| Standards/regulations | EN 61000-4-3 |
| | EN 61000-4-4 |
| | EN 61000-4-6 |
| Standard – Electrical equipment of machines | EN 60204-1 |
| Standard - Electrical safety | IEC 60950-1/VDE 0805 (SELV) |
| 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 60204-1 (PELV) |
| Standard - Safe isolation | DIN VDE 0100-410 |
| Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment | EN 50178 |
| Standard – Limitation of mains harmonic currents | EN 61000-3-2 |
| Standard - Equipment safety | GS (tested safety) |
| Standard - Approval for medical use | IEC 60601-1, 2 x MOOP |
| Shipbuilding approval | Germanischer Lloyd (EMC 1), ABS, LR, RINA, NK, DNV, BV |
| 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) |
| Vibration (operation) | < 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6) |

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Standards and Regulations

| | |
|--|--|
| Low Voltage Directive | Conformance with LV directive 2006/95/EC |
| 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 |
| Rail applications | EN 50121-4 |

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 |
| eCl@ss 9.0 | 27040701 |

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

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CSA / UL Recognized / UL Listed / cUL Recognized / LR / GL / BV / DNV / ABS / NK / RINA / BSH / IECCE CB Scheme / SEMI F47 / IECCE CB Scheme / EAC / EAC / GL / BV / ABS / NK / RINA / BSH / SEMI F47 / cULus Recognized

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Approvals

Ex Approvals

UL Listed / cUL Listed / cUL Listed / cULus Listed

Approvals submitted

Approval details

CSA 

UL Recognized 

UL Listed 

cUL Recognized 

LR

GL

BV

DNV

ABS


NK

RINA

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Approvals

BSH

IECEE CB Scheme 

SEMI F47

IECEE CB Scheme 

EAC

EAC

GL

BV


ABS

NK

RINA

BSH

SEMI F47

cULus Recognized  US

Drawings

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Block diagram

