

Power supply unit - QUINT-PS/3AC/48DC/20 - 2320827

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Primary-switched QUINT POWER power supply for DIN rail mounting with SFB (Selective Fuse Breaking) Technology, input: 3-phase, output: 48 V DC/20 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

- ✓ Adjustable output voltage of 30 to 56 V DC
- ✓ 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
- ✓ Preventive function monitoring indicates critical operating states before errors occur



Key Commercial Data

| | |
|--------------------------------------|----------|
| Packing unit | 1 pc |
| Weight per Piece (excluding packing) | 2960.0 g |
| Custom tariff number | 85044030 |
| Country of origin | Thailand |

Technical data

Dimensions

| | |
|---------------------------------|--------|
| Width | 96 mm |
| Height | 130 mm |
| Depth | 179 mm |
| Width with alternative assembly | 176 mm |

Power supply unit - QUINT-PS/3AC/48DC/20 - 2320827

Technical data

Dimensions

| | |
|----------------------------------|--------|
| Height with alternative assembly | 130 mm |
| Depth with alternative assembly | 99 mm |

Ambient conditions

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|--|--|
| 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 | 4000 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 (Not approved by UL) |
| | 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 |
| Inrush surge current | < 20 A (typical) |
| Power failure bypass | > 25 ms (400 V AC) |
| | > 35 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 |

Output data

| | |
|-------------------------------------|---|
| Nominal output voltage | 48 V DC ±1 % |
| Setting range of the output voltage | 30 V DC ... 56 V DC (> 48 V DC, constant capacity restricted) |
| Nominal output current | 20 A (-25°C ... 60°C, U _{OUT} = 48 V DC) |
| POWER BOOST | 22.5 A (-25°C ... 40°C permanent, U _{OUT} = 48 V DC) |
| SFB technology current reserve | 100 A (12 ms) |
| Derating | 60 °C ... 70 °C (2.5%/K) |
| Connection in parallel | Yes, for redundancy and increased capacity |
| Connection in series | Yes |
| Active current limitation | Approx. I _{BOOST} = 22.5 A (for short-circuit) |
| Control deviation | < 1 % (change in load, static 10 % ... 90 %) |
| | < 4 % (change in load, dynamic 10 % ... 90 %) |
| | < 0.1 % (change in input voltage ±10 %) |

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Output data

| | |
|--|---|
| Residual ripple | < 50 mV _{PP} (with nominal values) |
| Output power | 960 W |
| Typical response time | < 1 s |
| Maximum power dissipation in no-load condition | 24 W |
| Power loss nominal load max. | 70 W |

General

| | |
|---------------------------------|---|
| Net weight | 2.5 kg |
| 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) | > 890000 h (25 °C) > 509000 h (40 °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 | Screw connection |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 6 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 4 mm ² |
| Conductor cross section AWG min. | 18 |
| Conductor cross section AWG max. | 10 |
| Stripping length | 7 mm |
| Screw thread | M3 |

Connection data, output

| | |
|---------------------------------------|---------------------|
| Connection method | Screw connection |
| Conductor cross section solid min. | 0.5 mm ² |
| Conductor cross section solid max. | 16 mm ² |
| Conductor cross section flexible min. | 0.5 mm ² |
| Conductor cross section flexible max. | 16 mm ² |
| Conductor cross section AWG min. | 8 |
| Conductor cross section AWG max. | 6 |
| Stripping length | 10 mm |
| Screw thread | M3 |

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Technical data

Connection data for signaling

| | |
|---------------------------------------|---------------------|
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 6 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 4 mm ² |
| Conductor cross section AWG min. | 18 |
| Conductor cross section AWG max. | 10 |
| 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 - Safety of transformers | IEC 61558-2-17 |
| 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 | BG (design tested) |
| Standard - Approval for medical use | IEC 60601-1, 2 x MOOP |
| 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) |
| Low Voltage Directive | Conformance with LV directive 2006/95/EC |
| Information technology equipment - safety (CB scheme) | CB Scheme |
| Rail applications | EN 50121-4 |

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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 | 27049002 |
| eCl@ss 7.0 | 27049002 |
| eCl@ss 8.0 | 27049002 |
| eCl@ss 9.0 | 27040701 |

ETIM

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|----------|----------|
| ETIM 3.0 | EC001039 |
| ETIM 4.0 | EC002540 |
| ETIM 5.0 | EC002540 |

UNSPSC

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|---------------|----------|
| UNSPSC 6.01 | 30211502 |
| UNSPSC 7.0901 | 39121004 |
| UNSPSC 11 | 39121004 |
| UNSPSC 12.01 | 39121004 |
| UNSPSC 13.2 | 39121004 |

Approvals

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CSA / UL Listed / cUL Listed / IECCE CB Scheme / UL Recognized / cUL Recognized / cUL Recognized / Bauartgeprüft / Bauartgeprüft / CSA / UL Recognized / UL Listed / cUL Listed / IECCE CB Scheme / EAC / EAC / cULus Recognized / cULus Listed

Ex Approvals

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


Approvals submitted

Approval details


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Approvals


CSA 


UL Listed 

cUL Listed 

IECEE CB Scheme 

UL Recognized 

cUL Recognized 

cUL Recognized 

Bauartgeprüft

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CSA 

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Drawings

Block diagram

