

## Power supply unit - QUINT-PS/1AC/48DC/10 - 2866682

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Primary-switched QUINT POWER power supply for DIN rail mounting with SFB (Selective Fuse Breaking) Technology, input: 1-phase, output: 48 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

- Quick tripping of standard circuit breakers
- Reliable starting of difficult loads
- Preventive function monitoring



### Key Commercial Data

|                                      |          |
|--------------------------------------|----------|
| Packing unit                         | 1 pc     |
| Weight per Piece (excluding packing) | 2179.4 g |
| Custom tariff number                 | 85044030 |
| Country of origin                    | Thailand |

### Technical data

#### Dimensions

|                                  |        |
|----------------------------------|--------|
| Width                            | 90 mm  |
| Height                           | 130 mm |
| Depth                            | 125 mm |
| Width with alternative assembly  | 122 mm |
| Height with alternative assembly | 130 mm |

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## Technical data

### Dimensions

|                                 |       |
|---------------------------------|-------|
| Depth with alternative assembly | 93 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                               | 6000 m                                       |

### Input data

|                                     |  |
|-------------------------------------|--|
| Nominal input voltage range         | 100 V AC ... 240 V AC                          |
| Input voltage range                 | 85 V AC ... 264 V AC                           |
|                                     | 90 V DC ... 350 V DC (UL 508: ≤ 250 V DC)      |
| Dielectric strength maximum         | 300 V AC                                       |
| AC frequency range                  | 45 Hz ... 65 Hz                                |
| Frequency range DC                  | 0 Hz   |
| Discharge current to PE             | < 3.5 mA                                       |
| Current consumption                 | 5.1 A (120 V AC)                               |
|                                     | 2.3 A (230 V AC)                               |
|                                     | 4.8 A (110 V DC)                               |
|                                     | 2.4 A (220 V DC)                               |
| Inrush surge current                | < 20 A (typical)                               |
| Power failure bypass                | > 20 ms (120 V AC)                             |
|                                     | > 20 ms (230 V AC)                             |
| Input fuse                          | 12 A (slow-blow, internal)                     |
| Choice of suitable circuit breakers | 10 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 (U <sub>Set</sub> ) | 30 V DC ... 56 V DC (> 48 V DC, constant capacity restricted) |
| Nominal output current (I <sub>N</sub> )                | 10 A (-25°C ... 60°C, U <sub>OUT</sub> = 48 V DC)             |
| POWER BOOST (I <sub>Boost</sub> )                       | 13 A (-25°C ... 40°C permanent, U <sub>OUT</sub> = 48 V DC)   |
| Selective Fuse Breaking (I <sub>SFB</sub> )             | 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   |

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## Technical data

### Output data

|  |   |
|--|---|
| Active current limitation                      | $I_{BOOST} = 13 \text{ A}$ (for short-circuit), approximately |
| Control deviation                              | < 1 % (change in load, static 10 % ... 90 %)                  |
|  | < 2 % (change in load, dynamic 10 % ... 90 %)                 |
|  | < 0.1 % (change in input voltage $\pm 10 \%$ )                |
| Residual ripple                                | < 80 mV <sub>PP</sub> (with nominal values)                   |
| Output power                                   | 480 W   |
| Typical response time                          | < 1 s   |
| Maximum power dissipation in no-load condition | 16 W  |
| Power loss nominal load max.                   | 41 W  |

### General

|                                 |   |
|---------------------------------|---|
| Net weight                      | 1.7 kg  |
| Efficiency                      | > 93 % (for 230 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)      | > 900000 h (25 °C)  |
|                                 | > 630000 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 <sup>2</sup> |
| Conductor cross section solid max.    | 6 mm <sup>2</sup>   |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max. | 4 mm <sup>2</sup>   |
| 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.    | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max.    | 6 mm <sup>2</sup>   |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max. | 4 mm <sup>2</sup>   |

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### Technical data

#### Connection data, output

|                                  |      |
|----------------------------------|------|
| Conductor cross section AWG min. | 12   |
| Conductor cross section AWG max. | 10   |
| Stripping length                 | 7 mm |
| Screw thread                     | M3   |

#### Connection data for signaling

|                                       |                     |
|---------------------------------------|---------------------|
| Conductor cross section solid min.    | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max.    | 6 mm <sup>2</sup>   |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max. | 4 mm <sup>2</sup>   |
| 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 emission   | EN 55011 (EN 55022)  |
| 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  | 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  |
|  | 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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## Technical data

### 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                            |
| 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 | 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

|          |          |
|----------|----------|
| ETIM 2.0 | EC001039 |
| ETIM 3.0 | EC001039 |
| ETIM 4.0 | EC002540 |
| 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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### Approvals

CSA / UL Recognized / UL Listed / cUL Recognized / IEC CB Scheme / SEMI F47 / EAC / EAC / cULus Recognized

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## Approvals

Ex Approvals


UL Listed / cUL Listed / cULus Listed

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Approvals submitted


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### Approval details

CSA 

UL Recognized 

UL Listed 

cUL Recognized 

IECEE CB Scheme 

SEMI F47

EAC

EAC

cULus Recognized 

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## Drawings

Block diagram

