

## Power supply unit - QUINT-PS/1AC/48DC/20 - 2866695

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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/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.

### Your advantages

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



### Key Commercial Data

|                                      |                                                                                                         |
|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit                         | 1 pc                                                                                                    |
| GTIN                                 | <br>4 046356 547727 |
| GTIN                                 | 4046356547727                                                                                           |
| Weight per Piece (excluding packing) | 3,820.000 g                                                                                             |
| Custom tariff number                 | 85044030                                                                                                |
| Country of origin                    | Thailand                                                                                                |

### Technical data

#### Dimensions

|       |        |
|-------|--------|
| Width | 180 mm |
|-------|--------|

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## Technical data

### Dimensions

|                                  |        |
|----------------------------------|--------|
| Height                           | 130 mm |
| Depth                            | 125 mm |
| Width with alternative assembly  | 122 mm |
| Height with alternative assembly | 130 mm |
| Depth with alternative assembly  | 183 mm |

### Ambient conditions

|                                                |                                              |
|------------------------------------------------|----------------------------------------------|
| Degree of protection                           | IP20                                         |
| Ambient temperature (operation)                | -25 °C ... 70 °C (> 60 °C Derating: 2.5 %/K) |
| Ambient temperature (start-up type tested)     | -40 °C                                       |
| Ambient temperature (storage/transport)        | -40 °C ... 85 °C                             |
| Max. permissible relative humidity (operation) | ≤ 95 % (at 25 °C, non-condensing)            |
| Climatic class                                 | 3K3 (in acc. with EN 60721)                  |
| Degree of pollution                            | 2                                            |
| Installation height                            | 6000 m                                       |

### Input data

|                                          |                                               |
|------------------------------------------|-----------------------------------------------|
| Nominal input voltage range              | 100 V AC ... 240 V AC                         |
|                                          | 120 V DC ... 300 V DC (UL 508: ≤ 250 V DC)    |
| Input voltage range                      | 85 V AC ... 264 V AC                          |
|                                          | 90 V DC ... 300 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                      | 8.7 A (120 V AC)                              |
|                                          | 4.5 A (230 V AC)                              |
|                                          | 9.4 A (110 V DC)                              |
|                                          | 4.6 A (220 V DC)                              |
| Nominal power consumption                | 1046 VA                                       |
| Inrush current                           | < 15 A (typical)                              |
| Mains buffering time                     | typ. 20 ms (120 V AC)                         |
|                                          | typ. 22 ms (230 V AC)                         |
| Input fuse                               | 20 A (fast blow, internal)                    |
| Recommended breaker for input protection | 6 A ... 16 A (AC: Characteristics B, C, D, K) |
| Type of protection                       | Transient surge protection                    |
| Protective circuit/component             | Varistor                                      |

### Output data

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## Technical data

### Output data

|                                                    |                                                               |
|----------------------------------------------------|---------------------------------------------------------------|
| Nominal output voltage                             | 48 V DC $\pm 1\%$                                             |
| Setting range of the output voltage ( $U_{Set}$ )  | 30 V DC ... 56 V DC (> 48 V DC, constant capacity restricted) |
| Nominal output current ( $I_N$ )                   | 20 A (-25 °C ... 60 °C, $U_{OUT} = 48$ V DC)                  |
| POWER BOOST ( $I_{Boost}$ )                        | 22.5 A (-25 °C ... 40 °C permanent, $U_{OUT} = 48$ V DC )     |
| Selective Fuse Breaking ( $I_{SFB}$ )              | 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                                                           |
| Feedback voltage resistance                        | max. 60 V DC                                                  |
| Protection against overvoltage at the output (OVP) | < 60 V DC                                                     |
| Active current limitation                          | Approx. $I_{BOOST} = 22.5$ A (for short-circuit)              |
| Control deviation                                  | < 1 % (change in load, static 10 % ... 90 %)                  |
|                                                    | < 3 % (change in load, dynamic 10 % ... 90 %)                 |
|                                                    | < 0.1 % (change in input voltage $\pm 10\%$ )                 |
| Residual ripple                                    | < 50 mV <sub>pp</sub> (with nominal values)                   |
| Output power                                       | 960 W                                                         |
| Typical response time                              | < 0.65 s                                                      |
| Maximum power dissipation in no-load condition     | 12 W                                                          |
| Power loss nominal load max.                       | 74 W                                                          |

### General

|                                 |                                                                                                                                                                                                 |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Net weight                      | 3.3 kg                                                                                                                                                                                          |
| Efficiency                      | > 93 % (for 230 V AC and nominal values)                                                                                                                                                        |
| Insulation voltage input/output | 4 kV AC (type test)                                                                                                                                                                             |
|                                 | 2 kV AC (routine test)                                                                                                                                                                          |
| Insulation voltage input / PE   | 3.5 kV AC (type test)                                                                                                                                                                           |
|                                 | 2 kV AC (routine test)                                                                                                                                                                          |
| Insulation voltage output / PE  | 500 V DC (routine test)                                                                                                                                                                         |
| Protection class                | I                                                                                                                                                                                               |
| Degree of protection            | IP20                                                                                                                                                                                            |
| MTBF (IEC 61709, SN 29500)      | > 880000 h (25 °C)                                                                                                                                                                              |
|                                 | > 523000 h (40 °C)                                                                                                                                                                              |
| Mounting position               | horizontal DIN rail NS 35, EN 60715                                                                                                                                                             |
| Assembly instructions           | alignable: $P_N \geq 50\%$ , 5 mm horizontally, 15 mm next to active components, 50 mm vertically<br>alignable: $P_N < 50\%$ , 0 mm horizontally, 40 mm vertically top, 20 mm vertically bottom |

### Connection data, input

# Power supply unit - QUINT-PS/1AC/48DC/20 - 2866695

## Technical data

### 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.      | 14                  |
| 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 <sup>2</sup> |
| Conductor cross section solid max.    | 16 mm <sup>2</sup>  |
| Conductor cross section flexible min. | 0.5 mm <sup>2</sup> |
| Conductor cross section flexible max. | 16 mm <sup>2</sup>  |
| Conductor cross section AWG min.      | 8                   |
| Conductor cross section AWG max.      | 6                   |
| Stripping length                      | 10 mm               |
| Screw thread                          | M3                  |

### Connection data for signaling

|                                       |                     |
|---------------------------------------|---------------------|
| 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.      | 24                  |
| Conductor cross section AWG max.      | 10                  |
| Screw thread                          | M3                  |

## Standards

|                                                                                                                                  |                                          |
|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| EMC requirements for noise immunity                                                                                              | EN 61000-6-2                             |
| 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                                 |

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## Technical data

### Standards

|                                                  |                    |
|--------------------------------------------------|--------------------|
| Standard – Limitation of mains harmonic currents | EN 61000-3-2       |
| Standard - Equipment safety                      | BG (design tested) |
| Rail applications                                | EN 50121-4         |

### Conformance/approvals

|                       |                                                                                  |
|-----------------------|----------------------------------------------------------------------------------|
| 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) |
| CSA                   | CAN/CSA-C22.2 No. 60950-1-07                                                     |
|                       | CSA-C22.2 No. 107.1-01                                                           |
| SIQ                   | BG (type approved)                                                               |
| Shipbuilding approval | DNV GL (EMC A)                                                                   |

### EMC data

|                               |                                           |
|-------------------------------|-------------------------------------------|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Low Voltage Directive         | Conformance with LV directive 2006/95/EC  |
| Electrostatic discharge       | EN 61000-4-2                              |
| Contact discharge             | 8 kV (Test Level 4)                       |
| Discharge in air              | 15 kV (Test Level 4)                      |
| Electromagnetic HF field      | EN 61000-4-3                              |
| Frequency range               | 80 MHz ... 1 GHz                          |
| Test field strength           | 20 V/m (Test Level 3)                     |
| Frequency range               | 1 GHz ... 2 GHz                           |
| Test field strength           | 10 V/m (Test Level 3)                     |
| Frequency range               | 2 GHz ... 3 GHz                           |
| Test field strength           | 10 V/m (Test Level 3)                     |
| Comments                      | Criterion A                               |
| Fast transients (burst)       | EN 61000-4-4                              |
| Input                         | 4 kV (Test Level 4 - asymmetrical)        |
| Output                        | 2 kV (Test Level 3 - asymmetrical)        |
| Signal                        | 2 kV (Test Level 4 - asymmetrical)        |
| Comments                      | Criterion A                               |
| Surge voltage load (surge)    | EN 61000-4-5                              |
| Input                         | 2 kV (Test Level 3 - symmetrical)         |
|                               | 4 kV (Test Level 4 - asymmetrical)        |
| Output                        | 1 kV (Test Level 2 - symmetrical)         |
|                               | 2 kV (Test Level 3 - asymmetrical)        |
| Signal                        | 1 kV (Test Level 2 - asymmetrical)        |

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Technical data

EMC data

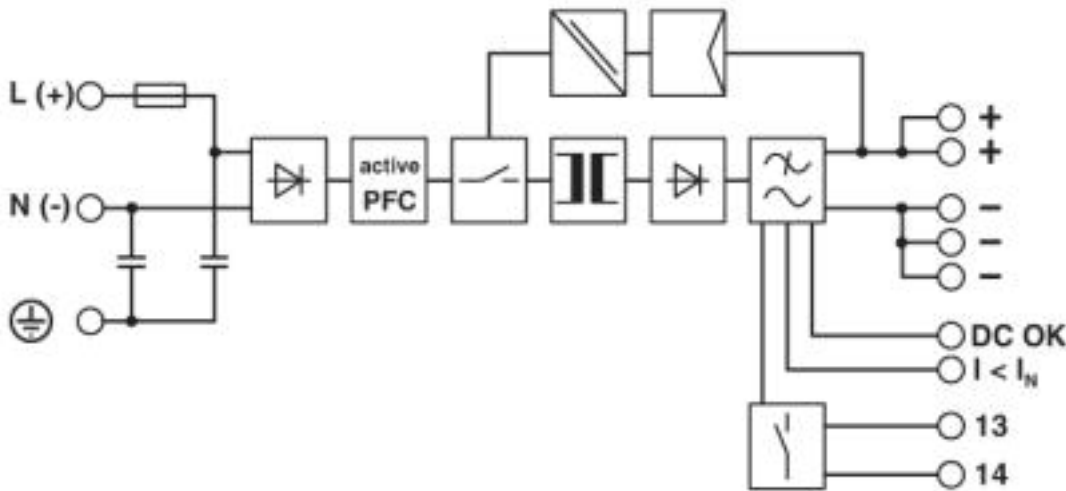
|                 |                                                                                      |
|-----------------|--------------------------------------------------------------------------------------|
| Comments        | Criterion A                                                                          |
| I/O/S           | asymmetrical                                                                         |
| Frequency range | 0.15 MHz ... 80 MHz                                                                  |
| Voltage         | 10 V (Test Level 3)                                                                  |
| Comments        | Criterion A                                                                          |
| Criterion A     | Normal operating behavior within the specified limits.                               |
| Criterion B     | Temporary impairment to operational behavior that is corrected by the device itself. |

Environmental Product Compliance

|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
|            | Lead 7439-92-1                                                                                      |
| China RoHS | Environmentally Friendly Use Period = 25;                                                           |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

Drawings

Block diagram



Classifications

eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27040700 |
| eCl@ss 4.1 | 27040700 |
| eCl@ss 5.0 | 27242200 |
| eCl@ss 5.1 | 27242200 |

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### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 6.0 | 27049000 |
| eCl@ss 7.0 | 27049002 |
| eCl@ss 8.0 | 27049002 |
| eCl@ss 9.0 | 27040701 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001039 |
| ETIM 4.0 | EC002540 |
| ETIM 5.0 | EC002540 |
| ETIM 6.0 | EC002540 |
| ETIM 7.0 | EC002540 |

#### UNSPSC

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

### Approvals

#### Approvals

#### Approvals

DNV GL / CSA / UL Listed / UL Recognized / IECCE CB Scheme / EAC / EAC

#### Ex Approvals

#### Approval details

|        |                                                                                     |                                                                                   |            |
|--------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------|
| DNV GL |  | <a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a> | TAE000014W |
|--------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------|

|     |                                                                                     |                                                                                                                                         |         |
|-----|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------|
| CSA |  | <a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a> | 2448618 |
|-----|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------|

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### Approvals

|                 |                                                                                     |                                                                                                                                                       |                          |
|-----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| UL Listed       |    | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 123528            |
| UL Recognized   |    | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 211944            |
| IECEE CB Scheme |    | <a href="http://www.iecee.org/">http://www.iecee.org/</a>                                                                                             | SI-2748                  |
| EAC             |    |                                                                                                                                                       | EAC-Zulassung            |
| EAC             |  |                                                                                                                                                       | RU C-<br>DE.A*30.B.01082 |

### Accessories

#### Accessories

#### Assembly adapter

#### Assembly adapters - UWA 182/52 - 2938235



Universal wall adapter for securely mounting the device in the event of strong vibrations. The device is screwed directly onto the mounting surface. The universal wall adapter is attached on the top/bottom.

#### Assembly adapters - UWA 130 - 2901664



2-piece universal wall adapter for securely mounting the device in the event of strong vibrations. The profiles that are screwed onto the side of the device are screwed directly onto the mounting surface. The universal wall adapter is attached on the left/right.

## Power supply unit - QUINT-PS/1AC/48DC/20 - 2866695

### Accessories

#### Device protection

Type 3 surge protection device - PLT-SEC-T3-230-FM-UT - 2907919



Type 2/3 surge protection, consisting of protective plug and base element with screw connection. For single-phase power supply network with integrated status indicator and remote signaling. Nominal voltage 230 V AC/DC.

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Type 3 surge protection device - PLT-SEC-T3-60-FM-UT - 2907917



Type 3 surge protection, consisting of protective plug and base element, with integrated status indicator and remote signaling for single-phase power supply networks. Nominal voltage 60 V AC/DC.

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#### Mounting rail adapter

DIN rail adapter - UTA 107 - 2853983



Universal DIN rail adapter

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#### Redundancy module

Diode - QUINT-DIODE/48DC/2X20/1X40 - 2320160



DIN rail diode module 48 V DC/2x20 A or 1x40 A. Uniform redundancy up to the consumer.

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#### Thermomagnetic device circuit breakers

## Power supply unit - QUINT-PS/1AC/48DC/20 - 2866695

### Accessories

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.

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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.

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Thermomagnetic device circuit breaker - CB TM1 3A SFB P - 2800838



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

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Thermomagnetic device circuit breaker - CB TM1 4A SFB P - 2800839



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

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Thermomagnetic device circuit breaker - CB TM1 5A SFB P - 2800840



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

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## Power supply unit - QUINT-PS/1AC/48DC/20 - 2866695

### Accessories

Thermomagnetic device circuit breaker - CB TM1 6A SFB P - 2800841



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

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Thermomagnetic device circuit breaker - CB TM1 8A SFB P - 2800842



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

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