

Power supply unit - QUINT-PS-100-240AC/24DC/40 - 2938879

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DIN rail power supply unit 24 V DC/40 A, primary switched-mode, 1-phase.

Product Description

QUINT POWER power supply units for plant and special engineering reliably start heavy loads with high inrush currents using the POWER BOOST. Thanks to the wide-range input and extensive package of approvals, they can be used in all sectors of industry the world over. The switching output or floating relay contact are used for remote diagnostics.



Key Commercial Data

| | |
|--------------------------------------|---------------|
| Packing unit | 1 pc |
| GTIN | |
| GTIN | 4017918987091 |
| Weight per Piece (excluding packing) | 3,820.000 g |
| Custom tariff number | 85044030 |
| Country of origin | China |

Technical data

Dimensions

| | |
|----------------------------------|--------|
| Width | 240 mm |
| Height | 130 mm |
| Depth | 125 mm |
| Width with alternative assembly | 122 mm |
| Height with alternative assembly | 130 mm |
| Depth with alternative assembly | 243 mm |

Ambient conditions

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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) |
| Climatic class | 3K3 (in acc. with EN 60721) |
| Degree of pollution | 2 |

Input data

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|--|--|
| Nominal input voltage range | 110 V AC ... 240 V AC |
| Input voltage range | 85 V AC ... 264 V AC (Derating < 100 V DC: 2.5%/V) |
| | 90 V DC ... 350 V DC (Derating < 110 V DC: 2.5%/V) |
| AC frequency range | 45 Hz ... 65 Hz |
| Frequency range DC | 0 Hz |
| Current consumption | approx. 12.5 A (120 V AC) |
| | approx. 4.5 A (230 V AC) |
| Nominal power consumption | 1051 W |
| Inrush current | < 15 A (typical) |
| Mains buffering time | > 20 ms (120 V AC) |
| | > 20 ms (230 V AC) |
| Input fuse | 20 A (fast blow, internal) |
| Recommended breaker for input protection | 16 A ... 20 A (Characteristics B, C, D, K) |
| Type of protection | Transient surge protection |
| Protective circuit/component | Varistor |

Output data

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|--|---|
| Nominal output voltage | 24 V DC \pm 1 % |
| Setting range of the output voltage (U_{Set}) | 22.5 V DC ... 28.5 V DC (> 24 V DC, constant capacity restricted) |
| Nominal output current (I_N) | 40 A (-25 °C ... 60 °C) |
| POWER BOOST (I_{Boost}) | 45 A (-25°C ... 40°C permanent) |
| Derating | 60 °C ... 70 °C (2.5%/K) |
| Connection in parallel | Yes, for redundancy and increased capacity |
| Connection in series | yes |
| Feedback voltage resistance | 35 V DC |
| Protection against overvoltage at the output (OVP) | \leq 35 V DC |
| Max. capacitive load | unlimited |
| Active current limitation | Approx. I_{BOOST} = 45 A (for short-circuit) |
| Control deviation | < 1 % (change in load, static 10 % ... 90 %) |
| | < 2 % (change in load, dynamic 10 % ... 90 %) |

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Output data

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|--|--|
| | < 0.1 % (change in input voltage ± 10 %) |
| Residual ripple | < 30 mV _{pp} (with nominal values) |
| Output power | 960 W |
| Typical response time | < 1 s |
| Peak switching voltages nominal load | < 50 mV _{pp} (20 MHz) |
| Maximum power dissipation in no-load condition | 28 W |
| Power loss nominal load max. | 80 W |

General

| | |
|---------------------------------|---|
| Net weight | 3.5 kg |
| Operating voltage display | Green LED |
| Efficiency | > 92 % (for 230 V AC and nominal values) |
| MTBF (IEC 61709, SN 29500) | > 500000 h |
| Insulation voltage input/output | 3 kV AC (type test) 2 kV AC (routine test) |
| Insulation voltage input / PE | 3 kV AC (type test) 1.5 kV AC (routine test) |
| Insulation voltage output / PE | 500 V DC (routine test) |
| Degree of protection | IP20 |
| Protection class | I (with PE connection) |
| Mounting position | horizontal DIN rail NS 35, EN 60715 |
| Assembly instructions | alignable: horizontally 0 mm, vertically 50 mm |

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. | 24 |
| 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 |

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Connection data, output

| | |
|---------------------------------------|--------------------|
| Conductor cross section flexible max. | 10 mm ² |
| Conductor cross section AWG min. | 20 |
| Conductor cross section AWG max. | 6 |
| Stripping length | 10 mm |
| Screw thread | M4 |

Signaling

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|---------------------------------------|--|
| Output name | DC OK active |
| Output description | $U_{OUT} > 0.9 \times U_N$: High signal |
| Maximum switching voltage | ≤ 24 V |
| Output voltage | + 24 V DC (Signal) |
| Maximum inrush current | ≤ 20 mA (short-circuit-proof) |
| Continuous load current | ≤ 20 mA |
| Status display | "DC OK" LED green |
| Note on status display | $U_{OUT} < 0.9 \times U_N$: LED flashing |
| 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. | 24 |
| Conductor cross section AWG max. | 10 |
| 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 | "DC OK" LED green |

Standards and Regulations

| | |
|----------------------------------|---|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Noise emission | EN 55011 (EN 55022) |
| Noise immunity | EN 61000-6-2 |
| Connection in acc. with standard | CUL |
| Standards/regulations | EN 61000-4-2 |
| Contact discharge | 8 kV |

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Standards and Regulations

| | |
|--|--|
| Standards/regulations | EN 61000-4-3 |
| Frequency range | 80 MHz ... 1 GHz |
| Test field strength | 10 V/m |
| Frequency range | 1.4 GHz ... 2 GHz |
| Test field strength | 10 V/m |
| Standards/regulations | EN 61000-4-4 |
| | EN 61000-6-3 |
| | EN 61000-4-6 |
| Frequency range | 0.15 MHz ... 80 MHz |
| Voltage | 10 V |
| Standards/regulations | EN 61000-4-11 |
| Low Voltage Directive | Conformance with Low Voltage Directive 2014/35/EC |
| Standard - Safety of transformers | EN 61558-2-17 |
| Standard - Electrical safety | EN 60950-1/VDE 0805 (SELV) |
| | EN 61558-2-17 |
| 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 | EN 60950-1 (SELV) |
| | EN 60204 (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) |
| Shipbuilding approval | DNV GL (EMC A), ABS |
| UL approvals | UL/C-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) |
| Shock | 18 ms, 30g, in each space direction (according to IEC 60068-2-27) |
| Vibration (operation) | < 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6) |
| | 15 Hz ... 150 Hz, 2.3g, 90 min. |
| Certificate | CB Scheme |
| Overvoltage category (EN 62477-1) | III |

Environmental Product Compliance

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|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 25; |

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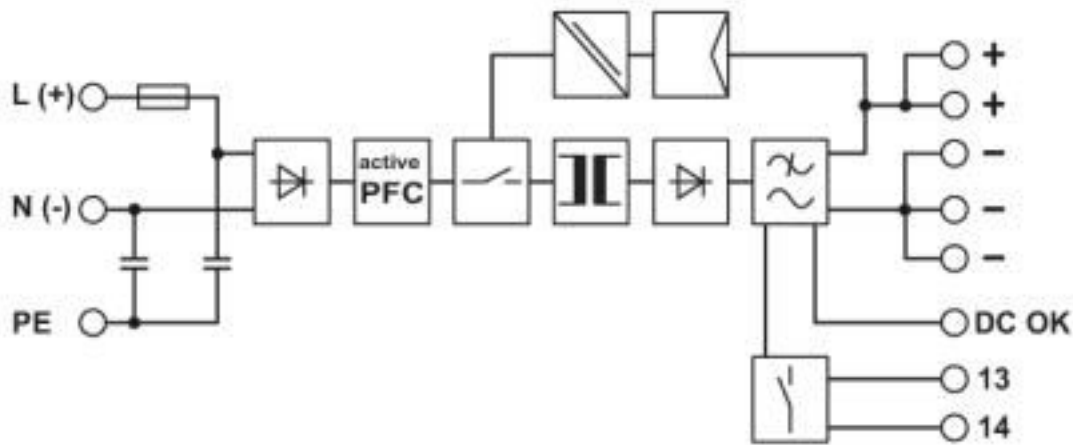
Technical data

Environmental Product Compliance

| | |
|--|---|
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |
|--|---|

Drawings

Block diagram



Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27040701 |
| eCl@ss 4.0 | 27040700 |
| eCl@ss 4.1 | 27040700 |
| eCl@ss 5.0 | 27049000 |
| eCl@ss 5.1 | 27049000 |
| eCl@ss 6.0 | 27049000 |
| eCl@ss 7.0 | 27049002 |
| eCl@ss 8.0 | 27049002 |
| eCl@ss 9.0 | 27040701 |

ETIM

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|----------|----------|
| ETIM 2.0 | EC001039 |
| ETIM 3.0 | EC001039 |
| ETIM 4.0 | EC000599 |
| ETIM 5.0 | EC002540 |
| ETIM 6.0 | EC002540 |

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Classifications

ETIM

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|----------|----------|
| ETIM 7.0 | EC002540 |
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UNSPSC

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|---------------|----------|
| UNSPSC 6.01 | 30211502 |
| UNSPSC 7.0901 | 39121004 |
| UNSPSC 11 | 39121004 |
| UNSPSC 12.01 | 39121004 |
| UNSPSC 13.2 | 39121004 |
| UNSPSC 18.0 | 39121004 |
| UNSPSC 19.0 | 39121004 |
| UNSPSC 20.0 | 39121004 |
| UNSPSC 21.0 | 39121004 |

Approvals

Approvals

Approvals

PRS / ABS / UL Listed / UL Recognized / cUL Recognized / cUL Listed / EAC / DNV GL / EAC / cULus Recognized / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

| | | | |
|-----|--|---|-------------------|
| PRS | | http://www.prs.pl/ | TE/2104/880590/16 |
|-----|--|---|-------------------|

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| ABS | | http://www.eagle.org/eagleExternalPortalWEB/ | 15-HG1384628-PDA |
|-----|--|---|------------------|

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| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 123528 |
|-----------|--|---|---------------|

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Approvals

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|---------------|--|---|---------------|
| UL Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 211944 |
|---------------|--|---|---------------|

| | | | |
|----------------|--|---|---------------|
| cUL Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 211944 |
|----------------|--|---|---------------|

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| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 123528 |
|------------|--|---|---------------|

| | | | |
|-----|--|--|---------------|
| EAC | | | EAC-Zulassung |
|-----|--|--|---------------|

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| DNV GL | | https://approvalfinder.dnvgl.com/ | TAA0000249 |
|--------|--|---|------------|

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|-----|--|--|---------------------|
| EAC | | | RU*DE*08.B.01873/19 |
|-----|--|--|---------------------|

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| cULus Recognized | | | |
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| cULus Listed | | | |
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Accessories

Accessories

Assembly adapter

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Accessories

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.

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.

Type 3 surge protection device - PLT-SEC-T3-24-FM-UT - 2907916



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 24 V AC/DC.

Mounting rail adapter

DIN rail adapter - UTA 107 - 2853983

Universal DIN rail adapter, for screwing on switchgear

