

Power supply unit - QUINT-PS-100-240AC/24DC/10 - 2938604

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DIN rail power supply unit 24 V DC/10 A, primary switched-mode, 1-phase.

Product Description

QUINT POWER is the powerful 60 - 960 W DC power supply unit for universal use. With its wide-range input, single and three-phase versions, and international approval package, this solution is unrivalled. QUINT POWER provides reliable power supply: generously dimensioned capacitors ensure mains buffering of over 20 ms at full load. Full output power is provided by all three-phase devices, even in the event of a permanent phase failure. The Power Boost power reserve easily starts loads with high inrush currents and ensures that fuses are reliably tripped. Preventive function monitoring diagnoses impermissible operating states and minimizes downtimes in your system. Remote monitoring is provided by an active transistor switching output and a floating relay contact. All devices are idling-proof and short-circuit-proof, and are available with a regulated and adjustable output voltage of 12, 24, and 48 V DC with output currents of 2.5, 5, 10, 20, 30, and 40 A. Power supply units for use in Ex zone 2, uninterruptible solutions, AS-i power supply units, and a QUINT diode complete this comprehensive product range.



Key Commercial Data

| | |
|--------------|---------------|
| Packing unit | 1 pc |
| GTIN | |
| GTIN | 4017918890537 |

Technical data

Dimensions

| | |
|----------------------------------|--------|
| Width | 85 mm |
| Height | 130 mm |
| Depth | 125 mm |
| Width with alternative assembly | 122 mm |
| Height with alternative assembly | 130 mm |
| Depth with alternative assembly | 88 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 |

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Ambient conditions

| | |
|--|---------------------------------|
| Max. permissible relative humidity (operation) | 95 % (at 25 °C, non-condensing) |
| Degree of pollution | 2 |

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 |
| AC frequency range | 45 Hz ... 65 Hz |
| Frequency range DC | 0 Hz |
| Discharge current to PE | < 3.5 mA |
| Current consumption | approx. 2.34 A (120 V AC) |
| | approx. 1.2 A (230 V AC) |
| Nominal power consumption | 264 W |
| Inrush surge current | < 15 A (typical) |
| Mains buffering | > 50 ms (120 V AC) |
| | > 50 ms (230 V AC) |
| Input fuse | 6.3 A (slow-blow, internal) |
| Choice of suitable circuit breakers | 10 A ... 16 A (Characteristics B, C, D, K) |
| Type of protection | Transient surge protection |
| Protective circuit/component | Varistor |

Output data

| | |
|---|---|
| Nominal output voltage | 24 V DC \pm 1 % |
| Setting range of the output voltage (U_{Set}) | 22.5 V DC ... 28.5 V DC |
| Nominal output current (I_N) | 10 A (up to 60°C) |
| POWER BOOST (I_{Boost}) | 15 A |
| Derating | 60 °C ... 70 °C (2.5%/K) |
| Connection in parallel | Yes, for redundancy and increased capacity |
| Connection in series | yes |
| Feedback resistance | 35 V DC |
| Protection against surge voltage on the output | Yes, limited to approx. 35 V DC |
| Max. capacitive load | Unlimited |
| Active current limitation | ca. $I_{BOOST} = 15$ A (for short-circuit) |
| 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 | < 60 mV _{PP} (with nominal values) |
| Output power | 240 W |
| Typical response time | < 1 s |
| Peak switching voltages nominal load | < 60 mV _{PP} (20 MHz) |
| Maximum power dissipation in no-load condition | < 2 W |

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Output data

| | |
|------------------------------|--------|
| Power loss nominal load max. | < 24 W |
|------------------------------|--------|

General

| | |
|---------------------------------|---|
| Net weight | 1.3 kg |
| Operating voltage display | Green LED |
| Efficiency | > 91 % |
| 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 (with PE connection) |
| Degree of protection | IP20 |
| MTBF (IEC 61709, SN 29500) | > 500000 h |
| Mounting position | horizontal DIN rail NS 35, EN 60715 |
| Assembly instructions | alignable: horizontally 0 mm, vertically 50 mm |

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. | 24 |
| 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 |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 12 |
| Stripping length | 7 mm |
| Screw thread | M3 |

Signaling

| | |
|---------------------------|--|
| Output name | DC OK active |
| Output description | $U_{OUT} > 0.9 \times U_N$: High signal |
| Maximum switching voltage | ≤ 24 V |

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Signaling

| | |
|---------------------------------------|--|
| Output voltage | + 24 V DC (Signal) |
| Maximum inrush current | ≤ 40 mA |
| Continuous load current | ≤ 40 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. | 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. | 24 |
| Conductor cross section AWG max. | 12 |
| 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 89/336/EC |
| Noise emission | EN 55011 (EN 55022) |
| Noise immunity | EN 61000-6-2:2005 |
| Connection in acc. with standard | CUL |
| Standards/regulations | EN 61000-4-2 |
| Contact discharge | 8 kV |
| Standards/regulations | EN 61000-4-3 |
| Frequency range | 80 MHz ... 2 GHz |
| Test field strength | 10 V/m |
| Standards/regulations | EN 61000-4-4 |
| | EN 61000-4-5 |
| Signal | 1 kV (level 2 - asymmetrical: conductor to ground) |
| Standards/regulations | EN 61000-6-3 |
| | EN 61000-4-6 |
| Frequency range | 0.15 MHz ... 80 MHz |
| Voltage | 10 V |
| Standards/regulations | EN 61000-4-11 |
| Standard - Safety of transformers | EN 61558-2-17 |
| Standard - Electrical safety | EN 60950-1/VDE 0805 (SELV) |

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Technical data

Standards and Regulations

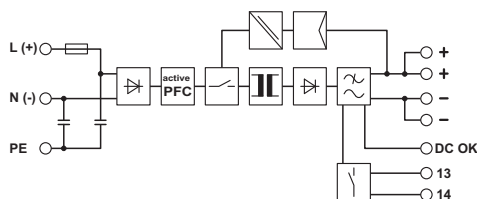
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|--|--|
| Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations | EN 50178/VDE 0160 (PELV) |
| Standard – Safety extra-low voltage | EN 60950-1 (SELV) |
| | EN 60204 (PELV) |
| 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 Recognized UL 60950-1 |
| | UL/C-UL listed UL 508 |
| | 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. |
| Information technology equipment - safety (CB scheme) | CB Scheme |
| Overvoltage category (EN 62477-1) | III |

Environmental Product Compliance

| | |
|------------|---|
| REACH SVHC | 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



Approvals

Approvals

Approvals

PRS / DNV / GL / ABS / UL Listed / UL Recognized / cUL Recognized / IECCE CB Scheme / cUL Listed / EAC / EAC / cULus Recognized / cULus Listed

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Approvals

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details


| | | | |
|-----------------|--|---|-------------------|
| PRS | | http://www.prs.pl/ | TE/2104/880590/16 |
| DNV | | http://exchange.dnv.com/tari/ | E-13904 |
| GL | | http://exchange.dnv.com/tari/ | 43332-02 HH |
| ABS | | http://www.eagle.org/eagleExternalPortalWEB/ | 15-HG1384628-PDA |
| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 123528 |
| 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 |
| IECEE CB Scheme | | http://www.iecee.org/ | SI-1001 |
| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 123528 |


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Approvals

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

| | | |
|-----|---|--------------------------|
| EAC |  | RU C- DE.A*30.B.01082 |
|-----|---|--------------------------|

| | | |
|------------------|---|--|
| cULus Recognized |  | |
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|--------------|---|--|
| cULus Listed |  | |
|--------------|---|--|

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PHOENIX CONTACT GmbH & Co. KG
Flachmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
<http://www.phoenixcontact.com>