

QUINT-PS/ 1AC/24DC/ 3.5


Order No.: 2866747



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DIN rail power supply unit 24 V DC/3.5 A, primary switched-mode, 1-phase. The SFB technology (Selective Fuse Breaking Technology) can now also be used to trigger standard power circuit breakers reliably and quickly.



| Commercial data | |
|--------------------------|--|
| GTIN (EAN) | 4  046356 113779 |
| sales group | H031 |
| Pack | 1 pcs. |
| Customs tariff | 85044082 |
| Catalog page information | Page 582 (IF-2011) |

Product notes

WEEE/RoHS-compliant since:
03/19/2007



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Product description

QUINT POWER power supply units – Maximum system availability with SFB technology

Compact power supply units of the new QUINT POWER generation maximize the availability of your system. With the SFB technology (Selective Fuse Breaking Technology), six times the nominal current for 12 ms, even the standard power circuit-breakers can now also be triggered reliably and quickly. Faulty current paths are switched off selectively, the fault is located and important system parts continue to operate. Comprehensive diagnostics are provided through constant monitoring of output voltage and current. This preventive function monitoring visualizes critical operating modes and reports them to the control unit before an error can occur.

Technical data

Input data

| | |
|------------------------------|--|
| Nominal input voltage | 100 V AC ... 240 V AC |
| AC input voltage range | 85 V AC ... 264 V AC |
| DC input voltage range | 90 V DC ... 350 V DC |
| Short-term input voltage | 300 V AC |
| AC frequency range | 45 Hz ... 65 Hz |
| DC frequency range | 0 Hz |
| Current consumption | Approx. 1.4 A (120 V AC) Approx. 0.8 A (230 V AC) |
| Inrush surge current | < 20 A (typical) |
| Power failure bypass | > 20 ms (120 V AC) > 80 ms (230 V AC) |
| Input fuse | 5 A (slow-blow, internal) |
| Permissible backup fuse | B6 B10 B16 |
| Additional text | AC: 1 x circuit breaker - recommended fuse |
| 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 | 18 V DC ... 29.5 V DC (> 24 V constant capacity) |
| Output current | 3.5 A (-25°C ... 60°C, U _{OUT} = 24 V DC) 4 A (with POWER BOOST, -25°C ... 40°C permanently, U _{OUT} = 24 V DC) 15 A (SFB technology, 12 ms) 4 A (U _{IN} \geq 100 V AC) |
| Derating | 60 °C ... 70 °C (2.5%/K) |
| Connection in parallel | Yes, for redundancy and increased capacity |
| Connection in series | Yes |
| 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 | < 50 mV _{PP} (with nominal values) |

| | |
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| Maximum power dissipation idling | 3.5 W |
| Power loss nominal load max. | 11 W |
| General data | |
| Width | 32 mm |
| Height | 130 mm |
| Depth | 125 mm |
| Width with alternative assembly | 122 mm |
| Height with alternative assembly | 130 mm |
| | 35 mm |
| Net weight | 0.5 kg |
| Operating voltage display | Green LED |
| Efficiency | > 88 % (for 230 V AC and nominal values) |
| Insulation voltage input/output | 4 kV AC (type test) 2 kV AC (routine test) |
| Degree of protection | IP20 |
| Protection class | I |
| MTBF (IEC 61709, SN 29500) | > 500000 h |
| Ambient temperature (operation) | -25 °C ... 70 °C (> 60 °C derating) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Max. permissible relative humidity (operation) | ≤ 95 % (at 25 °C, no condensation) |
| Mounting position | horizontal DIN rail NS 35, EN 60715 |
| Assembly instructions | Can be aligned: 5 mm horizontally, 15 mm next to active components, 5 cm vertically |
| Electromagnetic compatibility | Conformance with EMC Directive 2004/108/EC |
| Noise immunity | EN 61000-6-2:2005 |
| Low Voltage Directive | Conformance with LV directive 2006/95/EC |
| Standard – Electrical equipment of machines | EN 60204 |
| Standard - Safety of transformers | IEC 61558-2-17 |
| Standard - Electrical safety | IEC 60950-1/VDE 0805 (SELV) |
| Shipbuilding approval | Germanischer Lloyd (EMC 2), ABS, LR, RINA, NK, BV |
| 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 (PELV) |
| Standard - Safe isolation | DIN VDE 0100-410 DIN VDE 0106-1010 |

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| Standard – Protection against electric shock | DIN 57100-410 |
| Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment | DIN VDE 0106-101 |
| Standard – Limitation of mains harmonic currents | EN 61000-3-2 |
| Standard – Equipment safety | GS (tested safety) |
| Standard - Approval for medical use | IEC 60601 |
| Approval - requirement of the semiconductor industry with regard to mains voltage dips | SEMI F47-0706 Compliance Certificate |
| Certificate | CB Scheme |
| UL approvals | UL Listed UL 508 |
| | UL/C-UL Recognized UL 60950 |
| | UL listed ANSI/ISA-12.12.01 class I, division 2, groups A, B, C, D |
| DeviceNet approval | DeviceNet™ Power Supply Conformance Tested |

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 stranded min. | 0.2 mm ² |
| Conductor cross section stranded max. | 2.5 mm ² |
| Conductor cross section AWG/kcmil min. | 20 |
| Conductor cross section AWG/kcmil 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 stranded min. | 0.2 mm ² |
| Conductor cross section stranded max. | 2.5 mm ² |
| Conductor cross section AWG/kcmil min. | 20 |
| Conductor cross section AWG/kcmil max | 12 |
| Stripping length | 7 mm |

Signaling

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|-------------|--------------|
| Output name | DC OK active |
|-------------|--------------|

| | |
|--|--|
| Output description | $U_{OUT} > 0.9 \times U_N$: High signal |
| Output voltage | + 24 V DC |
| Maximum inrush current | min. 20 mA (short-circuit resistant) |
| Continuous load current | ≤ 20 mA |
| Status display | $U_{OUT} > 0.9 \times U_N$: "DC OK" LED green |
| Note on status display | $U_{OUT} < 0.9 \times U_N$: Flashing "DC OK" LED |
| | $I_{OUT} < I_N$: LED ON |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section stranded min. | 0.2 mm ² |
| Conductor cross section stranded max. | 2.5 mm ² |
| Conductor cross section AWG/kcmil min. | 20 |
| Conductor cross section AWG/kcmil 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 | $U_{OUT} > 0.9 \times U_N$: "DC OK" LED green |
| Note on status display | $U_{OUT} < 0.9 \times U_N$: Flashing "DC OK" LED |
| Output name | POWER BOOST, active |
| Output description | $I_{OUT} < I_N$: High signal |
| Output voltage | + 24 V DC |
| Maximum inrush current | min. 20 mA (short-circuit resistant) |
| Continuous load current | ≤ 20 mA |
| Status display | $I_{OUT} > I_N$: LED "BOOST" yellow |

Certificates / Approvals



Certification

ABS, BV, CB, CSA, CUL, GL, GOST, LR, NK, UL, UL Listed

Certification Ex:

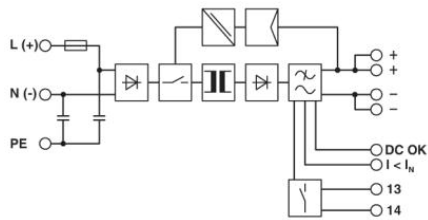
CUL-EX LIS, UL-EX LIS

Accessories

| Item | Designation | Description |
|----------------|----------------------|---|
| General | | |
| 2938196 | QUINT-PS-ADAPTERS7/1 | Assembly adapter for QUINT-PS... power supply on S7-300 rail |
| 2320076 | QUINT-PS/FAN/4 | The fan for QUINT-PS/1AC and .../3AC power supply units can be mounted without the need for tools or other accessories. By using the fan, optimum cooling is ensured at high ambient temperatures or if the mounting position is rotated. |
| 2938235 | UWA 182/52 | Universal wall adapter |

Diagrams/Drawings

Block diagram



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