

# 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                                 | <br>4 017918 987091 |
| Weight per Piece (excluding packing) | 3500.0 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

|  |  |
|--|--|
| 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                            |

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## Technical data

### Input data

|                                     |  |
|-------------------------------------|--|
| 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   |
| Nominal power consumption           | 960 W  |
| Inrush surge current                | < 15 A (typical)                                   |
| Power failure bypass                | > 20 ms (120 V AC)                                 |
|                                     | > 20 ms (230 V AC)                                 |
| Input fuse                          | 20 A (fast blow, internal)                         |
| Choice of suitable circuit breakers | 16 A ... 20 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 (> 24 V DC, constant capacity restricted) |
| Nennausgangsstrom ( $I_N$ )                       | 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   |
| 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 %)                     |
|   | < 0.1 % (change in input voltage $\pm 10$ %)                      |
| Residual ripple                                   | < 30 mV <sub>PP</sub> (with nominal values)                       |
| Output power                                      | 960 W   |
| Typical response time                             | < 1 s   |
| Peak switching voltages nominal load              | < 50 mV <sub>PP</sub> (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) |
| Insulation voltage input/output | 3 kV AC (type test)                      |
|                                 | 2 kV AC (routine test)                   |
| Protection class                | I (with PE connection)                   |

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### General

|                                  |   |
|----------------------------------|---|
| MTTF/ MTBF (IEC 61709, SN 29500) | > 500000 h  |
| Mounting position                | horizontal DIN rail NS 35, EN 60715                 |
| Assembly instructions            | Can be aligned: Horizontally 0 mm, vertically 50 mm |

### 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.      | 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 <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. | 10 mm <sup>2</sup>  |
| Conductor cross section AWG min.      | 20                  |
| Conductor cross section AWG max.      | 6                   |
| Stripping length                      | 10 mm               |
| Screw thread                          | M4                  |

### Signaling

|                                       |   |
|---------------------------------------|---|
| Output name                           | DC OK active                              |
| Output description                    | $U_{OUT} > 0.9 \times U_N$ : High signal  |
| Maximum switching voltage             | $\leq 24$ V                               |
| Output voltage                        | + 24 V DC (Signal)                        |
| Maximum inrush current                | $\leq 20$ mA (short-circuit resistant)    |
| Continuous load current               | $\leq 20$ 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 <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  |
| Tightening torque, min                | 0.5 Nm                                    |

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## Technical data

### Signaling

|                           |  |
|---------------------------|--|
| 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 | $\leq 30$ V AC/DC  |
| Maximum inrush current    | $\leq 1$ A   |
| Continuous load current   | $\leq 1$ A   |
| Status display            | "DC OK" LED green  |

### 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   | CUL  |
| Standards/regulations  | EN 61000-4-3   |
|  | EN 61000-4-4   |
|  | EN 61000-4-6   |
| Standard – Electrical equipment of machines  | EN 60204-1   |
| 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  | Germanischer Lloyd (EMC 2), ABS, DNV   |
| UL approvals   | UL/C-UL listed UL 508  |
|  | UL/C-UL Recognized UL 60950  |
|  | UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location) |
| Vibration (operation)  | $< 15$ Hz, amplitude $\pm 2.5$ mm (according to IEC 60068-2-6)                   |
| Low Voltage Directive  | Conformance with LV directive 2006/95/EC   |
| Information technology equipment - safety (CB scheme)  | CB Scheme  |

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## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27040702 |
| eCl@ss 4.1 | 27040702 |
| eCl@ss 5.0 | 27049002 |
| eCl@ss 5.1 | 27049002 |
| 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 | EC000599 |
| 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

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

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#### Ex Approvals

UL Listed / cUL Listed / cULus Listed

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#### Approvals submitted

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### Approval details

|               |
|---------------|
| UL Recognized |
|---------------|

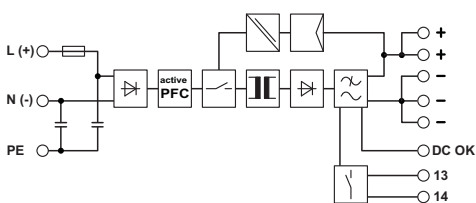
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## Approvals

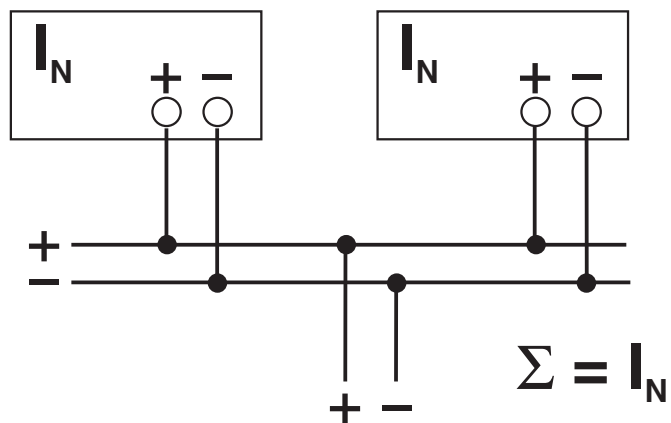
|                  |
|------------------|
| UL Listed        |
| cUL Recognized   |
| cUL Listed       |
| GL               |
| DNV              |
| EAC              |
| EAC              |
| cULus Recognized |
| cULus Listed     |

## Drawings

Block diagram

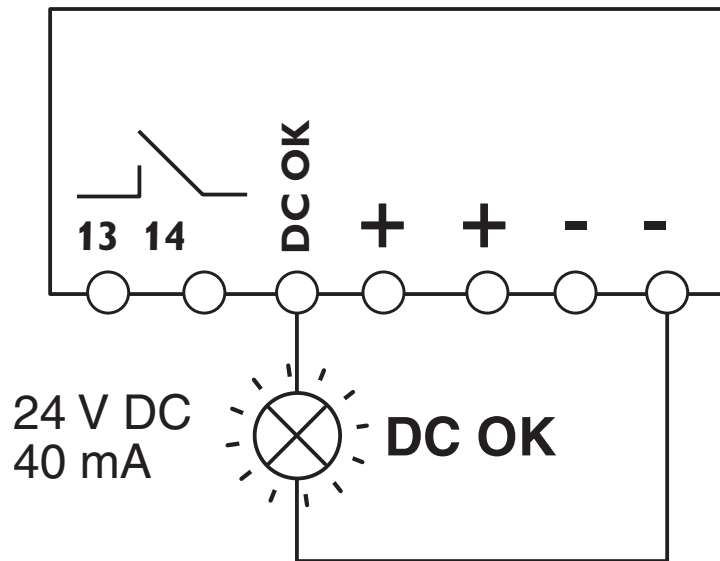


Circuit diagram

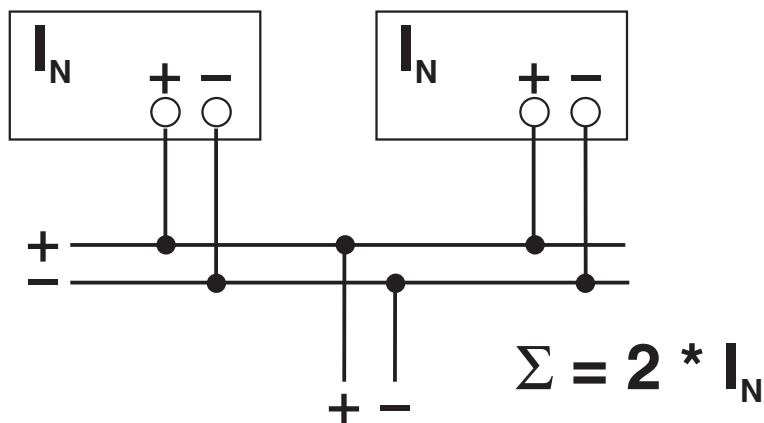


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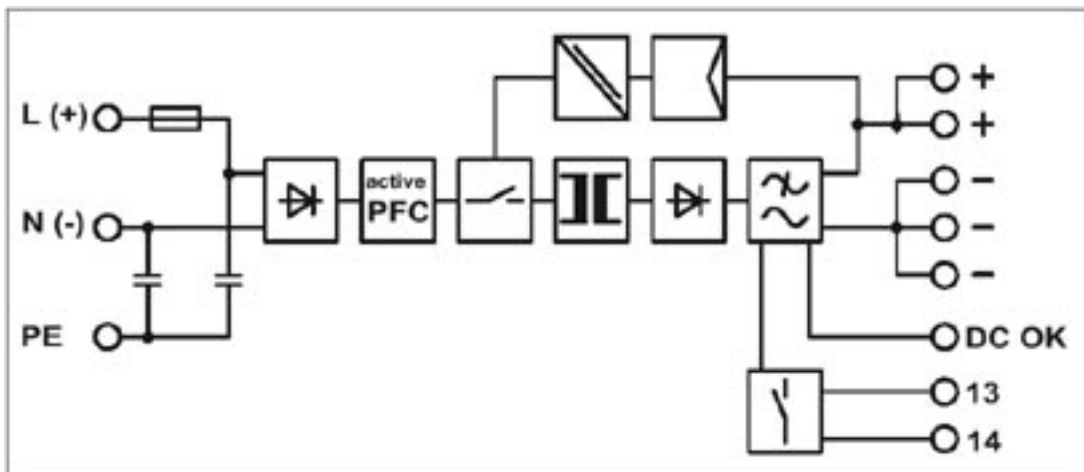
Circuit diagram



Circuit diagram



Circuit diagram



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Circuit diagram

