

## Power supply unit - QUINT4-PS/1AC/24DC/3.8/PT - 2909577

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Primary-switched power supply unit, QUINT POWER, Push-in connection, DIN rail mounting, input: 1-phase, output: 24 V DC / 3.8 A

### Product Description

In the power range of up to 100 W, QUINT POWER provides superior system availability in the smallest size. Preventative function monitoring and exceptional power reserves are available for applications in the low-power range.

### Your advantages

- ✓ Starting of heavy loads with dynamic boost
- ✓ Preventive function monitoring indicates critical operating states before errors occur
- ✓ High efficiency and long service life, with low power dissipation and low heating
- ✓ Space savings in the control cabinet, thanks to a narrow, slim-line design
- ✓ Free selection between Push-in and screw connection



COMPLETE line Push-in Technology<sup>®</sup>  
Designed by Phoenix Contact



### Key Commercial Data

|                                      |                                                                                                         |
|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit                         | 1 pc                                                                                                    |
| GTIN                                 | <br>4 055626 356488 |
| GTIN                                 | 4055626356488                                                                                           |
| Weight per Piece (excluding packing) | 380.000 g                                                                                               |
| Custom tariff number                 | 85044030                                                                                                |
| Country of origin                    | Vietnam                                                                                                 |

### Technical data

#### Dimensions

|        |        |
|--------|--------|
| Width  | 45 mm  |
| Height | 106 mm |

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## Technical data

### Dimensions

|                                  |               |
|----------------------------------|---------------|
| Depth                            | 90 mm         |
| Installation distance right/left | 0 mm / 0 mm   |
| Installation distance top/bottom | 30 mm / 30 mm |

### Ambient conditions

|                                                                     |                                              |
|---------------------------------------------------------------------|----------------------------------------------|
| Degree of protection                                                | IP20                                         |
| Inflammability class in acc. with UL 94 (housing / terminal blocks) | V0                                           |
| 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                                                 | ≤ 5000 m (> 2000 m, observe derating)        |

### Input data

|                                          |                                                        |
|------------------------------------------|--------------------------------------------------------|
| Input voltage range                      | 100 V AC ... 240 V AC -15 % ... +10 %                  |
|                                          | 110 V DC ... 250 V DC -20 % ... +40 %                  |
| Dielectric strength maximum              | 300 V AC 30 s                                          |
| Frequency range (f <sub>N</sub> )        | 50 Hz ... 60 Hz -10 % ... +10 %                        |
| Discharge current to PE                  | < 0.25 mA (264 V AC, 60 Hz)                            |
| Current consumption                      | 1 A (100 V AC)                                         |
|                                          | 0.83 A (120 V AC)                                      |
|                                          | 0.46 A (230 V AC)                                      |
|                                          | 0.44 A (240 V AC)                                      |
| Nominal power consumption                | 104 VA                                                 |
| Inrush current                           | typ. 13 A (at 25 °C)                                   |
| Mains buffering time                     | typ. 35 ms (120 V AC)                                  |
|                                          | typ. 35 ms (230 V AC)                                  |
| Input fuse                               | 3.15 A (slow-blow, internal)                           |
| Recommended breaker for input protection | 6 A ... 16 A (Characteristic B, C, D, K or comparable) |
| Type of protection                       | Transient surge protection                             |
| Protective circuit/component             | Varistor                                               |

### Output data

|                                                         |                                         |
|---------------------------------------------------------|-----------------------------------------|
| Nominal output voltage                                  | 24 V DC                                 |
| Setting range of the output voltage (U <sub>Set</sub> ) | 24 V DC ... 28 V DC (constant capacity) |
| Nominal output current (I <sub>N</sub> )                | 3.8 A                                   |
| Dynamic Boost (I <sub>Dyn.Boost</sub> )                 | 7 A (≤ 60 °C (5 s))                     |

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## Technical data

### Output data

|                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|
| Derating                                           | > 60 °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) | ≤ 32 V DC                                          |
| Control deviation                                  | < 0.5 % (Static load change 10 % ... 90 %)         |
|                                                    | < 3 % (Dynamic load change 10 % ... 90 %, (10 Hz)) |
|                                                    | < 0.2 % (change in input voltage ±10 %)            |
| Residual ripple                                    | < 45 mV <sub>PP</sub> (with nominal values)        |
| Output power                                       | 90 W                                               |
| Typical response time                              | 500 ms                                             |
| Maximum no-load power dissipation                  | < 1 W (120 V AC)                                   |
|                                                    | < 1 W (230 V AC)                                   |
| Power loss nominal load max.                       | < 7 W (120 V AC)                                   |
|                                                    | < 6 W (230 V AC)                                   |

### General

|                                                                     |                           |
|---------------------------------------------------------------------|---------------------------|
| Net weight                                                          | 0.296 kg                  |
| Environmental protection directive                                  | RoHS Directive 2011/65/EU |
|                                                                     | WEEE                      |
|                                                                     | Reach                     |
| Efficiency                                                          | typ. 92.8 % (120 V AC)    |
|                                                                     | typ. 93.7 % (230 V AC)    |
| MTBF (IEC 61709, SN 29500)                                          | > 1272000 h (25 °C)       |
|                                                                     | > 690000 h (40 °C)        |
|                                                                     | > 271000 h (60 °C)        |
| Insulation voltage input/output                                     | 4 kV AC (type test)       |
|                                                                     | 3 kV AC (routine test)    |
| Degree of protection                                                | IP20                      |
| Protection class                                                    | II                        |
| Inflammability class in acc. with UL 94 (housing / terminal blocks) | V0                        |
| Assembly instructions                                               | DIN rail mounting         |

### Connection data, input

|                                       |                     |
|---------------------------------------|---------------------|
| Connection method                     | Push-in connection  |
| Conductor cross section solid min.    | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max.    | 2.5 mm <sup>2</sup> |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |

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### Technical data

#### Connection data, input

|                                       |                     |
|---------------------------------------|---------------------|
| Conductor cross section flexible max. | 2.5 mm <sup>2</sup> |
| Conductor cross section AWG min.      | 24                  |
| Conductor cross section AWG max.      | 14                  |
| Stripping length                      | 10 mm               |

#### Connection data, output

|                                       |                     |
|---------------------------------------|---------------------|
| Connection method                     | Push-in connection  |
| Conductor cross section solid min.    | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max.    | 2.5 mm <sup>2</sup> |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max. | 2.5 mm <sup>2</sup> |
| Conductor cross section AWG min.      | 24                  |
| Conductor cross section AWG max.      | 14                  |
| Stripping length                      | 10 mm               |

#### Connection data for signaling

|                                       |                     |
|---------------------------------------|---------------------|
| Connection method                     | Push-in connection  |
| Conductor cross section solid min.    | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max.    | 2.5 mm <sup>2</sup> |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max. | 2.5 mm <sup>2</sup> |
| Conductor cross section AWG min.      | 24                  |
| Conductor cross section AWG max.      | 14                  |
| Stripping length                      | 10 mm               |

### Standards

|                                                                              |                        |
|------------------------------------------------------------------------------|------------------------|
| EMC requirements for noise immunity                                          | EN 61000-6-1           |
|                                                                              | EN 61000-6-2           |
| EMC requirements for noise emission                                          | EN 61000-6-3           |
|                                                                              | EN 61000-6-4           |
| EMC requirements, power plant                                                | IEC 61850-3            |
|                                                                              | EN 61000-6-5           |
| Standard - Safety of transformers                                            | EN 61558-2-16          |
| Standard - Electrical safety                                                 | IEC 61010-2-201 (SELV) |
| Standard - safety for equipment for measurement, control, and laboratory use | IEC 61010-1            |
| Standard - Safety extra-low voltage                                          | IEC 61010-1 (SELV)     |
|                                                                              | IEC 61010-2-201 (PELV) |
| Standard - Safe isolation                                                    | IEC 61558-2-16         |

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## Technical data

### Standards

|                                                                |                      |
|----------------------------------------------------------------|----------------------|
| Standard - power supply devices for low voltage with DC output | EN 61204-3           |
| Standard - Limitation of mains harmonic currents               | EN 61000-3-2         |
| Overvoltage category EN 61010-1                                | II                   |
| Overvoltage category EN 62477-1                                | III ( $\leq 2000$ m) |

### Conformance/approvals

|              |                                                                            |
|--------------|----------------------------------------------------------------------------|
| UL approvals | UL Listed UL 61010-1                                                       |
|              | UL Listed UL 61010-2-201                                                   |
|              | UL 1310 Class 2 Power Units                                                |
|              | ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location) |
| SIQ          | CB-Scheme (IEC 61010-1, IEC 61010-2-201)                                   |

### EMC data

|                               |                                           |
|-------------------------------|-------------------------------------------|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Conducted noise emission      | EN 55016                                  |
|                               | EN 61000-6-3 (Class B)                    |
| Noise emission                | EN 55016                                  |
|                               | EN 61000-6-3 (Class B)                    |
| Electrostatic discharge       | EN 61000-4-2                              |
| Contact discharge             | 8 kV (Test Level 4)                       |
| Discharge in air              | 8 kV (Test Level 3)                       |
| Electromagnetic HF field      | EN 61000-4-3                              |
| Frequency range               | 80 MHz ... 1 GHz                          |
| Test field strength           | 20 V/m (Test Level X)                     |
| Frequency range               | 1 GHz ... 6 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                        | 4 kV (Test Level 4 - asymmetrical)        |
| Signal                        | 4 kV (Test Level 4 - asymmetrical)        |
| Comments                      | Criterion A                               |
| Surge voltage load (surge)    | EN 61000-4-5                              |
| Input                         | 2 kV (Test Level 4 - symmetrical)         |
|                               | 4 kV (Test Level 4 - asymmetrical)        |
| Output                        | 1 kV (Test Level 3 - symmetrical)         |
|                               | 2 kV (Test Level 3 - asymmetrical)        |
| Signal                        | 0.5 kV (Test Level 2 - symmetrical)       |

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## Technical data

### EMC data

|                                |                          |
|--------------------------------|--------------------------|
| Comments                       | Criterion A              |
| Conducted interference         | EN 61000-4-6             |
| I/O/S                          | asymmetrical             |
| Frequency range                | 0.15 MHz ... 80 MHz      |
| Voltage                        | 10 V (Test Level 3)      |
| Comments                       | Criterion A              |
| Power frequency magnetic field | EN 61000-4-8             |
| Frequency                      | 16.67 Hz                 |
|                                | 50 Hz                    |
|                                | 60 Hz                    |
| Test field strength            | 100 A/m                  |
| Additional text                | 60 s                     |
| Comments                       | Criterion A              |
| Frequency                      | 50 Hz                    |
|                                | 60 Hz                    |
| Frequency range                | 50 Hz ... 60 Hz          |
| Test field strength            | 1 kA/m                   |
| Additional text                | 3 s                      |
| Frequency                      | 0 Hz                     |
| Test field strength            | 300 A/m                  |
| Additional text                | DC, 60 s                 |
| Voltage dips                   | EN 61000-4-11            |
| Voltage                        | 100 V AC                 |
| Frequency                      | 60 Hz                    |
| Voltage dip                    | 70 %                     |
| Number of periods              | 0.5 / 1 / 30 periods     |
| Additional text                | Test Level 2             |
| Comments                       | Criterion A              |
| Voltage dip                    | 40 %                     |
| Number of periods              | 5 / 10 / 50 periods      |
| Additional text                | Test Level 2             |
| Comments                       | Criterion B              |
| Voltage dip                    | 0 %                      |
| Number of periods              | 0.5 / 1 / 5 / 50 periods |
| Additional text                | Test Level 2             |
| Comments                       | Criterion B              |
| Pulse-shape magnetic field     | EN 61000-4-9             |

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## Technical data

### EMC data

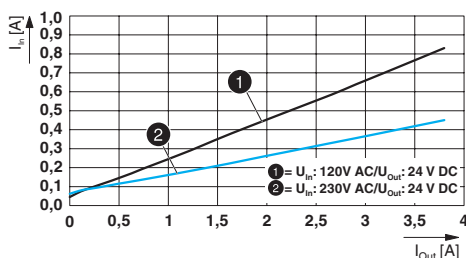
|                                                |                                                                                                                                                            |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test field strength                            | 1000 A/m                                                                                                                                                   |
| Comments                                       | Criterion A                                                                                                                                                |
| Attenuated sinusoidal oscillations (ring wave) | EN 61000-4-12                                                                                                                                              |
| Input                                          | 2 kV (symmetrical)                                                                                                                                         |
|                                                | 4 kV (asymmetrical)                                                                                                                                        |
| Comments                                       | Criterion A                                                                                                                                                |
| Asymmetrical conducted disturbance variables   | EN 61000-4-16                                                                                                                                              |
| Test level 1                                   | 16.67 Hz 50 Hz 60 Hz (Test Level 3)                                                                                                                        |
| Voltage                                        | 30 V (Permanent)                                                                                                                                           |
| Test level 2                                   | 16.67 Hz 50 Hz 60 Hz (Test Level 4)                                                                                                                        |
| Voltage                                        | 300 V (1 s)                                                                                                                                                |
| Comments                                       | Criterion A                                                                                                                                                |
| Attenuated oscillating wave                    | EN 61000-4-18                                                                                                                                              |
| Comments                                       | Criterion B                                                                                                                                                |
| Criterion A                                    | Normal operating behavior within the specified limits.                                                                                                     |
| Criterion B                                    | Temporary impairment to operational behavior that is corrected by the device itself.                                                                       |
| Criterion C                                    | Temporary adverse effects on the operating behavior, which the device corrects automatically or which can be restored by actuating the operating elements. |

### Environmental Product Compliance

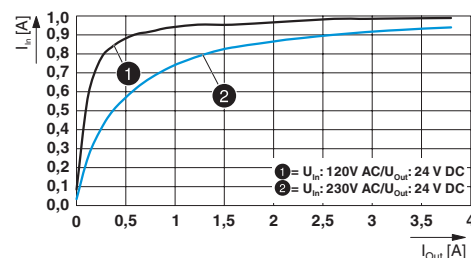
|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| REACH SVHC | Lead 7439-92-1                                     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

## Drawings

Diagram

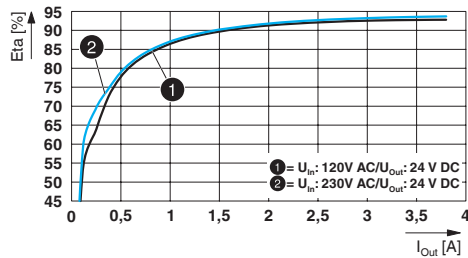


Diagram

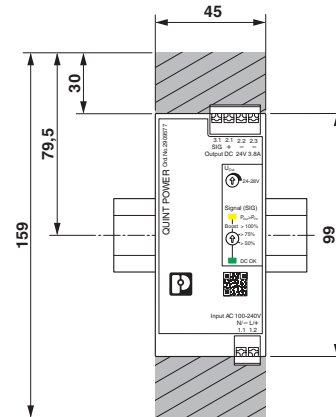


## Power supply unit - QUINT4-PS/1AC/24DC/3.8/PT - 2909577

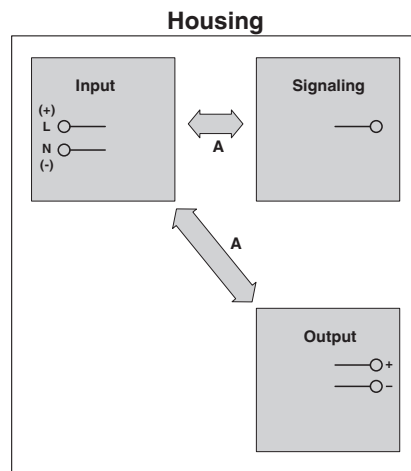
Diagram



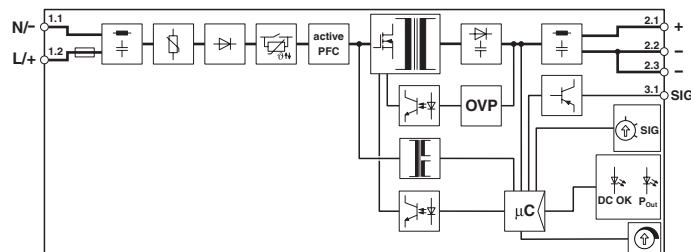
Dimensional drawing



Schematic diagram



Block diagram



## Power supply unit - QUINT4-PS/1AC/24DC/3.8/PT - 2909577

### Classifications

#### eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27040701 |
| eCl@ss 11.0   | 27040701 |
| eCl@ss 5.1    | 27242213 |
| eCl@ss 6.0    | 27049000 |
| eCl@ss 7.0    | 27049002 |
| eCl@ss 9.0    | 27040701 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 6.0 | EC002540 |
| ETIM 7.0 | EC002540 |

#### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 13.2 | 39121004 |
| UNSPSC 18.0 | 39121004 |
| UNSPSC 19.0 | 39121004 |
| UNSPSC 20.0 | 39121004 |
| UNSPSC 21.0 | 39121004 |

### Approvals

#### Approvals

##### Approvals

UL Listed / IECCE CB Scheme / cUL Listed / EAC / DNV GL / EAC / cULus Listed

##### Ex Approvals

UL Listed / cUL Listed / cULus Listed

#### Approval details

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

|                 |                                                                                     |                                                           |         |
|-----------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|---------|
| IECEE CB Scheme |  | <a href="http://www.iecee.org/">http://www.iecee.org/</a> | SI-8859 |
|-----------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|---------|

## Power supply unit - QUINT4-PS/1AC/24DC/3.8/PT - 2909577

### Approvals

cUL Listed



<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 123528

EAC



RU S-  
DE.BL08.W.00764

DNV GL



<https://approvalfinder.dnvgl.com/>

TAA00001SN

EAC



RU S-  
DE.BL08.W.00764

cULus Listed



### Accessories

#### Accessories

##### Device circuit breakers

Electronic circuit breaker - CBMC E4 24DC/1-10A NO - 2906032



Multi-channel electronic circuit breaker for protecting four loads at 24 V DC in the event of overload and short circuit. With electronic locking of the set nominal currents. For installation on DIN rails.

Electronic circuit breaker - CBMC E4 24DC/1-4A NO - 2906031



Multi-channel electronic circuit breaker for protecting four loads at 24 V DC in the event of overload and short circuit. With electronic locking of the set nominal currents. For installation on DIN rails.

## Power supply unit - QUINT4-PS/1AC/24DC/3.8/PT - 2909577

### Accessories

Electronic circuit breaker - CBMC E4 24DC/1-4A NO-C - 2908713



Multi-channel electronic circuit breaker that can be preconfigured, for protecting four loads at 24 V DC in the event of overload and short circuit. With electronic locking of the set nominal currents. For installation on DIN rails.

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### Device protection

Type 3 surge protection device - PLT-SEC-T3-230-FM-PT - 2907928



Type 2/3 surge protection, consisting of protective plug and base element with Push-in 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-T3-24-FM-PT - 2907925



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

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### Screwdriver tools

Screwdriver - SF-SL 0,4X2,0-60 - 1212546



Screwdriver, flat bladed, size: 0.4 x 2.0 x 60 mm, 2-component grip, with non-slip grip