

# QUINT-PS/24DC/24DC/ 5


Order No.: 2320034



<http://eshop.phoenixcontact.co.uk/phoenix/treeViewClick.do?UID=2320034>

QUINT DC/DC converter, with SFB technology, primary-switched, input: 24 V DC, output: 24 V DC/5 A



| Commercial data          |  |
|--------------------------|--|
| EAN                      | <br>4 046356 482035 |
| Pack                     | 1  |
| Customs tariff           | 85044082   |
| Country of Origin        | CN   |
| Catalog page information | Page 608 (IF-2011)   |

### Product notes

WEEE/RoHS-compliant since:  
18/12/2008



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### Product description

The QUINT 24 V/5 A DC/DC converter converts a DC voltage of 18 V ... 32 V to an adjustable, regulated, and electrically isolated 24 V output voltage. If no regulated and stable 24 V DC voltage is available to supply a load, the DC/DC converter ensures the adjustment of the 24 V load: from an unregulated DC voltage, an adjustable output voltage of 18 V ... 29.5 V is generated.

## Technical data

### Input data

|                              |  |
|------------------------------|--|
| Nominal input voltage        | 24 V DC  |
| DC input voltage range       | 18 V DC ... 32 V DC                                      |
|                              | 14 V DC ... 18 V DC (Consider derating during operation) |
| DC frequency range           | 0 Hz   |
| Current consumption          | Typ. 7 A (24 V DC)                                       |
| Inrush surge current         | < 15 A (typical)   |
| Power failure bypass         | > 10 ms (24 V DC)  |
| Buffer period                | 350 s (5 A)  |
| Input fuse                   | 15 A (internal (device protection))                      |
| Permissible backup fuse      | B10  |
|                              | B16  |
| 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                       | 5 A (-25 °C ... 60 °C)  |
|                                      | 6.25 A (with POWER BOOST, -25°C ... 40°C permanently, U <sub>OUT</sub> = 24 V DC) |
|                                      | 30 A (SFB technology, 12 ms)  |
| Magnetic fuse tripping               | C2  |
| 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   |
| Current limitation                   | Approximately 7.2 A   |
| 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                      | < 20 mV <sub>PP</sub>   |
| Peak switching voltages nominal load | < 10 mV <sub>PP</sub> (20 MHz)  |
| Maximum power dissipation idling     | 2.4 W   |
| Power loss nominal load max.         | 11.4 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   | 0.7 kg  |
| Efficiency   | > 92 %  |
| Insulation voltage input/output  | 1 kV (routine test)                                 |
|  | 1.5 kV (type test)                                  |
| Degree of protection   | IP20  |
| Protection class   | III   |
| 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: Horizontally 0 mm, vertically 50 mm |
| Electromagnetic compatibility  | Conformance with EMC Directive 2004/108/EC          |
| Noise immunity   | EN 61000-6-2:2005                                   |
| 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)                          |
| Shipbuilding approval  | Germanischer Lloyd (EMC 1)                          |
| 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 60204-1 (PELV)                                   |
| Standard - Safe isolation  | DIN VDE 0100-410                                    |
| UL approvals   | UL/C-UL listed UL 508                               |
|  | UL/C-UL Recognized UL 60950                         |

**Connection data, input**

|                                    |                            |
|------------------------------------|----------------------------|
| Connection method                  | Pluggable screw 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 stranded min.  | 0.2 mm <sup>2</sup> |
| Conductor cross section stranded max.  | 2.5 mm <sup>2</sup> |
| Conductor cross section AWG/kcmil min. | 24                  |
| Conductor cross section AWG/kcmil max  | 12                  |
| Stripping length                       | 8 mm                |
| Screw thread                           | M3                  |

#### Connection data, output

|  |                            |
|--|----------------------------|
| Connection method                      | Pluggable screw 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 stranded min.  | 0.2 mm <sup>2</sup>        |
| Conductor cross section stranded max.  | 2.5 mm <sup>2</sup>        |
| Conductor cross section AWG/kcmil min. | 24                         |
| Conductor cross section AWG/kcmil max  | 12                         |
| Stripping length                       | 7 mm                       |

#### Signaling

|  |  |
|--|--|
| Output name                            | DC OK active                                 |
| Output description                     | $U_{OUT} > 0.9 \times U_N$ : High signal     |
| Maximum inrush current                 | < 20 mA (short-circuit resistant)            |
| Status display                         | "DC OK" LED green                            |
| 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 stranded min.  | 0.2 mm <sup>2</sup>                          |
| Conductor cross section stranded max.  | 2.5 mm <sup>2</sup>                          |
| Conductor cross section AWG/kcmil min. | 24   |
| Conductor cross section AWG/kcmil max  | 12   |
| Tightening torque, min                 | 0.5 Nm                                       |
| Tightening torque max                  | 0.6 Nm                                       |
| Screw thread                           | M3   |
| Output name                            | POWER BOOST, active                          |
| Output description                     | $I_{OUT} < I_N$ : High signal                |
| Maximum inrush current                 | < 20 mA (short-circuit resistant)            |
| Status display                         | "BOOST" LED yellow/ $I_{OUT} > I_N$ : LED on |

|                        |   |
|------------------------|---|
| Output name            | U <sub>IN</sub> OK, active  |
| Output description     | U <sub>IN</sub> > 19.2 V: High signal                                     |
| Maximum inrush current | < 20 mA (short-circuit resistant)   |
| Status display         | LED "U <sub>IN</sub> < 19.2 V" yellow/U <sub>IN</sub> < 19.2 V DC: LED on |
| Output name            | DC OK floating  |
| Output description     | U <sub>OUT</sub> > 0.9 x U <sub>N</sub> : Relays closed                   |
| Type of signaling      | LED, relay contact  |

**Certificates**



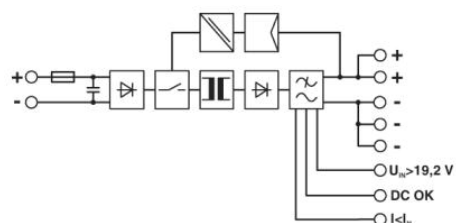
Certification CB, CUL, CUL Listed, UL, UL Listed

**Accessories**

| Item           | Designation          | Description  |
|----------------|----------------------|--|
| <b>General</b> |                      |  |
| 2938196        | QUINT-PS-ADAPTERS7/1 | Assembly adapter for QUINT-PS... power supply on S7-300 rail |
| 2320089        | UTA 107/30           | Universal DIN rail adapter                                   |
| 2938235        | UWA 182/52           | Universal wall adapter                                       |

**Drawings**

Block diagram



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