

# QUINT4-BUFFER/24DC/20 - Buffer module



2907913

<https://www.phoenixcontact.com/us/products/2907913>

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QUINT buffer module with maintenance-free capacitor-based energy storage for DIN rail mounting, input: 24 V DC, output: 24 V DC/20 A, including mounted UTA 107 universal DIN rail adapter.

## Product description

Bridge failures lasting several seconds with the buffer modules from the QUINT range for DIN rails. The QUINT BUFFER combines an electronic switch-over unit and maintenance-free, capacitor-based energy storage in the same housing.

## Your advantages

- Space savings, thanks to the compact design
- Maintenance-free due to electrolytic capacitors
- Thanks to soft start, can also be used with power supplies in the low power range

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2907913       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | CM21          |
| Product key                          | CMUIE3        |
| GTIN                                 | 4055626309040 |
| Weight per piece (including packing) | 1,049 g       |
| Weight per piece (excluding packing) | 760.55 g      |
| Customs tariff number                | 85322200      |
| Country of origin                    | CN            |

## Technical data

### Input data

|                                                                                             |                          |
|---------------------------------------------------------------------------------------------|--------------------------|
| Input voltage range                                                                         | 22.5 V DC ... 30 V DC    |
| Fixed backup threshold                                                                      | < 22 V DC                |
| Voltage type of supply voltage                                                              | DC                       |
| Current consumption $I_{\max}$ ( $U_N$ , $I_{OUT} = I_{Stat.Boost}$ , $I_{Charge} = \max$ ) | 26 A (max.)              |
| Current consumption $I_{No-Load}$ ( $U_N$ , $I_{OUT} = 0$ , $I_{charge} = 0$ )              | 0.2 A (No-load)          |
| Current consumption $I_{charge}$ ( $U_N$ , $I_{OUT} = 0$ , $I_{charge} = \max$ )            | 0.6 A (charging process) |
| Buffer time                                                                                 | 0.2 s (20 A)             |
|                                                                                             | 2 s (2 A)                |

### Output data

|                        |                                             |
|------------------------|---------------------------------------------|
| Efficiency             | > 98 % (with charged energy storage device) |
| Connection in parallel | no                                          |
| Connection in series   | no                                          |

### Mains operation

|                              |                                          |
|------------------------------|------------------------------------------|
| Output voltage               | 24 V DC (depending on the input voltage) |
| Output current $I_N$         | 20 A                                     |
| Power loss nominal load max. | < 6 W                                    |

### Buffer mode

|                                   |                                    |
|-----------------------------------|------------------------------------|
| Output voltage                    | typ. 22 V DC                       |
| Output current $I_N$              | 20 A (depending on output current) |
| Static Boost ( $I_{Stat.Boost}$ ) | 25 A                               |
| Power loss nominal load max.      | < 6 W                              |

## Energy storage

### Input

|                  |       |
|------------------|-------|
| Nominal capacity | 1 mAh |
|------------------|-------|

### General

|               |    |
|---------------|----|
| IQ-Technology | no |
|---------------|----|

## Signaling

### Signal state $U_{IN}$ OK

|                      |                                  |
|----------------------|----------------------------------|
| Connection labeling  | 3.1, 3.2                         |
| Switching output     | Electronic relays (OptoMOS)      |
| State (configurable) | $U_{IN}$ OK                      |
| Output voltage       | 30 V DC                          |
| Output can be loaded | 200 mA                           |
| LED status indicator | green ( $U_{IN}$ OK)             |
| Signal threshold     | Input voltage in the valid range |

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## Signal state Ready

|                                |                                       |
|--------------------------------|---------------------------------------|
| Connection labeling            | 3.3                                   |
| Switching output               | Transistor output, active             |
| State (configurable)           | Ready                                 |
| State condition (configurable) | State of charge = 100% or buffer mode |
| Output voltage                 | 24 V ( $U_N - 2$ V (typical))         |
| Output can be loaded           | 20 mA                                 |

## Signal ground SGnd

|                     |               |
|---------------------|---------------|
| Connection labeling | 3.4           |
| Function            | Signal ground |
| Reference potential | 3.3 Ready     |

## Electrical properties

|                                            |       |
|--------------------------------------------|-------|
| Insulation voltage input, output / housing | 500 V |
|--------------------------------------------|-------|

## Product properties

|                            |                   |
|----------------------------|-------------------|
| Product type               | Buffer module     |
| Product family             | QUINT BUFFER      |
| MTBF (IEC 61709, SN 29500) | 2497464 h (40 °C) |

## Insulation characteristics

|                      |                                                                                           |
|----------------------|-------------------------------------------------------------------------------------------|
| Protection class     | Special application (SELV input voltage, hazardous voltages are generated in the device). |
| Overvoltage category | I                                                                                         |
| Degree of pollution  | 2                                                                                         |

## Life expectancy (electrolytic capacitors)

|             |          |
|-------------|----------|
| Current     | 20 A     |
| Temperature | 30 °C    |
| Time        | 288935 h |

## Life expectancy (electrolytic capacitors)

|             |          |
|-------------|----------|
| Current     | 20 A     |
| Temperature | 40 °C    |
| Time        | 144468 h |

## Life expectancy (electrolytic capacitors)

|             |          |
|-------------|----------|
| Current     | 20 A     |
| Temperature | 45 °C    |
| Time        | 102154 h |

## Life expectancy (electrolytic capacitors)

|             |         |
|-------------|---------|
| Current     | 20 A    |
| Temperature | 50 °C   |
| Time        | 72234 h |

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## Life expectancy (electrolytic capacitors)

|             |         |
|-------------|---------|
| Current     | 20 A    |
| Temperature | 60 °C   |
| Time        | 36117 h |

## Dimensions

### Item dimensions

|        |        |
|--------|--------|
| Width  | 56 mm  |
| Height | 130 mm |
| Depth  | 125 mm |

### Installation dimensions

|                                  |               |
|----------------------------------|---------------|
| Installation distance right/left | 0 mm / 0 mm   |
| Installation distance top/bottom | 50 mm / 50 mm |

## Mounting

|                   |                                                |
|-------------------|------------------------------------------------|
| Assembly note     | alignable: horizontally 0 mm, vertically 50 mm |
| Mounting position | horizontal DIN rail NS 35, EN 60715            |

## Material specifications

|                  |       |
|------------------|-------|
| Housing material | Metal |
|------------------|-------|

## Environmental and real-life conditions

### Ambient conditions

|                                                |                                                                        |
|------------------------------------------------|------------------------------------------------------------------------|
| Degree of protection                           | IP20                                                                   |
| Ambient temperature (operation)                | -25 °C ... 70 °C (> 40 °C Derating: 1 %/K / > 60 °C Derating: 2.5 %/K) |
| Ambient temperature (storage/transport)        | -40 °C ... 70 °C                                                       |
| Ambient temperature (start-up type tested)     | -40 °C                                                                 |
| Maximum altitude                               | ≤ 4000 m                                                               |
| Climatic class                                 | 3K3 (in acc. with EN 60721)                                            |
| Max. permissible relative humidity (operation) | ≤ 95 %                                                                 |

## Standards and regulations

### Electrical safety

|                          |                             |
|--------------------------|-----------------------------|
| Standard designation     | Electrical safety           |
| Standards/specifications | IEC 60950-1/VDE 0805 (SELV) |

## Approvals

### UL

|                |                  |
|----------------|------------------|
| Identification | UL Listed UL 508 |
|----------------|------------------|

### UL

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|                |                               |
|----------------|-------------------------------|
| Identification | UL/C-UL Recognized UL 60950-1 |
|----------------|-------------------------------|

## UL

|                |                                                                                  |
|----------------|----------------------------------------------------------------------------------|
| Identification | UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location) |
|----------------|----------------------------------------------------------------------------------|

## EMC data

|                                     |                                                       |
|-------------------------------------|-------------------------------------------------------|
| Electromagnetic compatibility       | Conformance with EMC Directive 2014/30/EU             |
| Low Voltage Directive               | Conformance with Low Voltage Directive 2014/35/EC     |
| EMC requirements for noise emission | EN 61000-6-3                                          |
|                                     | EN 61000-6-4                                          |
| EMC requirements for noise immunity | EN 61000-6-1                                          |
|                                     | EN 61000-6-2                                          |
| Noise immunity                      | Immunity in accordance with EN 61000-6-2 (industrial) |

## Noise emission

|                       |              |
|-----------------------|--------------|
| Standards/regulations | EN 55016     |
|                       | EN 61000-6-3 |

## Electrostatic discharge

|                       |              |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-2 |
|-----------------------|--------------|

## Electrostatic discharge

|                   |                     |
|-------------------|---------------------|
| Contact discharge | 6 kV (Test Level 3) |
| Discharge in air  | 8 kV (Test Level 3) |
| Comments          | Criterion A         |

## Electromagnetic HF field

|                       |              |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-3 |
|-----------------------|--------------|

## Electromagnetic HF field

|                     |                  |
|---------------------|------------------|
| Frequency range     | 80 MHz ... 6 GHz |
| Test field strength | 10 V/m           |
| Comments            | Criterion A      |

## Fast transients (burst)

|                       |              |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-4 |
|-----------------------|--------------|

## Fast transients (burst)

|          |                                    |
|----------|------------------------------------|
| Input    | 2 kV (Test Level 3 - asymmetrical) |
| Output   | 2 kV (Test Level 3 - asymmetrical) |
| Signal   | 2 kV (Test Level 3 - asymmetrical) |
| Comments | Criterion A                        |

## Surge voltage load (surge)

|        |                                    |
|--------|------------------------------------|
| Input  | 1 kV (Test Level 2 - symmetrical)  |
|        | 2 kV (Test Level 3 - asymmetrical) |
| Output | 1 kV (Test Level 2 - symmetrical)  |

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|          |                                    |
|----------|------------------------------------|
|          | 2 kV (Test Level 3 - asymmetrical) |
| Signal   | 1 kV (Test Level 2 - asymmetrical) |
| Comments | Criterion A                        |

## Conducted interference

|                       |              |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-6 |
|-----------------------|--------------|

## Conducted interference

|                 |                     |
|-----------------|---------------------|
| Frequency range | 0.15 MHz ... 80 MHz |
| Comments        | Criterion A         |
| Voltage         | 10 V                |

## Criteria

|             |                                                                                      |
|-------------|--------------------------------------------------------------------------------------|
| Criterion A | Normal operating behavior within the specified limits.                               |
| Criterion B | Temporary impairment to operational behavior that is corrected by the device itself. |

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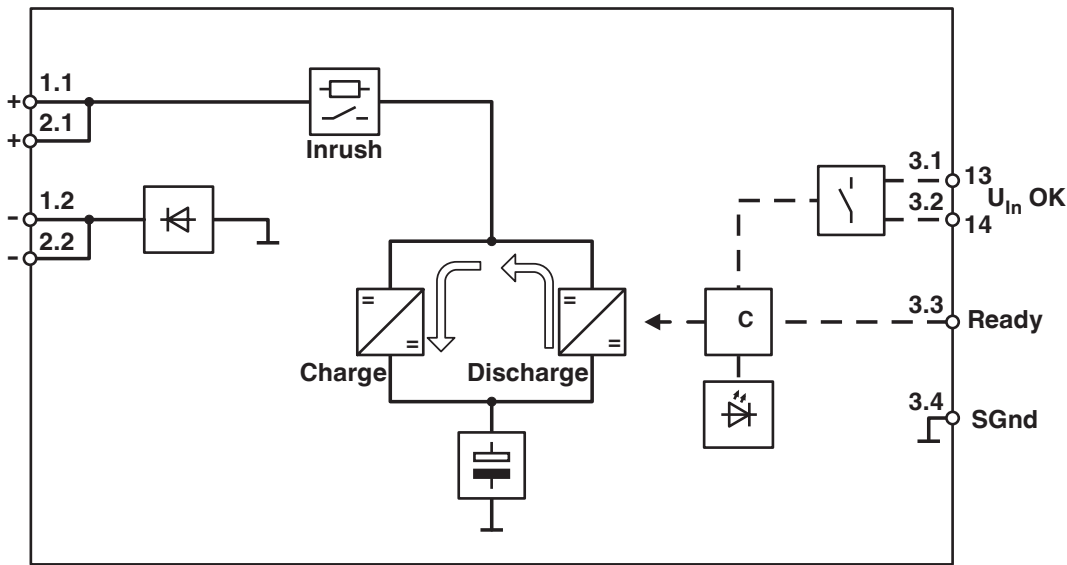
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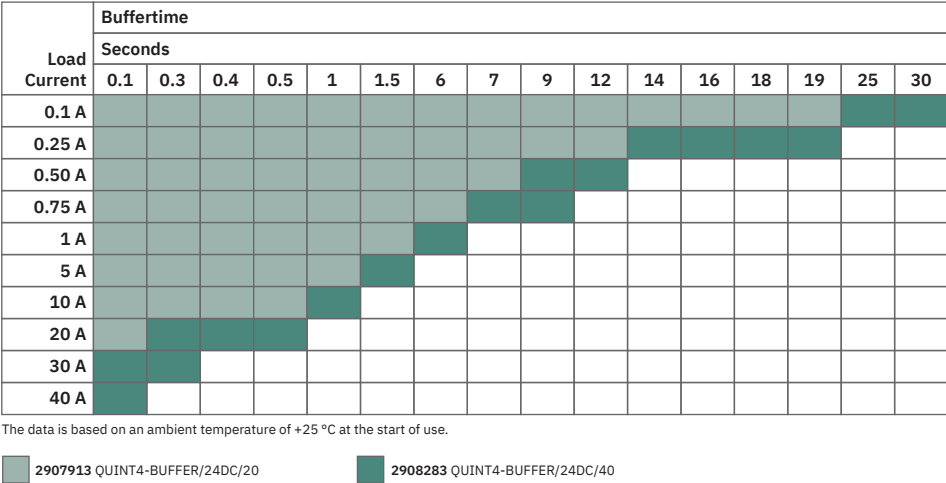


Drawings

Block diagram



Graphic



QUINT BUFFER buffer times

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2907913>



**cUL Recognized**

Approval ID: E211944



**UL Recognized**

Approval ID: E211944



**EAC**

Approval ID: RU S-DE.BL08.W.00764



**UL Listed**

Approval ID: E123528



**cUL Listed**

Approval ID: E123528



**IECEE CB Scheme**

Approval ID: DE/PTZ/0063



**cUL Listed**

Approval ID: E199827



**UL Listed**

Approval ID: E199827

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27040692 |
| ECLASS-15.0 | 27040692 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002850 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 26111700 |
|-------------|----------|

## Environmental product compliance

### EU RoHS

|                                         |                    |
|-----------------------------------------|--------------------|
| Fulfills EU RoHS substance requirements | Yes                |
| Exemption                               | 6(c), 7(a), 7(c)-I |

### China RoHS

|                                        |                                                                                                                                                                                                                                   |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-25                                                                                                                                                                                                                           |
|                                        | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

### EU REACH SVHC

|                                     |                                            |
|-------------------------------------|--------------------------------------------|
| REACH candidate substance (CAS No.) | Diboron trioxide(CAS: 1303-86-2)           |
|                                     | Lead monoxide (lead oxide)(CAS: 1317-36-8) |
|                                     | Lead(CAS: 7439-92-1)                       |
| SCIP                                | bf780566-3baa-40df-a168-e05bbde8eda2       |

### EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 20.84 kg CO2e |
|---------|---------------|