

# Capacity module - QUINT4-CAP/24DC/3.8/1KJ/PT



2320526

<https://www.phoenixcontact.com/pc/products/2320526>

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QUINT capacity module with maintenance-free double-layer capacitor-based energy storage for DIN rail mounting, input: 24 V DC, output: 24 V DC / 3.8 A / 1 kJ

## Your advantages

- Maintenance-free with a long service life
- Space savings, thanks to the compact design
- Long buffer time, thanks to high memory capacity

## Commercial Data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2320526       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Product Key                          | CMUIC3        |
| GTIN                                 | 4055626246925 |
| Weight per Piece (including packing) | 605 g         |
| Weight per Piece (excluding packing) | 445 g         |
| Customs tariff number                | 85322900      |
| Country of origin                    | CN            |

## Technical Data

### Product properties

|                            |                       |
|----------------------------|-----------------------|
| Product type               | Capacity module       |
|                            | QUINT capacity module |
| MTBF (IEC 61709, SN 29500) | 996550 h (40 °C)      |
|                            | 1631804 h (25 °C)     |
|                            | 449865 h (60 °C)      |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Protection class     | III |
| Overvoltage category | II  |
| Degree of pollution  | 2   |

### Electrical properties

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

### Input data

|   |                       |
|---|-----------------------|
| Input voltage   | 24 V DC (SELV)        |
| Input voltage range   | 22.5 V DC ... 30 V DC |
| Fixed backup threshold  | < 22 V DC             |
| Current consumption $I_{\max}$ ( $U_N$ , $I_{OUT} = I_{Stat.Boost}$ , $I_{charge} = \max$ ) | 4.3 A                 |
| Current consumption $I_{No-Load}$ ( $U_N$ , $I_{OUT} = 0$ , $I_{charge} = 0$ )              | 0.08 A                |
| Current consumption $I_{charge}$ ( $U_N$ , $I_{OUT} = 0$ , $I_{charge} = \max$ )            | 0.43 A                |
| Buffer time   | 9 s (3.8 A)           |
|   | 30 s (1 A)            |
| Charging time   | 4 min. (0.43 A)       |
| Recharging time   | 3 min. (0.43 A)       |

### Signal state Remote

|                      |        |
|----------------------|--------|
| Connection labeling  | 3.3    |
| State (configurable) | Remote |
| State condition      | Remote |

### Output data

|                        |   |
|------------------------|---|
| Efficiency             | > 97 % (with charged energy storage device) |
| Connection in parallel | yes   |
| Connection in parallel | max. 2 (with decoupling module)             |
| Connection in series   | No  |

### Mains operation

|  |  |
|--|--|
| Output voltage                                     | 24 V DC (depending on the input voltage) |
| Output current $I_N$                               | 3.8 A                                    |
| Output power $P_{OUT}$ ( $U_N$ , $I_{OUT} = I_N$ ) | 91.2 W                                   |
| Maximum no-load power dissipation                  | < 2 W                                    |

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## Battery operation

|                      |         |
|----------------------|---------|
| Output voltage       | 24 V DC |
| Output current $I_N$ | 3.8 A   |

## Signal state Ready

|                                |                                       |
|--------------------------------|---------------------------------------|
| Connection labeling            | 3.2                                   |
| Switching output               | Transistor output, active             |
| State (configurable)           | Ready                                 |
| State condition (configurable) | State of charge = 100% or buffer mode |
| Output voltage                 | 24 V ( $U_N - 1$ V (typical))         |
| Output can be loaded           | 20 mA                                 |

## Signal state UIN OK

|                      |                                  |
|----------------------|----------------------------------|
| Connection labeling  | 3.1                              |
| Switching output     | Transistor output, active        |
| State (configurable) | $U_{In}$ OK                      |
| Output voltage       | 24 V ( $U_N - 1$ V (typical))    |
| Output can be loaded | 20 mA                            |
| LED status indicator | green ( $U_{In}$ OK)             |
| Signal threshold     | Input voltage in the valid range |

## Signal ground SGnd

|                     |  |
|---------------------|--|
| Connection labeling | 3.4  |
| Function            | Signal ground                                |
| Reference potential | $U_{In}$ OK (3.1), Ready (3.2), Remote (3.3) |

## Energy storage

|                |                           |
|----------------|---------------------------|
| Capacity       | 1 kJ                      |
| Buffer time    | 9 s (3.8 A)<br>30 s (1 A) |
| Storage medium | Double-layer capacitor    |

## Connection data

### Conductor connection

|  |  |
|--|--|
| Connection method                            | Push-in connection                           |
| rigid  | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| flexible                                     | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| flexible with ferrule without plastic sleeve | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| flexible with ferrule with plastic sleeve    | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| rigid (AWG)                                  | 24 ... 14                                    |
| Stripping length                             | 10 mm  |

### Conductor connection

|                   |   |
|-------------------|---|
| Connection method | Push-in connection                          |
| rigid             | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |

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|  |  |
|--|--|
| flexible                                     | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| flexible with ferrule without plastic sleeve | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| flexible with ferrule with plastic sleeve    | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| rigid (AWG)                                  | 24 ... 14                                    |
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## Conductor connection

|  |  |
|--|--|
| Connection method                            | Push-in connection                           |
| rigid  | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
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| flexible with ferrule with plastic sleeve    | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| rigid (AWG)                                  | 24 ... 14                                    |
| Stripping length                             | 10 mm  |

## Dimensions

|        |          |
|--------|----------|
| Width  | 85 mm    |
| Height | 102.5 mm |
| Depth  | 90 mm    |

## Installation dimensions

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

## Material specifications

|                  |         |
|------------------|---------|
| Housing material | Plastic |
|------------------|---------|

## Environmental and real-life conditions

### Ambient conditions

|  |                             |
|--|-----------------------------|
| Degree of protection                           | IP20                        |
| Ambient temperature (operation)                | -25 °C ... 60 °C            |
| Ambient temperature (storage/transport)        | -40 °C ... 60 °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 %                      |

## Approval data

UL

|                |                      |
|----------------|----------------------|
| Identification | UL Listed UL 61010-1 |
|----------------|----------------------|

UL

|                |                          |
|----------------|--------------------------|
| Identification | UL Listed UL 61010-2-201 |
|----------------|--------------------------|

UL

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|                |           |
|----------------|-----------|
| Identification | UL 121201 |
|----------------|-----------|

## CSA

|                |   |
|----------------|---|
| Identification | CSA C22.2 No. 223 class 2 (buffer mode) |
|----------------|---|

## CSA

|                |                              |
|----------------|------------------------------|
| Identification | CAN/CSA-C22.2 No. 61010-1-12 |
|----------------|------------------------------|

## CSA

|                |                                  |
|----------------|----------------------------------|
| Identification | CAN/CSA C22.2 No. 61010-2-201:14 |
|----------------|----------------------------------|

## CSA

|                |                      |
|----------------|----------------------|
| Identification | CSA C22.2 No. 213-17 |
|----------------|----------------------|

## UL NEC

|                |                               |
|----------------|-------------------------------|
| Identification | UL 1310 class 2 (buffer mode) |
|----------------|-------------------------------|

## CB scheme

|                |                 |
|----------------|-----------------|
| Identification | IEC 61010-1     |
|                | IEC 61010-2-201 |
|                | EN 61010-1      |
|                | EN 61010-2-201  |

## EMC data

|                               |   |
|-------------------------------|---|
| Low Voltage Directive         | Conformance with Low Voltage Directive 2014/35/EC |
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU         |
| Noise emission                | 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 B         |

## 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) |

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|          |                                    |
|----------|------------------------------------|
| Signal   | 2 kV (Test Level 4 - asymmetrical) |
| Comments | Criterion B                        |

## Surge voltage load (surge)

|                       |                                    |
|-----------------------|------------------------------------|
| Standards/regulations | EN 61000-4-5                       |
| Input                 | 1 kV (Test Level 3 - symmetrical)  |
|                       | 2 kV (Test Level 3 - asymmetrical) |
| Output                | 1 kV (Test Level 3 - symmetrical)  |
|                       | 2 kV (Test Level 3 - asymmetrical) |
| Signal                | 1 kV (Test Level 1 - asymmetrical) |
| Comments              | Criterion B                        |

## 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. |

## Mounting

|                       |  |
|-----------------------|--|
| Mounting type         | DIN rail mounting                              |
| Assembly instructions | alignable: horizontally 0 mm, vertically 50 mm |
| Mounting position     | Any, on NS 35 DIN rail                         |

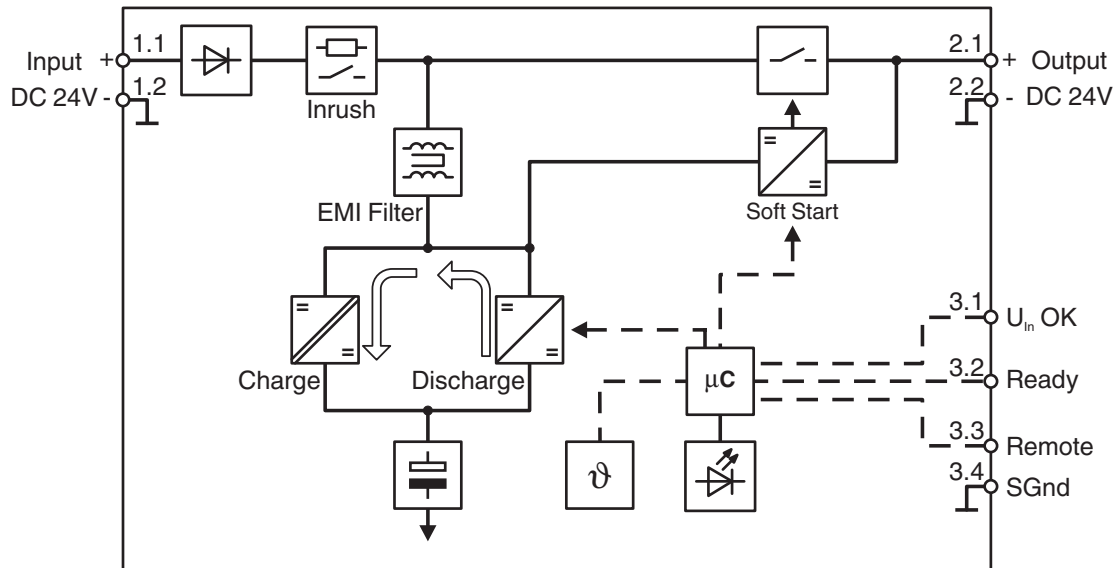
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## Drawings

Block diagram



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## Approvals



**UL Listed**

Approval ID: FILE E 123528



**cUL Listed**

Approval ID: FILE E 123528



**EAC**

Approval ID: RU\*DE\*HB54.B05799/20



**cUL Listed**

Approval ID: FILE E 199827



**UL Listed**

Approval ID: FILE E 199827

**cULus Listed**

**cULus Listed**



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-9.0  | 27049201 |
| ECLASS-11.0 | 27040705 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC002850 |
|----------|----------|

### UNSPSC

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

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## Environmental Product Compliance

REACH SVHC

Lead 7439-92-1

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## Accessories

### Thermomagnetic device circuit breaker

Thermomagnetic device circuit breaker - CB TM1 8A SFB P - 2800842

<https://www.phoenixcontact.com/pc/products/2800842>



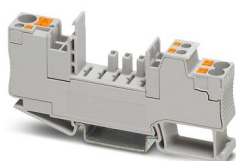
Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 changeover contact, plug for base element.

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### Base element

Base element - CB 1/6-2/4 PT-BE - 2800929

<https://www.phoenixcontact.com/pc/products/2800929>



Base element with push-in connection technology for CB ... device circuit breakers

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## Fuse

Fuse - SI FORM C 7,5 A DIN 72581 - 0913702

<https://www.phoenixcontact.com/pc/products/0913702>



Flat-type plug-in fuse, type C, color code: brown, nominal current: 7.5 A

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## Fuse modular terminal block

Fuse modular terminal block - PT 6-FSI/C - 3212166

<https://www.phoenixcontact.com/pc/products/3212166>



Fuse modular terminal block, fuse type: Flat, fuse type: Type C / max. 2.2 W, nom. voltage: 400 V, nominal current: 25 A, connection method: Push-in connection, Rated cross section: 6 mm<sup>2</sup>, cross section: 0.5 mm<sup>2</sup>- 10 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, color: black

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