

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



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

## Product description

The QUINT capacity module combines an electronic switch-over unit and energy storage in the same housing. The capacity module stores the energy required to bridge mains failures in maintenance-free double-layer capacitors. Long mains buffering is possible depending on the required load current.

## 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
Sales key	CM21
Product key	CMUIC3
GTIN	4055626246925
Weight per piece (including packing)	605 g
Weight per piece (excluding packing)	454 g
Customs tariff number	85322900
Country of origin	CN

## Technical data

### 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)

### Output data

Efficiency	> 97 % (with charged energy storage device)
Connection in parallel	yes
	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

### Battery operation

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

## Energy storage

### General

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

## 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>

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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

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rigid (AWG)	24 ... 14
Stripping length	10 mm

## Signaling

#### Signal state Remote

Connection labeling	3.3
State (configurable)	Remote
State condition	Remote

#### Signal state UIN OK

Connection labeling	3.1
Switching output	Transistor output, active
State (configurable)	U <sub>In</sub> OK
Output voltage	24 V (U <sub>N</sub> - 1 V (typical))
Output can be loaded	20 mA
LED status indicator	green (U <sub>In</sub> OK)
Signal threshold	Input voltage in the valid range

#### 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 <sub>N</sub> - 1 V (typical))
Output can be loaded	20 mA

#### Signal ground SGnd

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

## Electrical properties

Insulation voltage input, output / housing	500 V
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## Product properties

Product type	DC UPS with integrated capacitor
Product family	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

## Dimensions

### Item 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

## Mounting

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

## Material specifications

Housing material	Plastic
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## 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)

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Max. permissible relative humidity (operation)	≤ 95 %
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## Approvals

UL

Identification	UL Listed UL 61010-1
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UL

Identification	UL Listed UL 61010-2-201
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UL

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

Identification	UL 121201
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CSA

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

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

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

Identification	CSA C22.2 No. 213-17
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UL NEC

Identification	UL 1310 class 2 (buffer mode)
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CB scheme

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

## EMC data

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

Standards/regulations	EN 61000-6-3
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Electrostatic discharge

Standards/regulations	EN 61000-4-2
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Electrostatic discharge

Contact discharge	6 kV (Test Level 3)
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Discharge in air	8 kV (Test Level 3)
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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)
Signal	2 kV (Test Level 4 - asymmetrical)
Comments	Criterion B
Surge voltage load (surge)	
Standards/regulations	EN 61000-4-5
Surge voltage load (surge)	
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.

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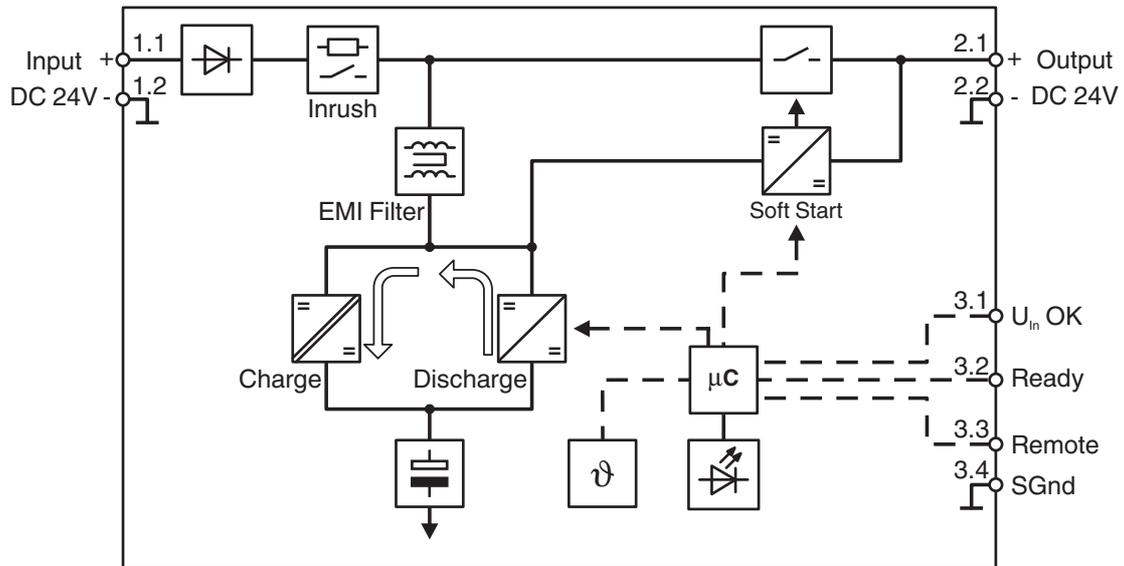


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## Drawings

Block diagram



Graphic

Load Current	Buffertime																
	Seconds							Minutes									
	9	10	15	20	30	40	50	1	2	3	5	10	20	30	40	50	60
0.05 A																	
0.50 A																	
1.00 A																	
2.00 A																	
2.50 A																	
3.80 A																	
5.00 A																	
6.25 A																	
7.50 A																	
10.0 A																	
12.5 A																	
15.0 A																	
20.0 A																	
25.0 A																	

The data is based on an ambient temperature of +25 °C.

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- 2320571 QUINT4-CAP/24DC/10/8KJ/PT
- 2320539 QUINT4-CAP/24DC/5/4KJ/PT
- QUINT4-CAP/24DC/20/16KJ/...

QUINT CAP buffer times

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## Approvals

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 **UL Listed**  
Approval ID: E123528

 **cUL Listed**  
Approval ID: E123528

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

 **cUL Listed**  
Approval ID: E199827

 **UL Listed**  
Approval ID: E199827

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## Classifications

### ECLASS

ECLASS-13.0	27040705
ECLASS-15.0	27040705

### ETIM

ETIM 9.0	EC000382
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### UNSPSC

UNSPSC 21.0	26111700
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	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	313ab9c8-36f0-4fea-99d9-5c5e525da79c

### EF3.0 Climate Change

CO2e kg	20.96 kg CO2e
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