

Capacity module - QUINT4-CAP/24DC/20/16KJ/PN



1076860

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QUINT capacity module, with maintenance-free energy storage based on double-layer capacitor, DIN rail mounting, input: 24 V DC, output: 24 V DC / 20 A / 16 kJ incl. mounted UTA 107 universal DIN rail adapter

Commercial Data

Item number	1076860
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	CMUI43
Product Key	CMUI43
GTIN	4055626785622
Weight per Piece (including packing)	3,423.8 g
Weight per Piece (excluding packing)	3,423 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
	> 30 V DC
Current consumption I_N ($U_N, I_{OUT} = I_N, I_{charge} = 0$)	20 A
Current consumption I_{max} ($U_N, I_{OUT} = I_{Stat.Boost}, I_{charge} = max$)	30 A
Current consumption $I_{No-Load}$ ($U_N, I_{OUT} = 0, I_{charge} = 0$)	0.1 A (No-load)
Current consumption I_{charge} ($U_N, I_{OUT} = 0, I_{charge} = max$)	10 A (charging process)
Power consumption P_{max} ($U_N, I_{OUT} = I_{Stat.Boost}, I_{charge} = max$)	599 W
Power consumption P_N ($U_N, I_{OUT} = I_N, I_{charge} = 0$)	488 W
Power consumption P_{charge} ($U_N, I_{OUT} = 0, I_{charge} = max$)	244 W
Buffer time	4 min. (2.5 A)
	30 s (20 A)
Charging time	approx. 6.3 min. (2.5 A)
	approx. 2.1 min. (10 A)
Recharging time	approx. 5.4 min. (2.5 A)
	approx. 1.4 min. (10 A)
Inrush current	≤ 7 A (≤ 4 ms)
Switch-on time	1 ms (buffer mode)
Internal input fuse	no
Dielectric strength	max. 35 V DC (Reverse polarity protection)
Voltage drop, input/output	0.5 V DC

Signal state Parallel port

Connection labeling	3.6
Channel	DI / DO (digital input / digital output)
Switching voltage	< 1 V
	24 V ($U_N - 1$ V (typical))
Switching input description	Connection terminal block communication, parallel operation
State (configurable)	Parallel Mode
State condition (configurable)	Not active: none
	Active:
	Output: buffer mode <1 V
	Output: mains operation 24 V ($U_N - 1$ V (typical)) Input: Connected with SGnd: start buffer mode
Current carrying capacity	3 mA
Reference potential	Different device, parallel port IN/OUT

Signal state Remote

Connection labeling	3.5
Channel	DI (digital input)
State (configurable)	Remote

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State condition	Remote
Low signal	Connection to SGnd with < 3 kΩ
High signal	Open
Signal - state assignment	low - active
Reference potential	3.7 (SGnd, identical to 1.3, 1.4, 2.2)

Output data

Efficiency	> 98 % (with charged energy storage device)
Connection in parallel	yes
Connection in parallel	max. 4
Connection in series	No

Mains operation

Output voltage	24 V DC
Output current I_N	20 A
Static Boost ($I_{Stat.Boost}$)	25 A
Output power P_{OUT} ($U_N, I_{OUT} = I_N$)	480 W
Output power P_{OUT} ($U_N, I_{OUT} = I_{Stat.Boost}$)	600 W
Power dissipation No load ($U_N, I_{OUT} = 0, I_{Charge} = 0$)	5 W
Power dissipation Nominal load ($U_N, I_{OUT} = I_N, I_{Charge} = 0$)	10 W
Short-circuit-proof	yes (with input fuse)
Idling-proof	yes

Battery operation

Output voltage	24 V DC
Output current I_N	20 A
Static Boost ($I_{Stat.Boost}$)	25 A
Output power P_{OUT} ($U_N, I_{OUT} = I_N$)	480 W
Output power P_{OUT} ($U_N, I_{OUT} = I_{Stat.Boost}$)	600 W
Power dissipation No load ($U_N, I_{OUT} = 0, I_{Charge} = 0$)	5 W
Power dissipation Nominal load ($U_N, I_{OUT} = I_N, I_{Charge} = 0$)	90 W
Short-circuit-proof	yes
Idling-proof	yes

Signal state Alarm

Connection labeling	3.3
Channel	DO (digital output)
Switching output	Transistor
State (configurable)	Group alarm
State condition (configurable)	Alarm threshold
Output voltage	25 V ($U_N - 1$ V (typical))
Output can be loaded	max. 20 mA
State - signal assignment	active - low
Reference potential	3.7 (SGnd, identical to 1.3, 1.4, 2.2)
LED status indicator	red (Alarm)

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Signal state Ready

Connection labeling	3.4
Channel	DO (digital output)
Switching output	Transistor
State (configurable)	Ready
State condition (configurable)	State of charge = 100% or buffer mode
Output voltage	25 V ($U_N - 1$ V (typical))
Output can be loaded	max. 20 mA
State - signal assignment	active - high
Reference potential	3.7 (SGnd, identical to 1.3, 1.4, 2.2)
LED status indicator	Green (state of charge - SOC)

Signal state UIN OK

Connection labeling	3.1, 3.2
Channel	DO (digital output)
Switching output	Electronic relays (OptoMOS)
State (configurable)	U_{in} OK
State condition (configurable)	$U_{in} > 22,5$ V DC, $U_{in} < 30$ V DC
Output voltage	max. 30 V
Output can be loaded	300 mA
State - signal assignment	active - high
LED status indicator	green (U_{in} OK)

Signal ground SGnd

Connection labeling	3.7
Switching voltage	0 V
Current carrying capacity	max. 60 mA
Function	Signal ground
Reference potential	3.3 Alarm, 3.4 Ready, 3.5 Remote

Energy storage

Capacity	16 kJ
Buffer time	4 min. (2.5 A) 30 s (20 A)
Storage medium	Double-layer capacitor

Connection data

Input

Position	1.x
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Conductor connection

Connection method	Screw connection
rigid	0.2 mm ² ... 6 mm ²
flexible	0.2 mm ² ... 4 mm ²

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flexible with ferrule without plastic sleeve	0.25 mm ² ... 4 mm ²
flexible with ferrule with plastic sleeve	0.25 mm ² ... 4 mm ²
rigid (AWG)	24 ... 10
Stripping length	8 mm
Tightening torque	0.5 Nm ... 0.6 Nm
Drive form screw head	Slotted L

2-conductor connection

rigid	0.2 mm ² ... 1.5 mm ²
flexible	0.2 mm ² ... 1.5 mm ²
flexible with TWIN ferrule with plastic sleeve	0.5 mm ² ... 2.5 mm ²

Output

Position	2.x
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Conductor connection

Connection method	Screw connection
rigid	0.2 mm ² ... 6 mm ²
flexible	0.2 mm ² ... 4 mm ²
flexible with ferrule without plastic sleeve	0.25 mm ² ... 4 mm ²
flexible with ferrule with plastic sleeve	0.25 mm ² ... 4 mm ²
rigid (AWG)	24 ... 10
Stripping length	8 mm
Tightening torque	0.5 Nm ... 0.6 Nm
Drive form screw head	Slotted L

2-conductor connection

rigid	0.2 mm ² ... 1.5 mm ²
flexible	0.2 mm ² ... 1.5 mm ²
flexible with TWIN ferrule with plastic sleeve	0.5 mm ² ... 2.5 mm ²

Signal

Position	3.x
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Conductor connection

Connection method	Push-in connection
rigid	0.2 mm ² ... 1 mm ²
flexible	0.2 mm ² ... 1.5 mm ²
flexible with ferrule without plastic sleeve	0.2 mm ² ... 1 mm ²
flexible with ferrule with plastic sleeve	0.2 mm ² ... 0.75 mm ²
rigid (AWG)	24 ... 18
Stripping length	8 mm

Interfaces

Interface	PROFINET
Number of interfaces	2
Connection method	RJ45

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Position	5.x
Locking	Locking clip
Transmission physics	Twisted-Pair
Features	Autonegotiation
	Autocrossing
	Autopolarity
	Half- or full-duplex
Topology	Star
	Line
Transmission speed	100 Mbps
Transmission length	max. 100 m
Cycle time	1 ms (RT)
Access time	≤ 2 s
Standards	IEEE 802.3
	IEC 61158
	IEC 61784-2
Supported protocols	PROFINET
	LLPD
	SNMP
Chipset	Renesas TPS-1
Electrical isolation	yes

Electrical properties

Insulation voltage input, output / housing	500 V
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Product properties

Product type	Capacity module
MTBF (IEC 61709, SN 29500)	1351036 h (25 °C)
	903325 h (40 °C)
	470143 h (60 °C)

Insulation characteristics

Protection class	III (Special application (SELV))
Overvoltage category	II
Degree of pollution	2

Dimensions

Width	244 mm
Height	130 mm
Depth	125 mm

Mounting

Mounting type	DIN rail mounting
Mounting position	horizontal DIN rail NS 35, EN 60715

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Material specifications

Flammability rating according to UL 94 (housing / terminal blocks)	V0
Housing material	Metal

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 60 °C (> 40 °C Derating: 1 %/K)
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 %
Shock	30g, 18 ms per spatial direction (in accordance with IEC 60068-2-27)
Vibration (operation)	0,7g

Standards and regulations

Overvoltage category

EN 61010-1	II (≤ 4000 m)
EN 61010-2-201	II (≤ 4000 m)
UL 60950-1	II (≤ 4000 m)

Protective extra-low voltage

Standards/specifications	IEC 61010-1 (SELV)
	IEC 61010-2-201 (PELV)

Approval data

UL

Identification	UL 61010-1
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UL

Identification	UL 61010-2-201
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UL

Identification	UL 121201
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UL

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

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

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Identification	CSA C22.2 No. 213-17 Class I, Devsion 2, Groups A, B, C, D (Hazardous Location)
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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
Interference emission	Noise emission in accordance with EN 61000-6-3 and EN 61000-6-4
Noise immunity	Device immunity in accordance with EN 61000-6-2

Electrostatic discharge

Standards/regulations	EN 61000-4-2
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Electrostatic discharge

Contact discharge	4 kV (Test Level 2)
Discharge in air	8 kV (Test Level 3)
Comments	Criterion B

Electromagnetic HF field

Standards/regulations	EN 61000-4-3
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Electromagnetic HF field

Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m
Comments	Criterion A

Fast transients (burst)

Standards/regulations	EN 61000-4-4
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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 B

Surge voltage load (surge)

Standards/regulations	EN 61000-4-5
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Conducted interference

Standards/regulations	EN 61000-4-6
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Conducted interference

Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A

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Voltage	10 V
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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Approvals



EAC

Approval ID: D-DE.GB09.V.00570/20



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

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Classifications

ECLASS

ECLASS-9.0	27049201
ECLASS-11.0	27040692

ETIM

ETIM 8.0	EC002850
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UNSPSC

UNSPSC 21.0	26111700
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

Mounting adapter

Mounting adapter - UWA 130 - 2901664

<https://www.phoenixcontact.com/gb/products/2901664>



2-piece universal wall adapter for securely mounting the device in the event of strong vibrations. The profiles that are screwed onto the side of the device are screwed directly onto the mounting surface. The universal wall adapter is attached on the left/right.

Mounting adapter

Mounting adapter - UWA 182/52 - 2938235

<https://www.phoenixcontact.com/gb/products/2938235>



Universal wall adapter for securely mounting the device in the event of strong vibrations. The device is screwed directly onto the mounting surface. The universal wall adapter is attached on the top/bottom.

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Data cable

Data cable - MINI-SCREW-USB-DATACABLE - 2908217

<https://www.phoenixcontact.com/gb/products/2908217>



Used for communication between an industrial PC and Phoenix Contact devices with USB-Mini-B connection.

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