

Buffer module - QUINT-BUFFER/24DC/24DC/40



2320393

<https://www.phoenixcontact.com/pc/products/2320393>

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QUINT buffer module with maintenance-free capacitor-based energy storage for DIN rail mounting, decoupled input: 24 V DC, decoupled output: 24 V DC/40 A, with integrated SFB (Selective Fuse Breaking) Technology, including mounted UTA 107 universal DIN rail adapter

Product Description

Short-term mains interruptions are bridged by QUINT BUFFER, a maintenance-free capacitor-based buffer module with SFB technology (selective fuse breaking technology). Systems can therefore also run in unstable networks or, in the event of longer failures, are correctly shut down after all relevant process data is saved. The buffer module also acts as an energy storage device for peak loads and for tripping fuses. For function monitoring, an active switching output and a control lamp are used. With the integrated diode, loads can be divided into buffered and unbuffered loads. The buffer time is thus extended and the buffered loads are protected against errors in the internal network.

Your advantages

- Longer buffer time, thanks to integrated decoupling function
- Robust due to reliable supply at temperatures from -25°C to +80°C
- Saves space: electronic switchover unit and energy storage in the same housing
- Flexible – supports operation in auto mode as well as manual adjustment

Commercial Data

Item number	2320393
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	CMUQE3
Catalog Page	Page 235 (C-6-2015)
GTIN	4046356554114
Weight per Piece (including packing)	1,490.9 g
Weight per Piece (excluding packing)	1,306 g
Customs tariff number	85049090
Country of origin	CN

Technical Data

Input data

Input voltage	24 V DC
Input voltage range	18 V DC ... 30 V DC
Input voltage range DC	18 V DC ... 30 V DC
Voltage type of supply voltage	DC
Buffer period	0.2 s (40 A) 8 s (1 A)
Current consumption	0.1 A (No-load) 0.7 A (charging process) 45 A (Conduction current)
Reverse polarity protection	yes
Charging delay	No
Fixed backup threshold	< 20 V DC (< 22 V; < 24 V; < 26 V)
Variable connect threshold	$(U_{IN} - 1 \text{ V})/0.1 \text{ s}$
Protective circuit	Transient surge protection

Output data

Efficiency	> 99 % (Mains operation, with charged energy storage)
Nominal output voltage	24 V DC (depending on the input voltage)
Nominal output current (I_N)	40 A
Output current limit	45 A (According to current limitation of the power supply connected upstream)
Selective Fuse Breaking (I_{SFB})	120 A (12 ms)
Derating	60 °C ... 80 °C (2.5%/K)
Output power	max. 960 W
Power loss nominal load max.	8 W
Power dissipation battery operation	48 W
Power dissipation	8 W (Normal operation) 48 W (buffer mode)
Protective circuit	Transient surge protection
Connection in parallel	yes, for increasing the buffer time and for redundancy
Connection in series	No

Mains operation

Nominal output voltage	24 V DC
Output voltage range	18 V DC ... 30.5 V DC
Nominal output current (I_N)	40 A

Battery operation

Nominal output voltage	24 V DC
Output voltage range	19.2 V DC ... 27.6 V DC
Nominal output current (I_N)	40 A

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Signal: Power Good signal output active (high = buffer module charged)

Output description	Power Good
Output voltage	+ 24 V
Continuous load current	20 mA

Energy storage

Charging current	600 mA
Nominal capacity	0.1 Ah
Battery technology	UPS-CAP
Memory medium	Electrolytic capacitor
IQ technology	no

Connection data

Input

Connection method	Screw connection
Conductor cross section solid min.	0.5 mm ²
Conductor cross section solid max.	16 mm ²
Conductor cross section flexible min.	0.5 mm ²
Conductor cross section flexible max.	16 mm ²
Conductor cross section AWG min.	8
Conductor cross section AWG max.	6
Stripping length	10 mm
Screw thread	M4
Tightening torque, min	1.2 Nm
Tightening torque max	1.5 Nm

Output

Connection method	Screw connection
Conductor cross section solid min.	0.5 mm ²
Conductor cross section solid max.	16 mm ²
Conductor cross section flexible min.	0.5 mm ²
Conductor cross section flexible max.	16 mm ²
Conductor cross section AWG min.	8
Conductor cross section AWG max.	6
Stripping length	10 mm
Screw thread	M4
Tightening torque, min	1.2 Nm
Tightening torque max	1.5 Nm

Signal

Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	4 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²

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Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Screw thread	M4
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

LED signaling

Types of signaling	LED
	Active switching output

Signal output: Power Good signal output active (high = buffer module charged)

Status display	LED "Power Good", green
Note on status display	Buffer module is loaded: LED ON
Color	green
Note on status display	Buffer module is loaded: LED ON

Electrical properties

Insulation voltage input, output / housing	500 V
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Product properties

Product type	Buffer module
IQ technology	no
MTBF (IEC 61709, SN 29500)	> 902000 h (40 °C)

Insulation characteristics

Protection class	III
Degree of pollution	2

Dimensions

Width	64 mm
Height	130 mm
Depth	125 mm
Horizontal pitch	3.6 Div.

Installation dimensions

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

Alternative assembly

Width	122 mm
Height	130 mm
Depth	67 mm

Mounting

Mounting type	DIN rail mounting
Assembly instructions	alignable: horizontally 0 mm, vertically 50 mm

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Mounting position	horizontal DIN rail NS 35, EN 60715
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Material specifications

Color	aluminium
Housing material	Metal
Hood version	Galvanized sheet steel, free from chrome (VI)
Side element version	Aluminum (AlMg3)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Maximum altitude	2000 m
Climatic class	3K3 (in acc. with EN 60721)
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6) 15 Hz ... 150 Hz, 2.3g, 90 min.

Standards and regulations

Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
Standard – Safety extra-low voltage	EN 60950-1 (SELV) and EN 60204 (PELV)
Standard - Safe isolation	DIN VDE 0106-101
Standard - Safety of transformers	EN 61558-2-17

Approval data

UL approvals	UL/C-UL Recognized UL 60950-1
	UL Listed UL 508
	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

EMC data

Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise immunity	EN 61000-6-2:2005

Electrostatic discharge

Standards/regulations	EN 61000-4-2
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Electrostatic discharge

Contact discharge	8 kV (Test Level 4)
Discharge in air	15 kV (Test Level 4)

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Comments	Criterion A
Electromagnetic HF field	
Standards/regulations	EN 61000-4-3
Electromagnetic HF field	
Frequency range	80 MHz ... 1 GHz
Test field strength	20 V/m
Frequency range	1 GHz ... 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 A
Surge voltage load (surge)	
Standards/regulations	EN 61000-4-5
Input	1 kV (Test Level 2 - symmetrical) 2 kV (Test Level 3 - asymmetrical)
Output	1 kV (Test Level 2 - symmetrical) 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	
I/O/S	asymmetrical
Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A
Voltage	10 V (Test Level 3)
Emitted interference	
Standards/regulations	EN 61000-6-3
Radio interference voltage in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential
Emitted radio interference in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential
Criteria	
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected

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by the device itself.

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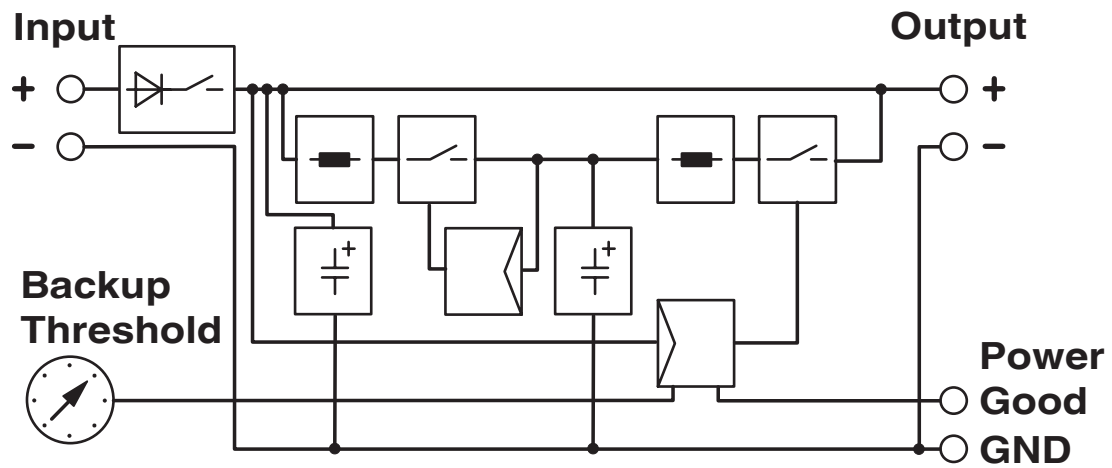


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Drawings

Block diagram



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Approvals



cUL Recognized
Approval ID: FILE E 211944



UL Recognized
Approval ID: FILE E 211944



EAC
Approval ID: EAC-Zulassung



LR
Approval ID: LR22136091TA



BV
Approval ID: 41516/B0 BV



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



UL Listed
Approval ID: FILE E 123528



cUL Listed
Approval ID: FILE E 123528

ABS

Approval ID: 22-2244289-PDA

DNV

Approval ID: TAA0000265

Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
500 V	41 A	-	- 6



cUL Listed
Approval ID: FILE E 199827

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UL Listed

Approval ID: FILE E 199827

cULus Recognized

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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

DIN rail adapter

DIN rail adapter - UTA 107 - 2853983

<https://www.phoenixcontact.com/pc/products/2853983>

Universal DIN rail adapter, for screwing on switchgear



Mounting adapter

Mounting adapter - UWA 182/52 - 2938235

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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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Mounting adapter

Mounting adapter - QUINT-PS-ADAPTERS7/2 - 2938206

<https://www.phoenixcontact.com/pc/products/2938206>

Assembly adapter for QUINT POWER 10A on S7-300 rail



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