

# Redundancy module, with protective coating - QUINT-ORING/24DC/2X10/1X20 - 2320173

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Active QUINT redundancy module for DIN rail mounting with Auto Current Balancing ACB technology and monitoring functions, input: 24 V DC, output: 24 V DC/2 x 10 A or 1 x 20 A, including mounted UTA 107/30 universal DIN rail adapter

## Product Description

The Auto Current Balancing ACB technology of the QUINT ORING modules doubles the service life of redundantly operated power supplies by evenly utilizing the power supply units. The load current is automatically distributed symmetrically.

## Your advantages

- Service life of the redundant solution is doubled, thanks to uniform distribution of the load
- Save energy
- Permanent monitoring of redundancy
- Consistent redundancy up to the load



## Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 524902
GTIN	4046356524902
Weight per Piece (excluding packing)	400.000 g
Custom tariff number	85049090
Country of origin	China

## Technical data

### Dimensions

Width	32 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm

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## Technical data

### Dimensions

Depth with alternative assembly	35 mm
Installation distance right/left	5 mm / 5 mm
Installation distance top/bottom	50 mm / 50 mm

### Ambient conditions

Degree of protection	IP20
Inflammability class in acc. with UL 94 (housing / terminal blocks)	V0
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C Derating: 2.5 %/K)
Ambient temperature (start-up type tested)	-40 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 100 % (at 25 °C, non-condensing)
Climatic class	3K3 (in acc. with EN 60721)
Degree of pollution	2
Installation height	2000 m

### Input data

Nominal input voltage range	24 V DC
Input voltage range	18 V DC ... 28 V DC (SELV)
Nominal input current	2x 10 A (-25 °C ... 60 °C)
	1x 20 A (-25 °C ... 60 °C)
Maximum input current	2x 15 A (-25 °C ... 40 °C)
	1x 30 A (-25 °C ... 40 °C)
	60 A (12 ms, SFB Technology)

### Output data

Nominal output voltage	0.1 V (< DC input)
Nominal output current (I <sub>N</sub> )	20 A (Increasing power)
	10 A (Redundancy)
Derating	60 °C ... 70 °C (2.5%/K)
Connection in series	No
Protection against overvoltage at the output (OVP)	< 32 V DC
Power loss nominal load max.	2 W (I <sub>OUT</sub> = 20 A)

### General

Net weight	0.4 kg
Efficiency	> 98 %
MTBF (IEC 61709, SN 29500)	> 1000000 h (40 °C)
Degree of protection	IP20
Protection class	III
Inflammability class in acc. with UL 94 (housing / terminal blocks)	V0
Housing material	Steel sheet, zinc-plated

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## Technical data

### General

Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: $P_N \geq 50\%$ , 5 mm horizontally, 15 mm next to active components, 50 mm vertically alignable: $P_N < 50\%$ , 0 mm horizontally, 40 mm vertically top, 20 mm vertically bottom

### Connection data, input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	4 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	14
Conductor cross section AWG max.	12
Stripping length	8 mm
Screw thread	M3

### Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	6 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	4 mm <sup>2</sup>
Conductor cross section AWG min.	10
Stripping length	7 mm
Screw thread	M3

### Connection data for signaling

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	4 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	16
Conductor cross section AWG max.	12
Stripping length	10 mm
Screw thread	M3

### Standards

EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2
EMC requirements for noise emission	EN 61000-6-3

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## Technical data

### Standards

	EN 61000-6-4
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard – Safety extra-low voltage	IEC 60950-1 (SELV) and EN 60204-1 (PELV)

### Conformance/approvals

UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950-1
	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
Electrostatic discharge	EN 61000-4-2
Contact discharge	8 kV (Test Level 4)
Discharge in air	15 kV (Test Level 4)
Electromagnetic HF field	EN 61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	20 V/m (Test Level 3)
Frequency range	1 GHz ... 2 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	2 GHz ... 3 GHz
Test field strength	10 V/m (Test Level 3)
Comments	Criterion A
Fast transients (burst)	EN 61000-4-4
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)	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 B
Conducted interference	EN 61000-4-6
I/O/S	asymmetrical
Frequency range	0.15 MHz ... 80 MHz

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## Technical data

### EMC data

Voltage	10 V (Test Level 3)
Comments	Criterion A
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

### Environmental Product Compliance

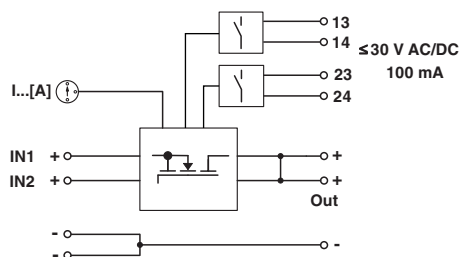
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Pictogram



Block diagram



## Classifications

### eCl@ss

eCl@ss 10.0.1	27371010
eCl@ss 11.0	27371010
eCl@ss 4.0	27250300
eCl@ss 4.1	27250300
eCl@ss 5.0	27371000
eCl@ss 5.1	27371000
eCl@ss 6.0	27371000
eCl@ss 7.0	27371010
eCl@ss 9.0	27371010

### ETIM

ETIM 3.0	EC000599
ETIM 4.0	EC000599
ETIM 6.0	EC000683
ETIM 7.0	EC000683

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## Classifications

### UNSPSC

UNSPSC 6.01	30211502
UNSPSC 7.0901	39121004
UNSPSC 11	39121004
UNSPSC 12.01	39121004
UNSPSC 13.2	32151504
UNSPSC 18.0	32151504
UNSPSC 19.0	32151504
UNSPSC 20.0	32151504
UNSPSC 21.0	32151504

## Approvals

### Approvals

#### Approvals

DNV GL / BV / LR / NK / ABS / RINA / UL Listed / UL Recognized / cUL Recognized / cUL Listed / EAC / EAC / UL Recognized / LR / UL Listed / cUL Listed / NK / cUL Recognized / ABS / EAC / DNV GL / BV / EAC / RINA / cULus Recognized / cULus Listed

#### Ex Approvals

IECEX / ATEX / UL Listed / cUL Listed / EAC Ex / IECEX / ATEX / UL Listed / cUL Listed / EAC Ex / INMETRO / cULus Listed

### Approval details

DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAA000011F
BV		<a href="http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials">http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials</a>	36077/B0 BV
LR		<a href="http://www.lr.org/en">http://www.lr.org/en</a>	14-20005
NK		<a href="http://www.classnk.or.jp/hp/en/">http://www.classnk.or.jp/hp/en/</a>	14A002

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## Approvals

ABS		<a href="http://www.eagle.org/eagleExternalPortalWEB/">http://www.eagle.org/eagleExternalPortalWEB/</a>	20-2022537-PDA
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RINA		<a href="http://www.rina.org/en">http://www.rina.org/en</a>	ELE362819XG
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UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
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UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 211944
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cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 211944
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
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EAC			EAC-Zulassung
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EAC			RU*DE*08.B.01873/19
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UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 211944
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LR		<a href="http://www.lr.org/en">http://www.lr.org/en</a>	14-20005
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Nominal voltage UN	500 V
Nominal current IN	41 A
mm <sup>2</sup> /AWG/kcmil	6

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## Approvals

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
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NK	<b>ClassNK</b>	<a href="http://www.classnk.or.jp/hp/en/">http://www.classnk.or.jp/hp/en/</a>	14A002
Nominal voltage UN		500 V	
Nominal current IN		63 A	
mm <sup>2</sup> /AWG/kcmil		10	

cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 211944
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ABS	<a href="http://www.eagle.org/eagleExternalPortalWEB/">http://www.eagle.org/eagleExternalPortalWEB/</a>	20-2022537-PDA
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EAC	<b>EAC</b>	RU*DE*08.B.01873/19
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DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAA000011F
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BV		<a href="http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials">http://www.veristar.com/portal/veristarinfo/generalinfo/approved/approvedProducts/equipmentAndMaterials</a>	36077/B0 BV
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EAC	<b>EAC</b>	RU*DE*08.B.01873/19
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RINA		<a href="http://www.rina.org/en">http://www.rina.org/en</a>	ELE362819XG
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### Approvals

cULus Recognized



cULus Listed



### Accessories

#### Accessories

#### Assembly adapter

Assembly adapters - UTA 107/30 - 2320089



Universal DIN rail adapter

Assembly adapters - UWA 182/52 - 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.

Assembly adapters - QUINT-PS-ADAPTERS7/1 - 2938196



Assembly adapter for QUINT-PS... power supply on S7-300 rail