

# QUINT4-DIODE/12-24DC/2X20/1X40 - Redundancy module



2907719

<https://www.phoenixcontact.com/us/products/2907719>

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DIN rail diode module 12-24 V DC/2x20 A or 1x40 A. Uniform redundancy up to the consumer.



## Product description

A safe redundant system is the result of the parallel connection of two power supply units which are decoupled from one another. To further increase system availability, QUINT DIODE provides the solution: decoupling with diode.

## Your advantages

- Flexible
- Rugged design
- Consistent redundancy up to the load

## Commercial data

Item number	2907719
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CM16
Product key	CMRI43
Catalog page	Page 306 (C-4-2019)
GTIN	4055626231211
Weight per piece (including packing)	883 g
Weight per piece (excluding packing)	790 g
Customs tariff number	85049090
Country of origin	CN

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## Technical data

### Input data

#### DC operation

Nominal input voltage range	12 V DC ... 24 V DC
Input voltage range	10 V DC ... 30 V DC
Voltage type of supply voltage	DC
Reverse polarity protection	< yes60 V
Nominal input current ( $I_N$ )	2x 20 A (-40 °C ... 60 °C) 1x 40 A (-40 °C ... 60 °C)
Maximum current $I_{max}$	2x 30 A (-40 °C ... 40 °C) 1x 60 A (-40 °C ... 40 °C)
Input current $I_{Static}$	2x 25 A (40 °C)
Input current $I_{Dynamic}$	2x 30 A (5 s)
Input current $I_{SFB}$	2x 120 A (15 ms)
Nominal input current ( $I_N$ )	2x 20 A (-25 °C ... 60 °C) 1x 40 A (-25 °C ... 60 °C)
Maximum current $I_{max}$	2x 30 A (-25 °C ... 40 °C) 1x 60 A (-25 °C ... 40 °C)
Transient surge protection	Varistor
Voltage drop, input/output	0.5 V

### Output data

Efficiency	> 97 %
Output voltage	$U_{in} -$
Output voltage range	12 V DC ... 24 V DC
Nominal output current ( $I_N$ )	40 A (Increasing power) 20 A (Redundancy)
Static Boost ( $I_{Stat.Boost}$ )	45 A
Dynamic Boost ( $I_{Dyn.Boost}$ )	60 A (5 s)
Selective Fuse Breaking ( $I_{SFB}$ )	120 A (15 ms)
Derating	60 °C ... 70 °C (2.5 %/K)
Power loss nominal load max.	10 W ( $I_{OUT} = 20$ A)
Connection in series	No

### Connection data

#### Input

Connection method	Screw connection
Conductor cross section, rigid min.	0.5 mm <sup>2</sup>
Conductor cross section, rigid max.	16 mm <sup>2</sup>
Conductor cross section flexible min.	0.5 mm <sup>2</sup>
Conductor cross section flexible max.	16 mm <sup>2</sup>

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Conductor cross section AWG min.	10
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, rigid min.	0.5 mm <sup>2</sup>
Conductor cross section, rigid max.	16 mm <sup>2</sup>
Conductor cross section flexible min.	0.5 mm <sup>2</sup>
Conductor cross section flexible max.	16 mm <sup>2</sup>
Conductor cross section AWG min.	10
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

## Electrical properties

Insulation voltage input, output / housing	1000 V
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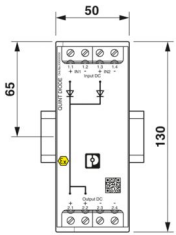
## Product properties

Product type	Redundancy module
Product family	QUINT DIODE
MTBF (IEC 61709, SN 29500)	40000000 h (40 °C)
LED	No

## Insulation characteristics

Protection class	III
Degree of pollution	2

## Dimensions

Dimensional drawing	
Width	50 mm
Height	130 mm
Depth	125 mm

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## Installation dimensions

Installation distance right/left	5 mm / 5 mm
Installation distance top/bottom	50 mm / 50 mm

## Mounting

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

## Material specifications

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

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C (> 60 °C Derating: 2,5 %/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Maximum altitude	≤ 5000 m
Climatic class	3K22 (in accordance with EN 60721-3-3)
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 – Protection against shock currents, basic requirements for protective separation in electrical equipment	EN 50178
Standard – Safety extra-low voltage	IEC 62368-1 (SELV) und EN 60204-1 (PELV)
Standard - Safe isolation	DIN VDE 0100-410

## Approvals

Shipbuilding approval	DNV
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)

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## Conformity/Approvals

ATEX	⊕ II 3 G Ex ec IIC T4 Gc
	DEKRA 20ATEX0041 X
IECEX	Ex ec IIC T4 Gc
	IECEX DEK 20.0022X

## EMC data

Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
EMC requirements for noise emission	EN 61000-6-3
	EN 61000-6-4
EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU

## Electrostatic discharge

Standards/regulations	EN 61000-4-2
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## Electromagnetic HF field

Standards/regulations	EN 61000-4-3
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## Fast transients (burst)

Standards/regulations	EN 61000-4-4
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## Surge voltage load (surge)

Standards/regulations	EN 61000-4-5
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## Surge current load (surge)

Standards/regulations	EN 61000-4-5
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## Surge current load (surge)

Input	2 kV (level 3 - asymmetrical: conductor to ground)
	1 kV (Level 2 - symmetrical: Conductor to conductor)
Output	2 kV (level 3 - asymmetrical: conductor to ground)
	1 kV (Level 2 - symmetrical: Conductor to conductor)
Comments	Criterion B

## Conducted interference

Standards/regulations	EN 61000-4-6
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## 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

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## Classifications

### ECLASS

ECLASS-11.0	27371010
ECLASS-12.0	27371010
ECLASS-13.0	27371010

### ETIM

ETIM 9.0	EC000683
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### UNSPSC

UNSPSC 21.0	32151500
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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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