

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



2320157

<https://www.phoenixcontact.com/us/products/2320157>

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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	2320157
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	C15
Product Key	CMRQ43
Catalog Page	Page 212 (C-6-2015)
GTIN	4046356524766
Weight per Piece (including packing)	857.6 g
Weight per Piece (excluding packing)	750 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 (-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	typ. 0.5 V
Nominal input voltage range	12 V DC ... 24 V DC
Input voltage range	10 V DC ... 30 V DC
Input voltage range DC	10 V DC ... 30 V DC

Output data

Efficiency	> 97 % > 97 %
Output voltage	U_{in} -
Nominal output current (I_N)	40 A (Increasing power) 20 A (Redundancy)
Derating	60 °C ... 70 °C (2.5%/K)
Power loss nominal load max.	10 W ($I_{OUT} = 20$ A)
Connection in series	No
Derating	60 °C ... 70 °C 2.5 %/K

Connection data

Input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	6 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	4 mm ²
Conductor cross section AWG min.	12
Conductor cross section AWG max.	10
Stripping length	8 mm
Screw thread	M3
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

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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.	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
MTBF (IEC 61709, SN 29500)	40000000 h

Insulation characteristics

Protection class	III
Degree of pollution	2

Dimensions

Width	50 mm
Height	130 mm
Depth	125 mm
Horizontal pitch	2.8 Div.

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

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Housing material	Steel sheet, zinc-plated
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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	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 – Protection against shock currents, basic requirements for protective separation in electrical equipment	EN 50178
Standard – Safety extra-low voltage	IEC 60950-1 (SELV) and EN 60204-1 (PELV)
Standard - Safe isolation	DIN VDE 0100-410

Approval data

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)

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
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
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

Electrostatic discharge

Standards/regulations	EN 61000-4-2
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Housing	Level 4
Electrostatic discharge	
Contact discharge	8 kV (Contact discharge)
Discharge in air	15 kV (Air discharge)
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 ... 3 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 (level 3 - asymmetrical: conductor to ground)
Output	2 kV (level 3 - asymmetrical: conductor to ground)
Comments	Criterion A
Surge voltage load (surge)	
Standards/regulations	EN 61000-4-5
Conducted interference	
Standards/regulations	EN 61000-4-6
Conducted interference	
Input/Output	Level 3
Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A
Voltage	10 V
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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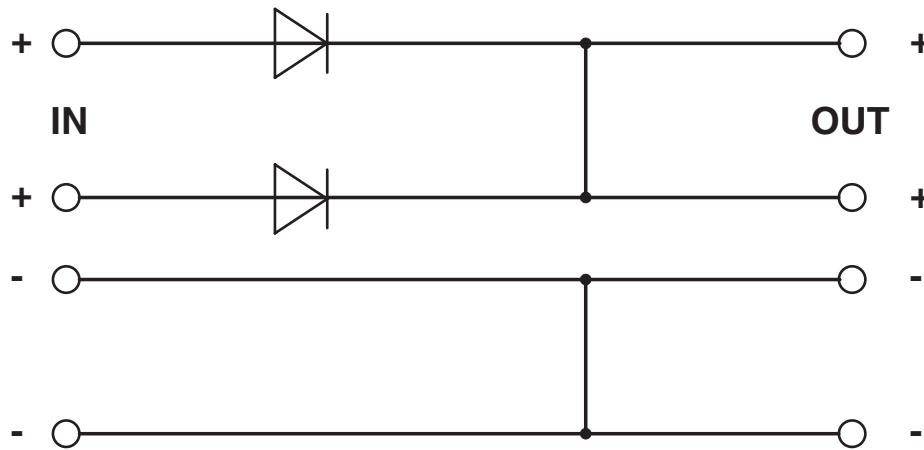


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Drawings

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: 14-20005

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



NK
Approval ID: TA19447M

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	500 V	63 A	-	- 10



BV
Approval ID: 36077/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



RINA
Approval ID: ELE362819XG

ABS

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Approval ID: 20-2022537-PDA

DNV

Approval ID: TAA000011F



ATEX

Approval ID: DEKRA 20ATEX0041X



EAC Ex

Approval ID: RU C-DE.HB49.B.00004



IECEX

Approval ID: IECEX DEK 20.0022X



CCC

Approval ID: 2020322303003441



NEPSI

Approval ID: GYJ20.1591X



cUL Listed

Approval ID: FILE E 199827



UL Listed

Approval ID: FILE E 199827

INMETRO

Approval ID: DNV 19.0186X

cULus Recognized

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Classifications

ECLASS

ECLASS-9.0	27371010
ECLASS-10.0.1	27371010
ECLASS-11.0	27371010

ETIM

ETIM 8.0	EC000683
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UNSPSC

UNSPSC 21.0	32151500
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