QUINT4-DIODE/48DC/2X20/1X40 - Redundancy module

2907720

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DIN rail diode module 48 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

ELEKTROGERÄTE RÜCKNAHME

Commercial data

Item number	2907720
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CMRI44
Product key	CMRI44
GTIN	4055626231396
Weight per piece (including packing)	879 g
Weight per piece (excluding packing)	775.33 g
Customs tariff number	85363030
Country of origin	CN

Technical data

Input data

DC operation

Nominal input voltage range	48 V DC
Input voltage range	30 V DC ... 56 V DC
Voltage type of supply voltage	DC
Reverse polarity protection	yes, < 120 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	0.7 V

Output data

Efficiency	> 97 %
Nominal output voltage	U_{In} - 0,7 V
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.	14 W (I_{OUT} = 20 A)
Connection in series	no

Connection data

Input

Connection method	Screw connection
Conductor cross-section, rigid min.	0.5 mm²
Conductor cross-section, rigid max.	16 mm²
Conductor cross-section flexible min.	0.5 mm²
Conductor cross-section flexible max.	16 mm²
Conductor cross-section AWG min.	20

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 mm²
Conductor cross-section, rigid max.	16 mm²
Conductor cross-section flexible min.	0.5 mm²
Conductor cross-section flexible max.	16 mm²
Conductor cross-section AWG min.	20
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

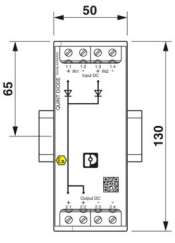
Product properties

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

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 note	alignable: P_N ≥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.
Temp code	T4 (-25 ... +70 °C; > 60 °C, Derating: 2,5 %/K)

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 T3C ... T4 (Hazardous Location)

Conformity/Approvals

ATEX	Ⓔx II 3 G Ex ec IIC T4 Gc
	DEKRA 20ATEX0041 X
IECEx	Ex ec IIC T4 Gc
	IECEx DEK 20.0022X

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
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

Surge voltage load (surge)

Standards/regulations	EN 61000-4-5

Surge voltage 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 A

Surge current load (surge)

Standards/regulations	EN 61000-4-5

Surge current load (surge)

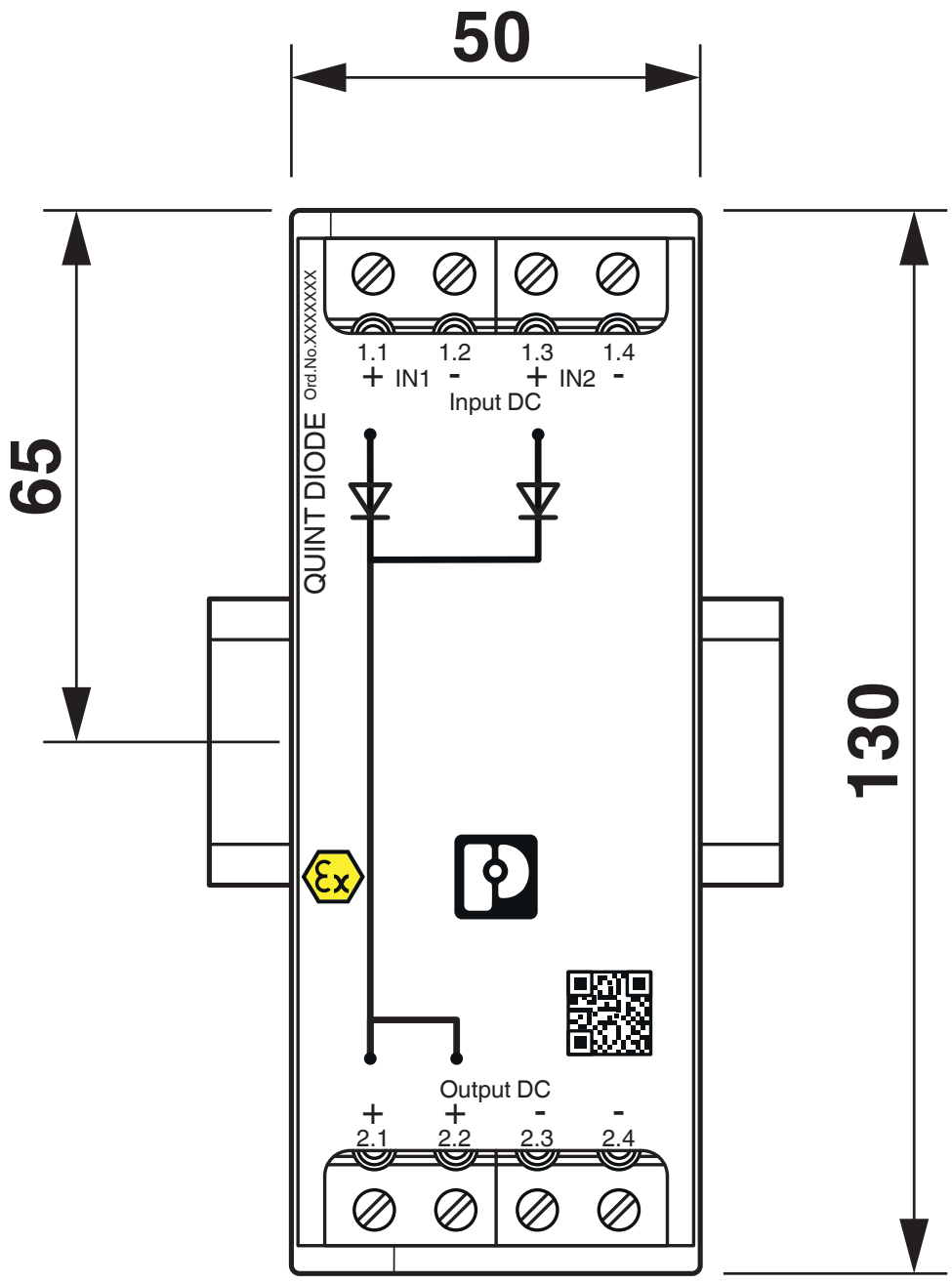
Input	2 kV (level 3 - asymmetrical: conductor to ground)
	1 kV (Level 2 - symmetrical: Conductor to conductor)
Output	2 kV (level 3 - asymmetrical: conductor to ground)
	1 kV (Level 2 - symmetrical: Conductor to conductor)
Comments	Criterion B

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

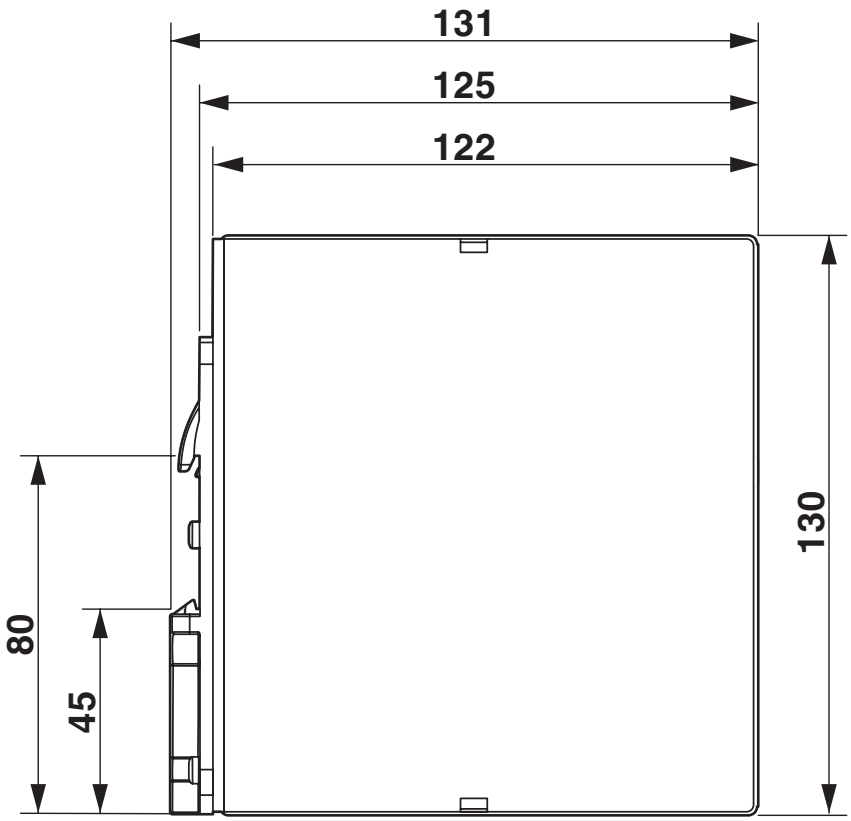
Drawings

Dimensional drawing



Device dimensions (dimensions in mm)

Dimensional drawing



Device dimensions (dimensions in mm)

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/gb/products/2907720

cUL Recognized
Approval ID: E211944

UL Recognized
Approval ID: E211944

UL Listed
Approval ID: E123528

cUL Listed
Approval ID: E123528

DNV
Approval ID: TAA000011F

NK
Approval ID: TA25015M

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	500 V	63 A	-	- 10

ATEX
Approval ID: DEKRA 20ATEX0041 X

EAC Ex
Approval ID: KZ 7500525010102095

IECEx
Approval ID: DEK 20.0022X

cUL Listed
Approval ID: FILE E 199827

UL Listed
Approval ID: E199827

INMETRO
Approval ID: DNV 22.0238 X

NEPSI-EX
Approval ID: GYJ20.1591X

CCC
Approval ID: 2020322303003426

Classifications

ECLASS

ECLASS-13.0	27371010
ECLASS-15.0	27371010

ETIM

ETIM 10.0	EC002878

UNSPSC

UNSPSC 21.0	32151500

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-25
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	7c4862fb-3d24-4805-8e32-c32327e2fbc3

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