STEP-DIODE/5-24DC/2X5/1X10 - Redundancy module

2868606

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Redundancy module, 5 ... 24 V DC, 2x 5 A, 1x 10 A

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, STEP DIODE provides the solution: decoupling with diode.

Your advantages

- Flexible mounting by simply snapping onto the DIN rail
- Save energy
- Rugged design
- Permanent monitoring of redundancy
- Consistent redundancy up to the load

Commercial data

Item number	2868606
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CM18
Product key	CMRS43
GTIN	4046356583923
Weight per piece (including packing)	73 g
Weight per piece (excluding packing)	73 g

Customs tariff number	85363010
Country of origin	VN

Technical data

Input data

DC operation

Nominal input voltage range	5 V DC ... 24 V DC
Input voltage range	4.5 V DC ... 30 V DC
Voltage type of supply voltage	DC
Reverse polarity protection	yes, < 60 V
Nominal input current (I_N)	2x 5 A (-25 °C ... 55 °C)
	1x 10 A (-25 °C ... 55 °C)
	2x 5 A (-25 °C ... 55 °C)
	1x 10 A (-25 °C ... 55 °C)
Transient surge protection	Transil diode
Voltage drop, input/output	0.5 V

Output data

Efficiency	> 97 %
	> 97 %
Nominal output voltage	U_{In} - 0,5 V
Nominal output current (I_N)	10 A (Increasing power)
	5 A (Redundancy)
Derating	55 °C ... 70 °C (2.5 %/K)
Power loss nominal load max.	2.5 W (I_{OUT} = 5 A)
Connection in series	no
Derating	60 °C ... 70 °C (2.5 %/K)

Connection data

Input

Connection method	Screw connection
Conductor cross-section, rigid min.	0.2 mm²
Conductor cross-section, rigid max.	2.5 mm²
Conductor cross-section flexible min.	0.2 mm²
Conductor cross-section flexible max.	2.5 mm²
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	12
Stripping length	6.5 mm
Screw thread	M3
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

Output

Connection method	Screw connection
Conductor cross-section, rigid min.	0.2 mm²

Conductor cross-section, rigid max.	2.5 mm²
Conductor cross-section flexible min.	0.2 mm²
Conductor cross-section flexible max.	2.5 mm²
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	12
Stripping length	6.5 mm
Screw thread	M3
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

Electrical properties

Insulation voltage input, output / housing	500 V DC

Product properties

Product type	Redundancy module
Product family	STEP DIODE
MTBF (IEC 61709, SN 29500)	> 25822000 h (40 °C)
LED	no

Insulation characteristics

Protection class	III
Degree of pollution	2

Dimensions

Width	18 mm
Height	90 mm
Depth	61 mm
Horizontal pitch	1 HP

Installation dimensions

Installation distance right/left	0 mm / 0 mm
Installation distance top/bottom	30 mm / 30 mm

Mounting

Mounting type	DIN rail: 35 mm
Assembly note	alignable: 0 mm horizontally, 30 mm vertically
Mounting position	horizontal DIN rail NS 35, EN 60715

Material specifications

Housing material	Metal
Housing material	Plastic

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20

Ambient temperature (operation)	-25 °C ... 70 °C (> 55° C derating : 2.5%/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
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	IEC 62368-1 (SELV)

Approvals

UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950-1

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

Electrostatic discharge

Standards/regulations	EN 61000-4-2

Electrostatic discharge

Contact discharge	4 kV (Test Level 2)
Discharge in air	8 kV (Test Level 3)
Comments	Criterion B

Electromagnetic HF field

Standards/regulations	EN 61000-4-3

Electromagnetic HF field

Frequency range	80 MHz ... 1 GHz
Test field strength	10 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)

Standards/regulations	EN 61000-4-4

Fast transients (burst)

Input	2 kV (Test Level 3 - asymmetrical)
Output	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion B

Surge voltage load (surge)

Standards/regulations	EN 61000-4-5

Surge voltage load (surge)

Input	2 kV (Test Level 3 - asymmetrical)
	1 kV (Test Level 2 - symmetrical)
Output	2 kV (Test Level 3 - asymmetrical)
	1 kV (Test Level 2 - symmetrical)
Comments	Criterion B

Conducted interference

Standards/regulations	EN 61000-4-6

Conducted interference

Input/output/signal	asymmetrical
Frequency range	150 kHz ... 80 MHz
Comments	Criterion A
Voltage	10 V (Test Level 3)

Voltage dips

Standards/regulations	EN 61000-4-11

Emitted interference

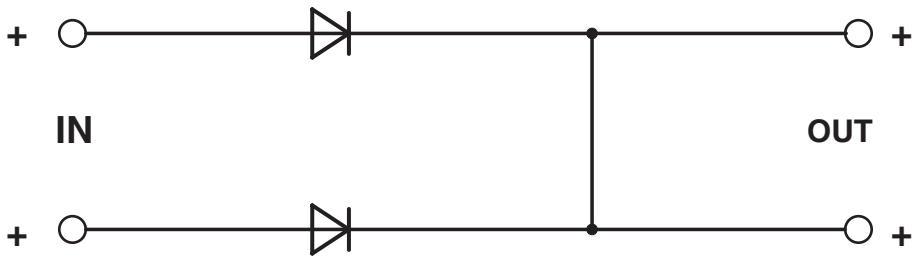
Standards/regulations	EN 61000-6-3
Radio interference voltage in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential
Emitted radio interference in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential

Criteria

Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

Drawings

Block diagram



Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2868606

cUL Recognized
Approval ID: FILE E 214596

UL Recognized
Approval ID: FILE E 214596

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

UL Listed
Approval ID: E123528

cUL Listed
Approval ID: E123528

IECEE CB Scheme
Approval ID: NL2-021198

Classifications

ECLASS

ECLASS-13.0	27371010
ECLASS-15.0	27371010

ETIM

ETIM 10.0	EC000683

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	83d3989b-8932-4a01-aaab-681c004ef87f

EF3.1 Climate Change

CO2e kg	2.625 kg CO2e

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https://www.phoenixcontact.com

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com