PS-EE-2G-DIODE/12-48DC/2X10/SC - Redundancy module

1584245

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Redundancy module ESSENTIAL DIODE, DIN rail mounting, 12 V DC ... 48 V DC, 2x 10 A DC

Product description

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

Commercial data

Item number	1584245
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CM33
Product key	CMB543
GTIN	4067923078031
Weight per piece (including packing)	419 g
Weight per piece (excluding packing)	345 g
Customs tariff number	85363030
Country of origin	CN

Technical data

Input data

Nominal input voltage range	12 V DC ... 48 V DC
Input voltage range	10 V DC ... 60 V DC
Voltage type of supply voltage	DC
Nominal input current (I_N)	2x 10 A DC (-20 °C ... 45 °C)
	1x 20 A DC (-20 °C ... 45 °C)
Reverse polarity protection	yes, < 60 V
Voltage drop, input/output	typ. 0.75 V
Transient surge protection	Varistor

Output data

Efficiency	≥ 94 % (≥ 12 V DC)
	≥ 96 % (≥ 24 V DC)
	≥ 98 % (≥ 48 V DC)
Nominal output voltage	U_{In} - 0,8 V
Nominal output current (I_N)	20 A
Derating	60 °C ... 70 °C (2 % / K)

Connection data

Conductor connection

Connection method	Screw connection
rigid	0.2 mm² ... 6 mm²
flexible	0.2 mm² ... 4 mm²
flexible with ferrule without plastic sleeve	0.25 mm² ... 4 mm²
	1.5 mm² (recommended)
flexible with ferrule with plastic sleeve	0.25 mm² ... 4 mm²
	1.5 mm² (recommended)
rigid (AWG)	24 ... 10 (Cu)
Stripping length (starr/flexibel)	8 mm (rigid/flexible/ferrule without plastic sleeve)
Stripping length (Aderendhülse)	11 mm (Ferrule with plastic sleeve)
Tightening torque (EU)	0.5 Nm ... 0.6 Nm
Drive form screw head	Slotted L

Conductor connection

Connection method	Screw connection
rigid	0.5 mm² ... 16 mm²
flexible	0.5 mm² ... 16 mm²
flexible with ferrule without plastic sleeve	0.5 mm² ... 16 mm²
	4 mm² (recommended)
flexible with ferrule with plastic sleeve	0.5 mm² ... 16 mm²
	4 mm² (recommended)

rigid (AWG)	20 ... 6 (Cu)
Stripping length (starr/flexibel)	10 mm (rigid/flexible/ferrule without plastic sleeve)
Stripping length (Aderendhülse)	13 mm (Ferrule with plastic sleeve)
Tightening torque (EU)	1.2 Nm ... 1.5 Nm
Drive form screw head	Slotted L

Conductor connection

Connection method	Push-in connection
rigid	0.2 mm² ... 1.5 mm²
flexible	0.2 mm² ... 1.5 mm²
flexible with ferrule without plastic sleeve	0.25 mm² ... 1.5 mm²
flexible with ferrule with plastic sleeve	0.25 mm² ... 0.75 mm²
rigid (AWG)	24 ... 16 (Cu)
Stripping length (starr/flexibel)	10 mm (rigid/flexible/ferrule without plastic sleeve)
Stripping length (Aderendhülse)	99 mm (Ferrule with plastic sleeve)

Signaling

LED signaling

Types of signaling	DC OK (green)
Signal threshold	Input1 OK (LED lights up green)
	Input2 OK (LED lights up green)

Signal output Relay 13/14

Connection labeling	3.1, 3.2
Switch contact (floating)	N/O contact
Digital	30 V DC
	1 A
Signal option	Redundancy OK

Signal output Relay 23/24

Connection labeling	3.3, 3.4
Switch contact (floating)	N/O contact
Digital	30 V DC
	1 A
Signal option	Redundancy OK

Electrical properties

Insulation voltage input/output	500 V AC
Insulation voltage input, output / housing	500 V AC

Product properties

Product type	Redundancy module
Product family	ESSENTIAL DIODE
MTBF (IEC 61709, SN 29500)	> 2992278 h (25 °C)
	> 1874605 h (40 °C)

	> 1594343 h (45 °C)
LED	yes

Insulation characteristics

Protection class	III
Degree of pollution	2

Dimensions

Item dimensions

Width	40 mm
Height	124 mm
Depth	126 mm

Installation dimensions

Installation distance right/left	10 mm / 10 mm
Installation distance top/bottom	30 mm / 30 mm

Mounting

Mounting type	DIN rail mounting
Assembly note	alignable: 10 mm horizontally, 30 mm vertically
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 (AlMg3) / sheet steel, zinc-plated
Foot latch material	Sheet steel, zinc-plated

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 70 °C (Derating: > 45°C; 2.5%/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Maximum altitude	≤ 5000 m (> 2000 m, Derating: 10 %/1000 m)
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Dry heat (IEC 60068-2-2)	70 °C (16 h)
Humid heat cyclic (IEC 60068-2-30)	55 °C (95 %, 2 x 23 h)
Cold (IEC 60068-2-1)	- 25 °C (16 h)
Shock (operation)	18 ms, 30g, per spatial direction (IEC 60068-2-27)
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.

Standards and regulations

Electrical safety

Standard designation	Electrical safety
Standards/specifications	IEC 61010-1 (SELV)

Protective extra-low voltage

Standard designation	Protective extra-low voltage
Standards/specifications	IEC 61010-1 (SELV)

Approvals

UL

Identification	UL/C-UL Listed UL 61010-1

UL

Identification	UL/C-UL Listed UL 61010-2-201

CB scheme

Identification	CB scheme (IEC 61010-1, IEC 61010-2-201, IEC 62368-1)

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Noise immunity	EN 61000-6-2:2019

Fast transients (burst)

Standards/regulations	EN 61000-4-4

Fast transients (burst)

Input	1 kV (Test Level 2 - asymmetrical)
Output	1 kV (Test Level 2 - asymmetrical)
Signal	1 kV (Test Level 3 - asymmetrical)
Comments	Criterion A

Surge voltage load (surge)

Standards/regulations	EN 61000-4-5

Surge voltage load (surge)

Input	0.5 kV (Test Level 2 - symmetrical)
	1 kV (Test Level 2 - asymmetrical)
Output	0.5 kV (Test Level 2 - symmetrical)
	1 kV (Test Level 2 - asymmetrical)
Signal	1 kV (Test Level 2 - asymmetrical)
Comments	Criterion A

Conducted interference

Standards/regulations	EN 61000-4-6

Conducted interference

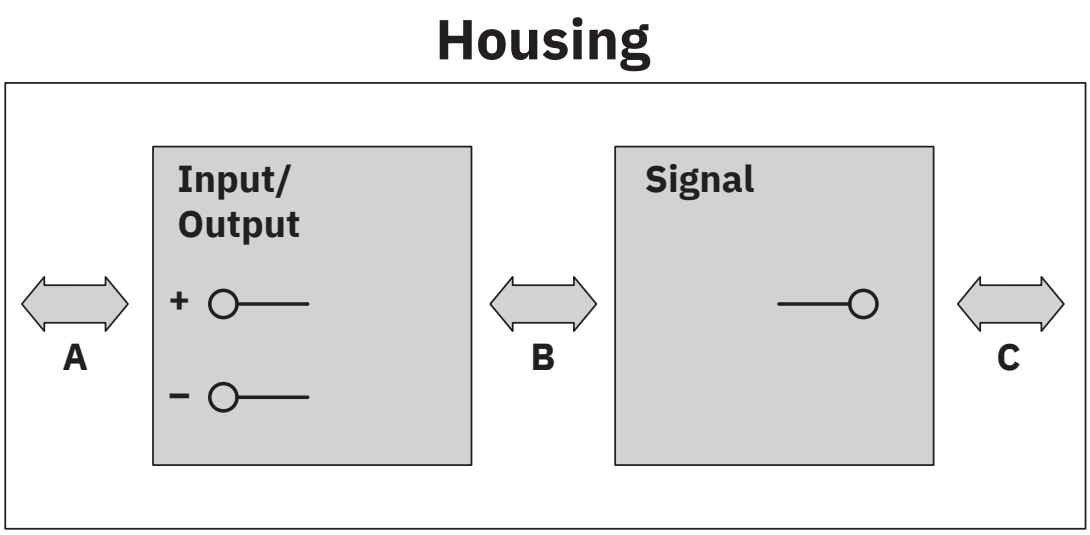
Input/output/signal	asymmetrical
Frequency range	150 kHz ... 80 MHz
Comments	Criterion A
Voltage	10 V (Test Level 3)

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

Schematic diagram



Test sections, insulation voltage

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1584245

IECEE CB Scheme
Approval ID: SG PSB-MS-00390

cULus Listed
Approval ID: 2023-12-12-E123528

IECEE CB Scheme
Approval ID: SG PSB-IV-10376

Classifications

ECLASS

ECLASS-13.0	27371010
ECLASS-15.0	27371010

ETIM

ETIM 10.0	EC002878

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)

EF3.1 Climate Change

CO2e kg	15.67 kg CO2e

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