

# RIF-1-RSC-LDP-12DC/1X21 - Relay module



2908500

<https://www.phoenixcontact.com/us/products/2908500>

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Preassembled relay module with screw connection, consisting of: relay base, power contact relay, plug-in display/interference suppression module, and retaining bracket. Contact switching type: 1 changeover contact. Input voltage: 12 V DC

## Product description

The pluggable electromechanical and solid-state relays in the RIFLINE complete product range and the base are recognized and approved in accordance with UL 508. The relevant approvals can be called up at the individual components in question.

## Commercial data

Item number	2908500
Packing unit	10 pc
Minimum order quantity	10 pc
Note	Made to order (non-returnable)
Sales key	C465
Product key	CK6519
Catalog page	Page 328 (C-5-2019)
GTIN	4055626306223
Weight per piece (including packing)	69.52 g
Weight per piece (excluding packing)	69.52 g
Customs tariff number	85364110
Country of origin	CN

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## Set consists of

### RIF-1-BSC/2X21 - Relay base

2900930

<https://www.phoenixcontact.com/us/products/2900930>



RIF-1... relay base, for miniature power relay with 1 or 2 changeover contacts or identical solid-state relays, screw connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

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### REL-MR- 12DC/21HC - Single relay

2961309

<https://www.phoenixcontact.com/us/products/2961309>



Plug-in miniature power relay, with power contact for high continuous currents, 1 changeover contact, input voltage 12 V DC

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## RIF-LDP-12-24 DC - Plug-in module

2900939

<https://www.phoenixcontact.com/us/products/2900939>



Plug-in module, for mounting on RIF-1, RIF-2, RIF-3, and RIF-4, with freewheeling diode and yellow LED, polarity: A1+, A2-, input voltage: 12 V DC ... 24 V DC  $\pm 30\%$

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## RIF-RH-1 - Retaining bracket

2900953

<https://www.phoenixcontact.com/us/products/2900953>



Relay retaining bracket, with ejector function and holder for marking material, suitable for RIF-1 relay base, for 16 mm tall miniature power relay and solid-state relay

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## Technical data

### Notes

Notes on operation	FBS 2-6... plug-in bridge for the input side (A2) and FBS-2-8... plug-in bridge for the output side (11/21)
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### Product properties

Product type	Relay Module
Product family	RIFLINE complete
Application	Universal
Operating mode	100% operating factor
Mechanical service life	approx. $3 \times 10^7$ cycles

### Data management status

Date of last data management	21.08.2024
Article revision	05

### Insulation characteristics

Insulation	Safe isolation between input and output
	Basic insulation between the changeover contacts
Overvoltage category	III
Pollution degree	2

### Electrical properties

Service life electrical	see diagram
Maximum power dissipation for nominal condition	0.4 W
Test voltage (Winding/contact)	4 kV <sub>rms</sub> (50 Hz, 1 min., winding/contact)
Rated insulation voltage	250 V AC
Rated surge voltage	6 kV (Input/output)
	4 kV (between the changeover contacts)

### Input data

#### Coil side

Nominal input voltage $U_N$	12 V DC
Input voltage range	9.6 V DC ... 16.8 V DC (20 °C)
Input voltage range in reference to $U_N$	see diagram
Drive and function	monostable
Drive (polarity)	polarized
Typical input current at $U_N$	33 mA
Typical response time	8 ms
Typical release time	10 ms
Coil voltage	12 V DC
Protective circuit	Freewheeling diode
Operating voltage display	Yellow LED

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## Output data

### Switching

Contact switching type	1 changeover contact
Type of switch contact	Single contact
Contact material	AgNi
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V (10 mA)
Limiting continuous current	11 A (see diagram)
Maximum inrush current	50 A (20 ms, N/O contacts)
Min. switching current	10 mA (12 V)
Interrupting rating (ohmic load) max.	264 W (24 V DC) 58 W (48 V DC) 48 W (60 V DC) 50 W (110 V DC) 80 W (220 V DC) 2750 VA (250 V AC)
Utilization category CB Scheme (IEC 60947-5-1)	AC15, 1.5 A/240 V (N/O contact) AC15, 3 A/250 V (N/C contact) DC13, 2 A/24 V (N/C contact) DC13, 0.2 A/250 V (N/O contact)

## Connection data

Connection method	Screw connection
Stripping length	8 mm
Conductor cross section rigid	0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross-section rigid (2 conductors with same cross section)	0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup> 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup> (Ferrule with plastic sleeve)
Conductor cross section flexible (2 conductors with same cross section)	0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (TWIN ferrule with plastic sleeve)
Conductor cross section AWG	20 ... 10 (solid) 20 ... 12 (flexible)
Tightening torque	0.5 Nm ... 0.6 Nm

## Dimensions

Width	16 mm
Height	90 mm
Depth	75 mm

## Material specifications

Color	gray (RAL 7042)
Flammability rating according to UL 94	V2 (Housing)

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## Environmental and real-life conditions

### Ambient conditions

Degree of protection (Relay base)	IP20 (Relay base)
Degree of protection (Relay)	RT III (Relay)
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

## Approvals

### Corrosive gas test

Identification	ISA-S71.04. G3 Harsh Group EN 60068-2-60
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## Standards and regulations

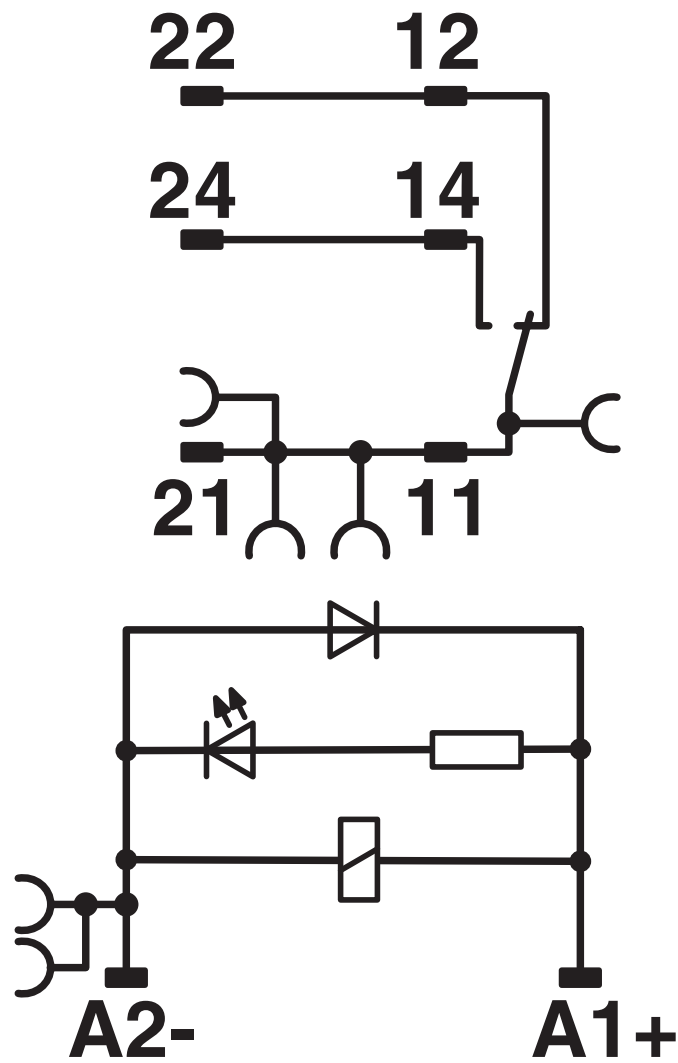
Standards/regulations	IEC 60947-5-1
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## Mounting

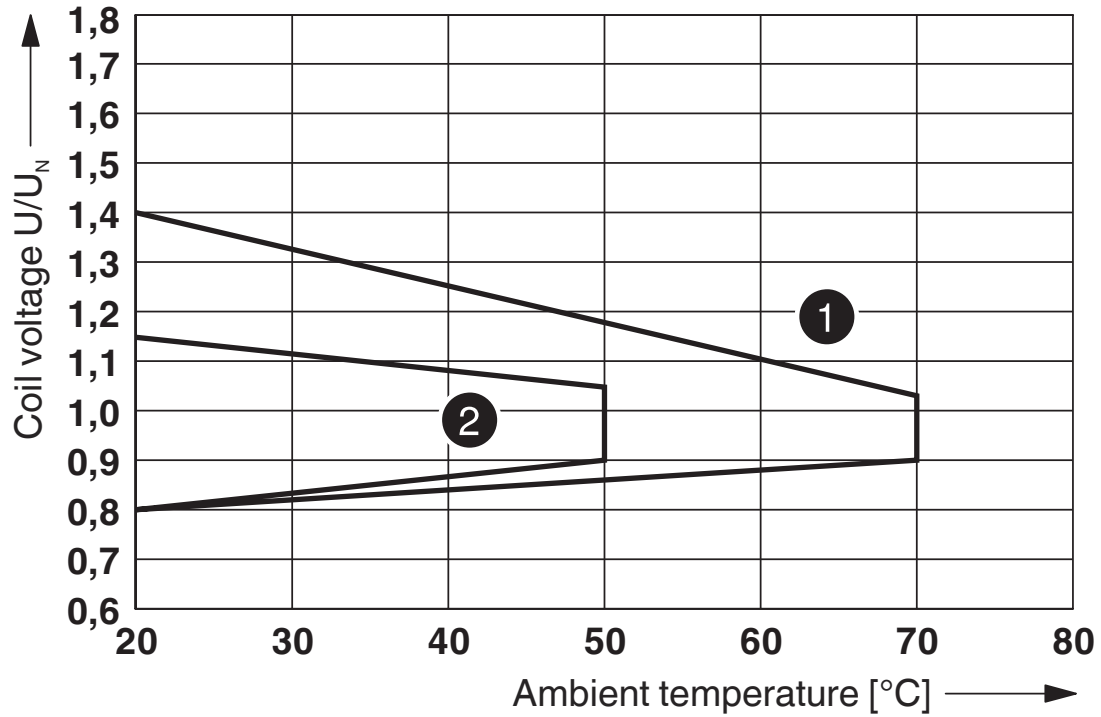
Mounting type	DIN rail mounting
Thread type	()
Assembly note	in rows with zero spacing
Mounting position	any

Drawings

Circuit diagram



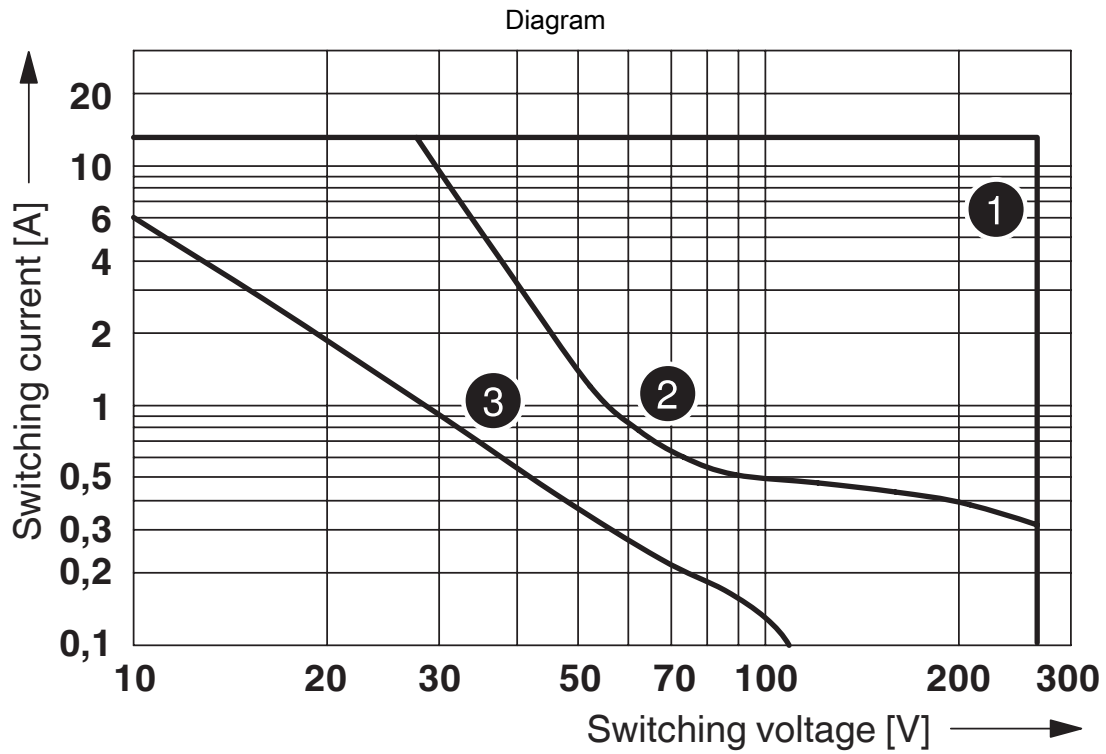
Diagram



- ① DC coils
- ② AC coils

Operating voltage range





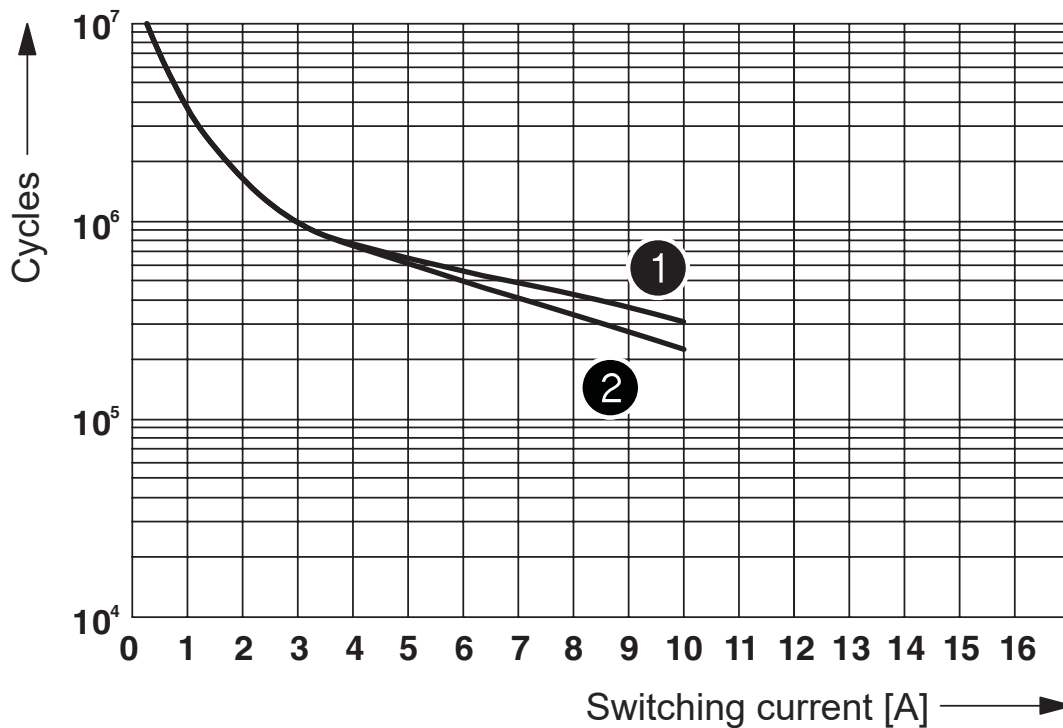
- ① AC, ohmic load
- ② DC, ohmic load
- ③ DC, L/R = 40 ms

Interrupting rating

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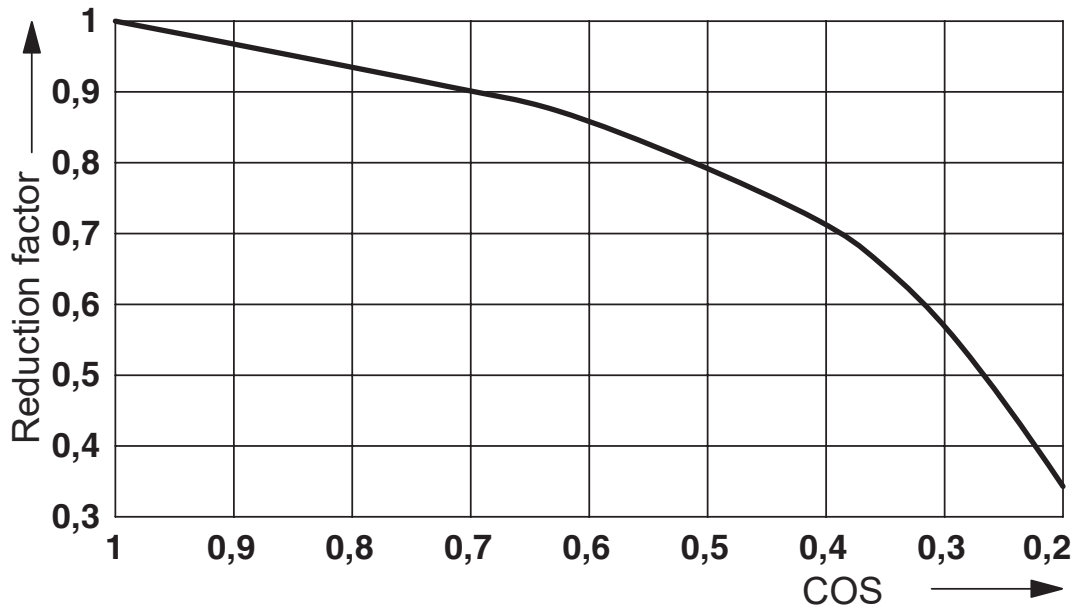
Diagram



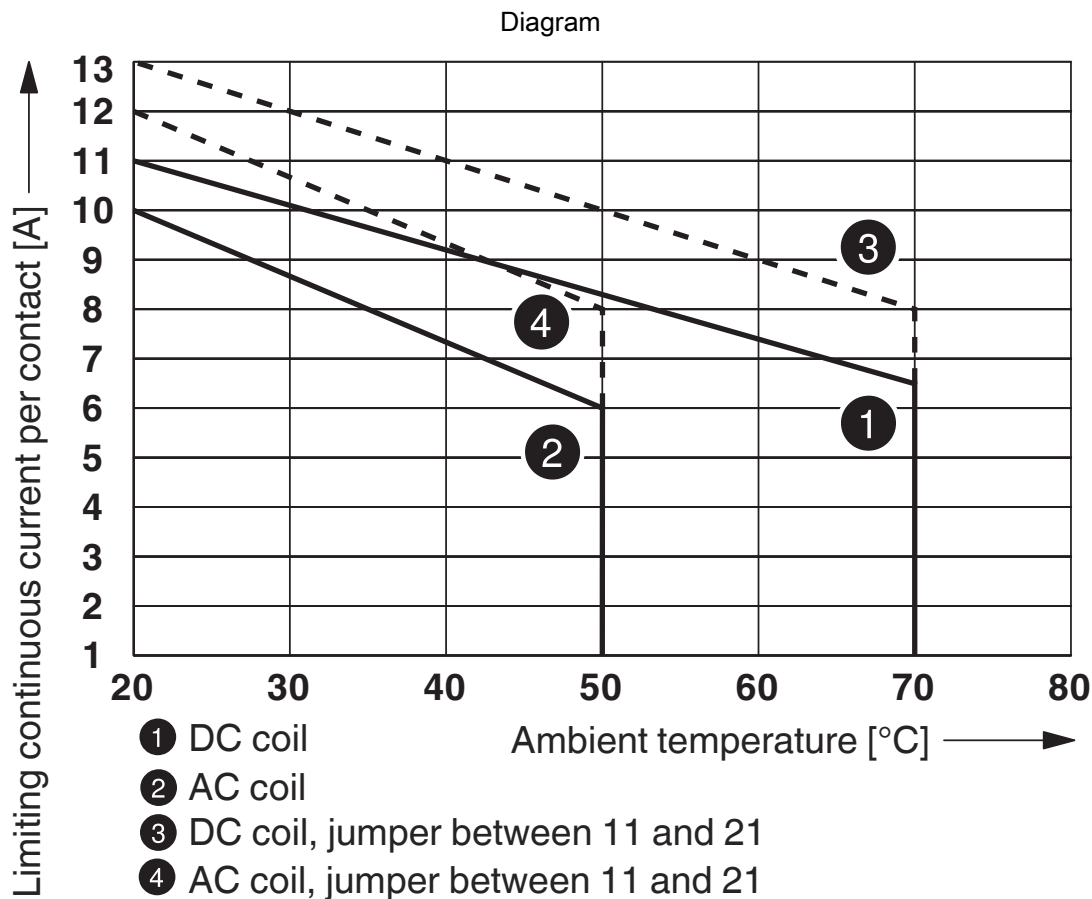
- 1 250 V AC, ohmic load (DC coils)
- 2 250 V AC, ohmic load (AC coils)

Electrical service life

Diagram



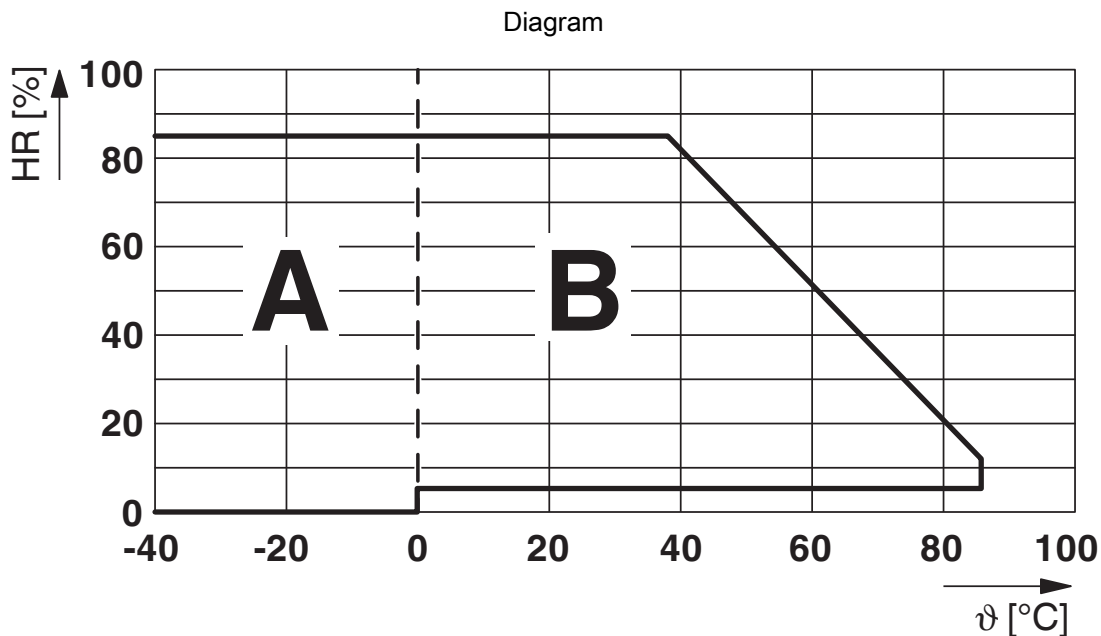
Service life reduction factor



Contact derating

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Permissible humidity for operation and storage.

The maximum permissible ambient temperature as specified in the data sheet must be observed.

Area A: Ice buildup at ambient temperatures  $\leq 0^\circ\text{C}$  must be prevented

Area B: Condensation at ambient temperatures  $> 0^\circ\text{C}$  must be prevented

On 30 full days that are naturally distributed across an entire year, a humidity level of 95% is permissible at an ambient temperature  $\leq 25^\circ\text{C}$ .

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2908500>



**EAC**

Approval ID: TR\_TS\_D\_00573\_c



**DNV GL**

Approval ID: TAA000018V



**EAC**

Approval ID: RU\*C-DE.\*08.B.00010

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## Classifications

### ECLASS

ECLASS-11.0	27371601
ECLASS-12.0	27371601
ECLASS-13.0	27371601

### ETIM

ETIM 9.0	EC001437
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### UNSPSC

UNSPSC 21.0	39122300
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## 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-50
	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)
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