

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



2961257

<https://www.phoenixcontact.com/us/products/2961257>

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Plug-in miniature power relay, with power contact, 2 changeover contacts, input voltage 12 V DC

Your advantages

- RT III-proof (wash-proof)
- Switching current of up to 8 A

Commercial data

Item number	2961257
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	C460
Product key	DK6935
GTIN	4017918163525
Weight per piece (including packing)	16.24 g
Weight per piece (excluding packing)	15.43 g
Customs tariff number	85364900
Country of origin	AT

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Technical data

Product properties

Product type	Single relay
Operating mode	100% operating factor
Mechanical service life	3x 10 ⁷ cycles

Insulation characteristics

Insulation	Basic insulation
Overvoltage category	III
Pollution degree	3

Data management status

Date of last data management	05.09.2025
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Electrical properties

Service life electrical	see diagram
Maximum power dissipation for nominal condition	0.4 W
Test voltage (Winding/contact)	5 kV AC (50 Hz, 1 min.)
Test voltage (Contact/contact)	2.5 kV AC (50 Hz, 1 min.)
Test voltage (open contact)	1 kV (50 Hz, 1 min.)

Input data

Coil side

Nominal input voltage U _N	12 V DC
Input voltage range	7.8 V DC ... 29.76 V DC
Input voltage range in reference to U _N	see diagram
Drive and function	monostable
Drive (polarity)	non-polarized
Typical input current at U _N	33 mA
Typical response time	7 ms
Typical release time	3 ms
Coil resistance	360 Ω ±10 % (at 20 °C)

Output data

Switching

Contact switching type	2 changeover contacts
Type of switch contact	Single contact
Contact material	AgNi
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	5 V (at 10 mA)
Limiting continuous current	8 A
Maximum inrush current	25 A (20 ms)

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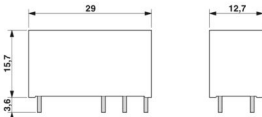
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Min. switching current	10 mA (At 5 V)
Interrupting rating (ohmic load) max.	190 W (at 24 V DC)
	85 W (at 48 V DC)
	60 W (at 60 V DC)
	44 W (at 110 V DC)
	60 W (at 220 V DC)
	2000 VA (for 250 V AC)
Switching capacity	2 A (at 24 V, DC13)
	0.2 A (at 250 V, DC13)
	3 A (at 24 V, AC15)
	3 A (at 120 V, AC15)
	3 A (at 250 V, AC15)
Motor load according to UL 508	1/4 HP, 120 V AC
	1/2 HP, 240 V AC

Connection data

Connection method	Plug / solder connection
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Dimensions

Dimensional drawing	
Width	12.7 mm
Height	29 mm
Depth	15.7 mm

Material specifications

Color	white (RAL 9010)
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Environmental and real-life conditions

Ambient conditions

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

Approvals

Corrosive gas test

Identification	ISA-S71.04. G3 Harsh Group
	EN 60068-2-60

Standards and regulations

	IEC 60664
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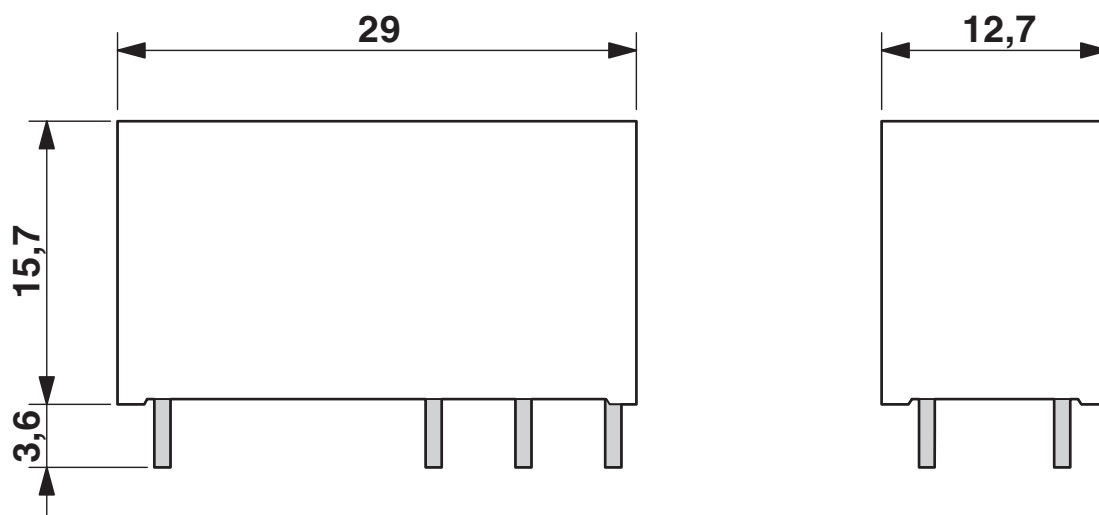
Standards/regulations	EN 50178
	EN 61810-1

Mounting

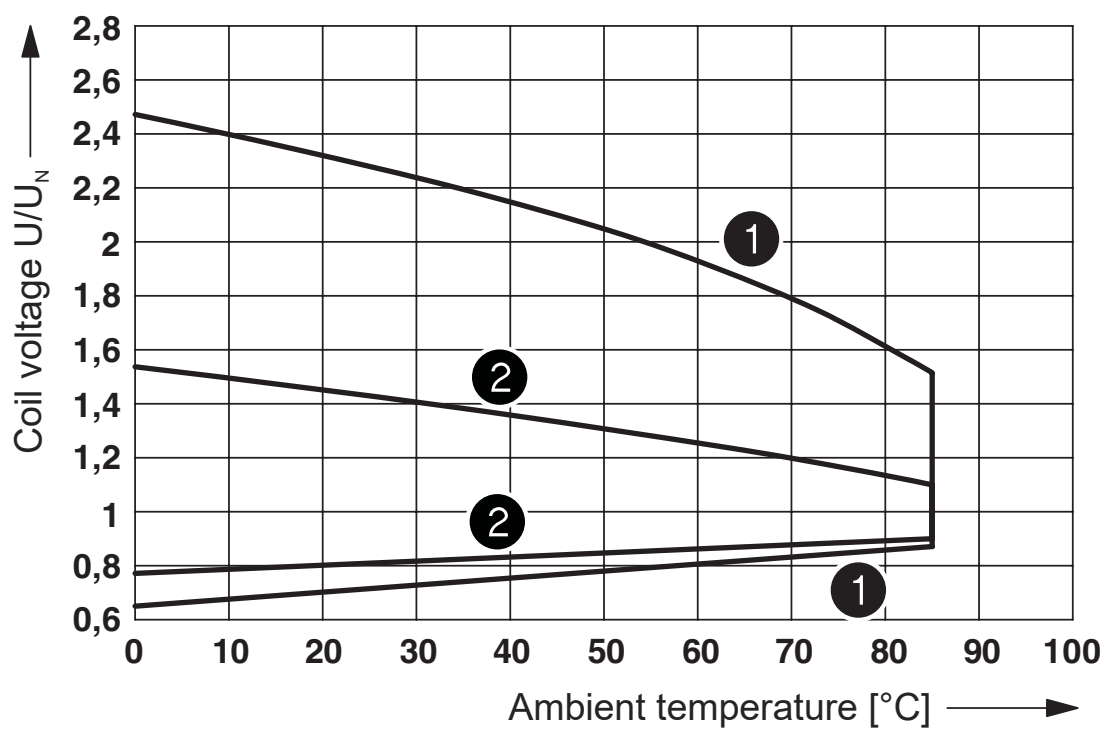
Assembly note	Can be aligned without spacing ($> 70\text{ °C} \geq 2.5\text{ mm}$)
Mounting position	any

Drawings

Dimensional drawing

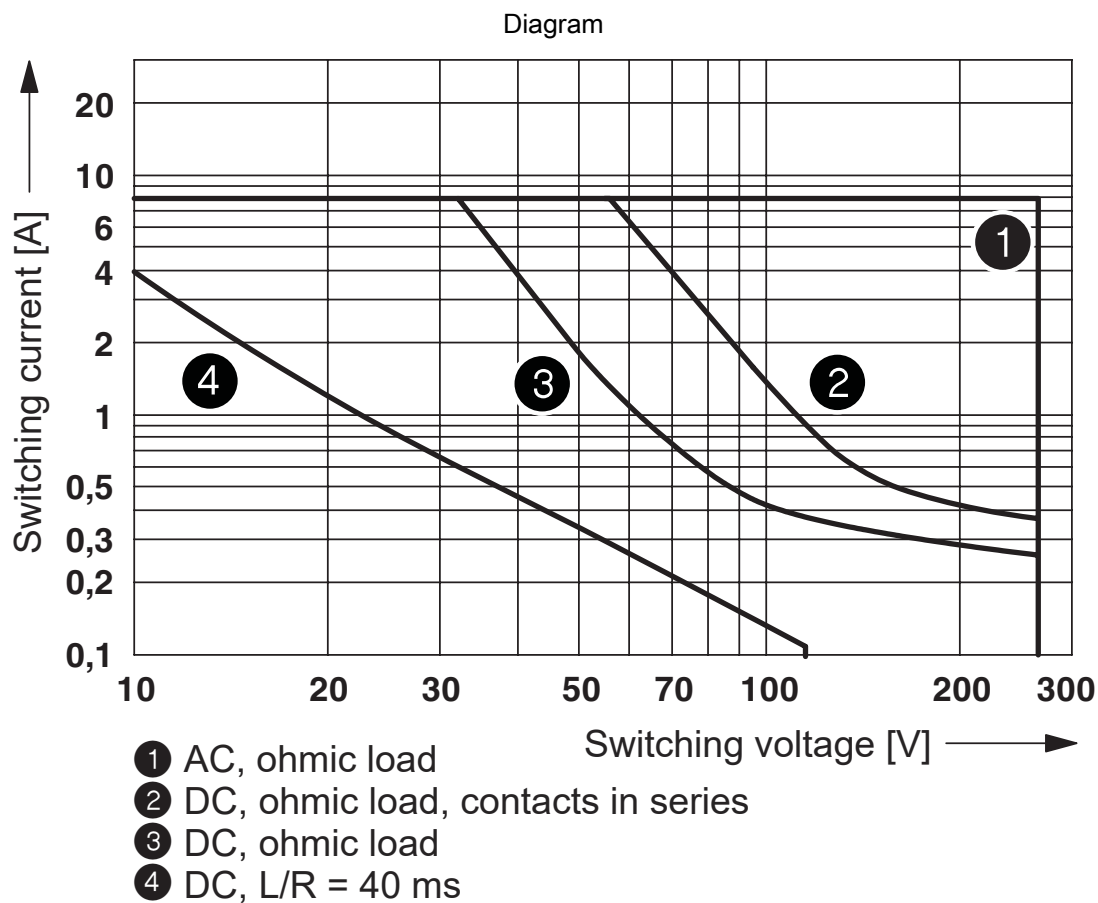


Diagram

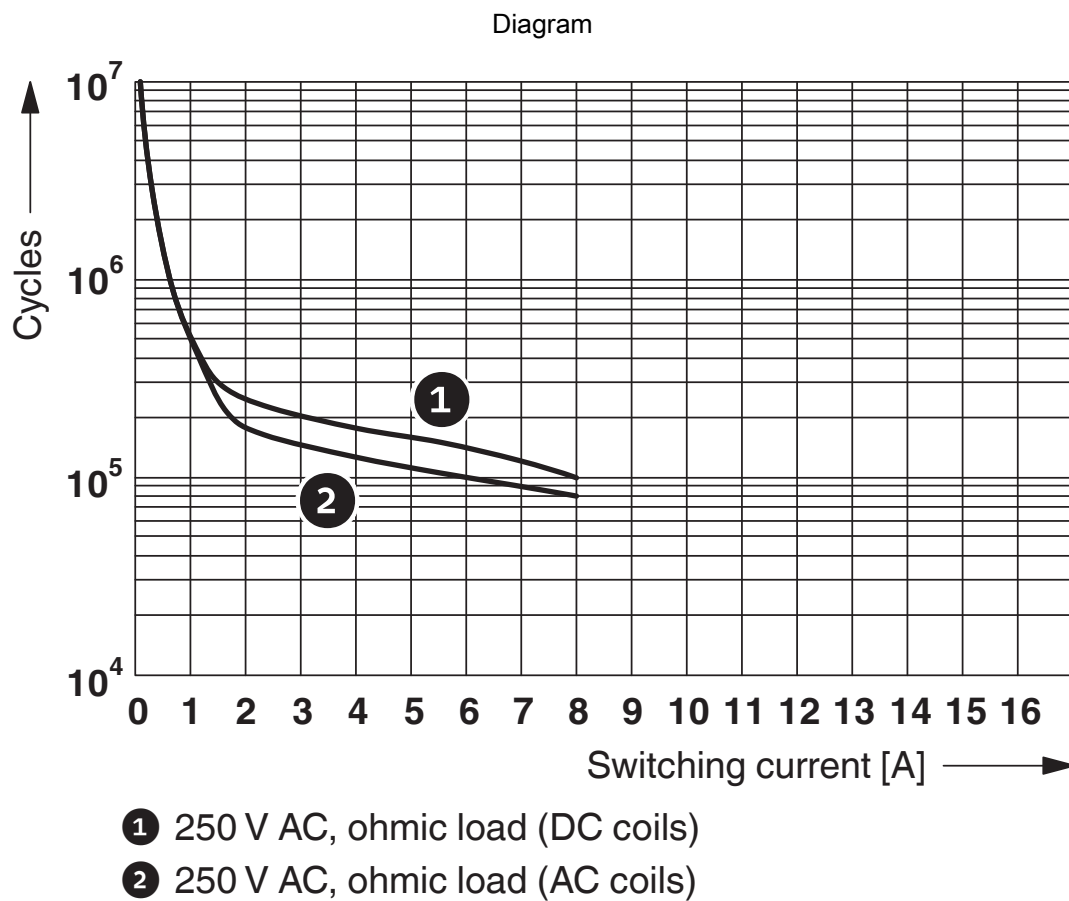


- ① DC coils
- ② AC coils

Operating voltage range

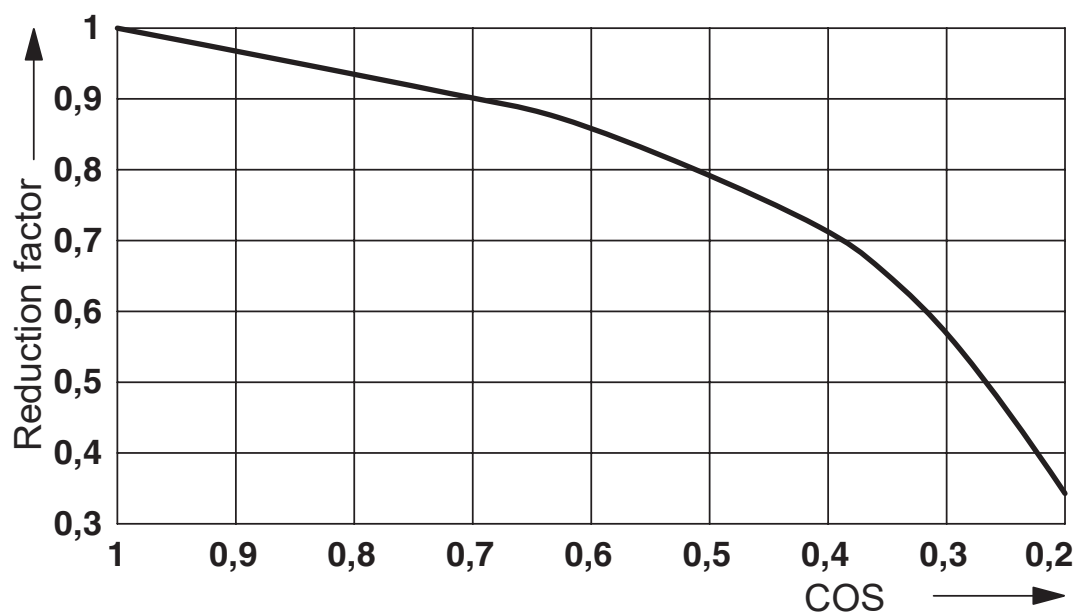


Interrupting rating



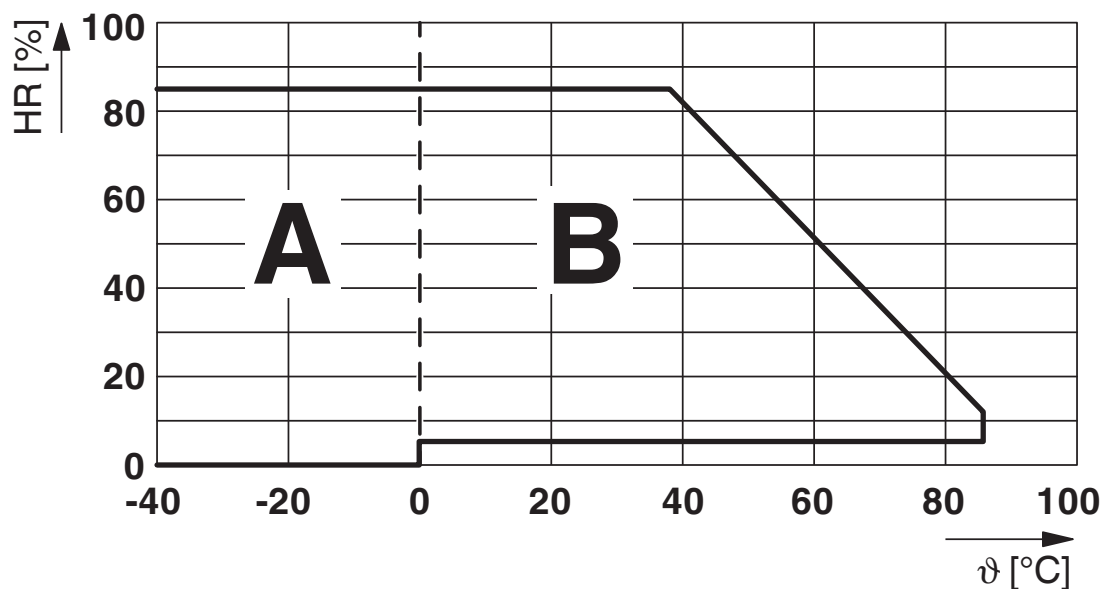
Electrical service life

Diagram



Service life reduction factor with various cos phi

Diagram



Permissible humidity for operation and storage.

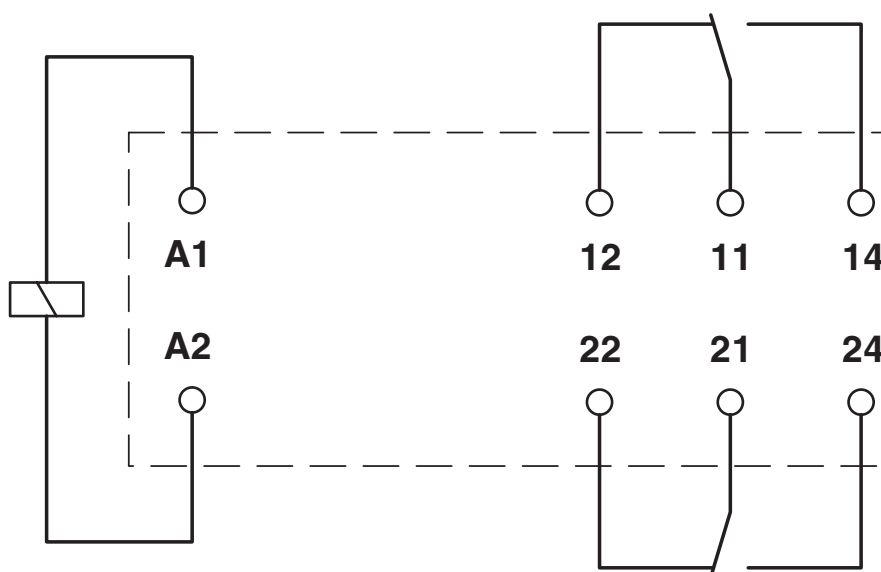
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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 $\leq 25^{\circ}\text{C}$.

Circuit diagram



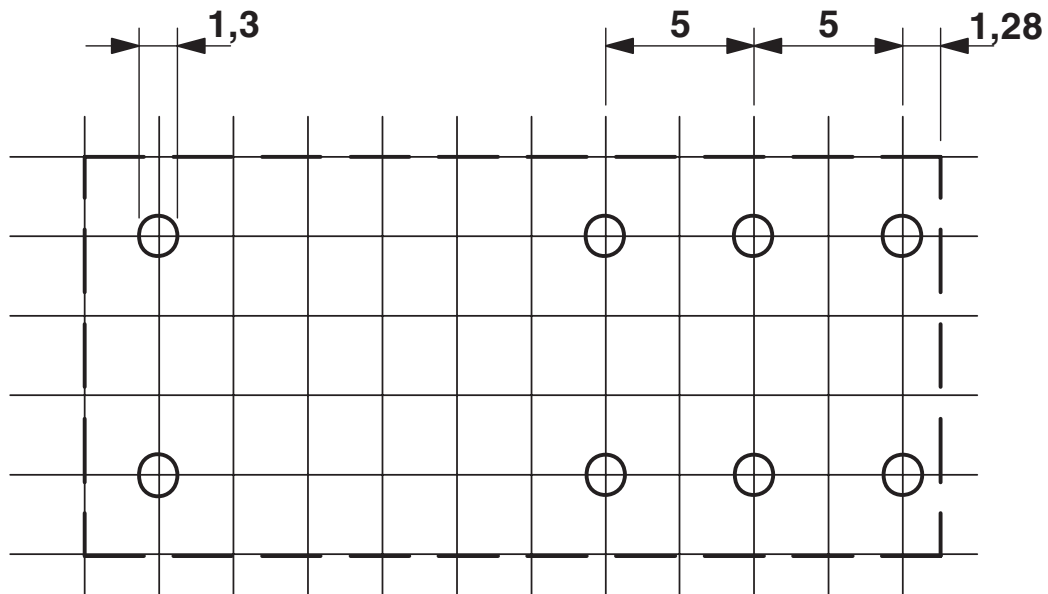
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Drilling plan/solder pad geometry



a = pitch division 2.5 mm

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2961257>



cUL Recognized
Approval ID: FILE E 228652



UL Recognized
Approval ID: FILE E 228652



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



UL Recognized
Approval ID: FILE E 228652



VDE Zeichengenehmigung
Approval ID: 40048281



VDE Zeichengenehmigung
Approval ID: 40007758



cUL Recognized
Approval ID: FILE E 228652



cULus Recognized
Approval ID: E172140

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Classifications

ECLASS

ECLASS-13.0	27371601
ECLASS-15.0	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, No exemptions
China RoHS	
Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits
EU REACH SVHC	
REACH candidate substance (CAS No.)	No substance above 0.1 wt%

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