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REL-MR-230AC/21-21 - Single relay

2961451

https://www.phoenixcontact.com/pc/products/2961451

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Plug-in miniature power relay, with power contact, 2 changeover contacts, input voltage 230 V AC

Your advantages

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

Commercial data

Item number	2961451
Packing unit	10 pc
Minimum order quantity	10 pc
Product key	DK6935
Catalog page	Page 290 (C-5-2019)
GTIN	4017918937867
Weight per piece (including packing)	16.68 g
Weight per piece (excluding packing)	15.11 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	1x 10^7 cycles

Insulation characteristics

Overvoltage category	III
Pollution degree	3

Data management status

Date of last data management	02.05.2024

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., winding/contact)
Test voltage (Contact/contact)	2.5 kV AC (50 Hz, 1 min., contact/contact)

Input data

Coil side

Nominal input voltage U_N	230 V AC
Input voltage range	179.4 V AC ... 356.5 V AC
Mains frequency	50/60 Hz
Drive and function	monostable
Drive (polarity)	non-polarized
Typical input current at U_N	3 mA (at 50 Hz)
	2.5 mA (At 60 Hz)
Typical response time	3 ms ... 12 ms (depending on phase relation)
Typical release time range	2 ms ... 9 ms (depending on phase relation)
Coil resistance	32500 Ω ±15 % (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	12 A (20 ms)
Min. switching current	10 mA (At 5 V)

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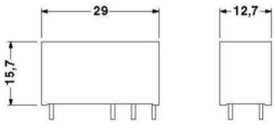
Interrupting rating (ohmic load) max.	190 W (at 24 V DC)
	85 W (at 48 V DC)
	60 W (at 60 V DC)
	44 W (at 110 V DC)
	60 W (at 220 V DC)
	2000 VA (for 250 V AC)
Switching capacity	2 A (at 24 V, DC13)
	0.2 A (at 250 V, DC13)
	3 A (at 24 V, AC15)
	3 A (at 120 V, AC15)
	3 A (at 250 V, AC15)
Motor load according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

Connection data

Connection method	Plug / solder connection

Dimensions

Dimensional drawing	
Width	12.7 mm
Height	29 mm
Depth	15.7 mm

Material specifications

Color	white (RAL 9010)

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

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Standards and regulations

Standards/regulations	IEC 60664
	EN 50178
	EN 61810-1

Mounting

Assembly note	Can be aligned without spacing (> 70 °C ≥ 2.5 mm)
Mounting position	any

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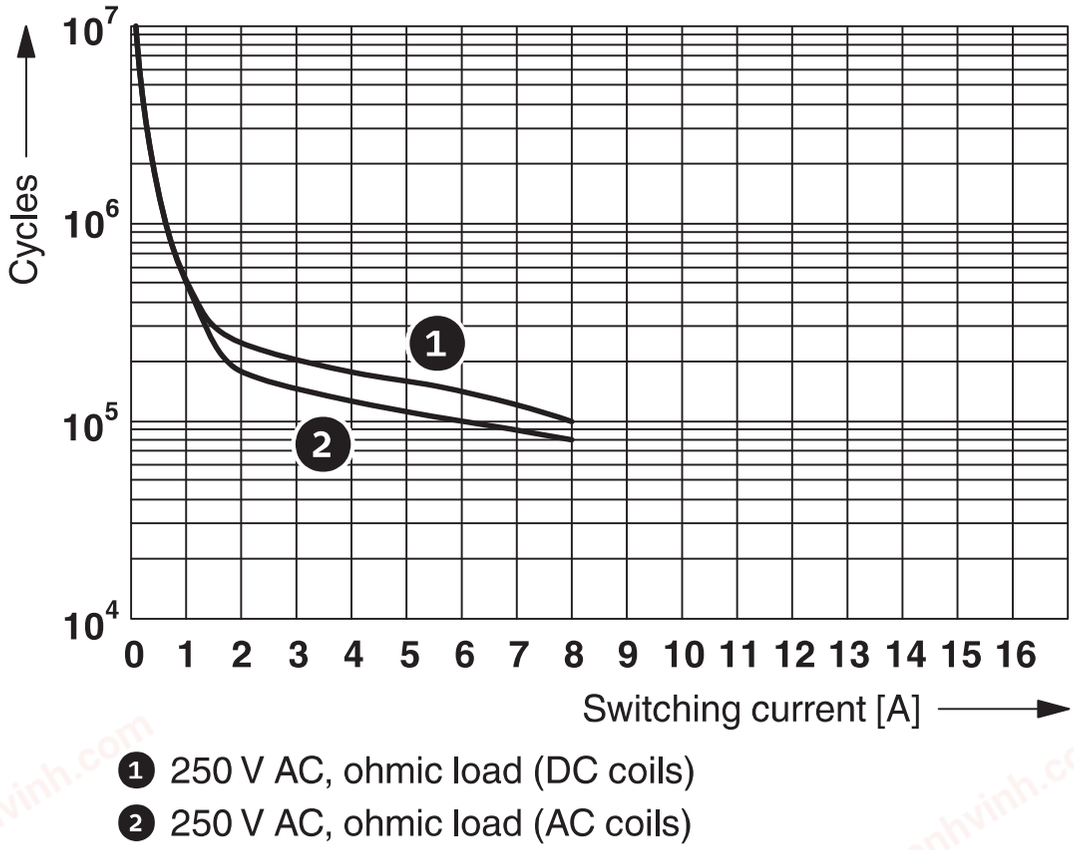
Drawings

Diagram



1 250 V AC, ohmic load (DC coils)

2 250 V AC, ohmic load (AC coils)

Electrical service life

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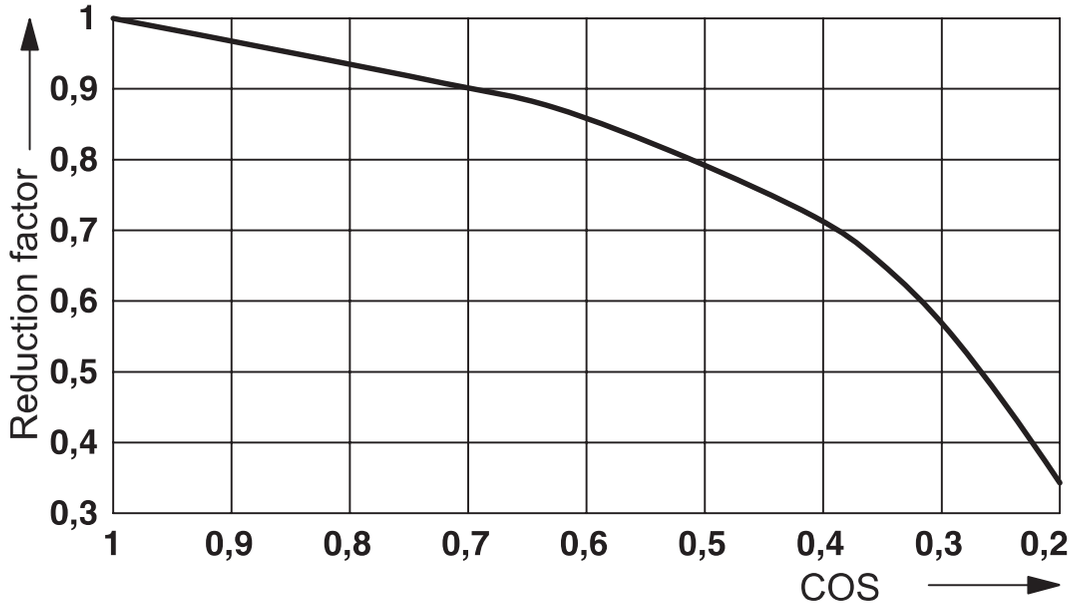
Diagram



Service life reduction factor with various cos phi

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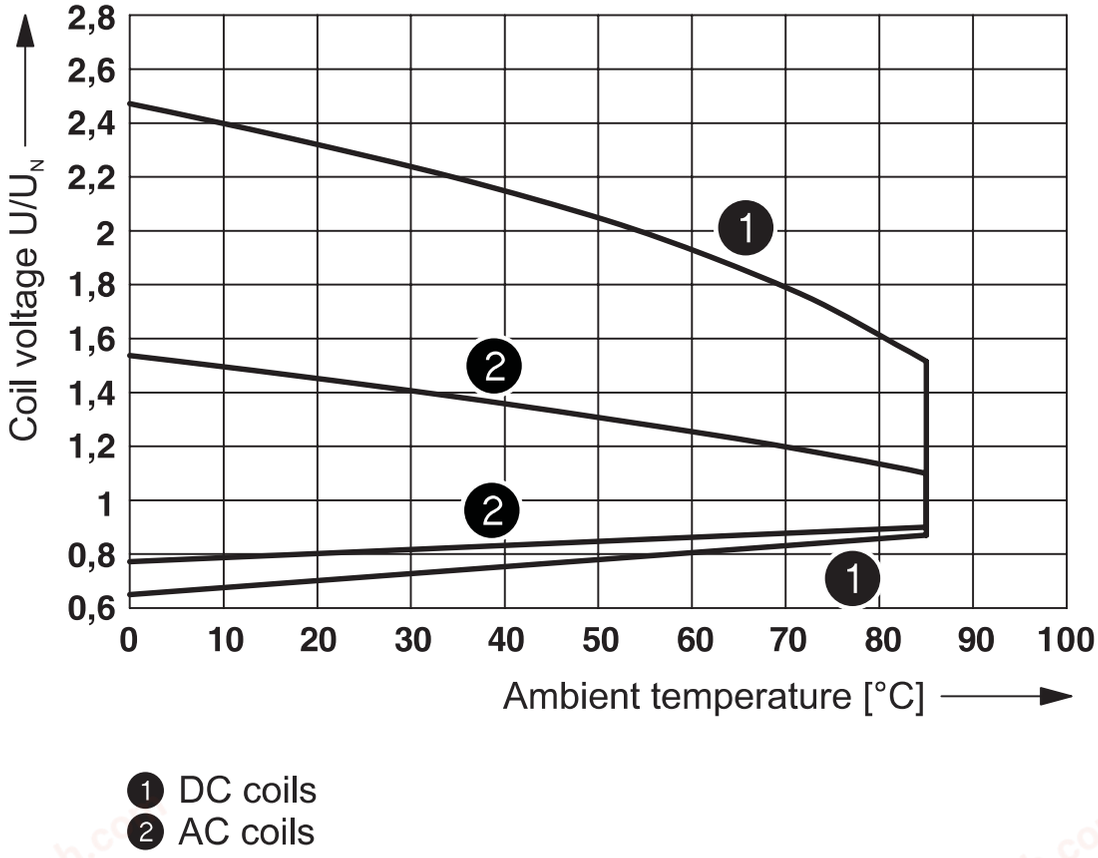
Diagram



1 DC coils
2 AC coils

Operating voltage range

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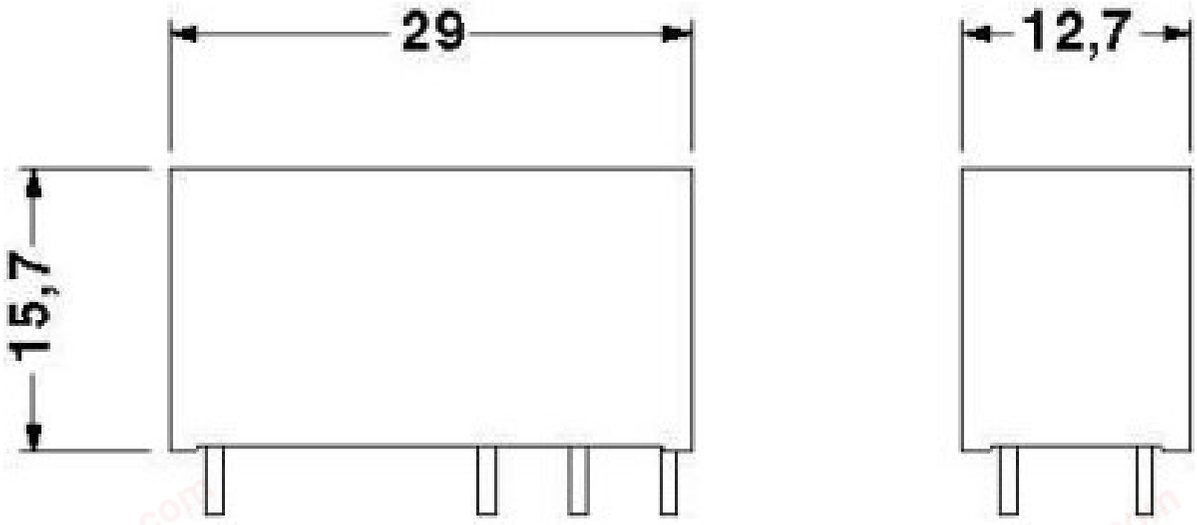
Dimensional drawing



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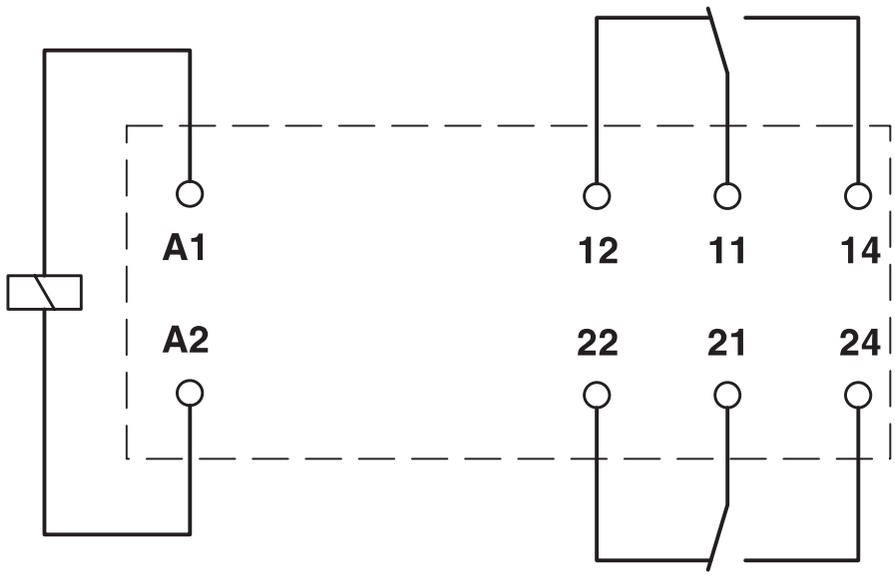
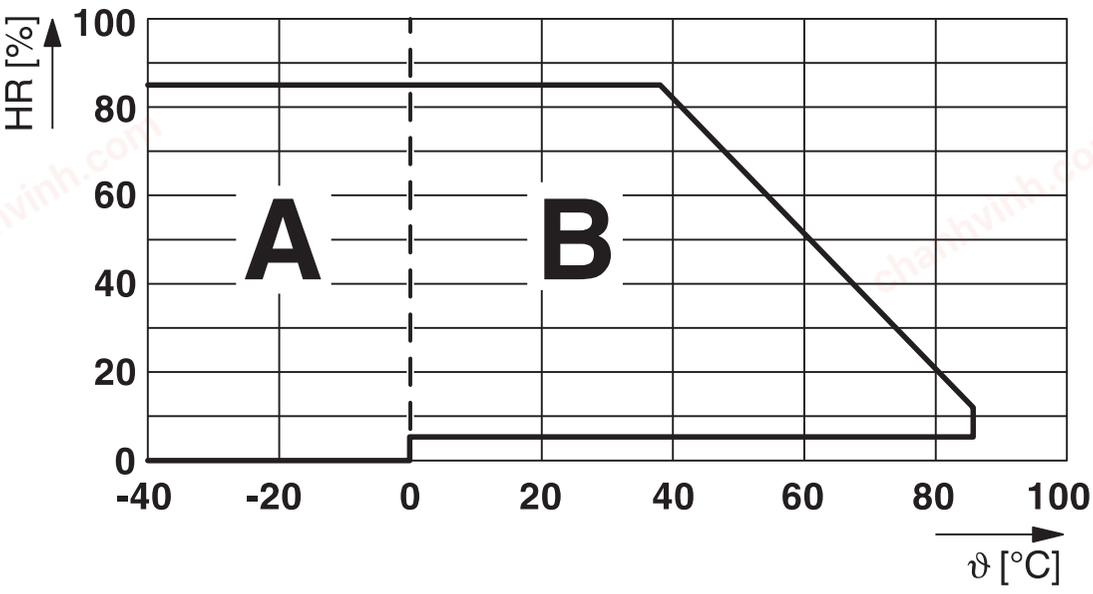
Circuit diagram



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 ≤ 0°C must be prevented
Area B: Condensation at ambient temperatures > 0°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 ≤ 25°C.

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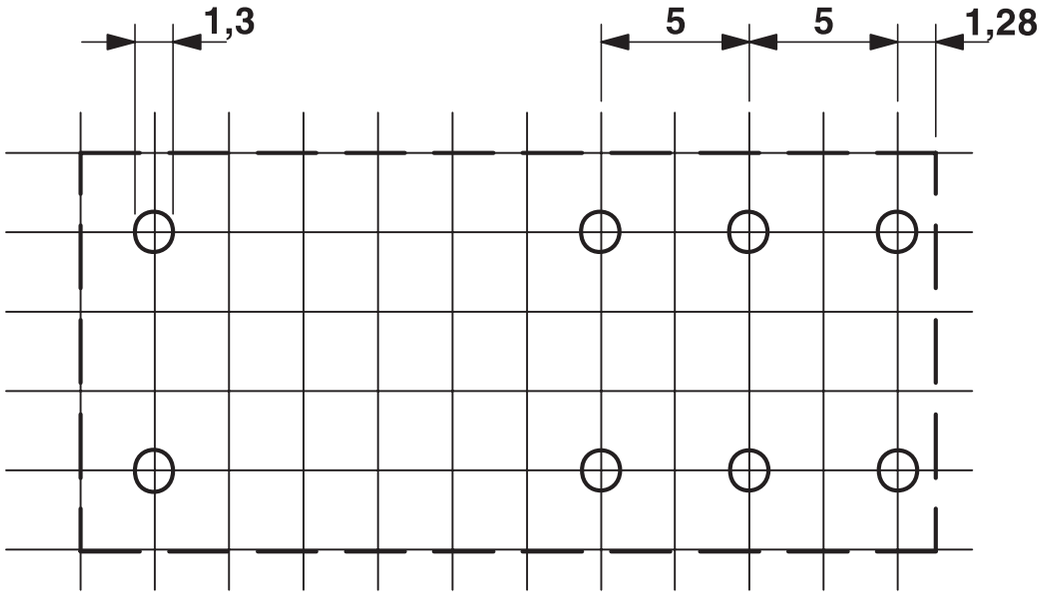
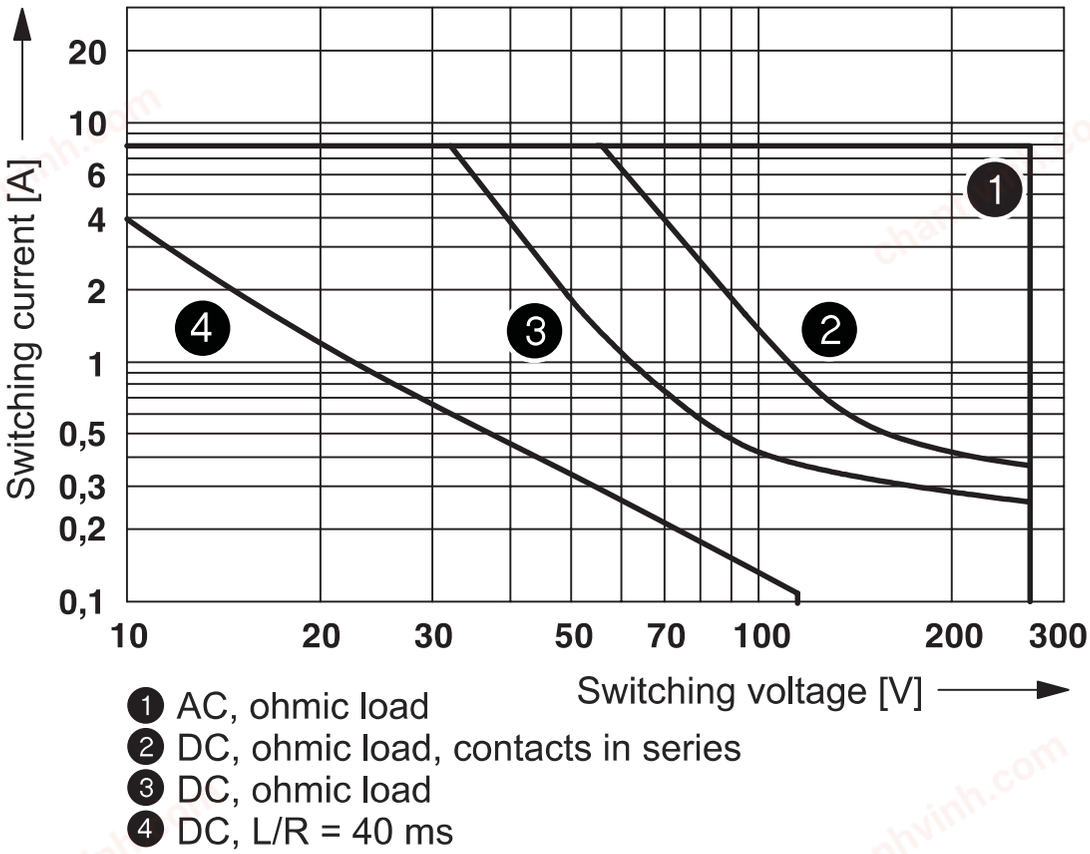
Drilling plan/solder pad geometry



Basic pitch 2.5 mm

Diagram



1 AC, ohmic load
2 DC, ohmic load, contacts in series
3 DC, ohmic load
4 DC, L/R = 40 ms

Interrupting rating

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Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/pc/products/2961451

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 172140

VDE Zeichengenehmigung
Approval ID: 40048281

VDE Zeichengenehmigung
Approval ID: 40007758

cUL Recognized
Approval ID: FILE E 172140

cULus Recognized
Approval ID: E172140

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Classifications

ECLASS

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

ETIM

ETIM 9.0	EC001437

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%

EF3.0 Climate Change

CO2e kg	0.238 kg CO2e

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