

REL-MR- 24DC/21HC - Single relay



2961312

<https://www.phoenixcontact.com/au/products/2961312>

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Plug-in miniature power relay, with power contact for high continuous currents, 1 changeover contact, input voltage 24 V DC

Your advantages

- Switching current of up to 16 A

Commercial data

| | |
|--------------------------------------|---------------------|
| Item number | 2961312 |
| Packing unit | 10 pc |
| Minimum order quantity | 10 pc |
| Sales key | DK6931 |
| Product key | DK6931 |
| Catalog page | Page 290 (C-5-2019) |
| GTIN | 4017918187576 |
| Weight per piece (including packing) | 16.123 g |
| Weight per piece (excluding packing) | 12.91 g |
| Customs tariff number | 85364190 |
| Country of origin | AU |

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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

| | |
|----------------------|-----|
| Overvoltage category | III |
| Pollution degree | 3 |

Data management status

| | |
|------------------------------|------------|
| Date of last data management | 19.03.2025 |
|------------------------------|------------|

Electrical properties

| | |
|---|--|
| Service life electrical | see diagram |
| Maximum power dissipation for nominal condition | 0.41 W |
| Test voltage (Winding/contact) | 5 kV AC (50 Hz, 1 min., winding/contact) |

Input data

Coil side

| | |
|---|-------------------------|
| Nominal input voltage U _N | 24 V DC |
| Input voltage range | 15.6 V DC ... 57.6 V DC |
| Drive and function | monostable |
| Drive (polarity) | non-polarized |
| Typical input current at U _N | 17 mA |
| Typical response time | 7 ms |
| Typical release time | 3 ms |
| Coil resistance | 1440 Ω ±10 % (at 20 °C) |

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 (at 10 mA) |
| Limiting continuous current | 16 A |
| Maximum inrush current | 50 A (20 ms) |
| Min. switching current | 10 mA (at 12 V) |
| Interrupting rating (ohmic load) max. | 384 W (at 24 V DC) |
| | 58 W (at 48 V DC) |
| | 48 W (at 60 V DC) |

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| | |
|--------------------------------|--------------------------------|
| Switching capacity | 50 W (at 110 V DC) |
| | 80 W (at 220 V DC) |
| | 4000 VA (for 250 V AC) |
| | 2 A (at 24 V, DC13) |
| | 0.2 A (at 110 V, DC13) |
| | 0.2 A (at 250 V, DC13) |
| | 6 A (at 24 V, AC15) |
| | 6 A (at 120 V, AC15) |
| Motor load according to UL 508 | 6 A (at 250 V, AC15) |
| | 1/2 HP, 120 V AC (N/O contact) |
| | 1 HP, 240 V AC (N/O contact) |
| | 1/3 HP, 120 V AC (N/C contact) |
| | 3/4 HP, 240 V AC (N/C contact) |
| 1/4 HP, 200 ... 250 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 II |
| 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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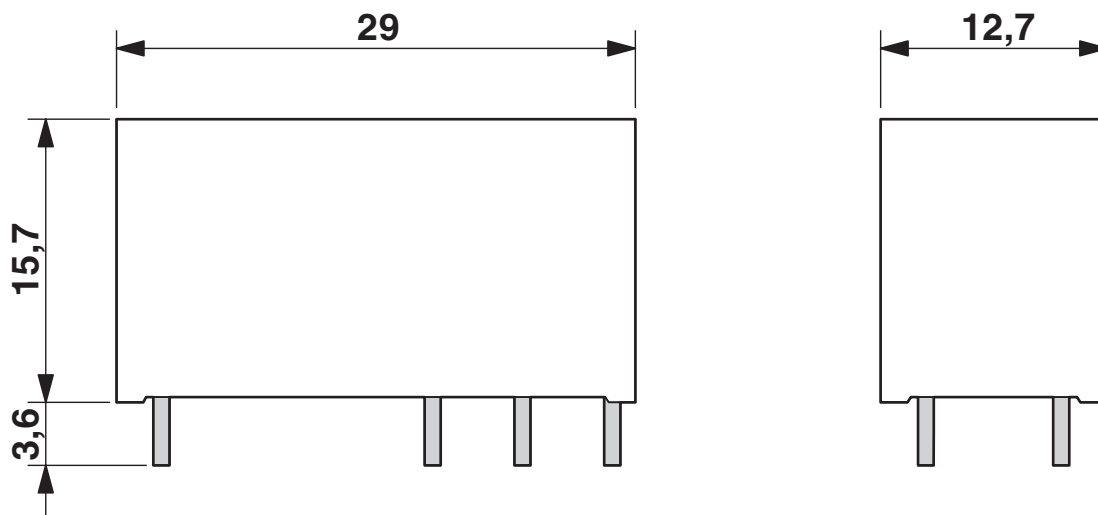
| | |
|-----------------------|------------|
| Standards/regulations | EN 50178 |
| | EN 61810-1 |

Mounting

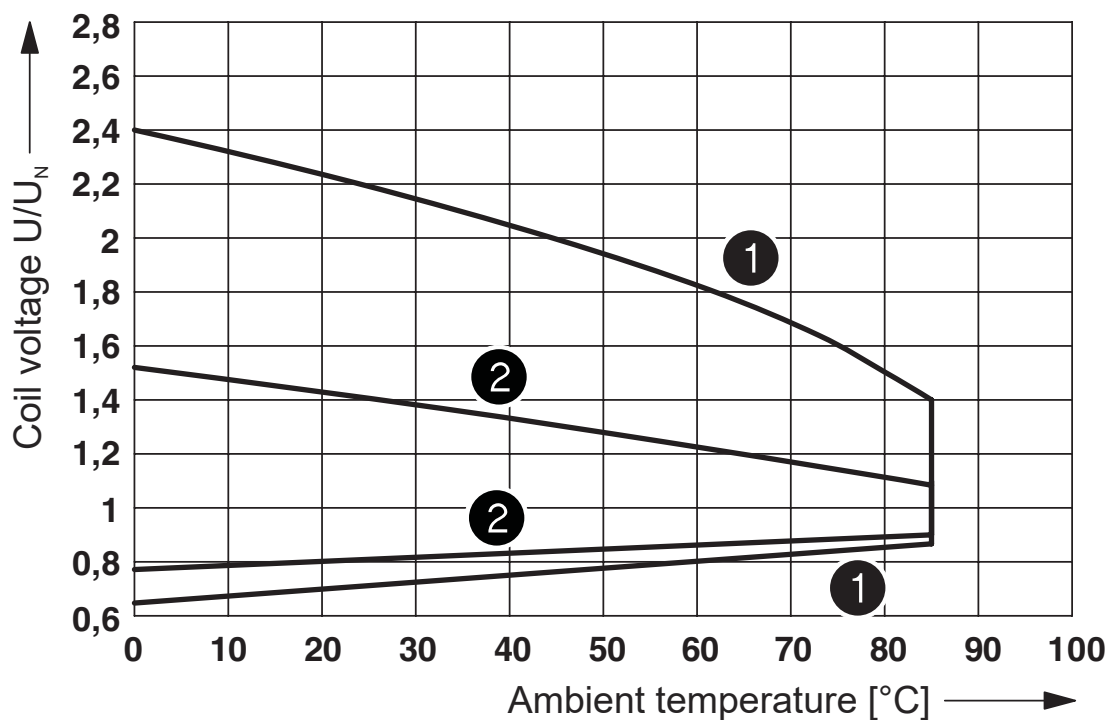
| | |
|-------------------|--|
| Assembly note | Can be aligned without spacing ($> 70\text{ °C} \geq 2.5\text{ mm}$) |
| Mounting position | any |

Drawings

Dimensional drawing

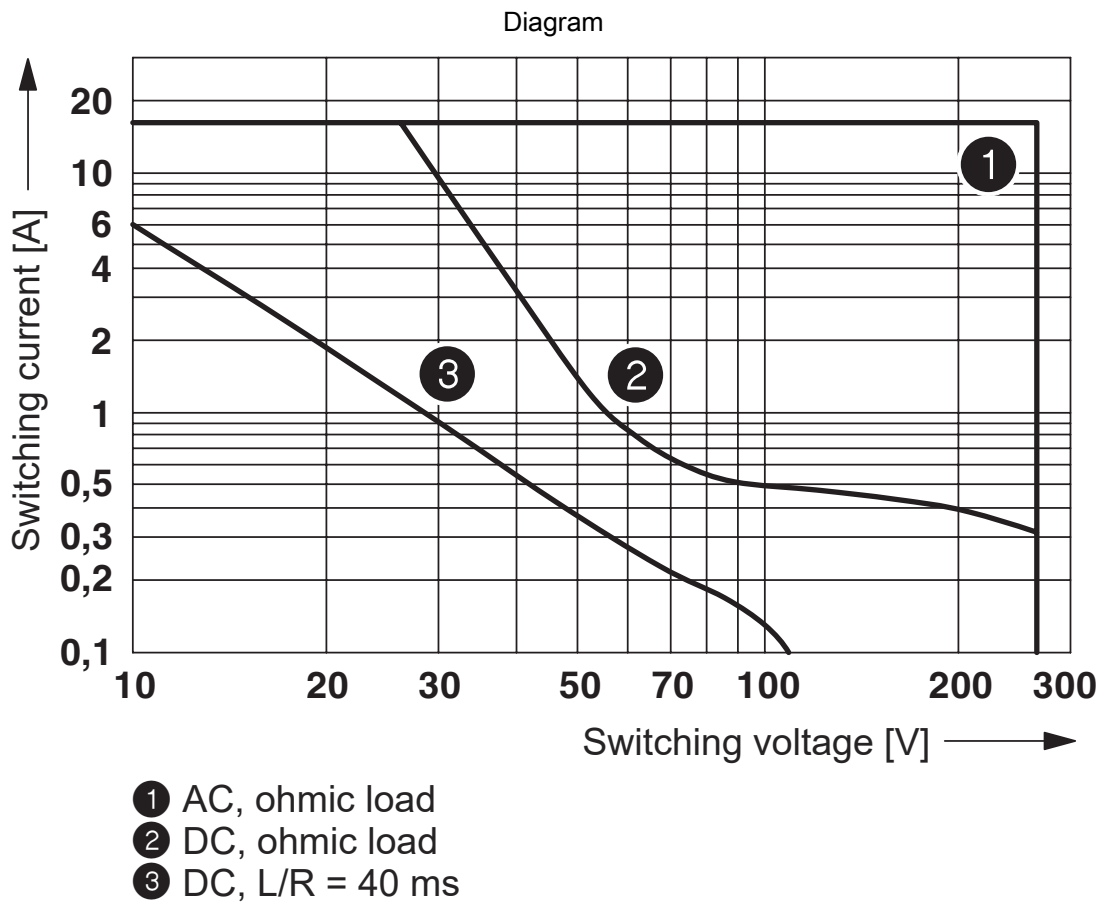


Diagram



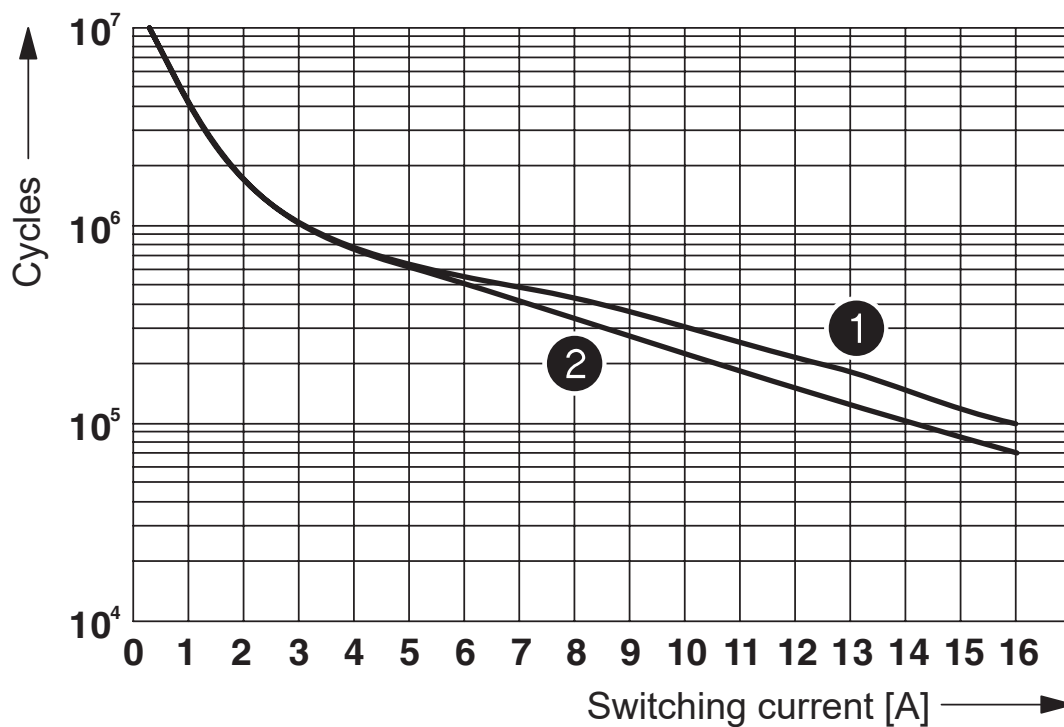
- ① DC coils
- ② AC coils

Operating voltage range



Interrupting rating

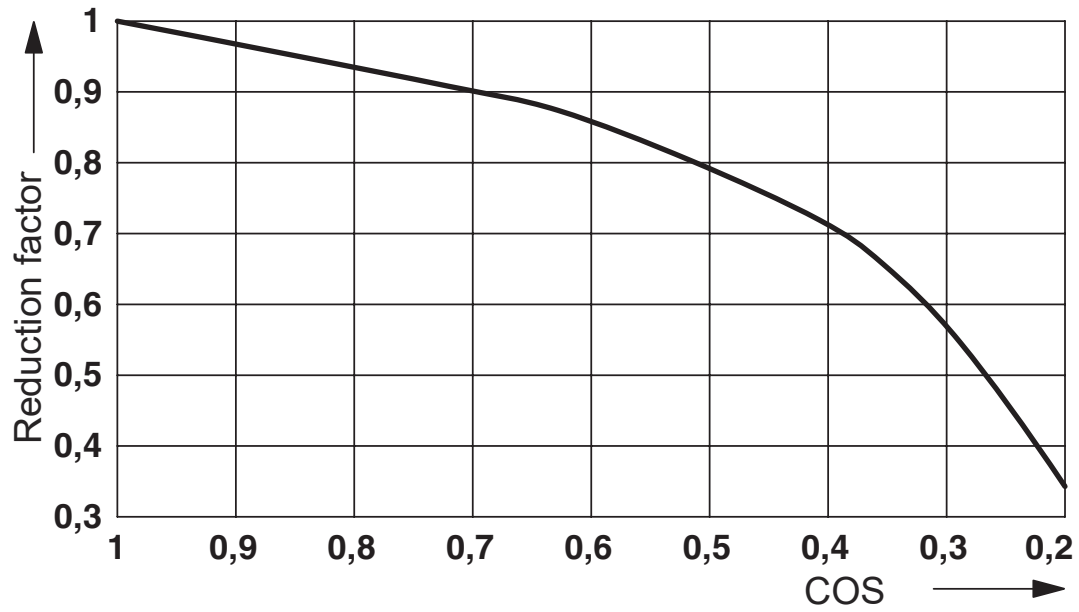
Diagram



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

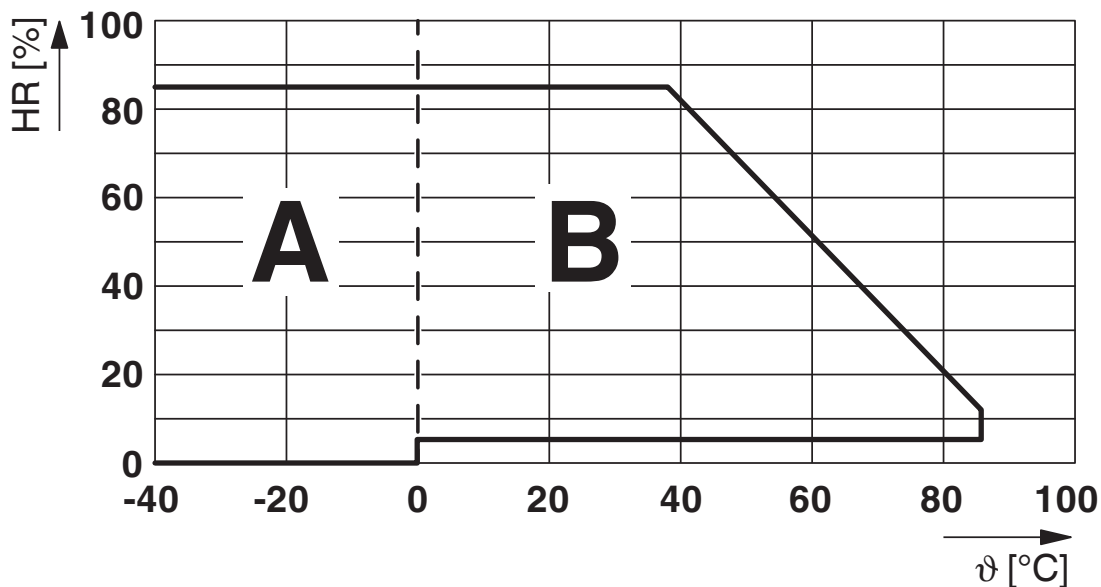
Electrical service life

Diagram



Service life reduction factor with various cos phi

Diagram



Permissible humidity for operation and storage.

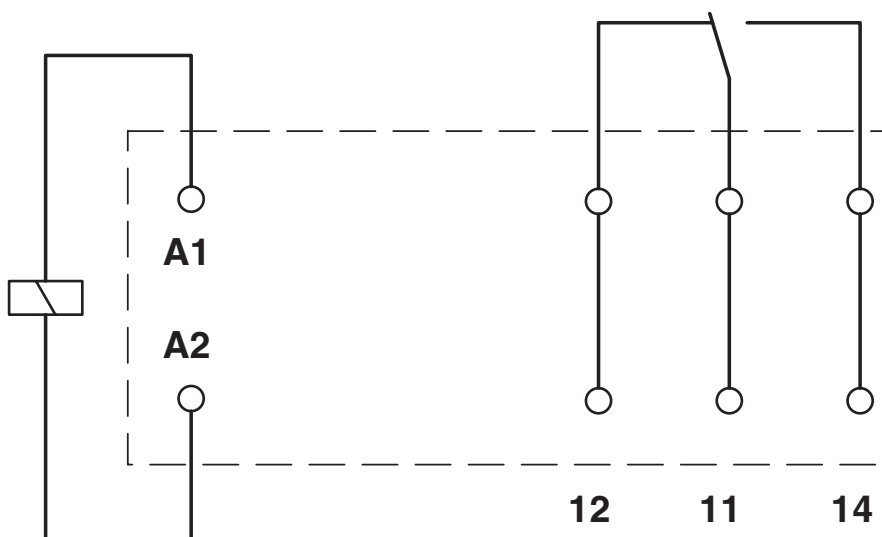
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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



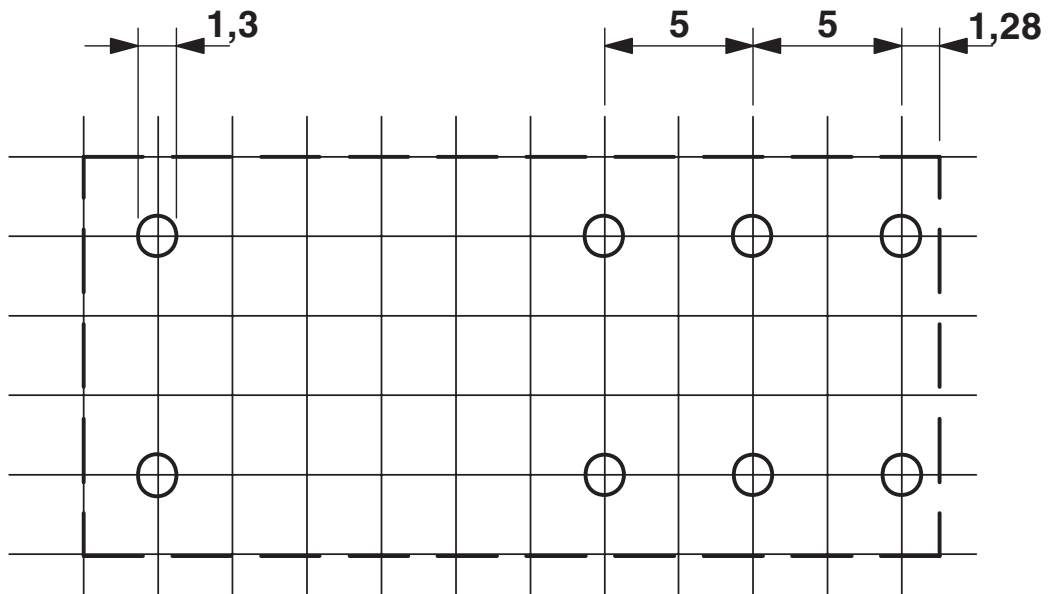
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Drilling plan/solder pad geometry



Basic pitch 2.5 mm

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/au/products/2961312>



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

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 | 0.098 kg CO2e |
|---------|---------------|

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