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

2961299

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

Your advantages

- RT III-proof (wash-proof)

Commercial data

Item number	2961299
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	C460
Product key	DK6936
GTIN	4017918164041
Weight per piece (including packing)	16.34 g
Weight per piece (excluding packing)	14.98 g
Customs tariff number	85364900
Country of origin	AT

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	09.10.2026

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
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, hard gold-plated
Maximum switching voltage	30 V AC
	36 V DC
Minimum switching voltage	100 mV (at 10 mA)
Limiting continuous current	50 mA
Maximum inrush current	50 mA

Min. switching current	1 mA (at 24 V)
Interrupting rating (ohmic load) max.	1.2 W (at 24 V DC)
Switching power min.	0.12 W

Switching: when the gold layer is destroyed

Note	the following values are applicable if a gold layer is destroyed
Contact material	AgNi
Maximum switching voltage	250 V
Minimum switching voltage	5 V (at 10 mA)
Limiting continuous current	8 A
Maximum inrush current	15 A (300 ms)
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 110 V, DC13)
	0.2 A (at 250 V, DC13)
	2 A (at 24 V, AC15)
	2 A (at 120 V, AC15)
	2 A (at 250 V, AC15)

Connection data

Connection method	Plug / solder connection

Dimensions

Item dimensions

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

Standards and regulations

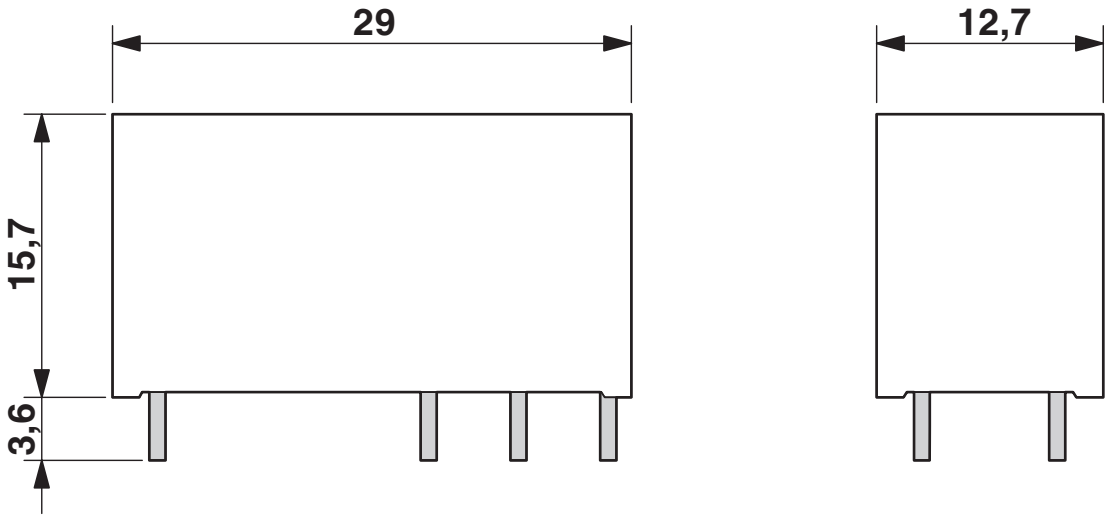
Standards/regulations	IEC 60664
	EN 50178
	EN 61810-1

Mounting

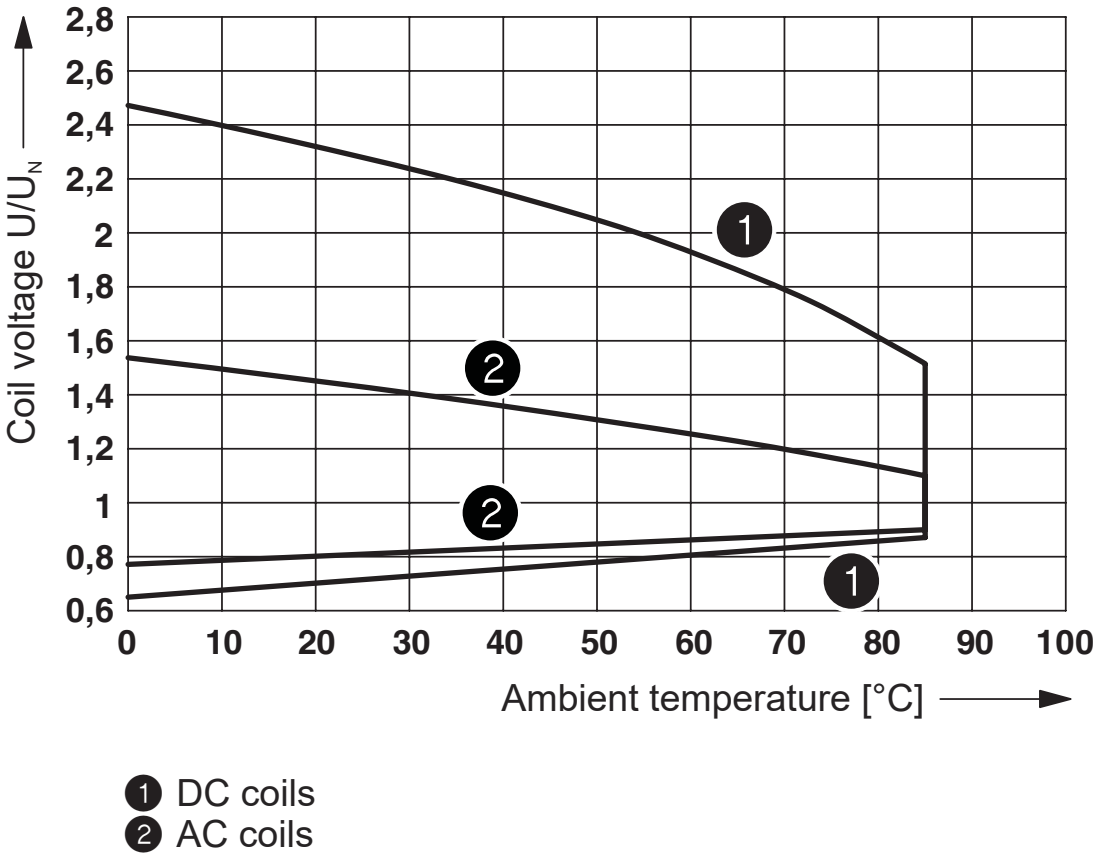
Assembly note	Can be aligned without spacing (> 70 °C ≥ 2.5 mm)
Mounting position	any

Drawings

Dimensional drawing



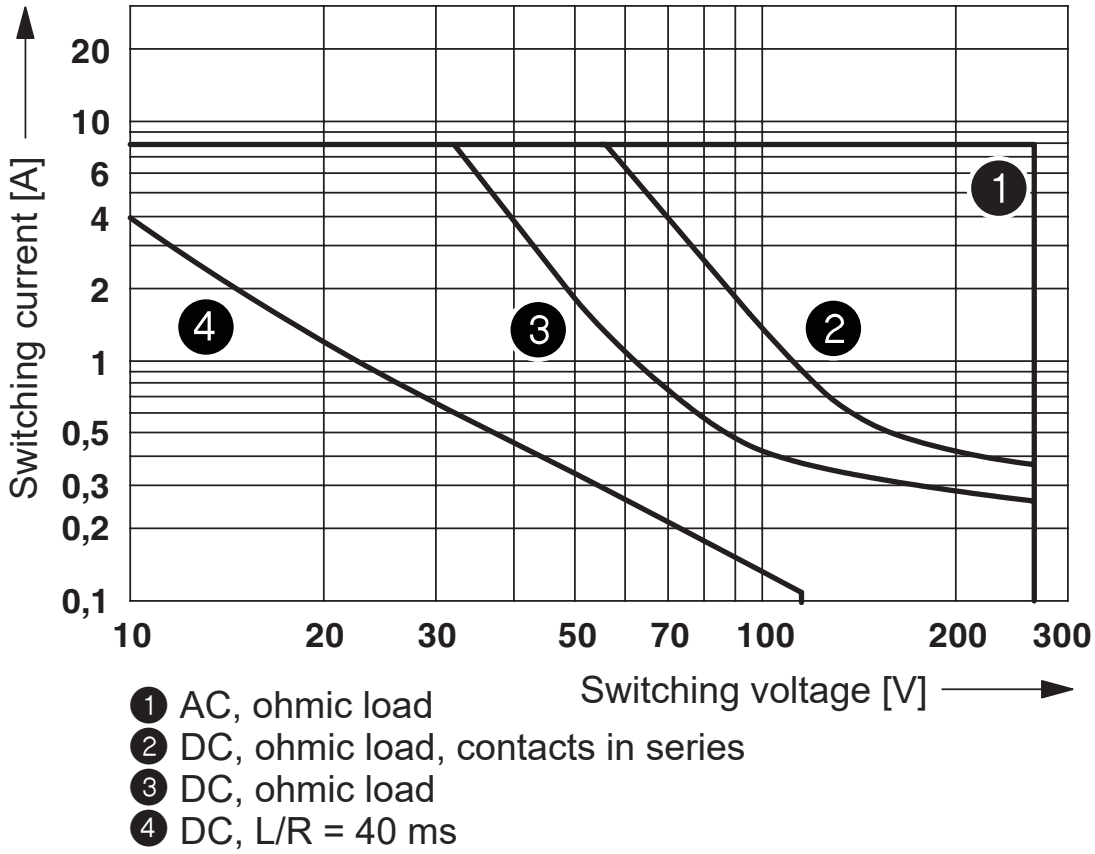
Diagram



1 DC coils
2 AC coils

Operating voltage range

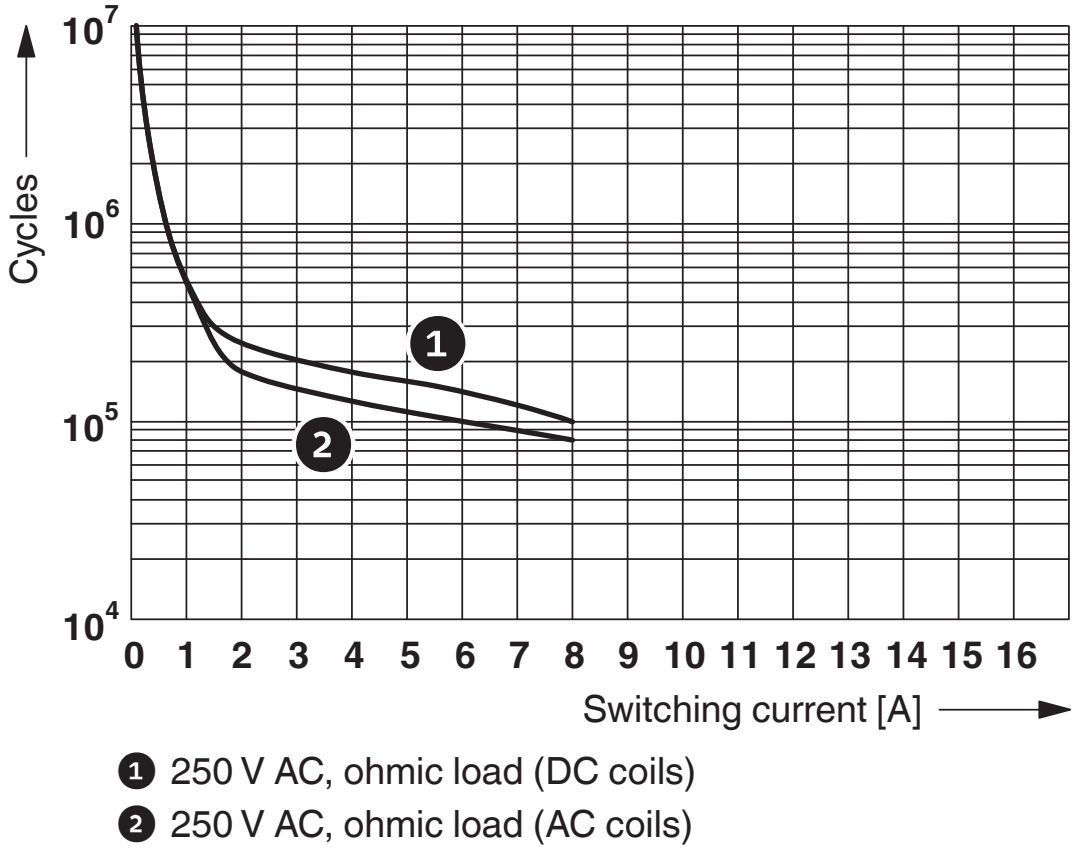
Diagram



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

Interrupting rating

Diagram

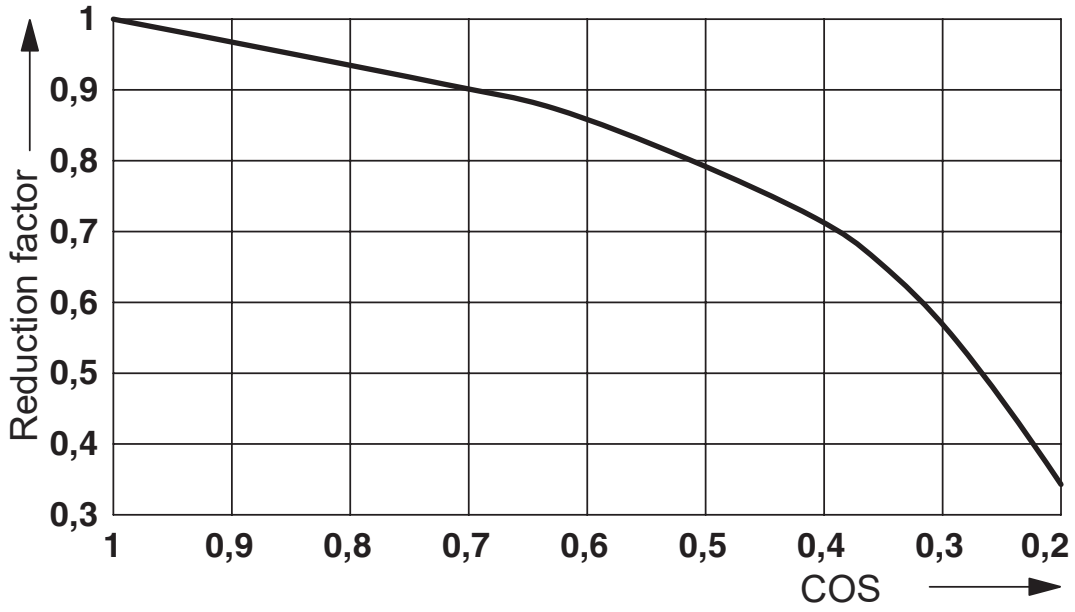


1 250 V AC, ohmic load (DC coils)

2 250 V AC, ohmic load (AC coils)

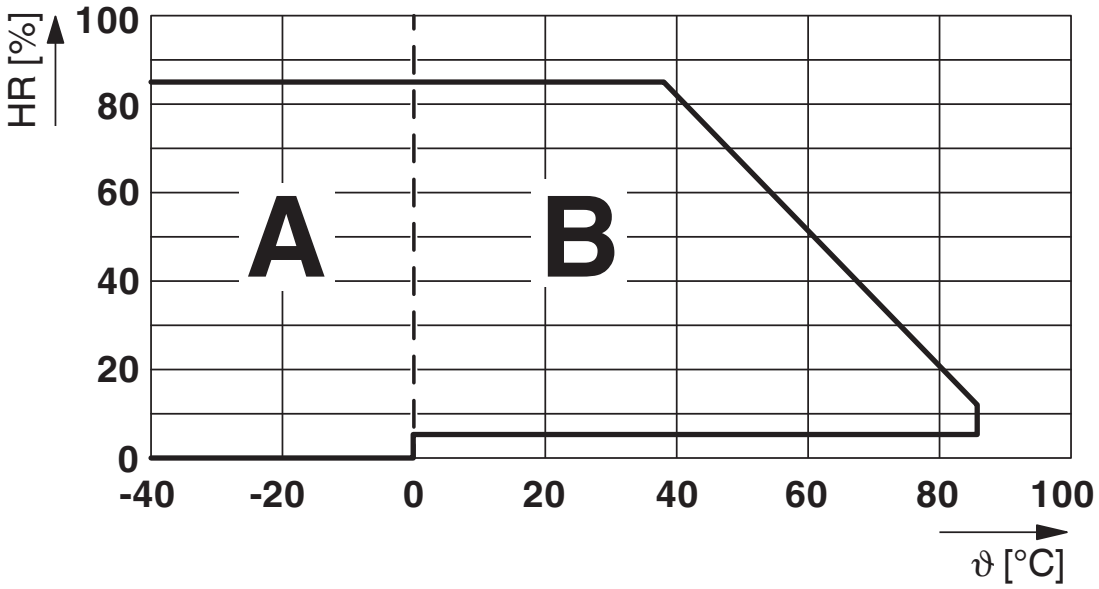
Electrical service life

Diagram



Service life reduction factor with various cos phi

Diagram

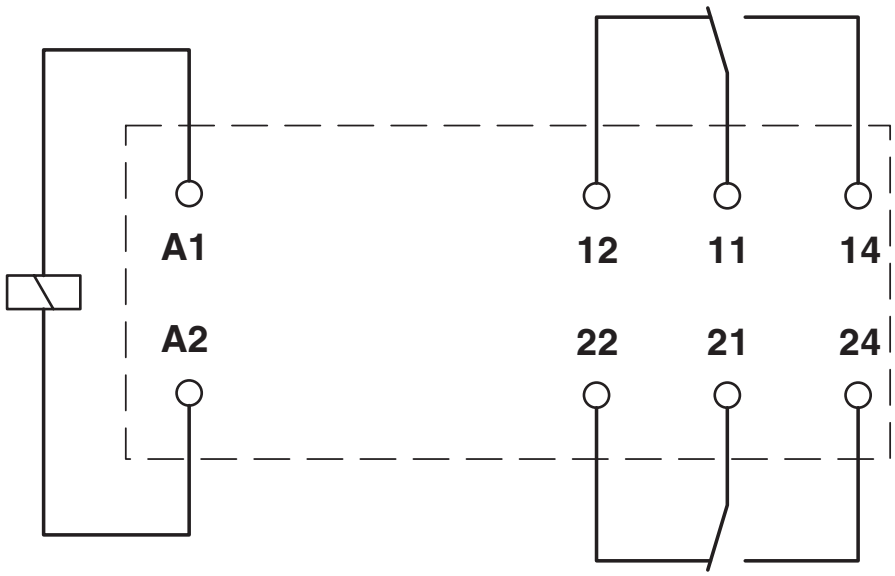


Permissible humidity for operation and storage.
The maximum permissible ambient temperature as specified in the data sheet must be observed.

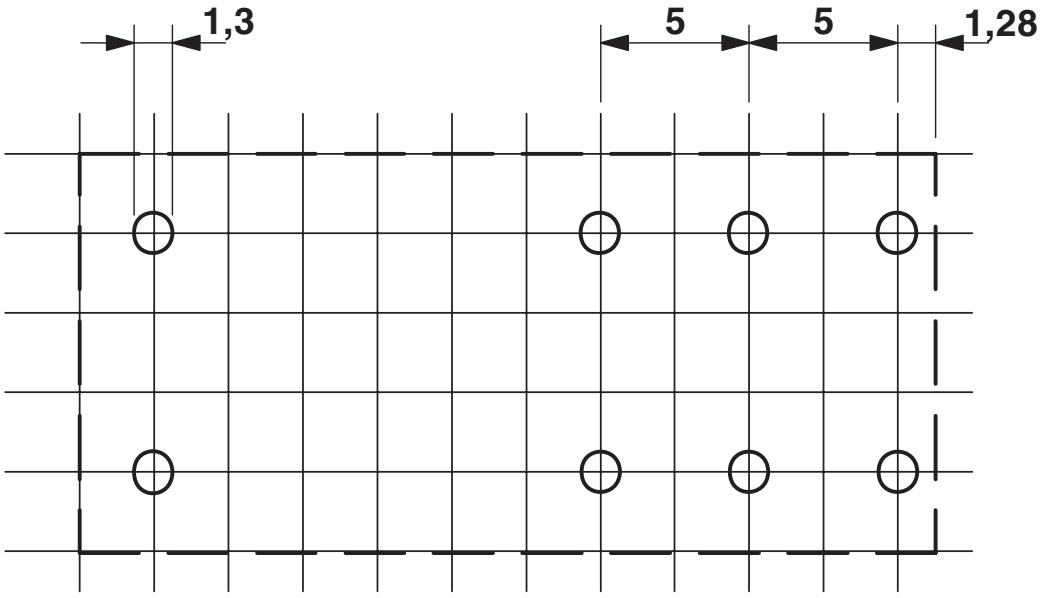
Area A: Ice buildup at ambient temperatures ≤ 0°C must be prevented
Area B: Condensation at ambient temperatures > 0°C must be prevented

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.

Circuit diagram



Drilling plan/solder pad geometry



a = pitch division 2.5 mm

Approvals

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cUL Recognized
Approval ID: FILE E 228652

UL Recognized
Approval ID: FILE E 228652

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

Classifications

ECLASS

ECLASS-13.0	27371601
ECLASS-15.0	27371601

ETIM

ETIM 10.0	EC001437

UNSPSC

UNSPSC 21.0	39122300

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%

EF3.1 Climate Change

CO2e kg	0.171 kg CO2e

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