

REL-MR- 12DC/1ICT - Single relay



1081616

<https://www.phoenixcontact.com/us/products/1081616>

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Pluggable miniature power relay, with tungsten pre-contact for high switch-on currents up to 800 A peaks, 1 N/O contact, input voltage: 12 V DC

Your advantages

- Safe isolation between coil and contact side
- High degree of protection up to RT III depending on type (wash-proof)
- Power contacts up to 16 A

Commercial data

Item number	1081616
Packing unit	10 pc
Minimum order quantity	10 pc
Note	Made to order (non-returnable)
Sales key	C460
Product key	DK6931
GTIN	4055626807881
Weight per piece (including packing)	15.94 g
Weight per piece (excluding packing)	15.94 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	Safe isolation, reinforced insulation
Overvoltage category	III
Pollution degree	3

Data management status

Date of last data management	01.04.2026
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Electrical properties

Maximum power dissipation for nominal condition	0.4 W
Test voltage (Winding/contact)	5 kV AC (50 Hz, 1 min., winding/contact)
Rated insulation voltage	250 V AC
Rated surge voltage	6 kV

Input data

Coil side

Nominal input voltage U _N	12 V DC
Input voltage range	9.6 V DC ... 27 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	8 ms
Typical release time	3 ms
Coil resistance	360 Ω ±10 % (20 °C)

Output data

Switching

Contact switching type	1 N/O contact
Type of switch contact	Single contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V (100 mA)
Limiting continuous current	16 A
Maximum inrush current	165 A (20 ms) 800 A (200 μs)

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Min. switching current	100 mA (at 12 V DC)
Interrupting rating (ohmic load) max.	384 W (at 24 V DC)
	58 W (at 48 V DC)
	48 W (at 60 V DC)
	50 W (at 110 V DC)
	80 W (at 220 V DC)
	4000 VA (for 250 V AC)
Switching power min.	1200 mW

Connection data

Connection method	Plug / solder connection
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Dimensions

Item dimensions

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 II
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m

Approvals

Corrosive gas test

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

Standards and regulations

Standards/regulations	EN 50178
	EN 61810-1

Mounting

Mounting type	Plug-in mounting
Assembly note	Can be aligned without spacing (> 70 °C ≥ 2.5 mm)
Mounting position	any

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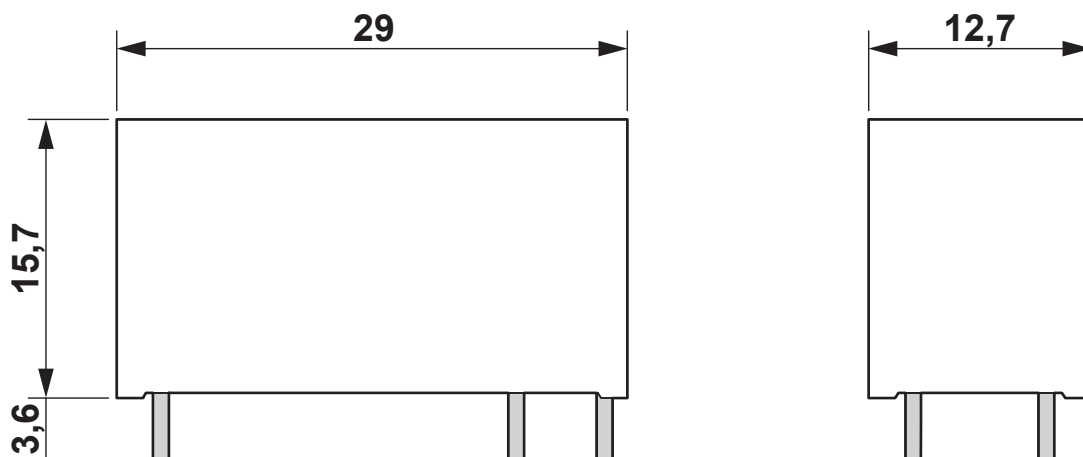
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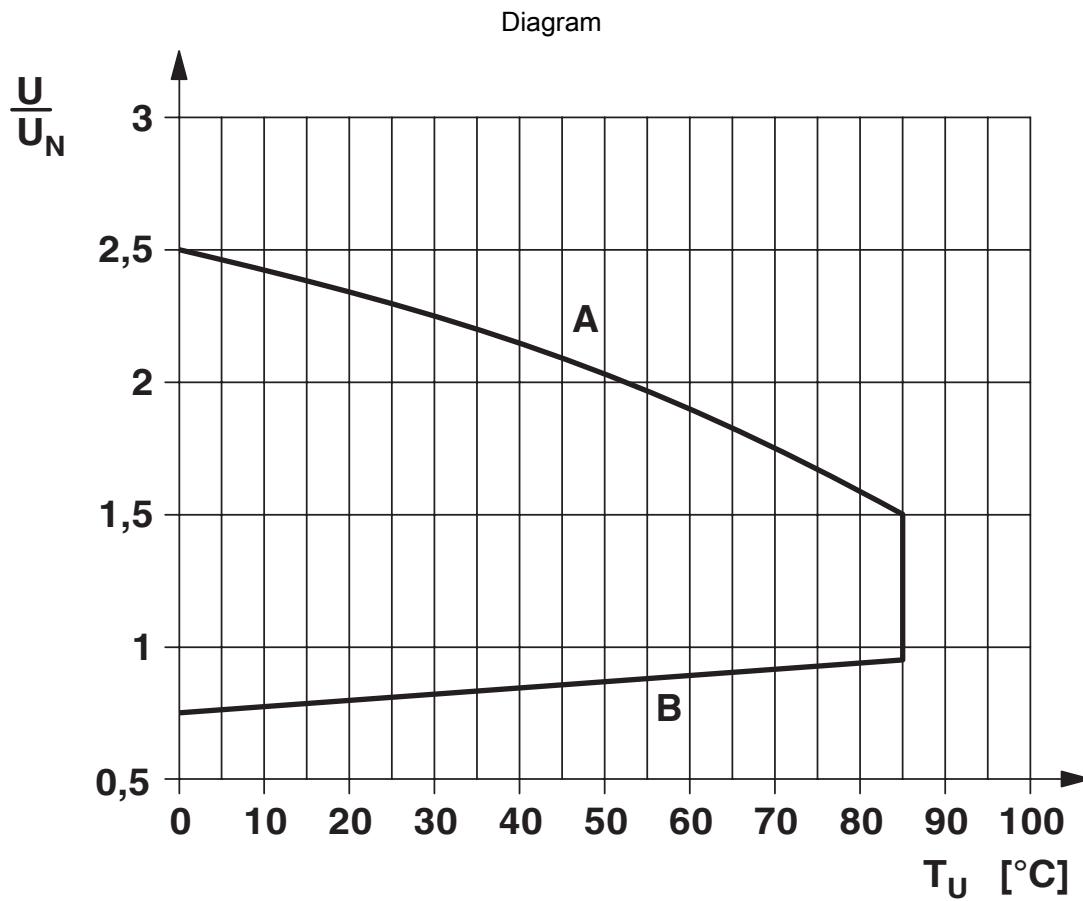
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Drawings

Dimensional drawing





Curve A

Maximum permissible continuous voltage U_{max} with limiting continuous current on the contact side (see relevant technical data)

Curve B

Minimum permissible operate voltage U_{op} after pre-excitation (see relevant technical data)

Diagram



Permissible humidity for operation and storage.

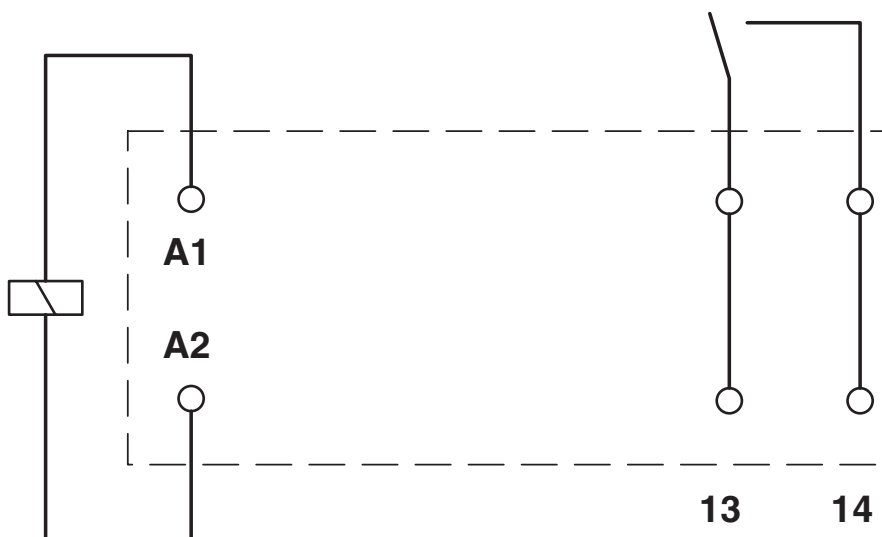
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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



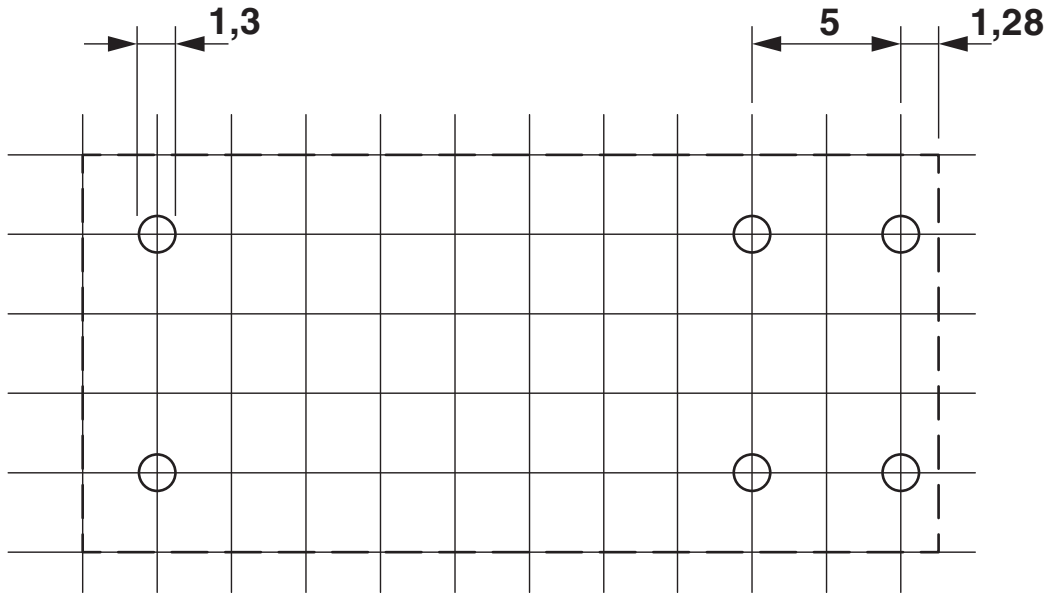
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Drilling plan/solder pad geometry



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/1081616>



cUL Recognized
Approval ID: FILE E 228652



UL Recognized
Approval ID: FILE E 228652



VDE approval of drawings
Approval ID: 40007758

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Classifications

ECLASS

ECLASS-13.0	27371601
ECLASS-15.0	27371601

ETIM

ETIM 10.0	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
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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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