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RM12 1 CO RM12 1 NO / 1 NC





NEW

- DC coils - of up to 60 V DC
- 5000 V / 8 mm reinforced insulation
- For PCB
- Terminals: 3,2 mm for version 1 CO,
  5,04 mm for version 1 NO and 1 NC
- Compliance with standards: PN-EN 61810-1, PN-EN 60730-1, PN-EN 60335-1, UL 508, CSA 22.2 No.14-95
- Recognitions, certifications, directives: RoHS,

Contact data

Number and type of contacts		1 CO, 1 NO, 1 NC
Contact material		**AgNi**, AgNi/Au hard gold plating, $AgSnO_2$, $AgSnO_2$/Au hard gold plating
Rated / max. switching voltage	AC	250 V / 400 V
Min. switching voltage		5 V AgNi, 5 V AgNi/Au hard gold plating 10 V $AgSnO_2$, 5 V $AgSnO_2$/Au hard gold plating
Rated load	AC1 DC1	8 A / 250 V AC 8 A / 24 V DC
Min. switching current		5 mA AgNi, 2 mA AgNi/Au hard gold plating 10 mA $AgSnO_2$, 2 mA $AgSnO_2$/Au hard gold plating
Max. inrush current		10 A
Rated current		8 A
Max. breaking capacity	AC1	2000 VA
Min. breaking capacity		0,3 W AgNi, 0,05 W AgNi/Au hard gold plating 1 W $AgSnO_2$, 0,05 W $AgSnO_2$/Au hard gold plating
Contact resistance		≤ 100 mΩ 100 mA, 24 V
Max. operating frequency • at rated load • no load	 AC1	 600 cycles/hour 18 000 cycles/hour

Coil data

Rated voltage	DC	5 ... 60 V
Must release voltage		DC: ≥ 0,1 U_n
Operating range of supply voltage		see Table 1
Must operate voltage		≤ 0,7 U_n
Rated power consumption	DC	0,25 W

Insulation according to PN-EN 60664-1

Insulation rated voltage		400 V AC
Rated surge voltage		4 000 V 1,2 / 50 µs
Overvoltage category		III IEC 61810-5
Insulation pollution degree		3
Flammability class		V-0 UL94
Insulation group (contact plate)		IIIa
Tracking resistance category		2 UL508
Dielectric strength	• between coil and contacts	5 000 V AC 1 min., type of insulation: reinforced
	• contact clearance	1 000 V AC 1 min., type of clearance: micro-disconnection
Contact - coil distance	• clearance	≥ 8 mm
	• creepage	≥ 8 mm

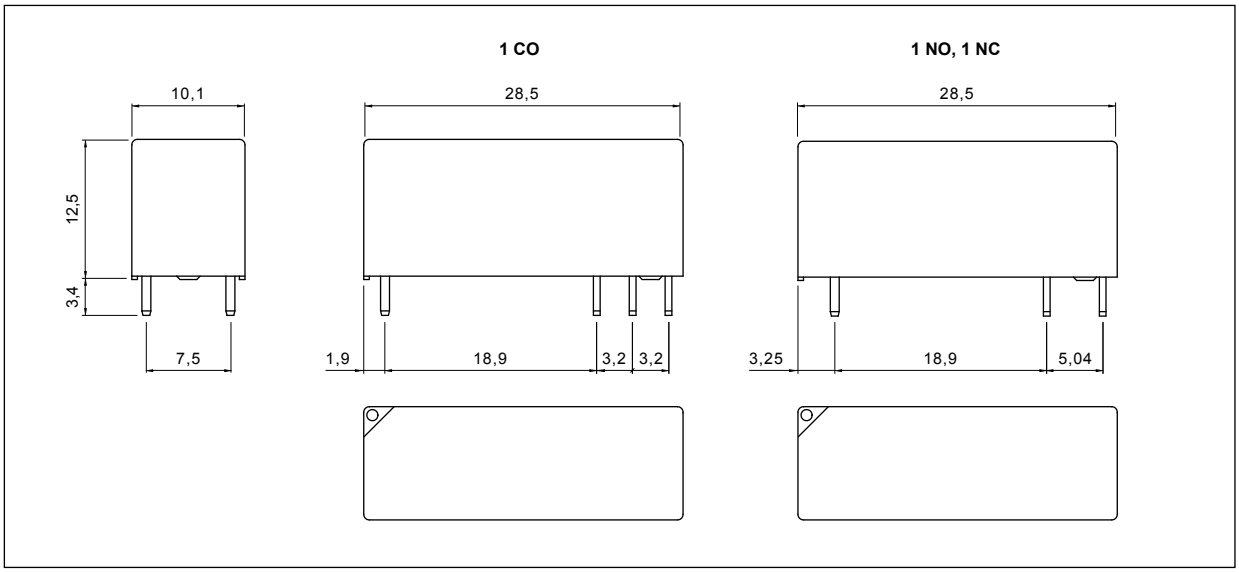
General data

Operating / release time (typical values)		10 ms / 5 ms
Electrical life (number of cycles)	• resistive AC1	> 4 x 10^4 1 NO, 8 A, 250 V AC, 70 °C > 2,5 x 10^4 1 CO, 8 A, 250 V AC, 85 °C > 10^4 1 NO, 10 A, 250 V AC, 85 °C
	• resistive DC1	> 10^5 8 A, 24 V DC
Mechanical life	18 000 cycles/hour	10^7
Load according to UL 508		10 A 277 V AC, general purpose 0,5 HP 240 V AC, single-phase motor B300 inductive load (Pilot Duty)
Dimensions (L x W x H)		28,5 x 10,1 x 12,5 mm
Weight		8 g
Ambient temperature	• storage	-40...+85 °C
	• operating	-40...+85 °C
Cover protection category		IP 40 or **IP 67** PN-EN 60529
Environmental protection		RTII PN-EN 116000-3
Shock resistance	(NO/NC)	10 g / 5 g
Vibration resistance	(NO/NC)	10 g / 5 g

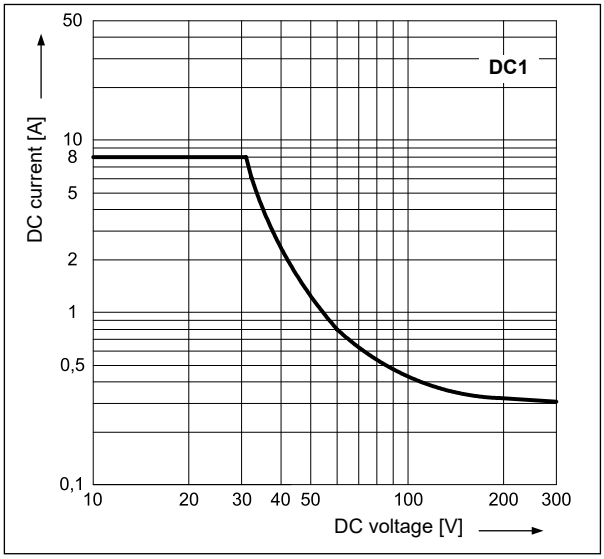
The data in bold type relate to the standard versions of the relays.

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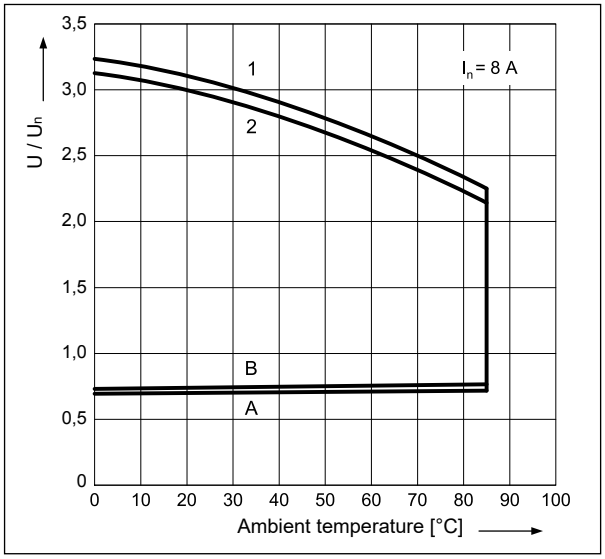
Dimensions



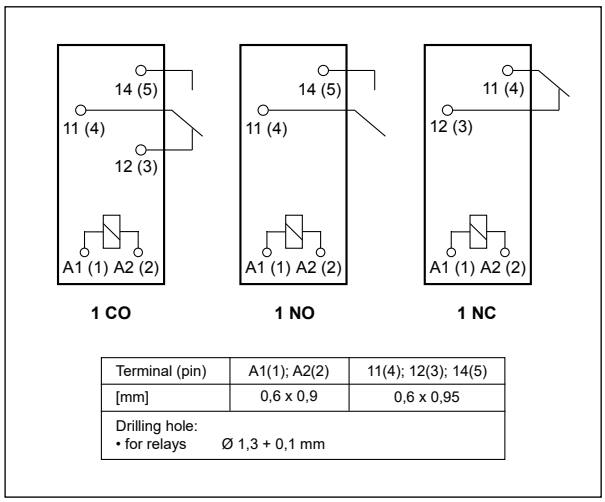
Max. DC resistive load breaking capacity Fig. 1



Coil operating range - DC Fig. 2



Connection diagrams (pin side view)

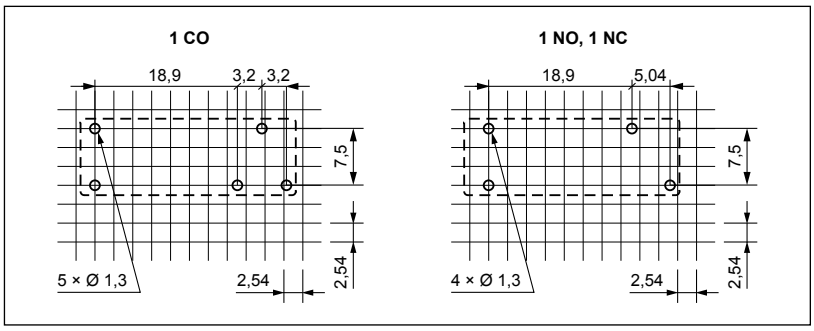


Terminal (pin)	A1(1); A2(2)	11(4); 12(3); 14(5)
[mm]	0,6 x 0,9	0,6 x 0,95
Drilling hole: • for relays	Ø 1,3 + 0,1 mm	

Description of Fig. 2

A - relations between make voltage and ambient temperature at no load on contacts. Coil temperature and ambient temperature are equal before coil energizing. Make voltage is not higher than the value read on Y axis (multiplication of rated voltage).
B - relations between make voltage and ambient temperature after initial coil heating up with 1,1 U_n, at continues load of I_n on contacts. Make voltage is not higher than the value read on Y axis (multiplication of rated voltage).
1, 2 - values on Y axis represent allowed overvoltage on coil at certain ambient temperature and contact load:
1 - no load
2 - rated load

Pinout (solder side view)



Mounting

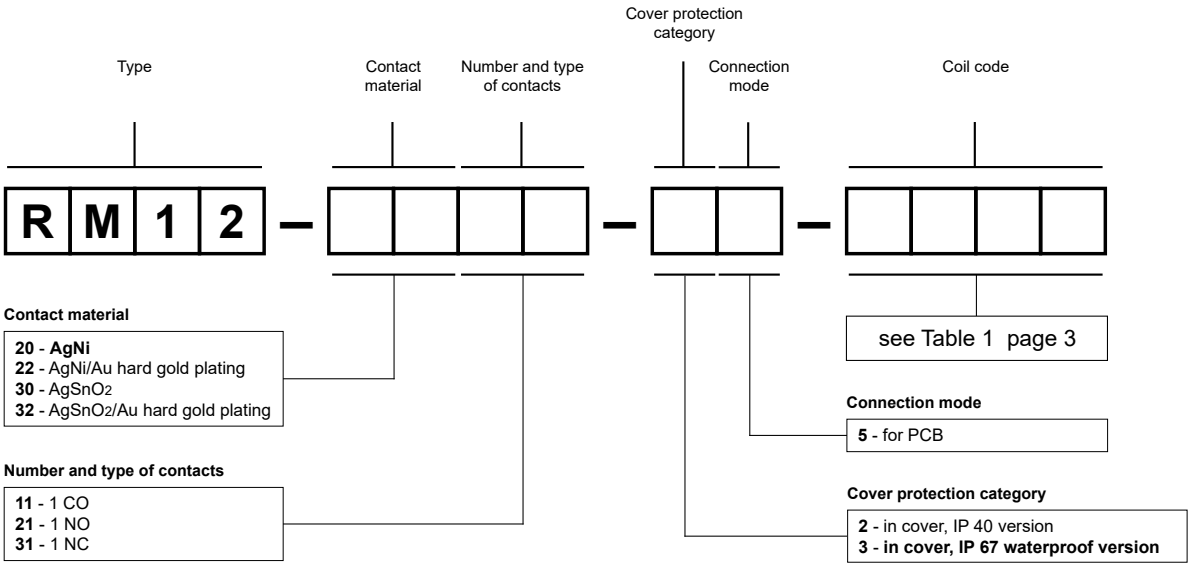
Relays **RM12** are designed for direct PCB mounting.

Coil data - DC voltage version

Table 1

Coil code	Rated voltage V DC	Coil resistance at 20 °C Ω	Acceptable resistance	Coil operating range V DC	
				min. (at 20 °C)	max. (at 20 °C)
1005	5	102	± 10%	3,5	15,0
1006	6	144	± 10%	4,2	18,0
1009	9	330	± 10%	6,3	27,0
1012	12	580	± 10%	8,4	36,0
1018	18	1 300	± 10%	12,6	54,0
1024	24	2 300	± 10%	16,8	72,0
1048	48	9 340	± 10%	33,6	144,0
1060	60	14 000	± 10%	42,0	180,0

Ordering codes



Examples of ordering codes:

RM12-2011-35-1012 relay **RM12**, for PCB, one changeover contact, contact material AgNi, coil voltage 12 V DC, in cover IP 67

RM12-3031-25-1024 relay **RM12**, for PCB, one normally closed contact, contact material $AgSnO_2$, coil voltage 24 V DC, in cover IP 40

PRECAUTIONS:

1. Ensure that the parameters of the product described in its specification provide a safety margin for the appropriate operation of the device or system and never use the product in circumstances which exceed the parameters of the product. **2.** Never touch any live parts of the device. **3.** Ensure that the product has been connected correctly. An incorrect connection may cause malfunction, excessive heating or risk of fire. **4.** In case of any risk of any serious material loss or death or injuries of humans or animals, the devices or systems shall be designed so to equip them with double safety system to guarantee their reliable operation.