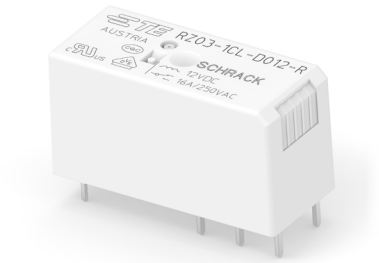
Power PCB Relay RZ Inrush

- **1 pole 12/16 A, 1 form C (CO) or 1 form A (NO) contact**
- **DC coil 400 mW**
- **5kV/10mm coil-contact, reinforced insulation**
- **Ambient temperature 85°C (105°C)**
- **Product in accordance to IEC 60335-1**
- **TV-8 Rating**
- **Enclosed-break device approvals:(only for EX1-type)**
  -Group IIA acc. to IEC 60079-1: Clause 15.5
  (former IEC 60079-15: Clause 22.4)



Typical applications
Domestic appliances, heating control, lighting control

Approvals

VDE Cert. No. 40023970, UL E214025
CQC12002066685
UL Hazardous Locations E507797
Technical data of approved types on request

Contact Data

	12A	16A
Contact arrangement	1 form C (CO) or 1 form A (NO)	
Rated voltage	250VAC	
Max. switching voltage	400VAC	
Rated current	12A	16A
Limiting making current (form A contact)		
max. 4s, duty factor 10%	30A	
max. 20ms (incandescent lamp);	80A (only AgSnO Type)	
max. 1ms (capacitive load);	240A (only AgSnO Type)	
Breaking capacity max.	3000VA	4000VA
Contact material	$AgSnO_2$	
Frequency of operation, with/without load	360/72000h^{-1}	
Operate/release time max.	8/6ms	
Bounce time max., form A/form B	4/10ms	

Contact ratings

Type	Contact	Load	Cycles
IEC 61810			
RZ01-1AL	A (NO)	12A, 250VAC, 85°C	30x10^3
RZ01-1CL	C (CO)	12A, 250VAC, 85°C	10x10^3
RZ03-1AL	A (NO)	16A, 250VAC, 85°C	30x10^3
RZ03-1CL	C (CO)	16A, 250VAC, 85°C	10x10^3
RZHH-1AK	A (NO)	16A, 250VAC,105°C	90x10^3
UL61810-1 (former UL508)			
RZ01-1AL	A (NO)	12A, 250VAC, GP, 85°C	10x10^3
RZ01-1CL	C (CO)	12A, 250VAC, GP, 85°C	10x10^3
RZ03-1AL	A (NO)	16A, 250VAC, GP, 40°C	50x10^3
RZ03-1CL	C (CO)	16A, 250VAC, GP, 85°C	10x10^3
RZ01/3-1AL	A (NO)	16A, 230VAC, TV-8, 40°C	30x10^3
RZHH-1AK	A (NO)	16A, 277VAC, GP, 105°C	100x10^3
Mechanical endurance		>10x10^6 operations	

Coil Data

Coil voltage range	3 to 48VDC
Operative range, IEC 61810	2
Coil insulation system according UL1446	class F

Coil versions, DC coil

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
D003	3	2.1	0.3	22	410
D005	5	3.5	0.5	60	420
D006	6	4.2	0.6	90	400
D009	9	6.3	0.9	200	400
D012	12	8.4	1.2	360	400
D015	15	10.5	1.5	562	410
D024	24	16.8	2.4	1440	400
D048	48	33.6	4.8	5730	400

All figures are given for coil without pre-energization, at ambient temperature +23°C.
Other coil voltages on request.

Insulation Data

Initial dielectric strength	
between open contacts	1000V$_{rms}$
between contact and coil	5000V$_{rms}$
Clearance/creepage	
between contact and coil	≥10/10mm
Material group of insulation parts	IIIa
Tracking index of relay base	PTI250V

Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter	
Resistance to heat and fire according EN 60335-1, par.30	
Explosive Atmospheres (only for EX1)	IEC 60079-1: Enclosed-break device Group IIA[2)]
Ambient temperature	
standard version	-40 to 85°C
Category of environmental protection	
IEC 61810	RTII - flux proof
Vibration resistance (functional), 30 to 500Hz	
closing form A contact	>15g
opening form A contact	>20g
opening form B contact	>5g
Shock resistance (destructive)	100g
Terminal type	
reinforced sealed version	PCB -THT, plug-in
Mounting distance	≥0mm
Weight	10g
Resistance to soldering heat	
THT, IEC 60068-2-20	RTII 270°C/10s
Packaging/unit	tube/20 pcs., box/500 pcs.

2) The enclosures are capable of withstanding normal handling and assembly operations without damage to seals according IEC 60079-1. Only relays without damage and unaffected open outgasing hole (e.g. labeling, conformal coating, glue) meet the requirements of IEC 60079-1.

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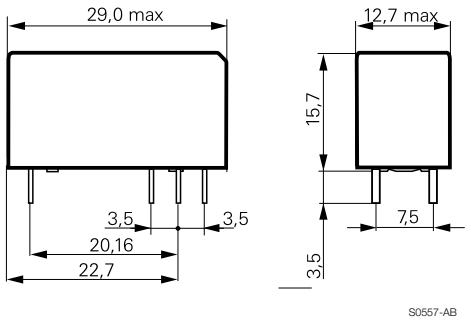
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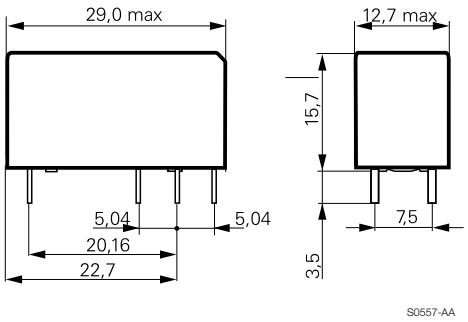
Power PCB Relay RZ Inrush (Continued)

Dimensions

12A, pinning 3.5mm

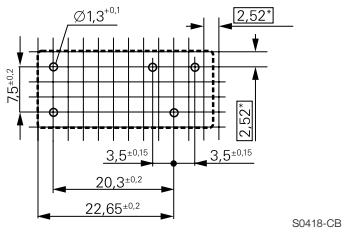


16A, pinning 5mm

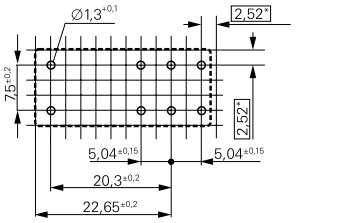


Recommended PCB layout / terminal assignment
Bottom view on solder pins

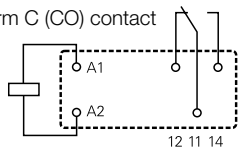
12A, pinning 3.5mm



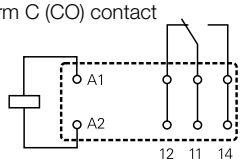
16A, pinning 5mm



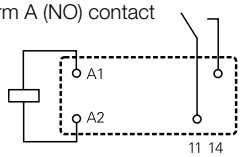
1 form C (CO) contact



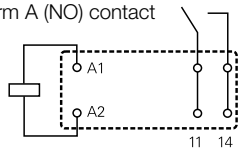
1 form C (CO) contact



1 form A (NO) contact



1 form A (NO) contact



Recommended pcb hole for manual mounting: Ø1.3mm
For automated mounting please ask for detailed drawing.

Product code structure Typical product code: **RZ 0 3 -1C L -D012 -R**

Type
RZ Power PCB Relay RZ

Version
0 standard version **H** Hot version 105°C (on request)

Version
1 3.5mm pinning, 12 A **3** 5mm double pinning, 16 A **H** 5mm double pinning, 16A *

Contact configuration
1A 1 form A (1 NO) contact **1C** 1 form C (1 CO) contact

Contact material
L AgSnO (Inrush version) K AgNi 90/10 (Inrush version) *

Coil version
Coil code: please refer to coil versions table

Cover version
R reinforced flux proof (epoxy) and Plug-In capable **EX1** HazLoc (open outgas hole)

*) AgNi90/10 inrush material only available in combination with RZHH-1A version!

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Power PCB Relay RZ Inrush (Continued)

Product code	Version	Contacts	Contact material	Coil version	Coil	Part number
RZ01-1AL-D012-R	12A, pinning 3,5mm reinforced flux proof	1 form A (NO)	AgSnO2 inrush	Monostable	12VDC	6-2158000-9
RZ01-1AL-D024-R					24VDC	7-2158000-3
RZ01-1CL-D012-R		1 form C (CO)			12VDC	8-2158000-0
RZ01-1CL-D024-R					24VDC	8-2158000-4
RZ03-1AL-D012-R	16A, pinning 5mm reinforced flux proof	1 form A (NO)			12VDC	9-2158000-1
RZ03-1AL-D024-R					24VDC	9-2158000-5
RZ03-1CL-D012-R		1 form C (CO)			12VDC	2158001-3
RZ03-1CL-D024-R					24VDC	2158001-7
RZH3-1AL-D012-R	16A, pinning 5mm high performance	1 form A (NO)			12VDC	1-2158001-6
RZHH-1AK-D012-R	16A, 105°C pinning 5mm high performance		AgNi 90/10 inrush		12VDC	3-2158003-9
RZ03-1CL-D012-EX1	16A, pinning 5mm, HazLoc	1 form C (CO)	$AgSnO_2$ inrush		12VDC	3-2158003-8

Explosive atmospheres

- Equipment protection by type of protection “d“:

Relays are sparking electrical equipment according IEC 60079-1 Explosive atmospheres – Part 1 Equipment protection by flameproof enclosures “d”.

Enclosed-break devices are subjected to a type test filled with and surrounded by an explosive mixture according to the stated group of the equipment, as follows:

- Group IIA: (55+/-0,5) % hydrogen/air at atmospheric pressure;
- Group IIB: (37+/-0,5) % hydrogen/air at atmospheric pressure;
- Group IIC: (40+/-1) % hydrogen, (20+/-) % oxygen and the remainder nitrogen at atmospheric pressure or alternatively (27+/-1,5) % hydrogen/air at on overpressure at a pressure equal to 1,5 times atmospheric pressure.

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