

Power PCB Relay RT1 bistable

- 1 pole 16 A, 1 CO contact
- Polarized bistable version with 1 or 2 coils
- 5 kV / 10 mm coil-contact
- Reinforced insulation
- RoHS compliant (Directive 2002 / 95 / EC)
as per product date code 0413

Applications

Battery powered equipment or applications with
"memory function"



F0176-B

Approvals

VDE REG.-Nr. 6106, **CE** us E214025
Technical data of approved types on request

Contact data

Contact configuration	1 CO contact
Contact set	single contact
Type of interruption	micro disconnection
Rated current	16 A
Rated voltage / max.switching voltage AC	240/400 VAC
Limiting continuous current	20 A
Maximum breaking capacity AC	4000 VA
Limiting making capacity, max 4 s, duty factor 10%	30 A
Contact material	AgNi 90/10
Mechanical endurance	> 5 x 10 ⁶ cycles
Rated frequency of operation with / without load	6 / 1200 min ⁻¹

Contact ratings

Type	Load	Cycles
RT314	20 A, 250 VAC, NO contact, 85°C, UL508	6x10 ³
RT314	Pilot duty A300 (NO contact), B300 (CO/NC contact), UL508	
RT314	1hp @ 240 VAC, 1/2hp @ 120 VAC, NO contact, UL508	

Coil data

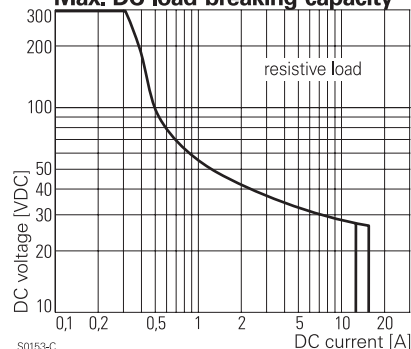
	1 coil	2 coils
Rated coil voltage range DC coil	5...24 VDC	
Coil power	typ 400 mW	typ 600 mW
Operative range	2	
Limiting voltage, % of rated coil voltage	120%	150%
Minimum energization duration	30 ms	
Maximum energization duration	1 min at < 10% DF	
Coil insulation system according UL1446	class F	

Coil versions, bistable coil

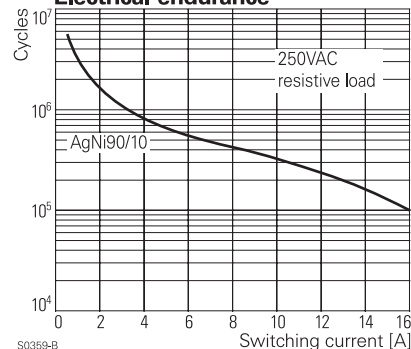
Coil code	Rated voltage VDC	Operate voltage VDC	Reset voltage VDC	Coil resistance Ω	Rated coil power mW
bistable, 1 coil					
A05	5	3.5	3.5	62 ± 10%	403
A06	6	4.2	4.2	90 ± 10%	400
A12	12	8.4	8.4	360 ± 10%	400
A24	24	16.8	16.8	1440 ± 10%	400
bistable, 2 coils					
F05	5	3.5	3.5	42 ± 10%	595
F06	6	4.2	4.2	55 ± 10%	655
F12	12	8.4	8.4	240 ± 10%	600
F24	24	16.8	16.8	886 ± 10%	650

All figures are given for coil without preenergization, at ambient temperature +23°C
Other coil voltages on request

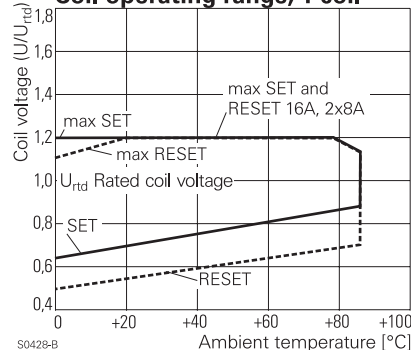
Max. DC load breaking capacity



Electrical endurance



Coil operating range, 1 coil



Power PCB Relay RT1 bistable (Continued)

Coils operation

Version	1 coil		2 coils		
Coil terminals	A1	A2	A1	A3	A2
Pull-in	+	-		+	-
Reset	-	+	-	+	
Contact position not defined at delivery					

Insulation

Dielectric strength coil-contact circuit	5000 V _{rms}				
open contact circuit	1000 V _{rms}				
Clearance / creepage coil-contact circuit	≥ 10 / 10 mm				
Material group of insulation parts	≥ IIIa				
Tracking index of relay base	PTI 250 V				
Insulation to IEC 60664-1					
Type of insulation coil-contact circuit	reinforced				
open contact circuit	functional				
Rated insulation voltage	250 V				
Pollution degree	3				
Rated voltage system	240 V				
Overvoltage category	III				

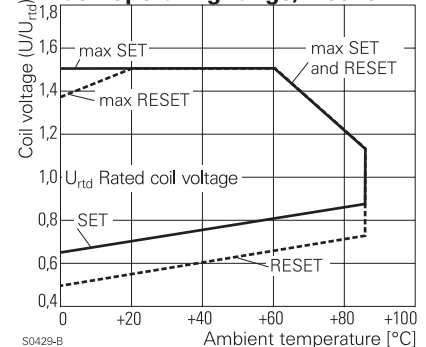
Other data

RoHS - Directive 2002/95/EC	compliant as per product date code 0413				
Flammability class according to UL94	V-0				
Ambient temperature range 1 coil	-10...+85°C				
2 coils	-40...+85°C				
Operate- / reset time	typ 5 / 4 ms				
Bounce time NO / NC contact	typ 1 / 3 ms				
Vibration / shock resistance (function) opening NC contact	3 / 5 g				
opening closed NO contact	6 / 15 g				
Shock resistance (destruction)	100 g				
Category of protection	RTII - flux proof				
Mounting	pcb or on socket				
Mounting distance	0 mm				
Resistance to soldering heat flux-proof version	270 °C / 10 s				
Relay weight	14 g				
Packaging unit 1 coil	20 / 500 pcs				
2 coils	100 pcs				

Accessories

For 1 coil version, details see datasheet	Accessories Power Relay RT
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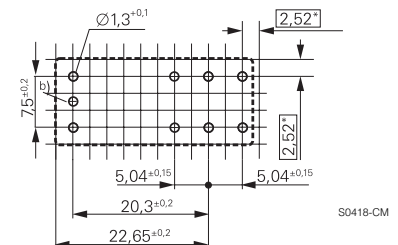
Coil operating range, 2 coils



PCB layout / terminal assignment

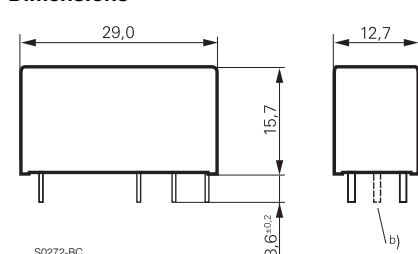
Bottom view on solder pins

16 A, pinning 5 mm



*) With the recommended PCB hole sizes a grid pattern from 2.5 mm to 2.54 mm can be used.

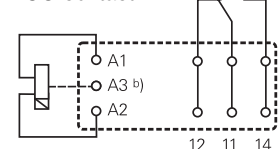
Dimensions



a) Indicated contact position during or after coil energization with reset voltage.

b) for 2 coil version only

1 CO contact



Power PCB Relay RT1 bistable (Continued)

Product key

Type	R	T	3	1	4			
Version								
3 16 A, pinning 5 mm, flux proof								
Contact configuration								
1 1 CO contact								
Contact material								
4 AgNi 90/10								
Coil								
Coil code: please refer to coil versions table, preferred types in bold print								

Product key	Version	Contacts	Cont. material	Coil	Coil	Part number
RT314A12	16 A	1 CO contact	AgNi 90/10	bistable	12 VDC	8-1393239-0
RT314A24	pinning 5 mm			1-coil	24 VDC	8-1393239-1
RT314F12	flux proof			bistable	12 VDC	8-1393239-7
RT314F24				2-coils	24 VDC	8-1393239-8