Power PCB Relay RT1 bistable

- **1 pole 16 A, 1 CO or 1 NO contact**
- **Polarized bistable version with 1 or 2 coils**
- **5 kV / 10 mm coil-contact**
- **Reinforced insulation**

F0176-C

Applications

Battery powered equipment or applications with "memory function"

Approvals

VDE REG.-Nr. 6106, cULus E214025, CSA 14385
Technical data of approved types on request

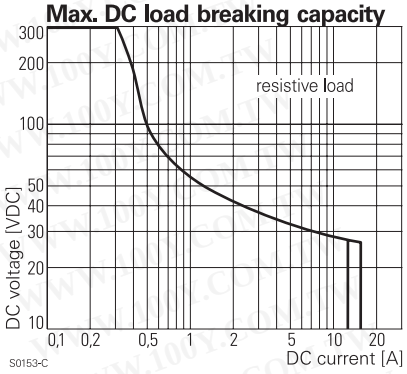
Contact data

Contact configuration	1 CO or 1 NO contatct
Contact set	single contact
Type of interruption	micro disconnection
Rated voltage / max. switching voltage AC	250 / 400 VAC
Rated current	16 A
Limiting continuous current	16 A, UL: 20 A
Maximum breaking capacity AC	4000 VA
Limiting making capacity, max 4 s, duty factor 10%	30 A
Contact material	AgNi 90/10
Rated frequency of operation with / without load	6 / 1200 min^{-1}
Operate- / reset time	max 10 / 10 ms
Bounce time NO / NC contact	max 3 / 6 ms

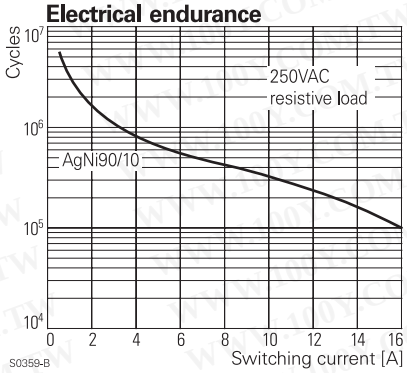
Contact ratings

Type	Contact	Load	Ambient temp. [°C]	Cycles
IEC 61810				
RT314	NO	16 A, 250 VAC, cosφ=1	85°C	30x10^3
RT314	CO	16 A, 250 VAC, cosφ=1	85°C	10x10^3
UL 508				
RT314	NO / NC	20 A, 250 VAC, general purpose	85°C	6x10^3
RT334	NO	16 A, 250 VAC, general purpose	85°C	50x10^3
RT314	NO	1 hp, 240 VAC	40°C	1x10^3

Max. DC load breaking capacity



Electrical endurance



Coil data	1 coil	2 coils
Rated coil voltage range	5...24 VDC	
Operative range to IEC 61810	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	

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Specifications subject to change.

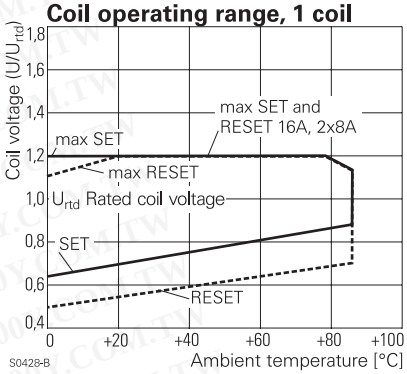
Power PCB Relay RT1 bistable (Continued)

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	2.8	62±10%	403
A06	6	4.2	3.3	90±10%	400
A12	**12**	**8.4**	**6.6**	**360±10%**	**400**
A24	**24**	**16.8**	**13.2**	**1440±10%**	**400**
bistable, 2 coils					
F05	5	3.5	2.8	42±10%	595
F06	6	4.2	3.3	55±10%	655
F12	**12**	**8.4**	**6.6**	**240±10%**	**600**
F24	**24**	**16.8**	**13.2**	**886±10%**	**650**

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

Coil operating range, 1 coil

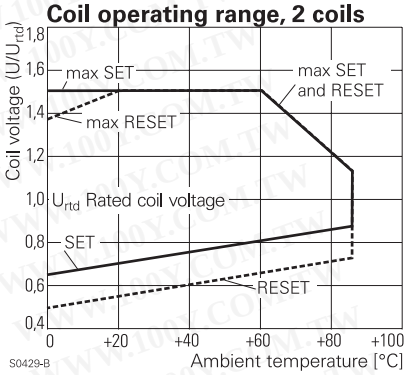


Coils operation

Version	1 coil		2 coils		
Coil terminals	A1	A2	A1	A3	A2
Pull-in	+	-		+	-
Reset	-	+	-	+	

Contact position not defined at delivery

Coil operating range, 2 coils



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 61810-1		
Type of insulation coil-contact circuit		reinforced
	open contact circuit	micro disconnection
Rated insulation voltage		250 V
Pollution degree		3 2
Rated voltage system		240 V 230 / 400 V
Overvoltage category		III

Other data

Mechanical endurance	> 5 x 10^6 cycles
Material	
RoHS - Directive 2002/95/EC	compliant as per product date code 0413
Environment	
Ambient temperature range 1 coil	-10...+85°C
2 coils	-40...+85°C
Vibration / shock resistance (function) opening NC cont.	3 / 5 g
opening closed NO contact	6 / 15 g
Shock resistance (destruction)	100 g
Category of protection	RTII - flux proof
Processing	
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

*) socket available for 1 coil version only, see Accessories

Accessories

For 1 coil version, details see datasheet	Accessories Power Relay RT

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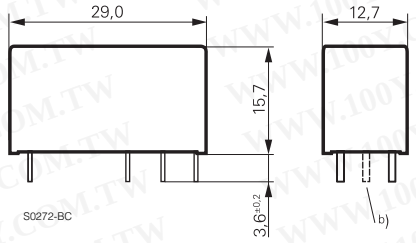
Dimensions



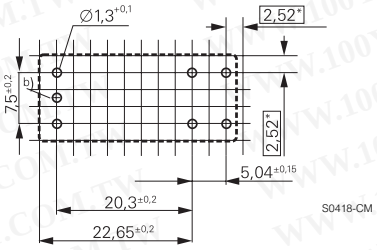
a) Indicated contact position during or after coil energization with reset voltage.

b) for 2 coil version only

PCB layout / terminal assignment

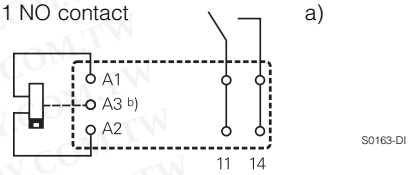
Bottom view on solder pins

16 A, pinning 5 mm

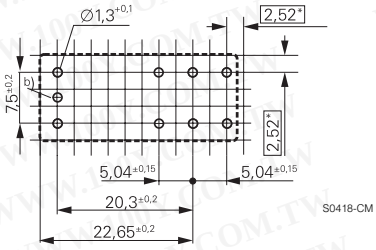


*) With the recommended PCB hole sizes a grid pattern from 2.5 mm to 2.54 mm can be used.

1 NO contact a)

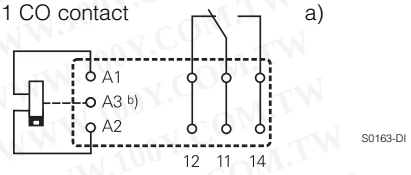


16 A, pinning 5 mm



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

1 CO contact a)



Product key

Typical product key: **RT 3 1 4 F24**

Type
RT Power PCB Relay RT1 bistable

Version
3 16 A, pinning 5 mm, flux proof

Contact configuration
1 1 CO contact (1 form C)

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

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