

**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, cULus 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 <sup>6</sup> cycles
Rated frequency of operation with / without load	6 / 1200 min <sup>-1</sup>

**Contact ratings**

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

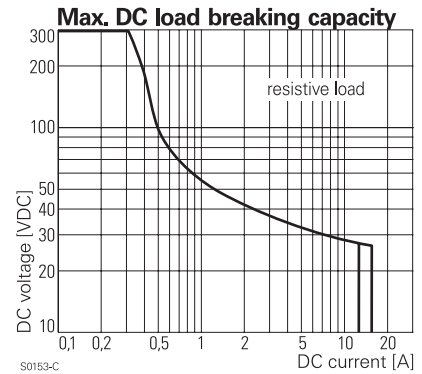
**Coil data**

	1 coil	2 coils
Rated coil voltage range	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	

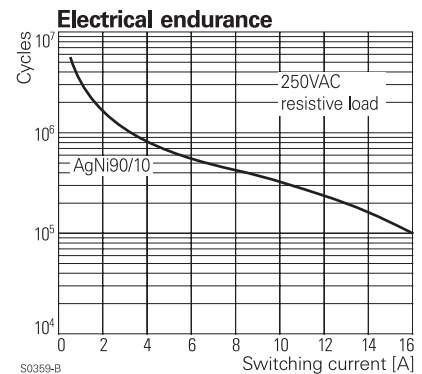
**Coil versions, bistable coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Reset voltage VDC	Coil resistance Ω	Rated coil power mW
<b>bistable, 1 coil</b>					
A05	5	3.5	2.8	62 ± 10%	403
A06	6	4.2	3.3	90 ± 10%	400
<b>A12</b>	<b>12</b>	<b>8.4</b>	<b>6.6</b>	<b>360 ± 10%</b>	<b>400</b>
<b>A24</b>	<b>24</b>	<b>16.8</b>	<b>13.2</b>	<b>1440 ± 10%</b>	<b>400</b>
<b>bistable, 2 coils</b>					
F05	5	3.5	2.8	42 ± 10%	595
F06	6	4.2	3.3	55 ± 10%	655
<b>F12</b>	<b>12</b>	<b>8.4</b>	<b>6.6</b>	<b>240 ± 10%</b>	<b>600</b>
<b>F24</b>	<b>24</b>	<b>16.8</b>	<b>13.2</b>	<b>886 ± 10%</b>	<b>650</b>

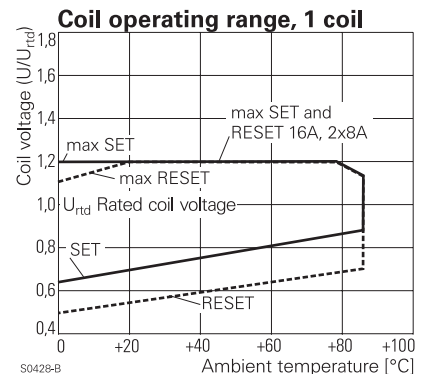
All figures are given for coil without preenergization, at ambient temperature +23°C  
 Other coil voltages on request



S0153-C



S0359-B



S0428-B

**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 <sub>rms</sub>	
open contact circuit	1000 V <sub>rms</sub>	
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	2
Rated voltage system	240 V	400 V
Overvoltage category	III	

**Other data**

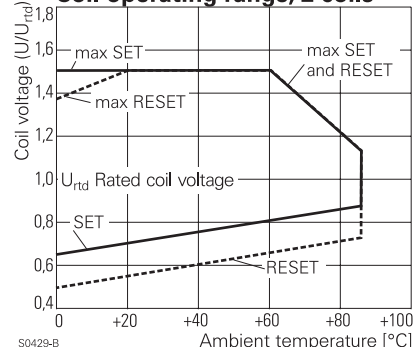
RoHS - Directive 2002/95/EC	compliant as per product date code 0413	
Flammability class according to UL94	V-0	
Ambient temperature range 1 coil	-10...+85°C	
2 coils	-40...+85°C	
Operate- / reset time	typ 5 / 4 ms	
Bounce time NO / NC contact	typ 1 / 3 ms	
Vibration / shock resistance (function) opening 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	

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

**Accessories**

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

**Coil operating range, 2 coils**

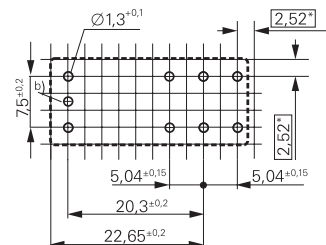


S0429-B

**PCB layout / terminal assignment**

Bottom view on solder pins

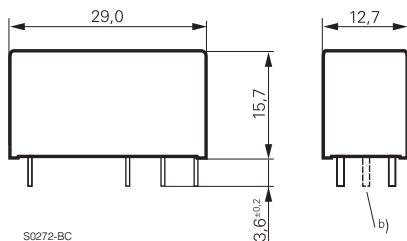
16 A, pinning 5 mm



S0418-CM

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

**Dimensions**

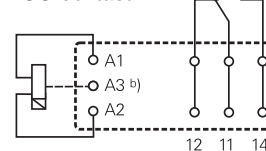


S0272-BC

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

b) for 2 coil version only

1 CO contact



a)

S0163-CI

**Power PCB Relay RT1 bistable** (Continued)

**Product key**

Type	<b>R</b>	<b>T</b>	<b>3</b>	<b>1</b>	<b>4</b>			
Version								
<b>3</b> 16 A, pinning 5 mm, flux proof								
Contact configuration								
<b>1</b> 1 CO contact								
Contact material								
<b>4</b> 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