Power PCB Relay RT1 bistable

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

F0176-C

Typical applications
Battery powered equipment or applications with “memory function”

Approvals

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

Contact Data

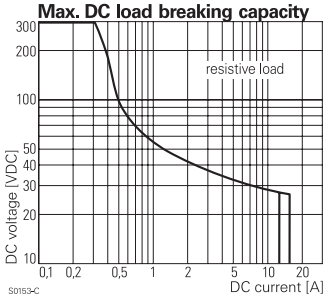
Contact arrangement	1 form C (CO) or 1 form A (NO)
Rated voltage	250VAC
Max. switching voltage	400VAC
Rated current	16A
Limiting continuous current	16A, UL: 20A
Limiting making current, max. 4s, duty factor 10%	30A
Breaking capacity max.	4000VA
Contact material	AgNi 90/10
Frequency of operation, with/without load	360/72000h^{-1}
Operate/Reset time max.	10/10ms
Bounce time max., form A/form B	3/6ms

Contact ratings

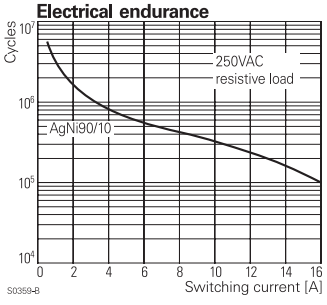
Type	Contact	Load	Cycles
IEC 61810			
RT314	A (NO)	16A, 250VAC resistive, 85°C	30x10^3
RT314	C (CO)	16A, 250VAC resistive, 85°C	10x10^3
UL 508			
RT314	A/B (NO/NC)	20A, 250VAC, general purpose, 85°C	6x10^3
RT334	A (NO)	16A, 250VAC, general purpose, 85°C	50x10^3
RT314	A (NO)	1hp, 240VAC, 40°C	1x10^3

Mechanical endurance >5x10^6 operations

Max. DC load breaking capacity



Electrical endurance



Coil Data, bistable coils

	1 coil	2 coils
Magnetic system	polarized, bistable	
Coil voltage range	3 to 24VDC	
Operative range, IEC 61810	2	
Limiting voltage, % of rated coil voltage	120%	150%
Min./Max. energization duration	30ms/1min at <10% duty factor	
Coil insulation system according UL1446	class F	

Coil versions, bistable coil

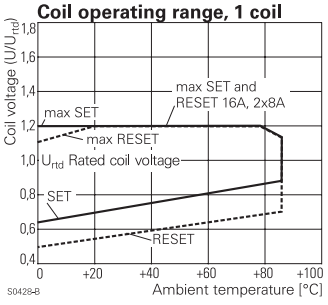
Coil code	Rated voltage VDC	Set voltage VDC	Reset voltage VDC	Coil resistance Ω±10%	Rated coil power mW
bistable 1 coil					
A03	3	2.1	1.7	21	429
A05	5	3.5	2.8	62	403
A06	6	4.2	3.3	90	400
A12	12	8.4	6.6	360	400
A24	24	16.8	13.2	1440	400
bistable 2 coils					
F03	3	2.1	1.7	15	600
F05	5	3.5	2.8	42	595
F06	6	4.2	3.3	55	655
F12	12	8.4	6.6	240	600
F24	24	16.8	13.2	886	650

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

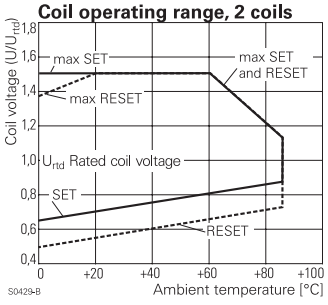
Bistable coils - operation

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

Coil operating range, 1 coil



Coil operating range, 2 coils



06-2013, Rev. 0613
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Power PCB Relay RT1 bistable (Continued)

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	PTI 250V

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	
Ambient temperature	-40 to 85°C
Category of environmental protection	
IEC 61810	RTII - flux proof, RTIII - wash tight
Vibration/shock resistance (functional),	
opening B contact	3/5g
opening closed A contact	6/15g
Shock resistance (destructive)	100g

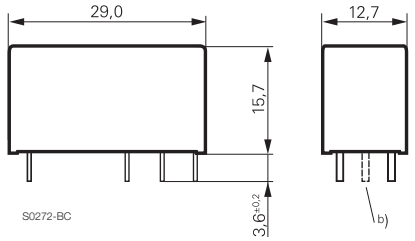
Other Data (continued)	
Terminal type	PCB-THT, plug-in[1)]
Weight	14g
Resistance to soldering heat	THT, IEC 60068-2-20
RTII - flux proof	270°C/10s
RTIII - wash tight	260°C/5s
Packaging/unit	tube/20 pcs., box/500 pcs.

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

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

NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

Dimensions



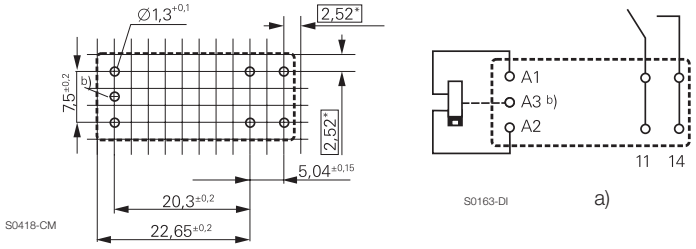
a) Indicated contact position during or after coil energization with reset voltage.

b) for 2 coil version only

PCB layout / terminal assignment

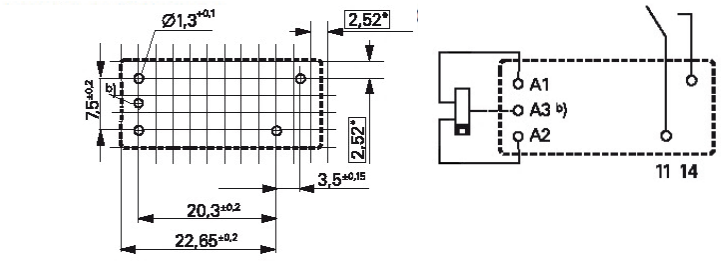
Bottom view on solder pins

16A, pinning 5mm, 1 form A (NO) contact

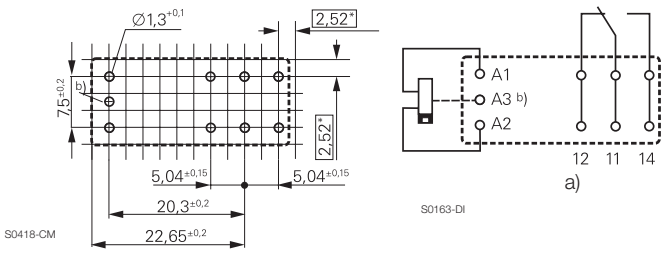


*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.

12A, pinning 3,5mm, 1 form A (NO) contact



16A, pinning 5mm, 1 form C (CO) contact



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

Power PCB Relay RT1 bistable (Continued)

Product code structure Typical product code: **RT 3 1 4 F24**

Type
RT Power PCB Relay RT1 bistable

Version
1 12A, pinning 3,5mm, flux proof
3 16A, pinning 5mm, flux proof
D 16A, pinning 5mm, wash tight

Contact configuration
1 1 form C (CO) contact
3 1 form A (NO) contact

Contact material
4 AgNi 90/10

Coil
Coil code: please refer to coil versions table

Product code	Version	Contacts	Contact material	Coil version	Coil	Part number
RT314A03	16A;	1 form C (CO)	AgNi 90/10	Bistable 1coil	3VDC	7-1393239-7
RT314A05	pinning 5mm,	contact			5VDC	7-1393239-8
RT314A06	flux proof				6VDC	7-1393239-9
RT314A12					12VDC	8-1393239-0
RT314F03				Bistable 2 coils	3VDC	8-1393239-4
RT314F05					5VDC	8-1393239-5
RT314F06					6VDC	8-1393239-6
RT314F12					12VDC	8-1393239-7
RT314F24					24VDC	8-1393239-8
RT134F12	12A, pinning 3,5mm, flux proof	1 form A (NO) contact	AgNi 90/10	Bistable 2 coils	12VDC	4-1415382-1

Other types on request.
This list represents the most common types and does not show all variants covered by this datasheet.