

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
- WG version: product in accordance to IEC 60335-1

Typical applications
Battery powered equipment or applications with "memory function"



F0176-C



Approvals

VDE Cert. No. 40007571, UL E214025, cCSAus 1142018
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 continuous current	12A	16A, UL: 20A
Limiting making current, max. 4s, duty factor 10%	25A	30A
Breaking capacity max.	4000VA	
Contact material	AgNi 90/10	
	AgNi 90/10 gold plated	
Frequency of operation, with/without load	360/72000h ⁻¹	
Operate/Reset time max.	10/10ms	
Bounce time max., form A/form B	3/6ms	

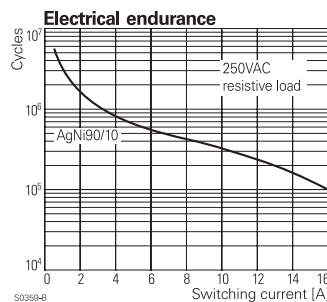
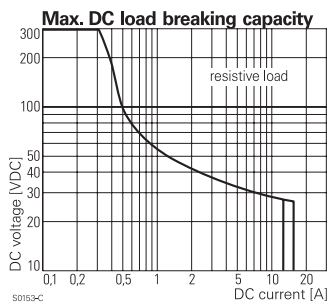
Contact ratings

Type	Contact	Load	Cycles
IEC 61810			
RT1*4	A (NO)	12A, 250VAC resistive, 85°C	30x10 ³
RT1*4	C (CO)	12A, 250VAC resistive, 85°C	10x10 ³
RT314	A (NO)	16A, 250VAC resistive, 85°C	30x10 ³
RT314	C (CO)	16A, 250VAC resistive, 85°C	10x10 ³

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RT1*4	A (NO)	12A, 250VAC, general purpose, 85°C	50x10 ³
RT**4	A (NO)	R300, 85°C	100x10 ³
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 >5x10⁶ operations



Coil Data, bistable coils

	1 coil	2 coils
Magnetic system	polarized, bistable	
Coil voltage range	3 to 36VDC	
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 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
F09	9	6.3	5.0	135	600
F12	12	8.4	6.6	240	600
F24	24	16.8	13.2	886	650
F36	36	25.2	19.8	1994	650

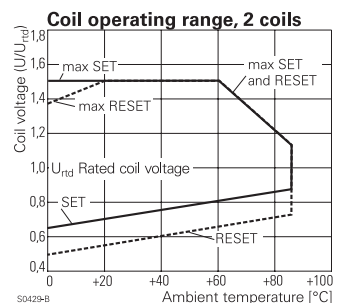
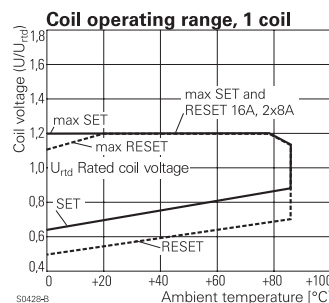
All figures are given for coil without pre-energization, at ambient temperature +23°C.

Other coil voltages on request.

Bistable coils - operation

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

Contact position not defined at delivery



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/customer-support/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.

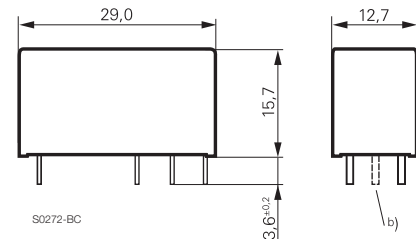
1) socket available for 1 coil version only, see Accessories.

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



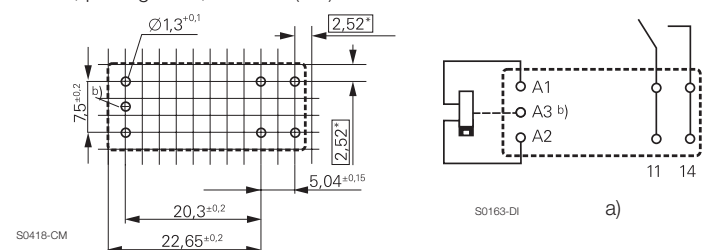
a) Indicated contact position during or after coil energization with reset voltage.

b) for 2 coil version only

PCB layout / terminal assignment

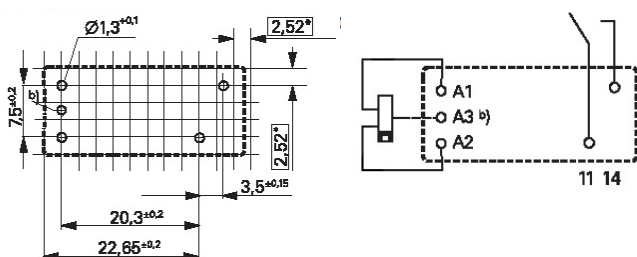
Bottom view on solder pins

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

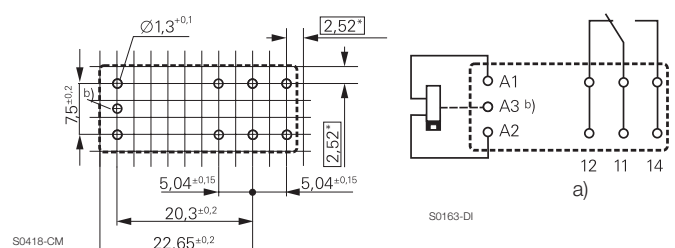


*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.

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	5 AgNi 90/10 gold plated	
Coil	Coil code: please refer to coil versions table		

Version

Blank	Standard version
WG	Product in accordance with IEC 60335-1 (domestic appliances)

Product code	Version	Contacts	Contact material	Coil version	Coil	Part number
RT315A03WG	16A,	1 form C (CO) contact	AgNi 90/10 gold plated	Bistable 1 coil	3VDC	8-1415545-5
RT314A03	pinning 5mm,		AgNi 90/10		3VDC	7-1393239-7
RT314A05	flux proof				5VDC	7-1393239-8
RT314A06					6VDC	7-1393239-9
RT314A12					12VDC	8-1393239-0
RT314A24WG					24VDC	1415539-5
RT314F03				Bistable 2 coils	3VDC	8-1393239-4
RT314F05					5VDC	8-1393239-5
RT314F06					6VDC	8-1393239-6
RT314F09					9VDC	6-1415351-1
RT314F12					12VDC	8-1393239-7
RT314F24					24VDC	8-1393239-8
RT314F36					36VDC	8-1393239-9
RTD14F03	16A,				3VDC	5-1393238-7
RTD14F12	pinning 5mm,				12VDC	5-1393238-8
RTD15F05	wash tight		AgNi 90/10 gold plated		5VDC	1415538-8
RT134F12	12A,	1 form A (NO) contact	AgNi 90/10		12VDC	1415544-5
RT134F24	pinning 3,5mm,	1 form C (CO) contact			24VDC	4-1415382-1
RT114F12	flux proof				12VDC	6-1415543-8
RT114F24					24VDC	5-1415400-1

Other types on request.

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

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[RT314F05](#)