

**Power PCB Relay RT1**

- 1 pole 12A/16A, 1 form C (CO) or 1 form A (NO) contact
- 5kV/10mm coil-contact, reinforced insulation
- Ambient temperature 85°C



Typical applications  
Boiler control, timers, garage door control, POS automation, interface modules



**Approvals**

VDE Cert. No. 40007571, cULus E214025, cCSAus 1142018; CQC  
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.	3000VA	4000VA
Contact material	AgNi 90/10	
Frequency of operation, with/without load DC coil	360/72000h <sup>-1</sup>	
Operate/release time max., DC coil	8/6ms	
Bounce time max., DC coil, form A/form B	4/6ms	

**Contact ratings**

Type	Contact	Load	Cycles
<b>IEC 61810</b>			
RT314 DC-coil	A (NO)	16A, 250VAC, cosφ=1, 85°C	30x10 <sup>3</sup>
RT314 DC-coil	C (CO)	16A, 250VAC, cosφ=1, 85°C	10x10 <sup>3</sup>
RT314 DC-coil	A (NO)	10A, 400VAC, cosφ=1, 85°C	150x10 <sup>3</sup>
RT114 DC-coil	A (NO)	12A, 250VAC, cosφ=1, 85°C	50x10 <sup>3</sup>
RT114 AC-coil	A (NO)	12A, 250VAC, cosφ=1, 70°C	100x10 <sup>3</sup>
<b>UL 61810-1 (former UL 508)</b>			
RT314	A/B (NO/NC)	20A, 250VAC, general purpose, 85°C	6x10 <sup>3</sup>
RT334	A (NO)	16A, 250VAC, gen. purpose, 85°C	50x10 <sup>3</sup>
RT314	A (NO)	1hp, 240VAC, 40°C	1x10 <sup>3</sup>
RT314	A (NO)	FLA/LRA, 4.5/13.1A, 480VAC, 70°C	100x10 <sup>3</sup>
RT314, RTD14	A (NO)	1/2 HP@120VAC, 40°C	1x10 <sup>3</sup>
RT314, RTD14	A (NO)	60LRA/10 FLA@240VAC, 40°C	6x10 <sup>3</sup>
RT314, RTD14	A (NO)	A300 Pilot Duty, 40°C	6x10 <sup>3</sup>
RT314, RTD14	B (CO)	B300 Pilot Duty, 40°C	6x10 <sup>3</sup>

**Contact Data (continued)**

<b>EN60947-5-1</b>			
RT314 DC-coil	A/B (NO/NC)	2A, 24VDC, DC13	6.050
<b>EN60730-1</b>			
RT314 DC-coil	A (NO)	12(2)A, 250VAC, 85°C	100x10 <sup>3</sup>
Mechanical endurance			
DC coil		>30x10 <sup>6</sup> operations	

1) For reflow solderable versions: actual contact performance may be influenced by the reflow soldering process.

**Coil Data**

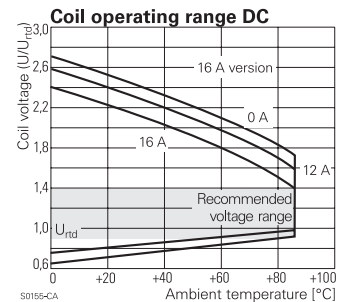
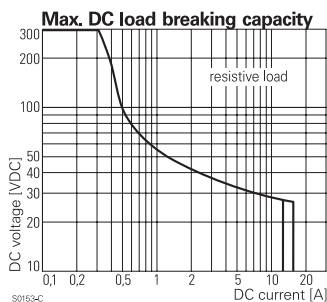
Coil voltage range, DC coil	5 to 110VDC
Operative range, IEC 61810	2
Coil insulation system according UL	class F

**Coil versions, DC coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10% <sup>2)</sup>	Rated coil power mW
005	5	3.5	0.5	62	403
006	6	4.2	0.6	90	400
009	9	6.3	0.9	200	400
012	12	8.4	1.2	360	400
018	18	12.6	1.8	770	420
024	24	16.8	2.4	1440	400
048	48	33.6	4.8	5520	417
110	110	77.0	11.0	28800 <sup>2)</sup>	420

2) Coil resistance ±12%.

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



**Power PCB Relay RT1** (Continued)

**Insulation Data**

Initial dielectric strength	
between open contacts	1000V <sub>rms</sub>
between contact and coil	5000V <sub>rms</sub>
Clearance/creepage	
between contact and coil	≥10/10mm
Material group of insulation parts	IIIa
Tracking index of relay base	PTI 250V

**Other Data** (continued)

Terminal type	
standard version	PCB-THT, plug-in
Weight	14g
Resistance to soldering heat	THT, IEC 60068-2-20
RTII	270°C/10s
RTIII	260°C/5s
Packaging/unit	tube/20 pcs., box/500 pcs.

**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](http://www.te.com/customersupport/rohssupportcenter)

Ambient temperature	
DC coil	-40 to 85°C
Category of environmental protection, IEC 61810	
standard version	RTII - flux proof, RTIII - wash tight
Vibration resistance (functional)	
form A/form B contact, 30 to 500Hz	20g/5g
Shock resistance (destructive)	100g

**Accessories**

For details see datasheet [Accessories Industrial Power Relay RT1](#)

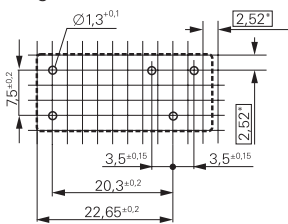
NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

**PCB layout / terminal assignment**

Bottom view on solder pins

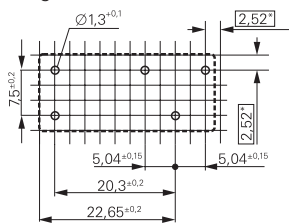
\*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.

12A, pinning 3.5mm



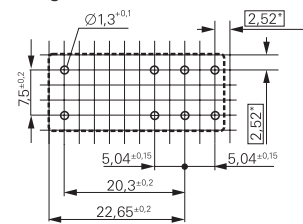
S0418-CB

12A, pinning 5mm



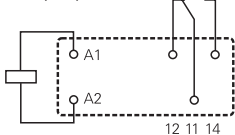
S0418-CN

16A, pinning 5mm



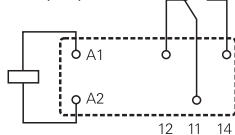
S0418-CA

1 form C (CO) contact



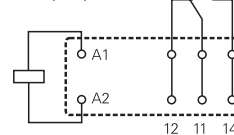
S0163-BG

1 form C (CO) contact



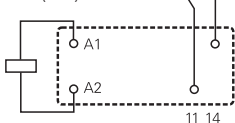
S0163-BC

1 form C (CO) contact



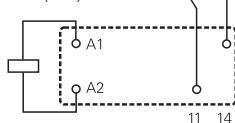
S0163-BE

1 form A (NO) contact



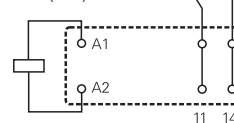
S0163-BH

1 form A (NO) contact



S0163-BD

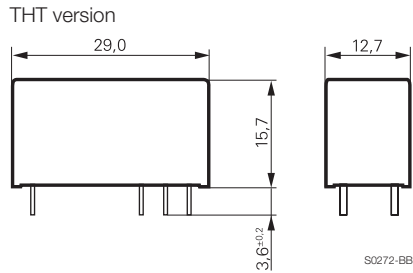
1 form A (NO) contact



S0163-BF

**Power PCB Relay RT1** (Continued)

**Dimensions**



**Product code structure**

Typical product code **RT 3 1 4 024**

**Type**

**RT** Power PCB Relay RT1

**Version**

- 1** 12A, pinning 3.5mm, flux proof
- 2** 12A, pinning 5mm, flux proof \*)
- 3** 16A, pinning 5mm, flux proof
- B** 12A, pinning 3.5mm, wash tight
- D** 16A, pinning 5mm, wash tight

**Contact arrangement**

- 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

**Version**

- F** Standard version

\*) Wash tight version on request

Product code	Version	Contacts	Contact material	Coil	Part number
RT114012F	12A, pinning 3.5mm, flux proof	1 form C (CO) contact	AgNi 90/10	12VDC	1419108-2
RT114024F		1 form A (NO) contact		24VDC	1419108-3
RT134012F	16A, pinning 5mm, flux proof	1 form C (CO) contact		12VDC	5-1415020-1
RT134024F		1 form A (NO) contact		24VDC	2-1393242-1
RT314005F		1 form C (CO) contact		5VDC	1419108-8
RT314012F		1 form A (NO) contact		12VDC	2-1393237-2
RT314024F		1 form A (NO) contact		24VDC	2-1393237-3
RT334012F		1 form C (CO) contact		12VDC	2-1393237-5
RT334024F		1 form A (NO) contact		24VDC	2-1393237-7
RTB14005F		12A, pinning 3.5mm, wash tight		1 form C (CO) contact	
RTB14012F	1 form A (NO) contact		12VDC	2-1419108-5	
RTB14024F	16A, pinning 5mm, wash tight	1 form C (CO) contact		24VDC	2-1419108-6
RTB34012F		1 form A (NO) contact		12VDC	2-1419108-7
RTD14005F		1 form C (CO) contact		5VDC	2-1419108-8
RTD14012F		1 form A (NO) contact		12VDC	2-1419108-9
RTD14024F	16A, pinning 5mm, wash tight	1 form C (CO) contact		24VDC	3-1419108-1
RTD34012F		1 form A (NO) contact		12VDC	3-1419108-6
RTD34024F		1 form A (NO) contact		24VDC	3-1419108-9

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