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 in preparation
Technical data of approved types on request

Contact Data

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^{-1}	
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
IEC 61810			
RT314 DC-coil	A (NO)	16A, 250VAC, cosφ=1, 85°C	30x10³
RT314 DC-coil	C (CO)	16A, 250VAC, cosφ=1, 85°C	10x10³
RT314 DC-coil	A (NO)	10A, 400VAC, cosφ=1, 85°C	150x10³
RT114 DC-coil	A (NO)	12A, 250VAC, cosφ=1, 85°C	50x10³
RT114 AC-coil	A (NO)	12A, 250VAC, cosφ=1, 70°C	100x10³
UL 508			
RT314	A/B (NO/NC)	20A, 250VAC, general purpose, 85°C	6x10³
RT334	A (NO)	16A, 250VAC, gen. purpose, 85°C	50x10³
RT314	A (NO)	1hp, 240VAC, 40°C	1x10³
RT314	A (NO)	FLA/LRA, 4.5/13.1A, 480VAC, 70°C	100x10³
RT314, RTD14	A (NO)	1/2 HP@120VAC, 40°C	1x10³
RT314, RTD14	A (NO)	60LRA/10 FLA@240VAC, 40°C	6x10³
RT314, RTD14	A (NO)	A300 Pilot Duty, 40°C	6x10³
RT314, RTD14	B (CO)	B300 Pilot Duty, 40°C	6x10³

Contact Data (continued)

EN60947-5-1			
RT314 DC-coil	A/B (NO/NC)	2A, 24VDC, DC13	6.050
EN60730-1			
RT314 DC-coil	A (NO)	12(2)A, 250VAC, 85°C	100x10³
Mechanical endurance			
DC coil		>30x10⁶ 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%²⁾	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	28800²⁾	420

2) Coil resistance ±12%.
All figures are given for coil without pre-energization, at ambient temperature +23°C.
Other coil voltages on request.

Max. DC load breaking capacity

Coil operating range DC
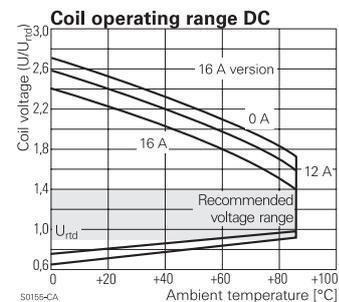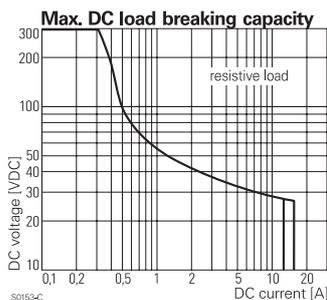
Power PCB Relay RT1 (Continued)

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	
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

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.

Accessories

|	
For 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.

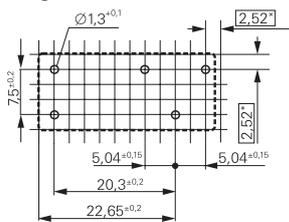### PCB layout / terminal assignment

Bottom view on solder pins

*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.
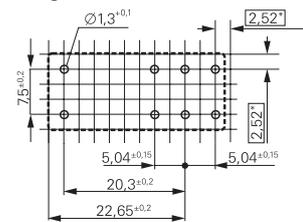
12A, pinning 3.5mm

S0418-CB

1 form C (CO) contact
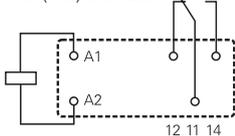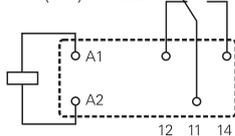

12 11 14

S0163-BG

1 form A (NO) contact

11 14
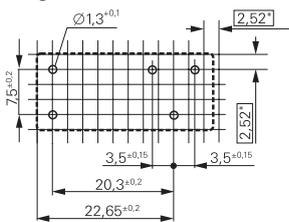
S0163-BH

12A, pinning 5mm

S0418-CN

1 form C (CO) contact

12 11 14

S0163-BC

1 form A (NO) contact

11 14

S0163-BD

16A, pinning 5mm

S0418-CA

1 form C (CO) contact

12 11 14
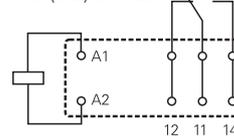
S0163-BE

1 form A (NO) contact

11 14
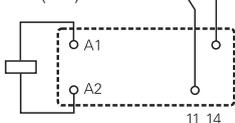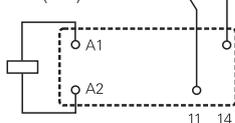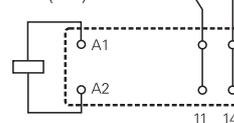
S0163-BF

Power PCB Relay RT1 (Continued)

Dimensions

THT version

S0272-BB

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,	1 form C (CO)	AgNi 90/10	12VDC	1419108-2
RT114024F	flux proof	contact		24VDC	1419108-3
RT134012F		1 form A (NO)		12VDC	5-1415020-1
RT134024F		contact		24VDC	2-1393242-1
RT314005F	16A, pinning 5mm,	1 form C (CO)		5VDC	1419108-8
RT314012F	flux proof	contact		12VDC	2-1393237-2
RT314024F				24VDC	2-1393237-3
RT334012F		1 form A (NO)		12VDC	2-1393237-5
RT334024F		contact		24VDC	2-1393237-7
RTB14005F	12A, pinning 5mm,	1 form C (CO)		5VDC	2-1419108-4
RTB14012F	wash tight	contact		12VDC	2-1419108-5
RTB14024F				24VDC	2-1419108-6
RTB34012F		1 form A (NO)		12VDC	2-1419108-7
RTD14005F	16A, pinning 5mm,	1 form C (CO)		5VDC	2-1419108-8
RTD14012F	wash tight	contact		12VDC	2-1419108-9
RTD14024F				24VDC	3-1419108-1
RTD34012F		1 form A (NO)		12VDC	3-1419108-6
RTD34024F		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

Datasheets and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.

Datasheets and product data is subject to the terms of the disclaimer and all chapters of the 'Definitions' section, available at http://relays.te.com/definitions

Datasheets, product data, 'Definitions' section, application notes and all specifications are subject to change.