

## Power PCB Relay RT1

- 1 pole 12A/16A, 1 form C (CO) or 1 form A (NO) contact
- DC or AC coil
- 5kV/10mm coil-contact, reinforced insulation
- Ambient temperature 85°C (DC coil)
- WG version: product in accordance to IEC 60335-1
- Reflow version: for THR (Through-Hole Reflow) soldering process



F0144-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	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, AgNi 90/10 gold plated	
Frequency of operation, with/without load		
DC coil	360/72000h <sup>1</sup>	
AC coil	360/36000h <sup>1</sup>	
Operate/release time max., DC coil	8/6ms	
Bounce time max., DC coil, form A/form B	4/6ms	
Electrical endurance	see electrical endurance graph <sup>1)</sup>	
Contact ratings		
Type	Contact	Load
IEC 61810		Cycles
RT314 DC-coil	A (NO)	16A, 250VAC, cosφ=1, 85°C
RT314 DC-coil	C (CO)	16A, 250VAC, cosφ=1, 85°C
RT314 DC-coil	A (NO)	10A, 400VAC, cosφ=1, 85°C
RT114 DC-coil	A (NO)	12A, 250VAC, cosφ=1, 85°C
RT114 AC-coil	A (NO)	12A, 250VAC, cosφ=1, 70°C

## UL 508

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>

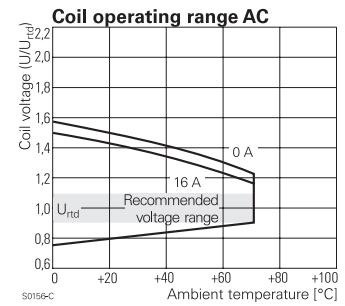
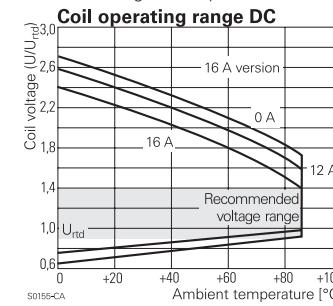
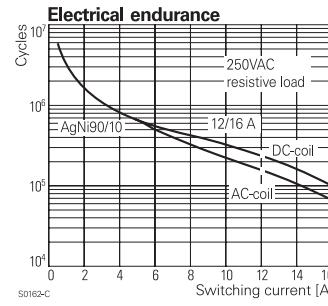
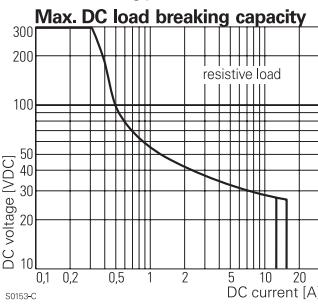
## EN60947-5-1

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	100x10 <sup>3</sup>
---------------	--------	----------------------	---------------------

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



**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	$\geq 10/10\text{mm}$
Material group of insulation parts	IIIa
Tracking index of relay base reflow version	PTI 250V PTI 175V

**Other Data**

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at <a href="http://www.te.com/customersupport/rohssupportcenter">www.te.com/customersupport/rohssupportcenter</a>	
Resistance to heat and fire WG version or Reflow version	according EN60335, par30
Ambient temperature	
DC coil	-40 to 85°C
AC coil	-40 to 70°C
Category of environmental protection, IEC 61810	
standard version	RTII - flux proof, RTIII - wash tight
reflow version	RTII - flux proof
Vibration resistance (functional)	
form A/form B contact, 30 to 500Hz	20g/5g
Shock resistance (destructive)	100g

**Other Data (continued)**

Terminal type	PCB-THT, plug-in
standard version	PCB-THR
reflow version	
Mounting distance	AC coil: $\geq 2.5\text{mm}$
Weight	14g
Resistance to soldering heat THT, IEC 60068-2-20	
RTII	270°C/10s
RTIII	260°C/5s
Resistance to soldering heat THR	forced gas convection <sup>4)</sup> or reflow soldering (for reflow version)
temperature profile	vapour phase <sup>5)</sup>
Packaging/unit	according EN61730
4) infrared heating not allowed	
5) recommended fluid LS/230	tube/20 pcs., box/500 pcs.

**Accessories**

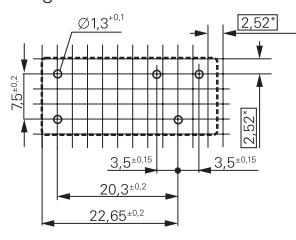
For details see datasheet	<a href="#">Accessories Industrial Power Relay RT</a>
NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.	

**PCB layout / terminal assignment**

Bottom view on solder pins

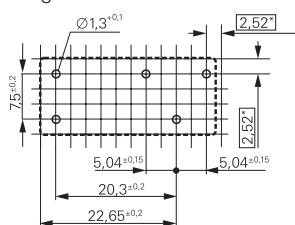
\*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.

12A, pinning 3.5mm



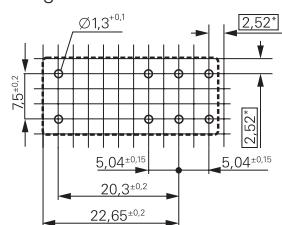
S0418-CB

12A, pinning 5mm



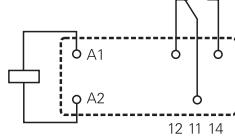
S0418-CN

16A, pinning 5mm



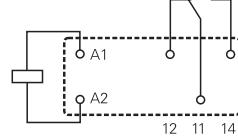
S0418-CA

1 form C (CO) contact



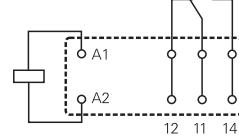
S0163-BG

1 form C (CO) contact



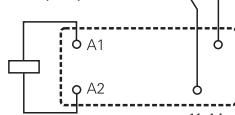
S0163-BC

1 form C (CO) contact



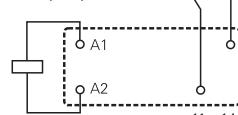
S0163-BE

1 form A (NO) contact



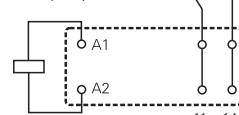
S0163-BH

1 form A (NO) contact



S0163-BD

1 form A (NO) contact

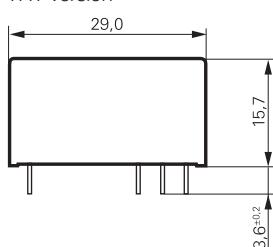


S0163-BF

## Power PCB Relay RT1 (Continued)

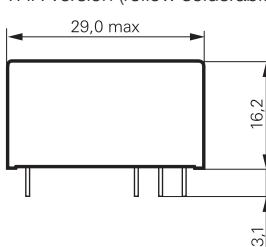
**Dimensions**

THT version

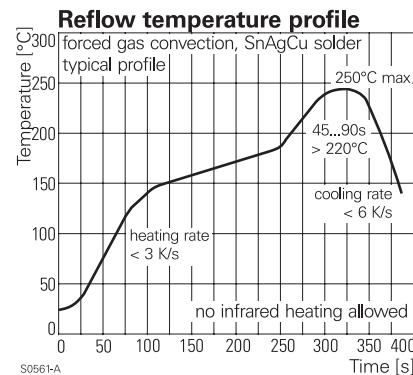
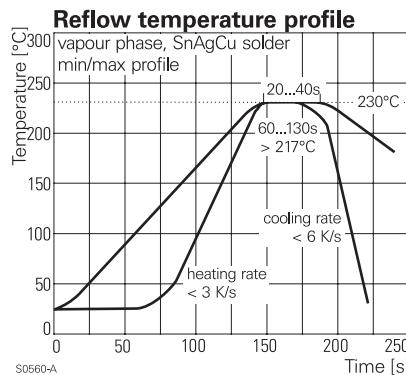


S0272-BB

THR version (reflow solderable)



S0272-BRB

**Process conditions for Reflow soldering**  
 according to EN61760-1

**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
- 5** AgNi 90/10 gold plated (for type RT31.)

**Coil**

Coil code: please refer to coil versions table

**Version**

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

\*) Wash tight version on request

## Power PCB Relay RT1 (Continued)

Product code	Version	Contacts	Contact material	Coil	Version	Part number
RT114009	12A, pinning 3.5mm, flux proof	1 form C (CO) contact	AgNi 90/10	9VDC	Standard	1393239-9
RT114012				12VDC		1419108-1
RT114012WG					IEC60335-1 compliant	7-1415538-6
RT114024				24VDC	Standard	1-1393239-3
RT114024WG					IEC60335-1 compliant	1415539-4
RT114730				230VAC	Standard	1-1393239-9
RT115024			AgNi 90/10 gold pl.	24VDC		2-1393239-1
RT134012		1 form A (NO) contact	AgNi 90/10	12VDC		2-1393239-6
RT134024				24VDC		3-1393239-0
RT214012	12A, pinning 5mm, flux proof	1 form C (CO) contact		12VDC		5-1393239-4
RT214024				24VDC		5-1393239-5
RT214524				24VAC		5-1393239-9
RT214730				230VAC		1419108-6
RT314005	16A, pinning 5mm, flux proof			5VDC		9-1393239-1
RT314006				6VDC		9-1393239-3
RT314012				12VDC		9-1393239-5
RT314012WG					IEC60335-1 compliant	8-1415535-6
RT314024				24VDC	Standard	9-1393239-8
RT314024WG					IEC60335-1 compliant	1415538-7
RT314048				48VDC	Standard	1393240-1
RT314730				230VAC		1393240-7
RT315024			AgNi 90/10 gold pl.	24VDC		1-1393240-4
RT334009WG		1 form A (NO) contact	AgNi 90/10	9VDC	IEC60335-1 compliant	3-1415538-1
RT334012				12VDC	Standard	4-1393240-5
RT334012WG					IEC60335-1 compliant	1-1415527-1
RT334024				24VDC	Standard	4-1393240-8
RT334048				48VDC		5-1393240-0
RTB14005	12A, pinning 3.5mm, wash tight	1 form C (CO) contact		5VDC		1-1393238-2
RTB14012				12VDC		1-1393238-5
RTB14024				24VDC		1-1393238-9
RTB14524				24VAC		2-1393238-4
RTD14005	16A, pinning 5mm, wash tight			5VDC		5-1393238-9
RTD14012				12VDC		6-1393238-2
RTD14024				24VDC		6-1393238-8
RTD14048				48VAC		6-1393238-9
RTD34012		1 form A (NO) contact		12VDC		3-1419108-5
RTD34024				24VDC		3-1419108-8

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

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[TE Connectivity:](#)

[RTB34024](#)