

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 ⁻¹	
AC coil	360/36000h ⁻¹	
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 ¹⁾	

Contact ratings

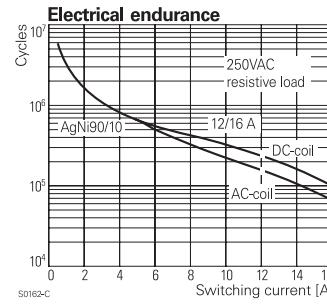
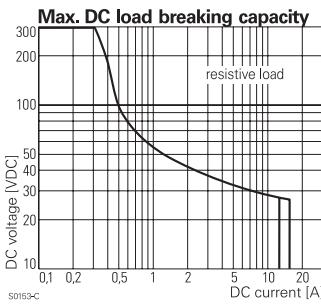
Type	Contact	Load	Cycles
IEC 61810			
RT314 DC-coil	A (NO)	16A, 250VAC, cosφ=1, 85°C	30x10 ³
RT314 DC-coil	C (CO)	16A, 250VAC, cosφ=1, 85°C	10x10 ³
RT314 DC-coil	A (NO)	10A, 400VAC, cosφ=1, 85°C	150x10 ³
RT114 DC-coil	A (NO)	12A, 250VAC, cosφ=1, 85°C	50x10 ³
RT114 AC-coil	A (NO)	12A, 250VAC, cosφ=1, 70°C	100x10 ³

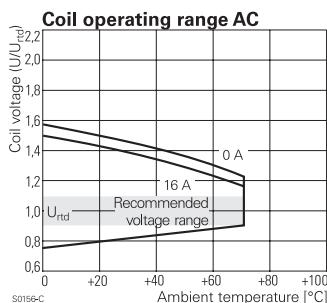
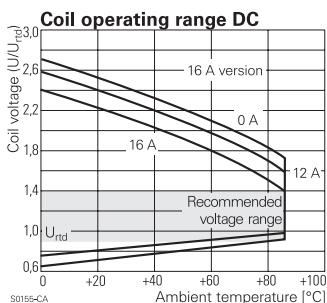
UL 508

RT314	A/B (NO/NC)	20A, 250VAC, general purpose, 85°C	6x10 ³
RT334	A (NO)	16A, 250VAC, gen. purpose, 85°C	50x10 ³
RT314	A (NO)	1hp, 240VAC, 40°C	1x10 ³
RT314	A (NO)	FLA/LRA, 4.5/13.1A, 480VAC, 70°C	100x10 ³

EN60947-4-1

RT314 DC-coil	A (NO)	250V/6A, AC-3	6.050
RT314 AC-coil	A (NO)	250V/2A, AC-3	6.050



Power PCB Relay RT1 (Continued)

Other Data (continued)

Terminal type
standard version
reflow version
Mounting distance
Weight

PCB-THT, plug-in
PCB-THR
AC coil: ≥2.5mm
14g

Resistance to soldering heat THT, IEC 60068-2-20
RTII 270°C/10s
RTIII 260°C/5s

Resistance to soldering heat THR
reflow soldering (for reflow version)
temperature profile
Packaging/unit

forced gas convection⁴⁾ or
vapour phase⁵⁾
according EN61730

4) infrared heating not allowed
5) recommended fluid LS/230

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.

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 reflow version	PTI 250V PTI 175V

Other Data

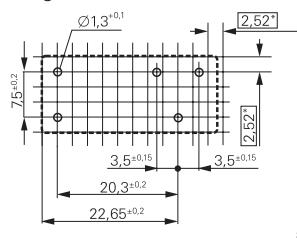
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content
refer to the Product Compliance Support Center at
www.te.com/customersupport/rohssupportcenter

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

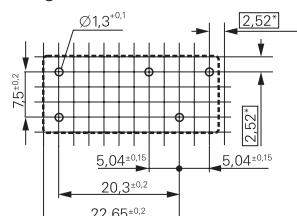
PCB layout / terminal assignment

Bottom view on solder pins

12A, pinning 3.5mm

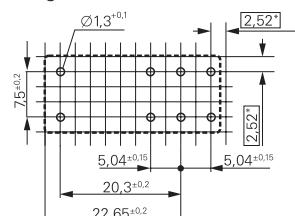


12A, pinning 5mm

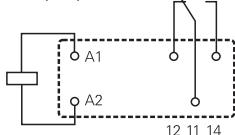


*) With the recommended PCB hole sizes a grid pattern from 2.5mm to 2.54mm can be used.

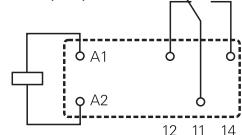
16A, pinning 5mm



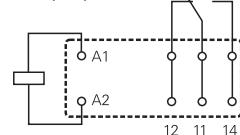
1 form C (CO) contact



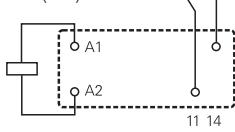
1 form C (CO) contact



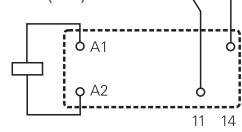
1 form C (CO) contact



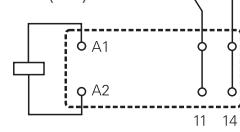
1 form A (NO) contact



1 form A (NO) contact



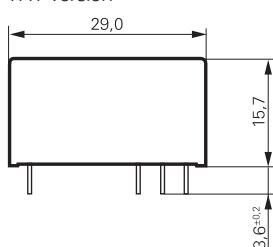
1 form A (NO) contact



Power PCB Relay RT1 (Continued)

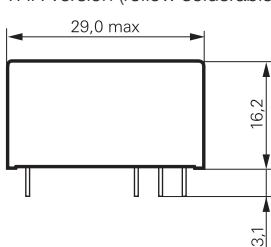
Dimensions

THT version

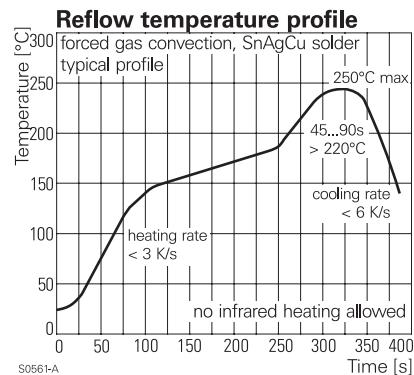
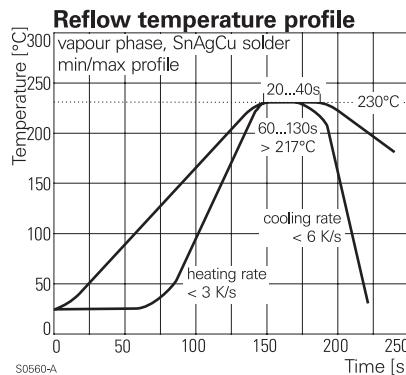


S0272-BB

THR version (reflow solderable)



S0272-BRB

Process conditions for Reflow soldering
 according to EN61760-1

Product code structure

Type	RT	Power PCB Relay RT1	Typical product code	RT	3	1	4	024
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		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	IEC60335-1 compliant	9-1393239-5
RT314012WG					Standard	8-1415535-6
RT314018				18VDC		9-1393239-7
RT314024				24VDC		9-1393239-8
RT314024WG					IEC60335-1 compliant	1415538-7
RT314048				48VDC	Standard	1393240-1
RT314524				24VAC		1393240-4
RT314548				48VAC		1393240-5
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				48VDC		6-1393238-9

Mouser Electronics

Authorized Distributor

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