

Power PCB Relay RT1-AP

- 1 pole 12A/16A, 1 form C (CO) or 1 form A (NO) contact
- Sensitive coil 400mW
- 5kV/10mm coil-contact, reinforced insulation
- Ambient temperature 85°C
- WG version: product in accordance to IEC 60335-1

Typical applications

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



F0144-C



Approvals

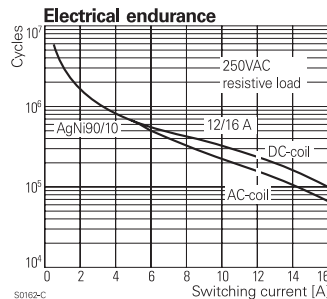
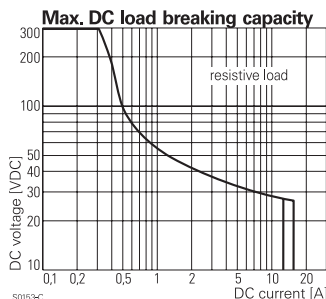
VDE REG.-Nr. 6106, UL E214025, cCSAus 14385
Technical data of approved types on request

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	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	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
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 ³

Mechanical endurance >30x10⁶ operations



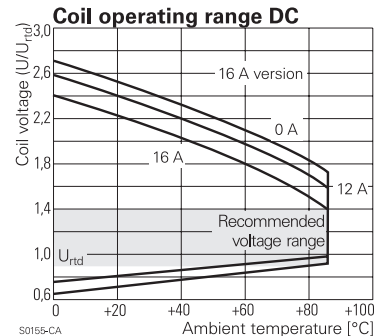
Coil Data

Coil voltage range	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%	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
024	24	16.8	2.4	1440	400
048	48	33.6	4.8	5520	417

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



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

Power PCB Relay RT1-AP (Continued)

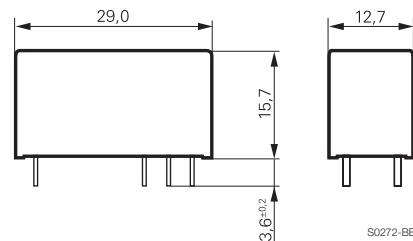
Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter	
China RoHS compliance	no hazardous material over threshold
Resistance to heat and fire	
WG version	according EN60335, par30
Ambient temperature	-40 to 85°C
Category of environmental protection	
IEC 61810	RTII - flux proof, RTIII - wash tight
Vibration resistance (functional), form A/form B contact, 30 to 500Hz	20g/5g
Shock resistance (destructive)	100g
Terminal type	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.

Dimensions

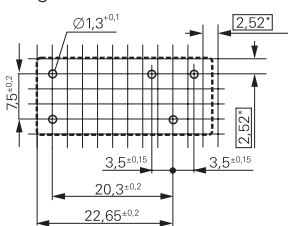


PCB layout / terminal assignment

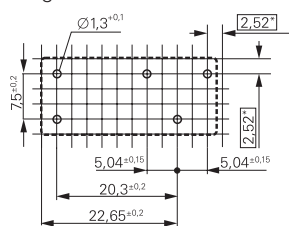
Bottom view on solder pins

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

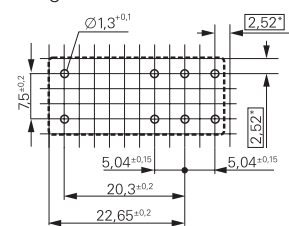
12A, pinning 3.5mm



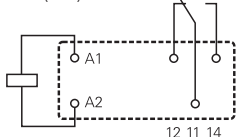
12A, pinning 5mm



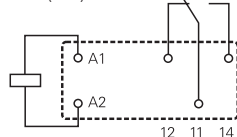
16A, pinning 5mm



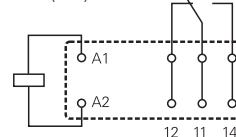
1 form C (CO) contact



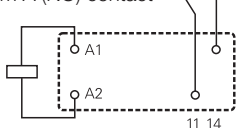
1 form C (CO) contact



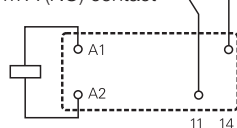
1 form C (CO) contact



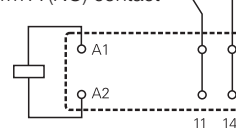
1 form A (NO) contact



1 form A (NO) contact



1 form A (NO) contact



Power PCB Relay RT1-AP (Continued)

Product code structure		Typical product code	RT	3	1	4	024	AP
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								
AP	Standard version							
WGAP	Product in accordance with IEC 60335-1 (domestic appliances)							

*) Wash tight version on request

Product code	Version	Contacts	Contact material	Coil	Version	Part number
RT114024AP	12A, pinning 3.5mm, flux proof	1 form C (CO)	AgNi 90/10	24VDC	standard	1-1649326-5
RT134024AP	12A, pinning 5mm, flux proof	1 form A (NO)				3-1649326-3
RT214024AP	12A, pinning 5mm, flux proof	1 form C (CO)				1-1649327-5
RT234024AP	16A, pinning 5mm, flux proof	1 form A (NO)				3-1649327-3
RT314012AP	16A, pinning 5mm, flux proof	1 form C (CO)		12VDC		1-1649328-3
RT314012WGAP		contact			IEC60335-1 compliant	5-1833002-0
RT314024AP				24VDC	standard	1-1649328-5
RT314048AP				48VDC		1-1649328-6
RT334012AP		1 form A (NO)		12VDC		3-1649328-1
RT334024AP		contact		24VDC		3-1649328-3
RTD14012AP	16A, pinning 5mm, wash tight	1 form C (CO)		12VDC		1649328-4
RTD14024AP		contact		24VDC		1649328-6
RTD34012AP				12VDC		2-1649328-2
RTH34012AP	16A, 105°C, 5mm, wash tight	1 form A (NO)				1-1649357-3
RTH34012WGAP		contact			IEC60335-1 compliant	5-1833004-0

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