

Power PCB Relay RT1

1 pole 12 / 16 A, DC- or AC-coil



F0144-B

Features

- 1 C/O or 1 N/O contact
- Sensitive coil 400 mW
- 5 kV / 10 mm coil-contact, Protection class II
- Ambient temperature 85°C (DC-coil)
- Height 15.7 mm
- Sockets with PCB-type or screw-type terminals
- Gold plated contacts available

Applications

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



Technical data of approved types on request

Contact data

Configuration	1 C/O contact or 1 N/O contact	
Type of contact	single contact	
Rated current	12 A	16 A
Rated voltage / max. breaking voltage AC	250 Vac / 440 Vac	
Maximum breaking capacity AC	3000 VA	4000 VA
Make current (max. 4 s at duty cycle 10%)	25 A	30 A
Contact material	AgNi 90/10, AgNi 90/10 gold plated	

Contact ratings

Type	Load	Operations
RT314	1000 W, 250 Vac, incandescent lamps	1.2×10^3
RT314	16 A, 250 Vac, $\cos\phi=1$, N/C contact	53×10^3
RT314	10 A, 250 Vac, $\cos\phi=0.6$, C/O contact	2×10^5
RT314	5 A / 2 A, 250 Vac, $\cos\phi=1$, tumble-drier motor, N/O contact	1.1×10^6
RT314	0.26A _{peak} / 0.01 A, 230 Vac, $\cos\phi=0.38$, valve, N/O contact	7.6×10^6

Coil data

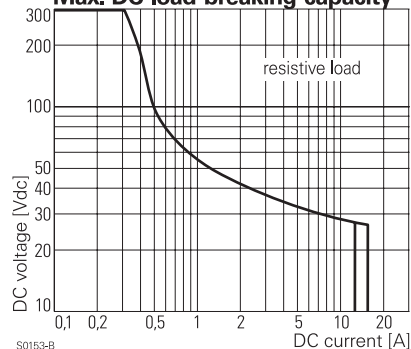
Nominal voltage	DC coil	5...110 Vdc
	AC coil	24...230 Vac
Nominal coil power	DC coil	400 mW
	AC coil	0.75 VA
Operate category	2 / b	

Coil versions, DC-coil

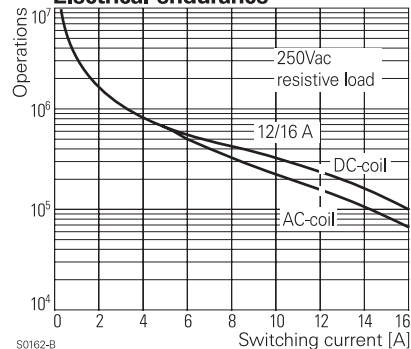
Coil code	Nominal voltage Vdc	Pull-in voltage Vdc	Release voltage Vdc	Maximum voltage Vdc	Coil resistance Ω	Coil current mA
005	5	3.5	0.5	12.7	$62 \pm 10\%$	80.0
006	6	4.2	0.6	15.3	$90 \pm 10\%$	66.7
012	12	8.4	1.2	30.6	$360 \pm 10\%$	33.3
024	24	16.8	2.4	61.2	$1440 \pm 10\%$	16.7
048	48	33.6	4.8	122.4	$5520 \pm 10\%$	8.7
060	60	42.0	6.0	153.0	$7340 \pm 12\%$	8.1
110	110	77.0	11.0	280.5	$26600 \pm 12\%$	4.1

All figures are given for coil without preenergization, at ambient temperature +20°C
Other coil voltages on request

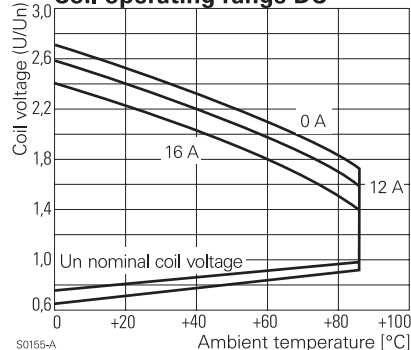
Max. DC load breaking capacity



Electrical endurance



Coil operating range DC



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Coil versions, AC-coil

Coil code	Nominal voltage Vac	Pull-in voltage Vac	Release voltage Vac	Maximum voltage Vac	Coil resistance Ω	Coil current mA
524	24	18.0	3.6	36.0	$350 \pm 10\%$	31.6
615	115	86.3	17.3	172.5	$8100 \pm 15\%$	6.6
730	230	172.5	34.5	345.0	$32500 \pm 15\%$	3.2

All figures are given for coil without preenergization, at ambient temperature +20°C

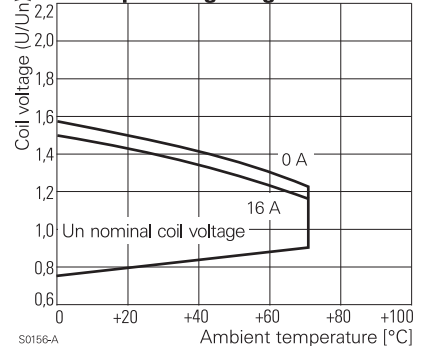
Insulation

Dielectric strength	coil-contacts	5000 V _{rms}
	open contact circuit	1000 V _{rms}
Clearance / creepage		10 / 10 mm
Insulation to IEC 60664		
Voltage rating		250 V
Pollution degree		3
Overvoltage category		III
Insulation to VDE 0110b (2/79)		
Insulation category / reference voltage		C / 250
Tracking resistance of relay base		CTI 250

Other data

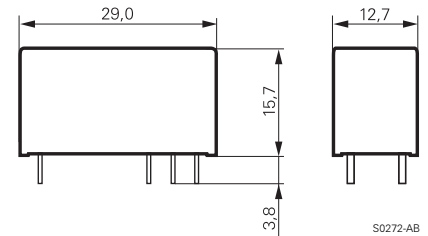
Flammability class according to UL 94	V-0
Coil insulation system according to UL 1446	Class F
Ambient temperature	DC-coil -40...+85 °C AC-coil -40...+70 °C
Mechanical life	DC-coil >30x10 ⁶ operations AC-coil >10x10 ⁶ operations
Max. switching rate at rated- / minimum load	6 min ⁻¹ / 1200 min ⁻¹
Operate- / release time DC-coil	typ. 7 / 3 ms
Bounce time N/O contact/N/C contact	typ. 1 / 3 ms
Vibration resistance N/O / N/C contact	20 / 5 g, 30...500 Hz
Shock resistance (destruction)	100 g
Category of protection (IEC 61810)	RT II, RT III
Relay weight	14 g
Packaging unit	20 / 500 pcs.
Accessories	see accessories RT

Coil operating range AC



Dimensions

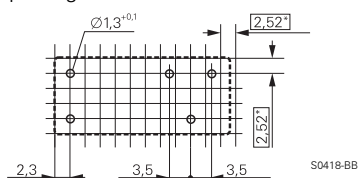
Dimensions in mm



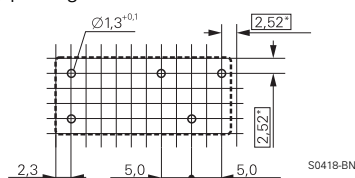
PCB layout / terminal assignment

View on solder pins
Dimensions in mm

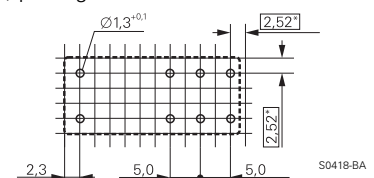
12 A, pinning 3.5 mm



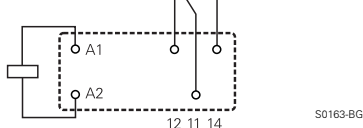
12 A, pinning 5 mm



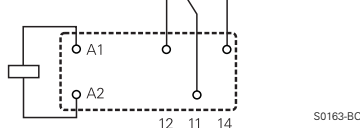
16 A, pinning 5 mm



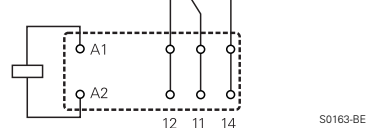
1 C/O contact



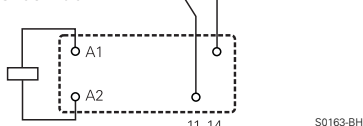
1 C/O contact



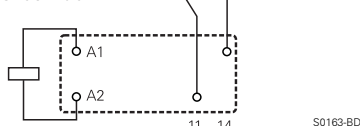
1 C/O contact



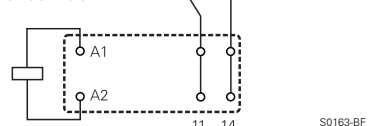
1 N/O contact



1 N/O contact



1 N/O contact



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

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Product key

Type	R	T																	
Version	<table border="0"> <tr> <td>1</td> <td>12 A, pinning 3.5 mm, flux proof</td> <td>B</td> <td>12 A, pinning 3.5 mm, wash tight</td> </tr> <tr> <td>2</td> <td>12 A, pinning 5 mm, flux proof *)</td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>16 A, pinning 5 mm, flux proof</td> <td>D</td> <td>16 A, pinning 5 mm, wash tight</td> </tr> </table>							1	12 A, pinning 3.5 mm, flux proof	B	12 A, pinning 3.5 mm, wash tight	2	12 A, pinning 5 mm, flux proof *)			3	16 A, pinning 5 mm, flux proof	D	16 A, pinning 5 mm, wash tight
1	12 A, pinning 3.5 mm, flux proof	B	12 A, pinning 3.5 mm, wash tight																
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Contacts	<table border="0"> <tr> <td>1</td> <td>1 C/O contact</td> <td>3</td> <td>1 N/O contact</td> </tr> </table>							1	1 C/O contact	3	1 N/O contact								
1	1 C/O contact	3	1 N/O contact																
Contact material	<table border="0"> <tr> <td>4</td> <td>AgNi 90/10</td> <td>5</td> <td>AgNi 90/10 gold plated (for type RT31.)</td> </tr> </table>							4	AgNi 90/10	5	AgNi 90/10 gold plated (for type RT31.)								
4	AgNi 90/10	5	AgNi 90/10 gold plated (for type RT31.)																
Coil	Coil code: please refer to coil versions table																		

Preferred types in bold print

*) Washable version on request

Product key	Version	Contacts	Cont. material	Coil	Coil	Part number
RT114005	12 A	1 C/O contact	AgNi 90/10	DC-coil	5 Vdc	0-1393239-7
RT114006	pinning 3.5 mm				6 Vdc	0-1393239-8
RT114012	flux proof				12 Vdc	0-1419108-1
RT114024					24 Vdc	1-1393239-3
RT114048					48 Vdc	1-1393239-4
RT114110					110 Vdc	1-1393239-6
RT114524				AC-coil	24 Vac	1-1393239-7
RT114615					115 Vac	1-1393239-8
RT114730					230 Vac	1-1393239-9
RT134012		1 N/O contact		DC-coil	12 Vdc	2-1393239-6
RT134024					24 Vdc	3-1393239-0
RT214012	12 A, pinning 5mm	1 C/O contact			12 Vdc	5-1393239-4
RT214024	flux proof				24 Vdc	5-1393239-5
RT314005	16 A				5 Vdc	9-1393239-1
RT314006	pinning 5 mm				6 Vdc	9-1393239-3
RT314012	flux proof				12 Vdc	9-1393239-5
RT314024					24 Vdc	9-1393239-8
RT314048					48 Vdc	0-1393240-1
RT314060					60 Vdc	0-1393240-2
RT314110					110 Vdc	0-1393240-3
RT314524				AC-coil	24 Vac	0-1393240-4
RT314615					115 Vac	0-1393240-6
RT314730					230 Vac	0-1393240-7
RT315012			AgNi 90/10	DC-coil	12 Vdc	1-1393240-1
RT315024			gold plated		24 Vdc	1-1393240-4
RT315730				AC-coil	230 Vac	1-1419108-1
RT334012		1 N/O contact	AgNi 90/10	DC-coil	12 Vdc	4-1393240-5
RT334024					24 Vdc	4-1393240-8
RT334048					48 Vdc	5-1393240-0
RTB14005	12 A	1 C/O contact			5 Vdc	1-1393238-2
RTB14012	pinning 3.5 mm				12 Vdc	1-1393238-5
RTB14024	wash tight				24 Vdc	1-1393238-9
RTB14048					48 Vdc	2-1393238-1
RTD14005	16 A				5 Vdc	5-1393238-9
RTD14006	pinning 5 mm				6 Vdc	6-1393238-0
RTD14012	wash tight				12 Vdc	6-1393238-2
RTD14015					15 Vdc	6-1393238-4
RTD14024					24 Vdc	6-1393238-8
RTD14048					48 Vdc	6-1393238-9
RTD34005		1 N/O contact			5 Vdc	8-1393238-3
RTD34012					12 Vdc	3-1419108-5
RTD34024					24 Vdc	3-1419108-8