

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	16 A, 250 Vac, $\cos\phi=1$, N/C contact	53×10^3
RT314	20 A, 250 Vac, 85°C, N/O contact, UL508	6×10^3
RT314	1000 W, 250 Vac, incandescent lamps	1.2×10^3
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
RT314	$\frac{3}{4}$ hp, 240 Vac; $\frac{1}{3}$ hp, 120 Vac	
RT314	Pilot duty B300	

Coil data

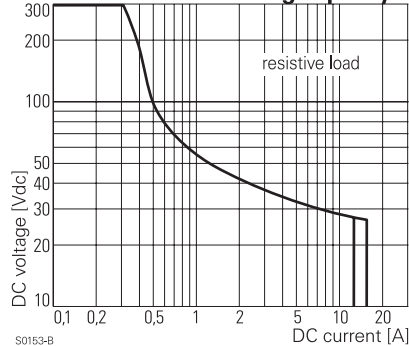
Nominal voltage	DC coil	5...110 Vdc
	AC coil	24...230 Vac
Nominal coil power	DC coil	400 mW
	AC coil	0.75 VA
Operate category	2 / b	

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

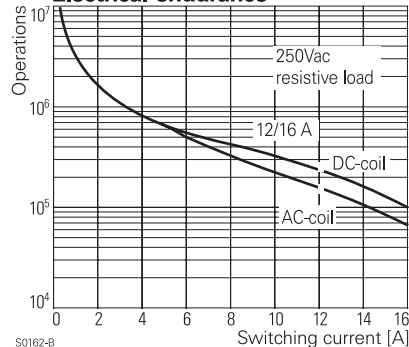
All figures are given for coil without preenergization, at ambient temperature +20°C
Other coil voltages on request

Max. DC load breaking capacity



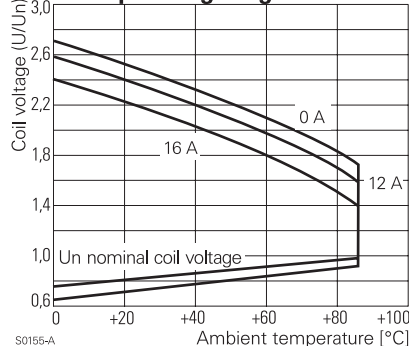
S0153-B

Electrical endurance



S0162-B

Coil operating range DC



S0155-A

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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 ± 10%	31.6
615	115	86.3	17.3	172.5	8100 ± 15%	6.6
730	230	172.5	34.5	345.0	32500 ± 15%	3.2

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

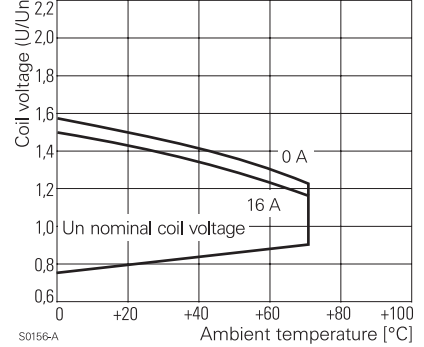
Insulation

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	

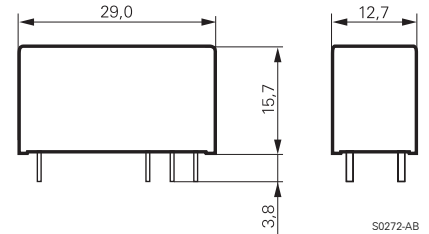
Coil operating range AC



S0156-A

Dimensions

Dimensions in mm

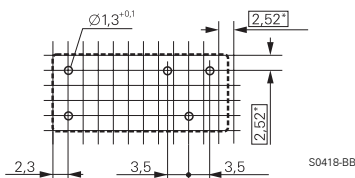


S0272-AB

PCB layout / terminal assignment

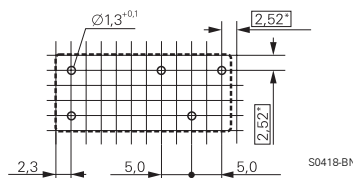
View on solder pins
Dimensions in mm

12 A, pinning 3.5 mm



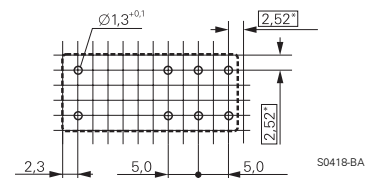
S0418-BB

12 A, pinning 5 mm



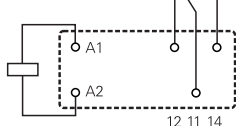
S0418-BN

16 A, pinning 5 mm



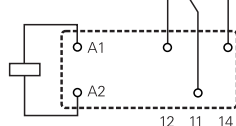
S0418-BA

1 C/O contact



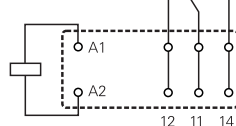
S0163-BG

1 C/O contact



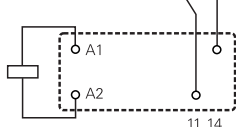
S0163-BC

1 C/O contact



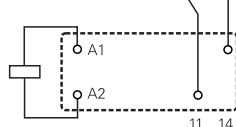
S0163-BE

1 N/O contact



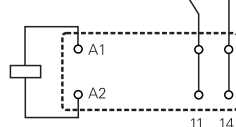
S0163-BH

1 N/O contact



S0163-BD

1 N/O contact



S0163-BF

*) 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	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					
Contacts	1 1 C/O contact		3 1 N/O 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							

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