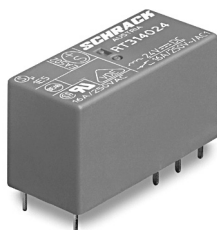


Power PCB Relay RT1

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



F0144-B

Features

- 1 C/O or 1 N/O contact
- Sensitive coil 400 mW / 0,75 VA
- 5 kV / 10 mm coil-contact, Protection class II (VDE 0700)
- 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	

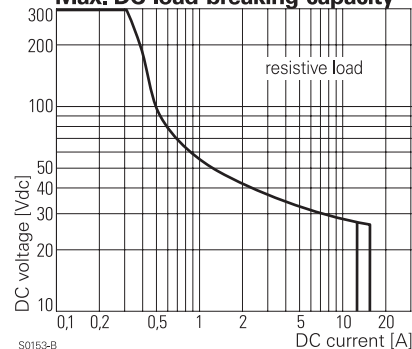
Coil versions, DC-coil

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

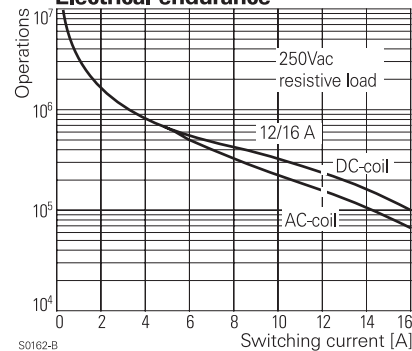
All figures are given for coil without preenergization, at ambient temperature +20 °C

Other coil voltages on request

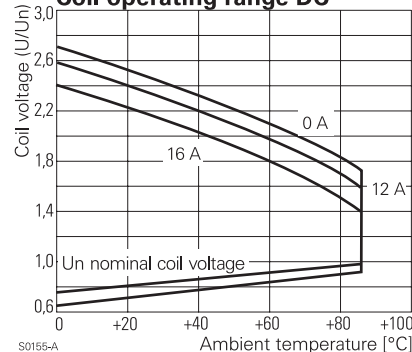
Max. DC load breaking capacity



Electrical endurance



Coil operating range DC



Power PCB Relay RT1

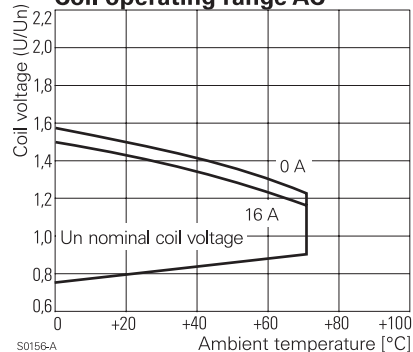
1 pole 12 / 16 A, DC- or AC-coil

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

Coil operating range AC



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 - flux proof, RT III - wash tight
Relay weight		14 g
Packaging unit		20 / 500 pcs.
Accessories		see accessories RT

Power PCB Relay RT1

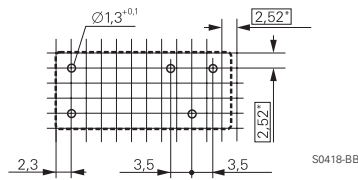
1 pole 12 / 16 A, DC- or AC-coil

PCB layout / terminal assignment

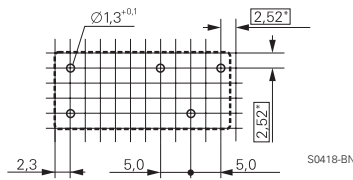
View on solder pins
Dimensions in mm

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

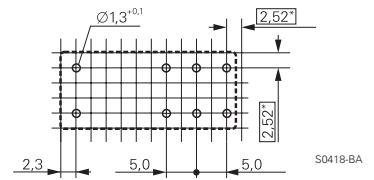
12 A, pinning 3.5 mm



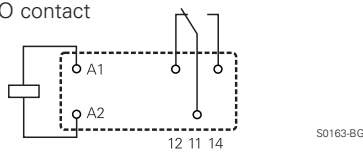
12 A, pinning 5 mm



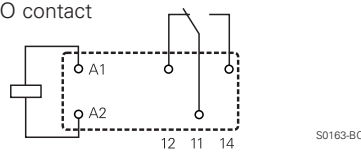
16 A, pinning 5 mm



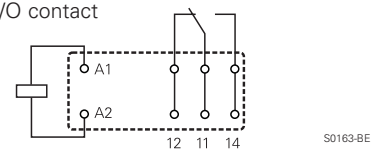
1 C/O contact



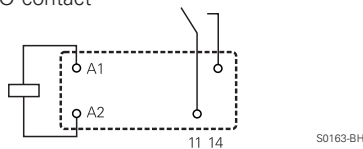
1 C/O contact



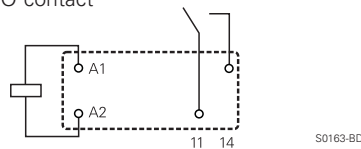
1 C/O contact



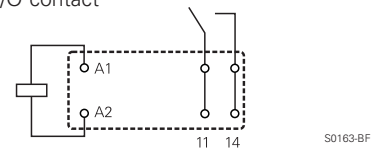
1 N/O contact



1 N/O contact

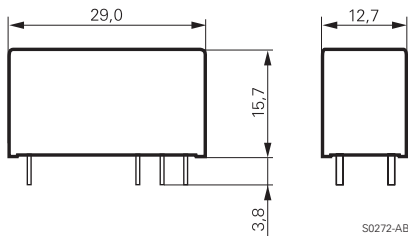


1 N/O contact



Dimensions

Dimensions in mm



Product key

Type

Version

- 1** 12 A, pinning 3.5 mm, flux proof
- 2** 12 A, pinning 5 mm, flux proof *)
- 3** 16 A, pinning 5 mm, flux proof

- B** 12 A, pinning 3.5 mm, wash tight
- C** 12 A, pinning 5 mm, wash tight
- D** 16 A, pinning 5 mm, wash tight

Contacts

- 1** 1 C/O contact
- 3** 1 N/O contact

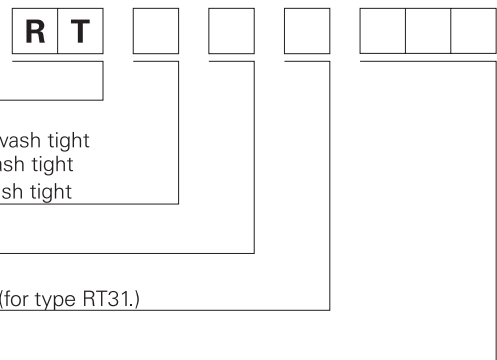
Contact material

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

Coil

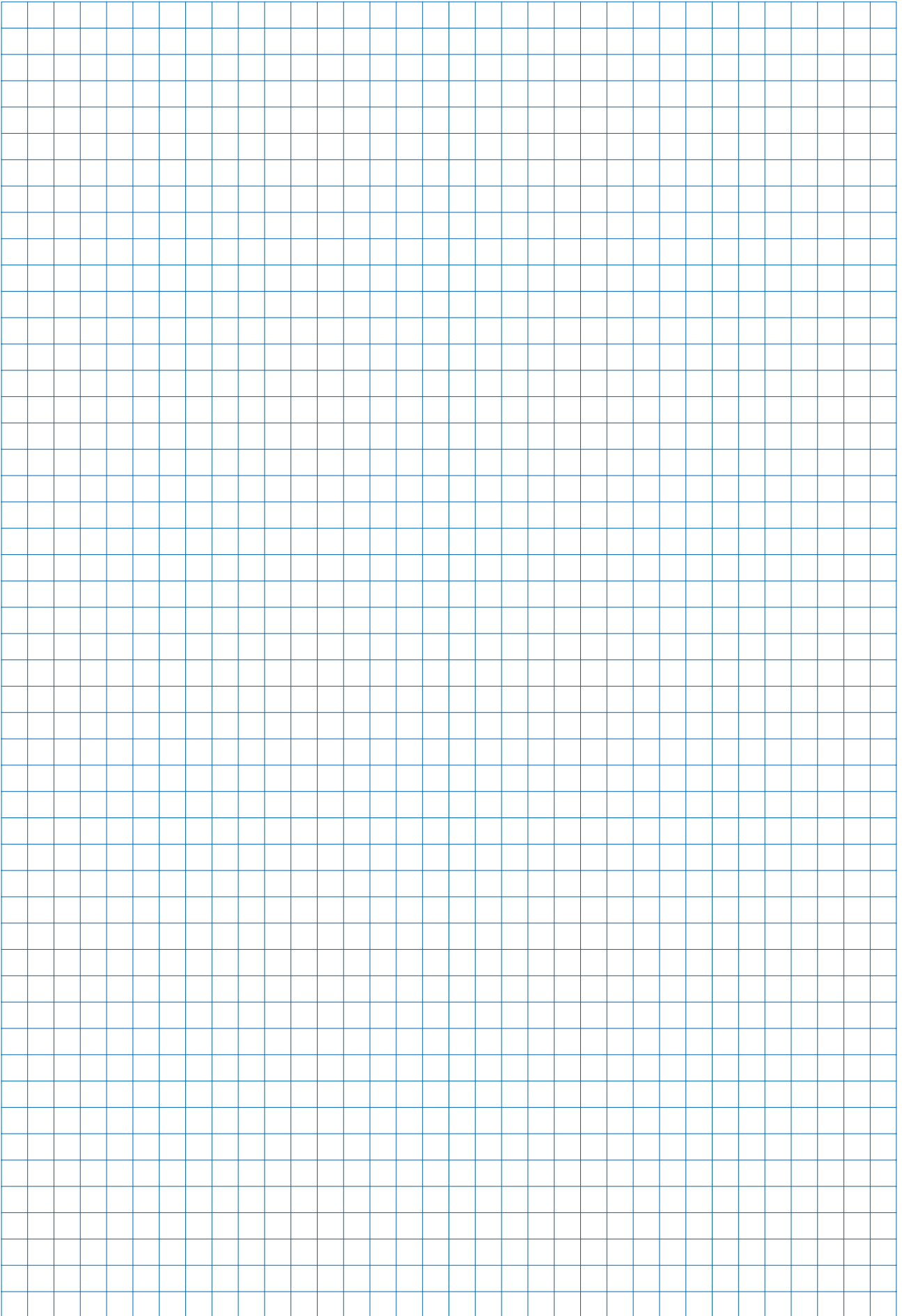
Coil code: please refer to coil versions table

Preferred types in bold print



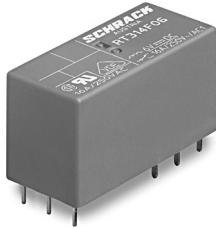
Rights to change data / design reserved

Notice



Power PCB Relay RT1 bistable

1 pole 16 A, polarized bistable version



Features

- 1 C/O contact
- Bistable with 1 or 2 coils
- 5 kV / 10 mm coil-contact
- Height 15.7 mm
- Cadmium-free contacts
- Protection class II (VDE 0700)

Applications

Battery powered equipment or applications with "memory function"

F0176-B



Technical data of approved types on request

Contact data

Configuration	1 C/O contact
Type of contact	single contact
Rated current	16 A
Rated voltage / max. breaking voltage	250 Vac / 440 Vac
Rated breaking capacity	4000 VA
Make current (max. 4 s at duty cycle 10%)	30 A
Contact material	AgNi 90/10

Coil data

	1 coil	2 coils
Nominal voltage	5...24 Vdc	
Nominal coil power	typ. 400 mW	typ. 600 mW
Minimum energization time	30 ms	
Information on reduced pulse duration with higher energization voltages on demand		
Max. energization for version with 2 coils	1 min at <10% duty cycle	
Reset voltage max.	120 % U _{nom}	150 % U _{nom}

Coil versions, bistable

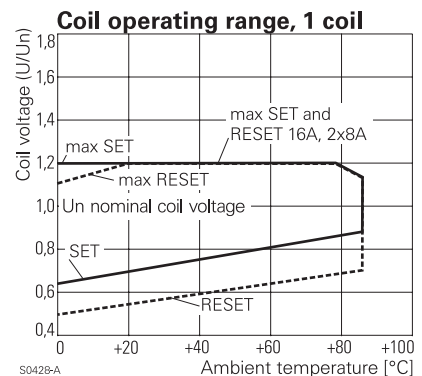
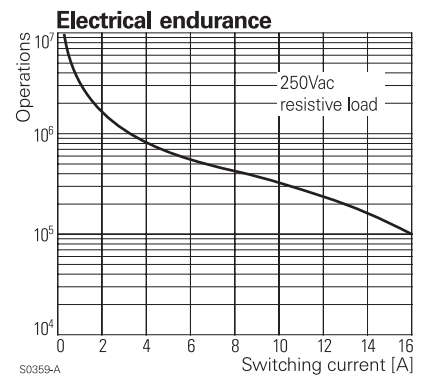
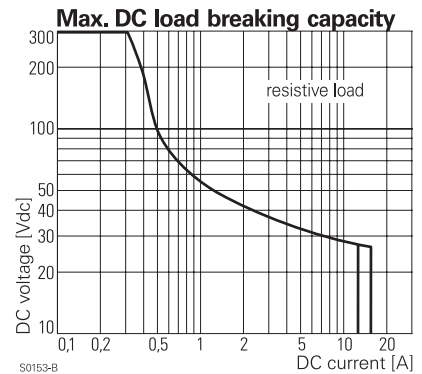
Coil code	Nominal voltage Vdc	Pull-in voltage Vdc	Reset voltage Vdc	Coil resistance Ω	Coil current mA
bistable, 1 coil					
A05	5	3.5	3.5	62±10%	80.0
A06	6	4.2	4.2	90±10%	66.7
A12	12	8.4	8.4	360±10%	33.3
A24	24	16.8	16.8	1440±10%	16.7
bistable, 2 coils					
F05	5	3.5	3.5	42±10%	120.0
F06	6	4.2	4.2	55±10%	110.0
F12	12	8.4	8.4	240±10%	50.0
F24	24	16.8	16.8	886±10%	27.0

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

Other coil voltages on request

Coils - operation

Version	1 coil		2 coils	
Coil terminals	A1	A2	A1	A2
Pull-in	+	-	+	-
Reset	-	+	-	+
Contact position not defined at delivery				



Power PCB Relay RT1 bistable

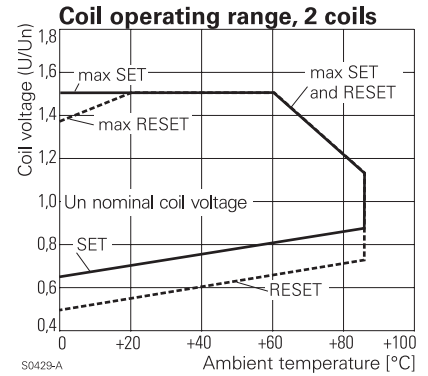
1 pole 16 A, polarized bistable version

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

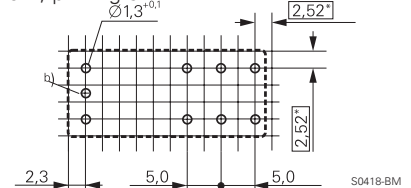
Flammability class according to UL 94	V-0	
Coil insulation system according to UL 1446	Class F	
Ambient temperature	-40...+85 °C	
Mechanical life	5x10 ⁶ operations	
Max. switching rate at rated- / minimum load	6 min ⁻¹ / 600 min ⁻¹	
Operate- / release time	typ. 5 / 4 ms	
Bounce time N/O contact/N/C contact	typ. 1 / 3 ms	
Vibration resistance / shock resistance		
opening N/C contact	3 / 5 g	
opening closed N/O contact	6 / 15 g	
Shock resistance (destruction)	100 g	
Category of protection (IEC 61810)	RT II - flux proof, RT III - wash tight	
Relay weight	13 g	
Packaging unit	1 coil	20 / 500 pcs.
	2 coils	25 / 100 pcs.
Accessories	see accessories RT	



PCB layout / terminal assignment

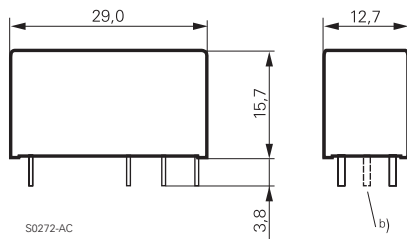
View on solder pins
Dimensions in mm

16 A, pinning 5 mm



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

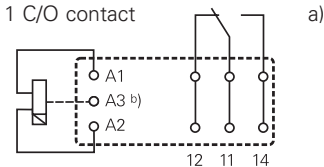
Dimensions



a) Indicated contact position during or after coil energization with reset voltage.

b) for 2 coil version only

1 C/O contact



Product key

Type

Version

3 16 A, pinning 5 mm, flux proof

D wash tight

Contacts

1 1 C/O contact

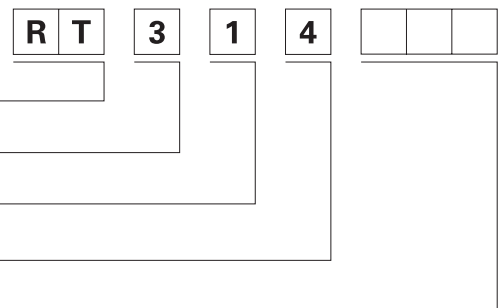
Contact material

4 AgNi 90/10

Coil

Coil code: please refer to coil versions table

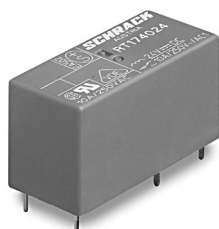
Preferred types in bold print



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Power PCB Relay RT1 sensitive

1 pole 10 A, highly sensitive version



F0145-B

Features

- 1 C/O or 1 N/O contact
- Sensitive coil 250 mW
- 5 kV / 10 mm coil-contact
- Protection class II (VDE 0700)
- Ambient temperature 85 °C at rated load
- Height 15.7 mm
- Sockets with PCB-type or screw-type terminals

Applications

Domestic appliances, heating control



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	10 A
Rated voltage / max. breaking voltage AC	250 Vac / 440 Vac
Maximum breaking capacity AC	2500 VA
Make current (max. 4 s at duty cycle 10%)	15 A
Contact material	AgNi 90/10

Contact ratings

Type	Load	Operations
RT174	8 A, 250 Vac	4.3x10 ⁵
RT174	370 W, 230 Vac, compressor, N/O contact	>3.3x10 ⁵
RT174	550 W, 250 Vac, incandescent lamps, N/O contact	1.9x10 ⁵
RT174	0.8A _{peak} / 0.08 A, 230 Vac, cosφ=0.23, contactor 190 / 90 VA, N/O contact	>8.8x10 ⁶

Coil data

Nominal voltage	5...60 Vdc
Nominal coil power	250 mW
Operate category	2 / b

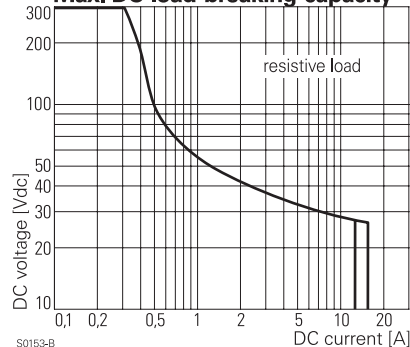
Coil versions, sensitive DC-coil

Coil code	Nominal voltage Vdc	Pull-in voltage Vdc	Release voltage Vdc	Maximum voltage Vdc	Coil resistance Ω	Coil current mA
005	5	3.7	0.5	15.0	100±10%	50.0
006	6	4.5	0.6	18.0	144±10%	41.7
012	12	9.0	1.2	36.0	576±10%	20.8
024	24	18.0	2.4	72.0	2304±10%	10.4
048	48	36.0	4.8	144.0	9216±10%	5.4
060	60	45.0	6.0	180.0	12857±12%	4.7

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

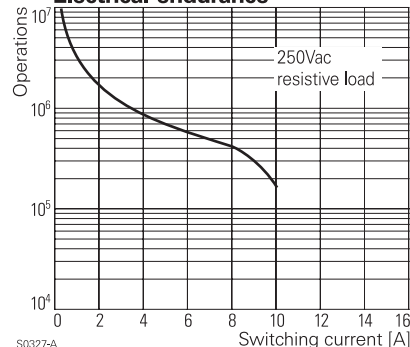
Other coil voltages on request

Max. DC load breaking capacity



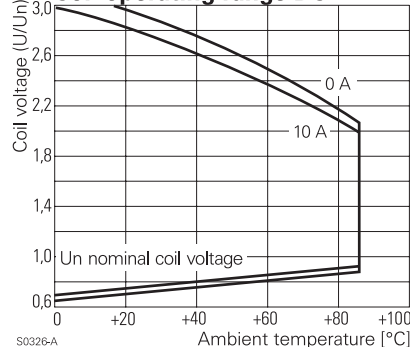
S0153-B

Electrical endurance



S0327-A

Coil operating range DC



S0326-A

Power PCB Relay RT1 sensitive

1 pole 10 A, highly sensitive version

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

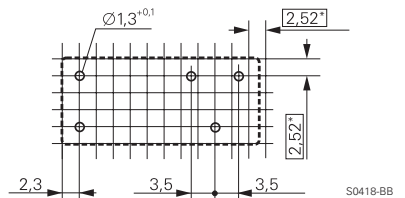
Other data

Flammability class according to UL 94	V-0
Coil insulation system according to UL 1446	Class F
Ambient temperature	-40...+85 °C
Mechanical life	30x10 ⁶ operations
Max. switching rate at rated- / minimum load	50 min ⁻¹ / 1200 min ⁻¹
Operate- / release time	typ. 7 / 3 ms
Bounce time N/O contact/N/C contact	typ. 2 / 4 ms
Vibration resistance	5 g, 30...150 Hz
Shock resistance (destruction)	100 g
Category of protection (IEC 61810)	RT II - flux proof, RT III - wash tight
Relay weight	14 g
Packaging unit	20 / 500 pcs.
Accessories	see accessories RT

PCB layout / terminal assignment

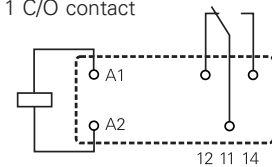
View on solder pins
Dimensions in mm

10 A, pinning 3.5 mm

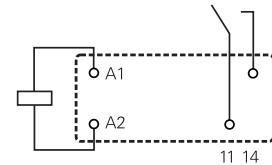


*) With the recommended PCB hole sizes a grid pattern from 2.5 mm to 2.54 mm can be used.

1 C/O contact

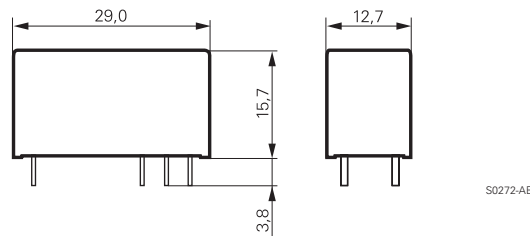


1 N/O contact



Dimensions

Dimensions in mm



Product key

Type

Version

1 10 A, pinning 3.5 mm, flux proof **B** 10 A, pinning 3.5 mm, wash tight

Contacts

7 1 C/O contact **8** 1 N/O contact

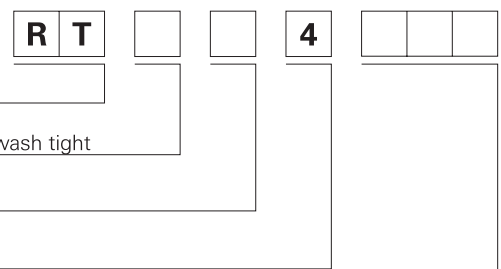
Contact material

4 AgNi 90/10

Coil

Coil code: please refer to coil versions table

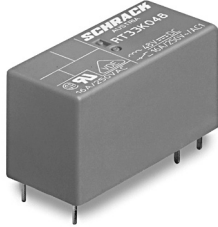
Preferred types in bold print



Rights to change data / design reserved

Power PCB Relay RT1 Inrush

1 pole 16 A, for inrush peak currents up to 80 A



F0177-B

Features

- 1 N/O contact
- Sensitive coil 400 mW
- 5 kV / 10 mm coil-contact
- Protection class II (VDE 0700)
- Ambient temperature 85 °C
- Height 15.7 mm
- Sockets with PCB-type or screw-type terminals

Applications

Domestic appliances, heating control, lighting control



Technical data of approved types on request

Contact data

Configuration	1 N/O contact
Type of contact	single contact
Rated current	16 A
Rated voltage / max.breaking voltage AC	250 Vac / 440 Vac
Maximum breaking capacity AC	4000 VA
Make current (max. 4 s at duty cycle 10%)	30 A
peak inrush current (20 ms)	80 A
Contact material	AgNi 90/10, AgSnO

Contact ratings

Type	Load	Operations
RT33K	1000 W, 250 Vac, incandescent lamps	typ. 9×10^4
RT33L	1000 W, 250 Vac, incandescent lamps	typ. 8×10^4
RT33L	compressor, 230 Vac, $I_{in} \leq 21 A$, $I_{peak} = 3.5 A$, $\cos\phi = 0.5$	typ. 2.3×10^5

Coil data

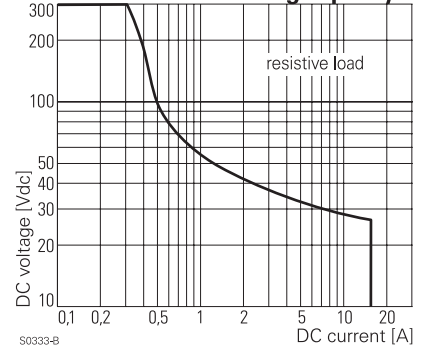
Nominal voltage	5...110 Vdc
Nominal coil power	400 mW
Operate category	2 / b

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
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

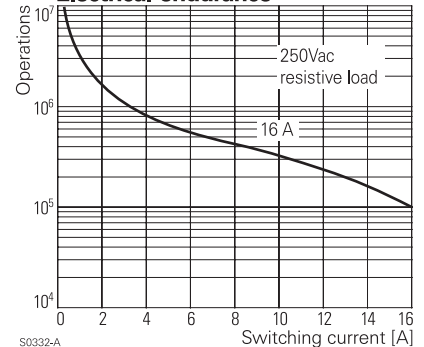
All figures are given for coil without preenergization, at ambient temperature +20 °C
Other coil voltages on request

Max. DC load breaking capacity



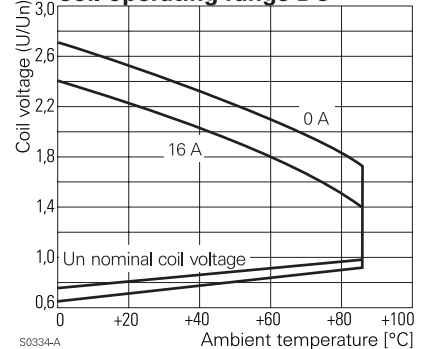
S0333-B

Electrical endurance



S0332-A

Coil operating range DC



S0334-A

Power PCB Relay RT1 Inrush

1 pole 16 A, for inrush peak currents up to 80 A

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

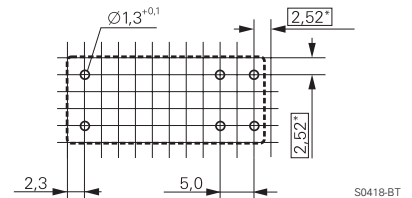
Other data

Flammability class according to UL 94	V-0
Coil insulation system according to UL 1446	Class F
Ambient temperature	-40...+85 °C
Mechanical life	30x10 ⁶ operations
Max. switching rate at rated- / minimum load	6 min ⁻¹ / 1200 min ⁻¹
Operate- / release time	typ. 8 / 3 ms
Bounce time	typ. 2 ms
Vibration resistance	20 g, 30...500 Hz
Shock resistance (destruction)	100 g
Category of protection (IEC 61810)	RT II - flux proof, RT III - wash tight
Relay weight	14 g
Packaging unit	20 / 500 pcs.
Accessories	see accessories RT

PCB layout / terminal assignment

View on solder pins
Dimensions in mm

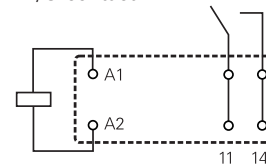
16 A, pinning 5 mm



S0418-BT

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

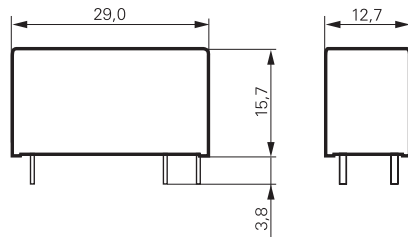
1 N/O contact



S0163-BF

Dimensions

Dimensions in mm



S0272-AE

Product key

Type

Version

3 16 A, pinning 5 mm **D** 16 A, Pinning 5 mm, wash tight

Contacts

3 1 N/O contact

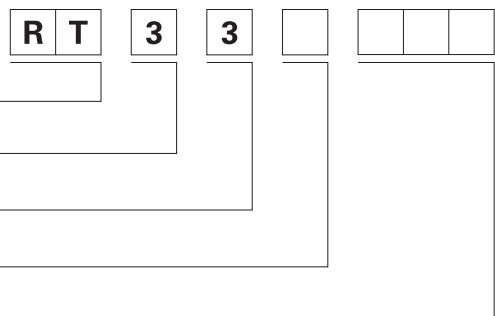
Contact material

K AgNi 90/10 **L** AgSnO₂

Coil

Coil code: please refer to coil versions table

Preferred types in bold print



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