

Power PCB Relay RT1 bifurcated

- 1 pole 12 / 16 A, 1 CO or 1 NO contact
- Sensitive DC-coil, 200 or 400 mW
- 5 kV / 10 mm coil-contact, reinforced insulation
- Ambient temperature 85°C



FD144-C

Applications

Switching from dry circuit up to 16 A, including arc-less switching, with extra high reliability

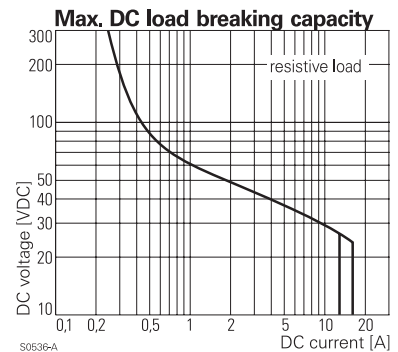
Approvals

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

Contact data

Contact configuration	1 CO or 1 NO contact	
Contact set	bifurcated contact	
Type of interruption	micro disconnection	
Rated voltage / max. switching voltage AC	250 / 400 VAC	
Rated current	12 A ¹⁾	16 A
Maximum breaking capacity AC	3000 VA	4000 VA
Limiting making capacity, max 4 s, df 10%	16 A	
Contact material	AgNi 90/10 gold plated	AgNi 90/10
Rated frequency of operation with / without load	6 / 600 min ⁻¹	
Operate- / release time	max 10 / 5 ms	
Bounce time, NO contact	max 4 / 9 ms	

¹⁾ recommended for switching load range ≤ 5 A



Contact ratings

Type	Contact Load	Ambient temp. [°C]	Cycles
IEC 61810			
RT31C	NO 16 A, 250 VAC, cosφ=1	85°C	50x10 ³
RTB7D	CO 12 A, 250 VAC, cosφ=1	85°C	1x10 ³
RTB7D	CO 5 A, 250 VAC, cosφ=1	85°C	100x10 ³
UL 508			
RT31D	NO 16 A, 250 VAC, general purpose	85°C	50x10 ³
RT31D	CO 16 A, 250 VAC, general purpose	40°C	6x10 ³
RTB7D	CO 12 A, 250 VAC, general purpose	40°C	6x10 ³
RTB7D	NO 5 A, 250 VAC, general purpose	85°C	100x10 ³

Coil data

	12 A version	16 A version
Rated coil voltage range	5...60 VDC	5...110 VDC
Operative range to IEC 61810	2	
Coil insulation system according UL1446	class F	

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Coil versions, 16 A version

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
005	5	3.5	0.5	62 ± 10%	403
006	6	4.2	0.6	90 ± 10%	400
012	12	8.4	1.2	360 ± 10%	400
024	24	16.8	2.4	1440 ± 10%	400
048	48	33.6	4.8	5520 ± 10%	417
060	60	42.0	6.0	8570 ± 12%	420
110	110	77.0	11.0	28800 ± 12%	420

All figures are given for coil without preenergization, at ambient temperature +23°C
Other coil voltages on request

Coil versions, 12 A version

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
005	5	3.5	0.5	125 ± 10%	200
006	6	4.2	0.6	190 ± 10%	190
012	12	8.4	1.2	690 ± 10%	210
024	24	16.8	2.4	2980 ± 10%	190
048	48	33.6	4.8	10470 ± 10%	220
060	60	42.0	6.0	16980 ± 10%	210

All figures are given for coil without preenergization, at ambient temperature +23°C
Other coil voltages on request

Insulation

Dielectric strength coil-contact circuit	5000 V _{rms}	
open contact circuit	1000 V _{rms}	
Clearance / creepage coil-contact circuit	≥ 10 / 10 mm	
Material group of insulation parts	IIIa	
Tracking index of relay base	PTI 250 V	
Insulation to IEC 61810-1		
Type of insulation coil-contact circuit	reinforced	
open contact circuit	micro disconnection	
Rated insulation voltage	250 V	
Pollution degree 12 A version	3	3
16 A version	3	2
Rated voltage system	240 V	230 / 400 V
Overvoltage category	III	

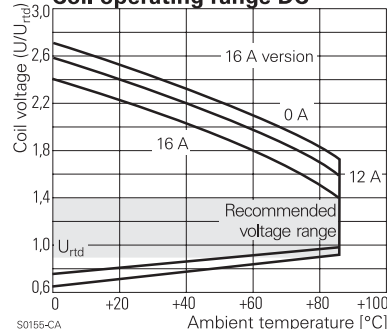
Other data

Mechanical endurance	12 A version	> 30 x 10 ⁶ cycles
	16 A version	> 10 x 10 ⁶ cycles
Material	RoHS - Directive 2002/95/EC compliant	
Environment		
Ambient temperature range	-40...+85°C	
Vibration resistance (function), NO / NC contact		
12 A version	15 / 3 g, 30 ... 500 Hz	
16 A version	15 / 4 g, 30 ... 500 Hz	
Shock resistance (destruction)	100 g	
Category of protection 12 A version	RTIII - wash tight	
16 A version	RTII - flux proof	
Processing		
Mounting distance	≥ 5 mm	
Resistance to soldering heat flux-proof version	270°C / 10 s	
wash-tight version	260°C / 5 s	
Relay weight	14 g	
Packaging unit	20 / 500 pcs	

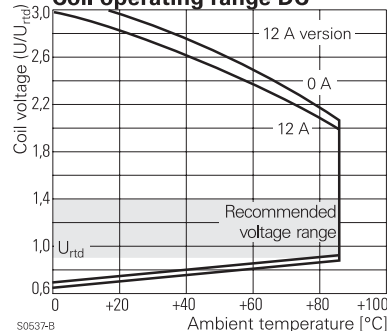
Accessories

For details see datasheet Accessories Power Relay RT

Coil operating range DC

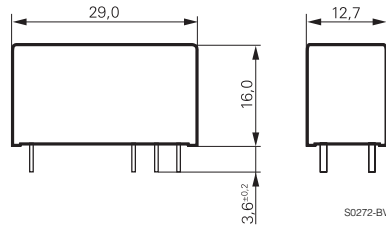


Coil operating range DC



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Dimensions

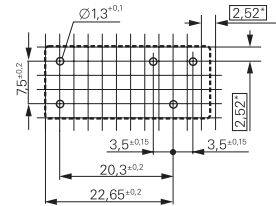


PCB layout / terminal assignment

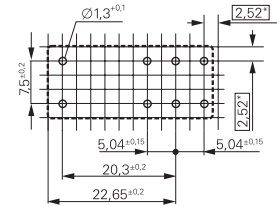
Bottom view on solder pins

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

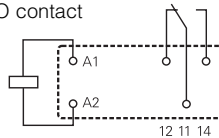
12 A, pinning 3.5 mm



16 A, pinning 5 mm

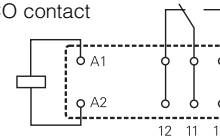


1 CO contact



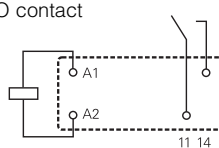
S0163-BG

1 CO contact



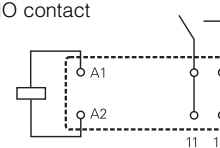
S0418-CA

1 NO contact



S0163-BH

1 NO contact



S0163-BE

S0163-BF

Product key

Typical product key

RT B 7 D 012

Type

RT Power PCB Relay RT1 bifurcated

Version

3 16 A, pinning 5 mm, flux proof B 12 A, pinning 3.5 mm, wash tight

Configuration

1 1 CO contact (1 form C), 16 A, 400 mW coil 7 1 CO contact (1 form C), 12 A, 200 mW coil
 3 1 NO contact (1 form A), 16 A, 400 mW coil 8 1 NO contact (1 form A), 12 A, 200 mW coil

Contact material

C AgNi 90/10, 16 A version D AgNi 90/10 gold plated, 12 A version

Coil

Coil code: please refer to coil versions table

Product key	Version	Contacts	Cont. material	Coil	Coil	Part number
RT31C012	16 A, pinning 5mm	1 CO	AgNi 90/10	DC coil	12 VDC	1415900-2
RT31C024	flux proof	bifurcated contact			24 VDC	1415900-7
RTB7D012	12 A, 3.5mm		AgNi 90/10		12 VDC	1415900-5
RTB7D024	wash tight		gold plated		24 VDC	1415900-6