

Power PCB Relay RT1

- 1 pole 12 / 16 A, 1 CO or 1 NO contact
- DC- or AC-coil
- Sensitive coil 400 mW
- 5 kV / 10 mm coil-contact, reinforced insulation
- Ambient temperature 85°C (DC-coil)
- WG version: Product in accordance to IEC60335-1
- RoHS compliant (Directive 2002/95/EC) as per product date code 0413



F0144-B

Applications

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

Approvals

VDE REG.-Nr. 6106, c **RU** us E214025, (BEAB) C0786, (S) 0039110/01-02, (FI) FI 190164 A1, (KEMA) 98.4118.01
 Technical data of approved types on request

Contact data

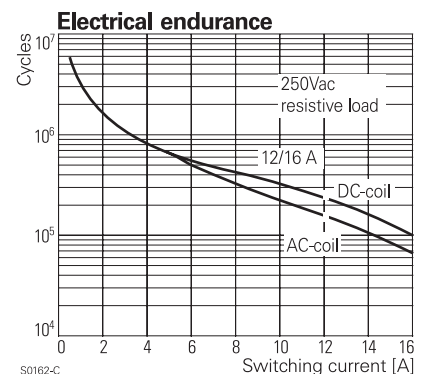
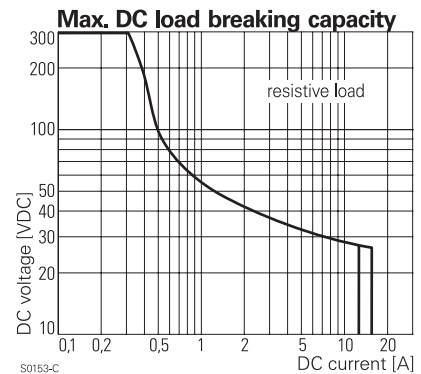
Contact configuration	1 CO or 1 NO contact	
Contact set	single contact	
Type of interruption	micro disconnection	
Rated current	12 A	16 A
Rated voltage / max.switching voltage AC	240/400 VAC	
Limiting continuous current	UL: 20 A	
Maximum breaking capacity AC	3000 VA	4000 VA
Limiting making capacity, max 4 s, df 10%	25 A	30 A
Contact material	AgNi 90/10, AgNi 90/10 gold plated	
Mechanical endurance DC coil	> 30 x 10 ⁶ cycles	
AC coil	> 10 x 10 ⁶ cycles	
Rated frequency of operation with / without load	6 / 1200 min ⁻¹	

Contact ratings

Type	Load	Cycles
RT314	16 A, 250 VAC, NO contact, 85°C, DF 10%, UL508	50x10 ³
RT314	16 A, 250 VAC, NC contact, 70°C, 30min ⁻¹	53x10 ³
RT314	20 A, 250 VAC, NO contact, 85°C, UL508	6x10 ³
RT314	1000 W incandescent lamp, 250 VAC	1.2x10 ³
RT314	10 A, 250 VAC, cosφ=0.6, CO contact, 70°C	200x10 ³
RT314	5 A / 2 A, 250 VAC, cosφ=1, motor, NO contact, 10min ⁻¹ , 70°C	1.1x10 ⁶
RT314	0.26 A / 0.01 A, 230 VAC, cosφ=0.38, valve, NO contact, 25min ⁻¹	7.6x10 ⁶
RT314	Pilot duty A300 (NO contact), B300 (CO/NC contact), UL508	
RT314	1hp @ 240 VAC, 1/2hp @ 120 VAC, NO contact, UL508	
RT314	AC15, 6 A, 250VAC, NO and NC contact, 85°C, EN60947-5-1	
RT314	DC13, 2 A / 24 VDC, 0.2 A / 250 VDC, NO and NC contact, 85°C, EN60947-5-1	

Coil data

Rated coil voltage range DC coil	5...110 VDC
AC coil	24...230 VAC
Coil power DC coil	typ 400 mW
AC coil	typ 0.75 VA
Operative range	2
Coil insulation system according UL1446	class F



Coil versions, DC-coil

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, AC-coil 50Hz

Coil code	Rated voltage VAC	Operate voltage 50 Hz VAC	Release voltage 50 Hz VAC	Coil resistance Ohm	Rated coil power VA
524	24	18.0	3.6	350 ± 10%	0.76
615	115	86.3	17.3	8100 ± 15%	0.76
700	200	150.0	30.0	24350 ± 15%	0.76
730	230	172.5	34.5	32500 ± 15%	0.74

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

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 60664-1		
Type of insulation coil-contact circuit	reinforced	
open contact circuit	functional	
Rated insulation voltage	250 V	
Pollution degree 12 A version	3	3
16 A version	3	2
Rated voltage system	240 V	400 V
Overvoltage category	III	

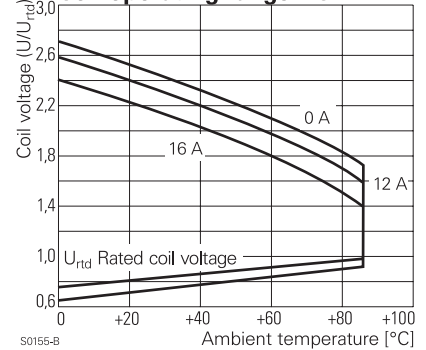
Other data

RoHS - Directive 2002/95/EC	compliant as per product date code 0413
Flammability class according to UL94	V-0
For WG version: GWFI to IEC 60335-1	> 850 °C
GWT to IEC 60335-1 current ≤ 0,2 A	> 650 °C
current > 0,2 A	> 750 °C
Ambient temperature range DC coil	-40...+85°C
AC coil	-40...+70°C
Operate- / release time DC coil	typ 7 / 3 ms
Bounce time DC coil, NO / NC contact	typ 1 / 3 ms
Vibration resistance (function), NO / NC contact	20 / 5 g, 30 ... 500 Hz
Shock resistance (destruction)	100 g
Category of protection	RTII - flux proof, RTIII - wash tight
Mounting	pcb or on socket
Mounting position	any
Mounting distance DC / AC coils	0 / 2.5 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

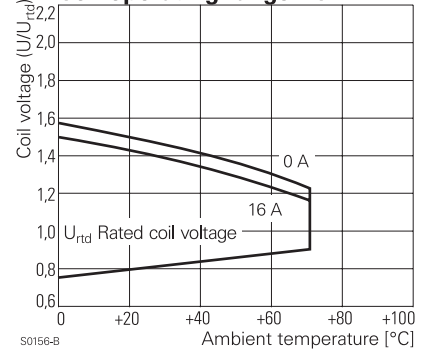
Accessories

For details see datasheet Accessories Power Relay RT

Coil operating range DC



Coil operating range AC



Power PCB Relay RT1 (Continued)

Dimensions

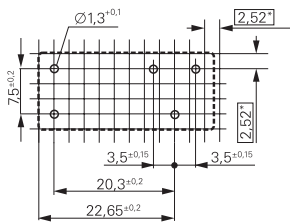


PCB layout / terminal assignment

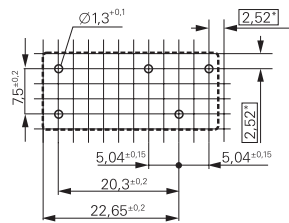
Bottom view

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

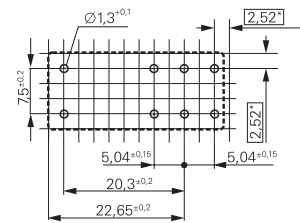
12 A, pinning 3.5 mm



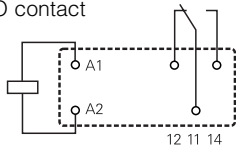
12 A, pinning 5 mm



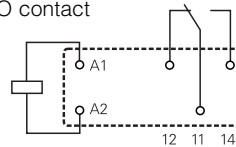
16 A, pinning 5 mm



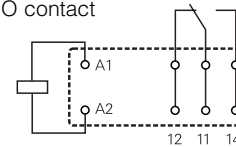
1 CO contact



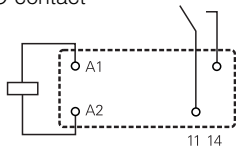
1 CO contact



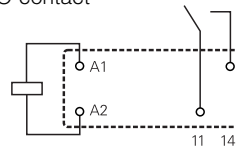
1 CO contact



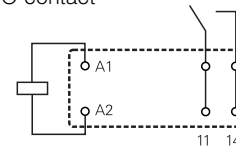
1 NO contact



1 NO contact



1 NO contact



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 *)	D	16 A, pinning 5 mm, wash tight			
3	16 A, pinning 5 mm, flux proof					
Contact configuration						
1	1 CO contact	3	1 NO 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					
Version						
Blank	Standard version					
WG	Product in accordance with IEC 60335-1 (domestic appliances)					

Preferred types in bold print
*) Wash tight version on request

Power PCB Relay RT1 (Continued)

Product key	Version	Contacts	Cont. material	Coil	Coil	Part number
RT114005	12 A	1 CO contact	AgNi 90/10	DC-coil	5 VDC	0-1393239-7
RT114006	pinning 3.5 mm flux proof				6 VDC	0-1393239-8
RT114012					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 NO contact		DC-coil	12 VDC	2-1393239-6
RT134024					24 VDC	3-1393239-0
RT214012	12 A, pinning 5mm	1 CO 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 flux proof				6 VDC	9-1393239-3
RT314012					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 NO 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 CO contact			5 VDC	1-1393238-2
RTB14012	pinning 3.5 mm wash tight				12 VDC	1-1393238-5
RTB14024					24 VDC	1-1393238-9
RTB14048					48 VDC	2-1393238-1
RTD14005	16 A				5 VDC	5-1393238-9
RTD14006	pinning 5 mm wash tight				6 VDC	6-1393238-0
RTD14012					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 NO contact			5 VDC	8-1393238-3
RTD34012					12 VDC	3-1419108-5
RTD34024					24 VDC	3-1419108-8