

**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



F0144-C

**Applications**

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

**Approvals**

VDE REG.-Nr. 6106, cRU us E214025, cSP us 14385, (BEAB) C0786  
 Technical data of approved types on request

**Contact data**

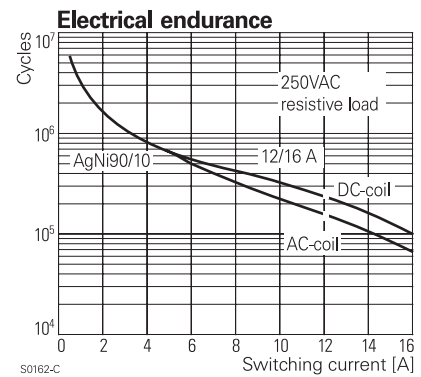
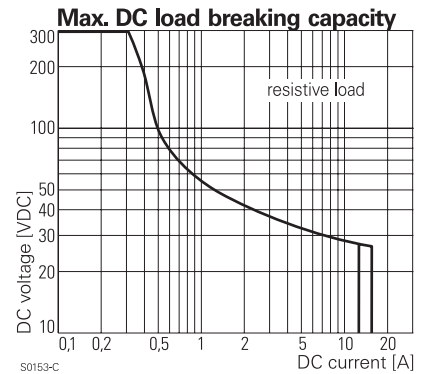
Contact configuration	1 CO or 1 NO contact	
Contact set	single contact	
Type of interruption	micro disconnection	
Rated voltage / max. switching voltage AC	250 / 400 VAC	
Rated current	12 A	16 A
Limiting continuous current	12 A	16 A, UL: 20 A
Maximum breaking capacity AC	3000 VA	4000 VA
Limiting making capacity, max 4 s, df 10%	25 A	30 A
Contact material	AgNi 90/10, AgNi 90/10 gold plated	
Rated frequency of operation with / without load	DC coil: 6 / 1200 min <sup>-1</sup> AC coil: 6 / 600 min <sup>-1</sup>	
Operate- / release time DC coil	max 8 / 6 ms	
Bounce time DC coil, NO / NC contact	max 4 / 6 ms	

**Contact ratings**

Type	Contact	Load	Ambient temp. [°C]	Cycles
<b>IEC 61810</b>				
RT314 DC-coil	NO	16 A, 250 VAC, cosφ=1	85°C	30x10 <sup>3</sup>
RT314 DC-coil	CO	16 A, 250 VAC, cosφ=1	85°C	10x10 <sup>3</sup>
RT314 DC-coil	NO	10 A, 400 VAC, cosφ=1	85°C	150x10 <sup>3</sup>
RT114 DC-coil	NO	12 A, 250 VAC, cosφ=1	85°C	50x10 <sup>3</sup>
RT114 AC-coil	NO	12 A, 250 VAC, cosφ=1	70°C	100x10 <sup>3</sup>
<b>UL 508</b>				
RT314	NO / NC	20 A, 250 VAC, general purpose	85°C	6x10 <sup>3</sup>
RT334	NO	16 A, 250 VAC, general purpose	85°C	50x10 <sup>3</sup>
RT314	NO	1 hp, 240 VAC	40°C	1x10 <sup>3</sup>
<b>EN60947-5-1</b>				
RT314 DC-coil	NO / NC	2 A, 24 VDC DC13		6.050
<b>EN60730-1</b>				
RT314 DC-coil	NO	12(2) A, 250 VAC	85°C	100x10 <sup>3</sup>

**Coil data**

Rated coil voltage range DC coil	5...110 VDC
AC coil	24...230 VAC
Operative range to IEC 61810	2
Coil insulation system according UL1446	class F



**Power PCB Relay RT1 (Continued)**

**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
009	9	6.3	0.9	200 ± 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 50 Hz VA
524	24	18.0	3.6	350 ± 10%	0.76
615	115	86.3	17.3	8100 ± 15%	0.76
620	120	90.0	18.0	8800 ± 15%	0.75
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 <sub>rms</sub>	
open contact circuit	1000 V <sub>rms</sub>	
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	

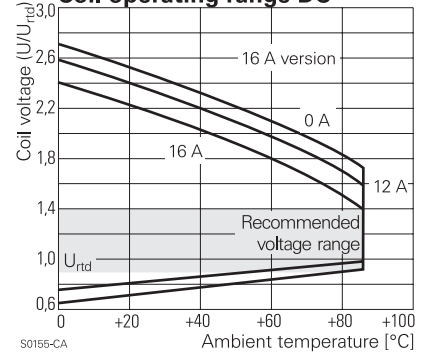
**Other data**

Mechanical endurance DC coil	> 30 x 10 <sup>6</sup> cycles
AC coil	> 10 x 10 <sup>6</sup> cycles
Material	
RoHS - Directive 2002/95/EC	compliant as per product date code 0413
Resistance to heat and fire, WG version	according EN60335-1, par.30
Environment	
Ambient temperature range DC coil	-40...+85°C
AC coil	-40...+70°C
Vibration resistance (function), NO / NC cont.	20 / 5 g, 30 ... 500 Hz
Shock resistance (destruction)	100 g
Category of protection	RTII - flux proof, RTIII - wash tight
Processing	
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

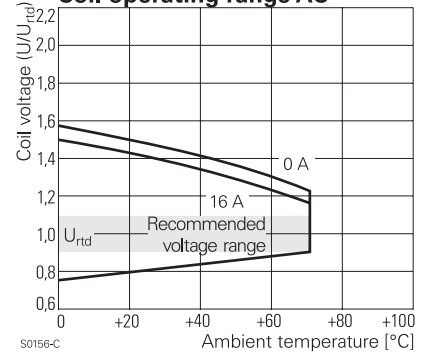
**Accessories**

For details see datasheet Accessories Power Relay RT

**Coil operating range DC**

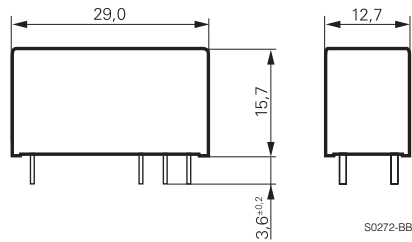


**Coil operating range AC**



**Power PCB Relay RT1 (Continued)**

**Dimensions**

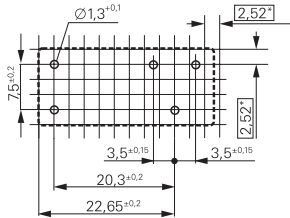


**PCB layout / terminal assignment**

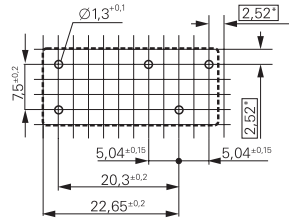
Bottom view on solder pins

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

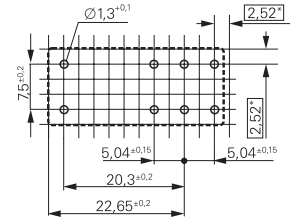
12 A, pinning 3.5 mm



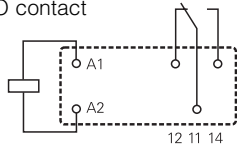
12 A, pinning 5 mm



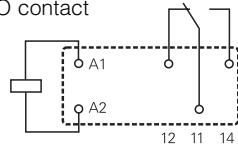
16 A, pinning 5 mm



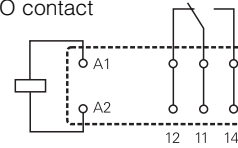
1 CO contact



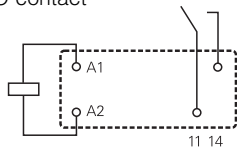
1 CO contact



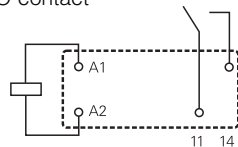
1 CO contact



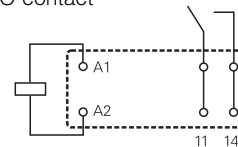
1 NO contact



1 NO contact



1 NO contact



**Product key**

Typical product key

**RT 3 1 4 024**

**Type**

RT Power PCB Relay RT1

**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

**Contact configuration**

- 1** 1 CO contact (1 form C)      **3** 1 NO contact (1 form A)

**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	1393239-7
RT114006	pinning 3.5 mm flux proof				6 VDC	1393239-8
RT114012					12 VDC	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 flux proof	1 CO contact			12 VDC	5-1393239-4
RT214024					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	1393240-1
RT314060					60 VDC	1393240-2
RT314110					110 VDC	1393240-3
RT314524				AC-coil	24 VAC	1393240-4
RT314615					115 VAC	1393240-6
RT314730					230 VAC	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