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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

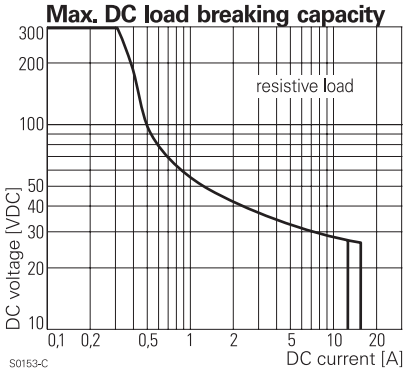
Approvals

VDE REG.-Nr. 6106, cULus E214025, cCSAus 14385, BEAB C0786, KEMA KEUR 98.4118.01,
Technical data of approved types on request

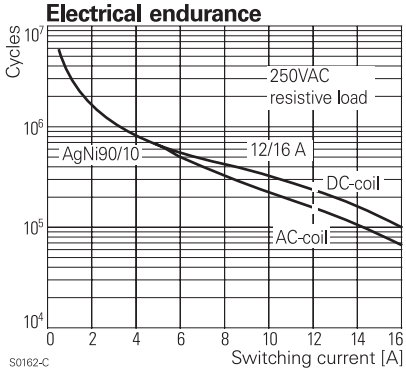
Contact data

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	250/400 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}	

Max. DC load breaking capacity



Electrical endurance



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, 250 VAC, 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

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Specifications subject to change.

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

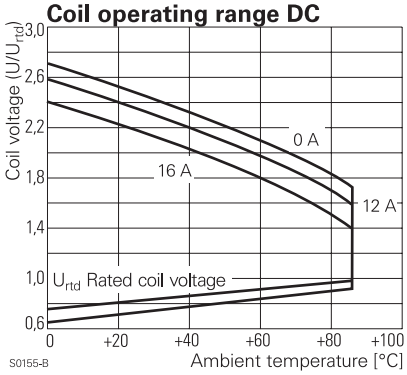
All figures are given for coil without preenergization, at ambient temperature +23°C
Other coil voltages on request

Coil versions, AC-coil 50Hz

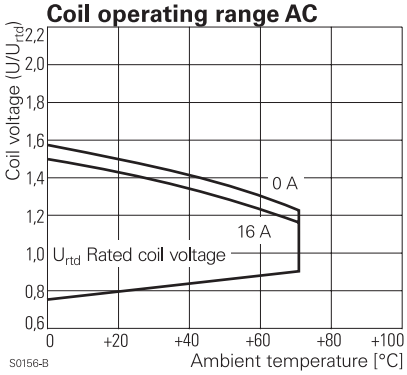
Coil code	Rated voltage VAC	Operate voltage 50 Hz VAC	Release voltage 50 Hz VAC	Coil resistance Ohm	Rated coil power 50 Hz VA
524	24	18.0	3.6	350±10%	0.76
615	115	86.3	17.3	8100±15%	0.76
620	120	90.0	18.0	8800±15%	0.75
700	200	150.0	30.0	24350±15%	0.76
730	230	172.5	34.5	32500±15%	0.74

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

Coil operating range DC



Coil operating range AC



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 (IEC 60695-2-12)	> 850 °C
GWIT to IEC 60335-1 (IEC 60695-2-13)	> 755 °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

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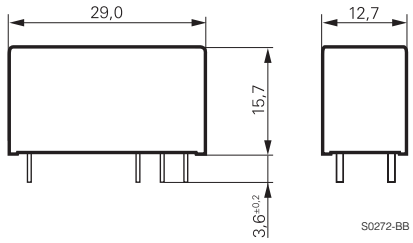
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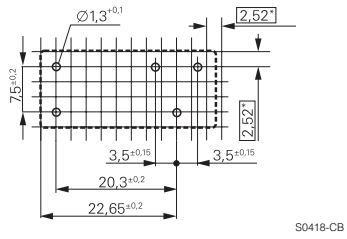
Dimensions



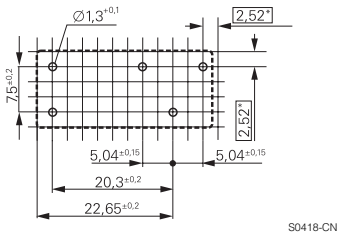
PCB layout / terminal assignment
Bottom view on solder pins

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

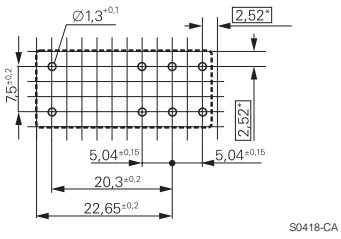
12 A, pinning 3.5 mm



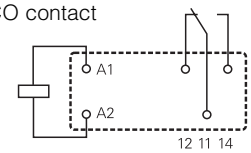
12 A, pinning 5 mm



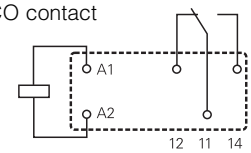
16 A, pinning 5 mm



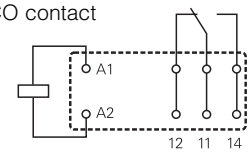
1 CO contact



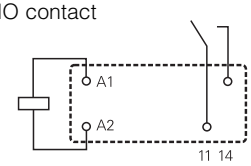
1 CO contact



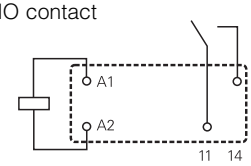
1 CO contact



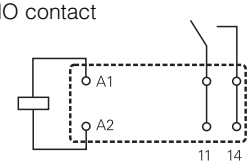
1 NO contact



1 NO contact



1 NO contact



Product key

R	T							

Type

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	**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

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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				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 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				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 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				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 NO contact			5 VDC	8-1393238-3
RTD34012					12 VDC	3-1419108-5
RTD34024					24 VDC	3-1419108-8

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