Power PCB Relay RPII/1

- **1 pole 8/12/16A, 1 form C (CO) or 1 form A (NO) contact**
- **4kV/8mm coil-contact**
- **Pinning 3.5 or 5mm (8/12A) and 5mm (16A)**
- **RoHS compliant (Directive 2011/65/EC)**

Typical applications
Power supplies, domestic appliances, heating control, installation

F0146-B

Approvals

VDE Cert. No. 40025448, UL E214025
Technical data of approved types on request

Contact Data

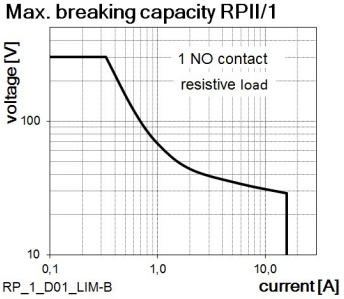
	8A	12A	16A
Contact arrangement	1 form C (CO) or 1 form A (NO)		
Rated voltage		250VAC	
Max. switching voltage		400VAC	
Rated current	8A	12A	16A
Limiting making current	16A	20A	25A
Breaking capacity max.	2000VA	3000VA	4000VA
Contact material	AgNi0.15	AgNi 90/10	AgNi 90/10
Frequency of operation, with/without load		$600/36000h^{-1}$	
Operate/release time typ.		8/2ms	
Bounce time typ., form A/form B		2/4ms	

Contact ratings

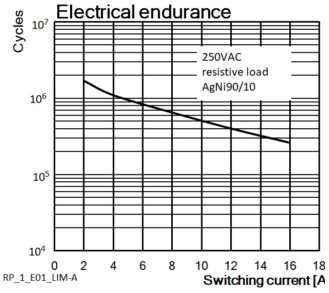
Type	Contact	Load	Cycles
IEC61810			
RP314/RP714	A (NO)	16A, 250 VAC, resistive, 35°C	$100x10^3$
RP314 DC-coil	A (NO)	6A, 250 VAC, cosφ = 0,4, 35°C	$250x10^3$
RP414 DC-coil	A (NO)	12A, 250 VAC, resistive, 70°C	$100x10^3$
RP414 REM	A (NO)	12A, 250 VAC, resistive, 35°C	$100x10^3$
RP41N/RP814	C (CO)	12A, 250 VAC, resistive, 35°C	$10x10^3$
RP411/RP412	A (NO)	8A, 250 VAC, resistive, 35°C	$100x10^3$
RP411/RP412	C (CO)	8A, 250 VAC, resistive, 35°C	$10x10^3$
UL508			
RP411/RP412	C(CO)	8A, 250VAC, general purpose, 40°C	$6x10^3$
RP314/RP714	C(CO)	16A, 250VAC, general purpose, 40°C	$6x10^3$
RP314/RP714	C(CO)	250VAC, 1.5HP, 40°C	$6x10^3$
RP*14/RP*1N	C(CO)	12A, 250VAC, general purpose, 70°C	$6x10^3$
RP**4/RP**N	A(NO)	10A, 250VAC, resistive, 70°C	$100x10^3$

Mechanical endurance
DC-coil version: $>20x10^6$ operations
REM/bistable version: $>1x10^6$ operations

Max. breaking capacity RPII/1



Electrical endurance



Coil Data

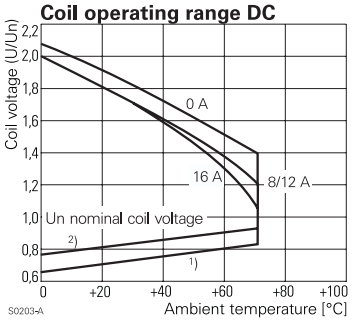
Coil voltage range	5 to 110VDC
Operative range, IEC 61810	2

Coil versions, DC coil

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
005	5	3.5	0.5	54	500
006	6	4.2	0.6	68	500
012	12	8.4	1.2	270	500
024	24	16.8	2.4	1100[1)]	500
048	48	33.6	4.8	4400[1)]	500
060	60	42.0	6.0	6540[1)]	500
110	110	77.0	11.0	23100[1)]	500

1) Coil resistance ±15%.
All figures are given for coil without pre-energization, at ambient temperature +20°C.
Other coil voltages on request.

Coil operating range DC



Coil versions, REM I (1 coil bistable/remanence)

Coil code	Rated voltage VDC	Resistance Ω±15%	Magnetisation range MIN./ Vdc	Magnetisation range MAX./Vdc	Demagnetisation range MIN./ Vdc	Demagnetisation range MAX./Vdc
A12	12	115	9	18	3	4.8
A24	24	460	18	36	6	9.6
A48	48	1748	36	72	12	19.2

Coil versions, REM II (2 coil bistable/remanence)

Coil code	Rated voltage VDC	Resistance Ω±15%	Magnetisation range MIN./ Vdc	Magnetisation range MAX./Vdc	Demagnetisation range MIN./ Vdc	Demagnetisation range MAX./Vdc
F05	5	20	3.7	7.5	3.7	6
F12	12	105	9	18	9	14.4
F24	24	460	18	36	18	28.8

All figures are given for coil without pre-energization, at ambient temperature +20°C.Other coil voltages on request.

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Power PCB Relay RPII/1 (Continued)

Insulation Data

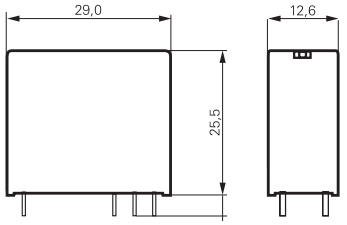
Initial dielectric strength	
between open contacts	$1000V_{rms}$
between contact and coil	$4000V_{rms}$
Clearance/creepage	
between contact and coil	≥8/8mm
Material group of insulation parts	IIIa

Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter	
Ambient temperature	-40 to +70°C
Category of environmental protection	
IEC 61810	RTII - flux proof, RTIII - wash tight
Vibration resistance (functional),	
form A/form B, 30 to 300Hz	10/2g
Shock resistance (destructive)	100g
Terminal type	PCB-THT
Weight	18g
Resistance to soldering heat THT, IEC 60068-2-20	
flux proof version	270°C/10s
wash tight version	260°C/5s
Packaging/unit	tube/20 pcs., box/500 pcs.

Dimensions

Dimensions in mm

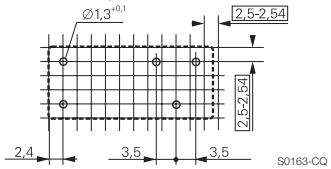


Monostable and REM I (REM II version has 3 coil terminals)

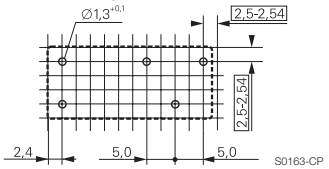
PCB layout / terminal assignment

Bottom view on solder pins
Dimensions in mm

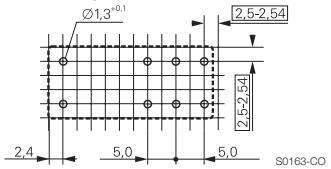
8/12A, pinning 3.5 mm



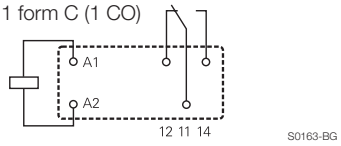
8/12A, pinning 5 mm



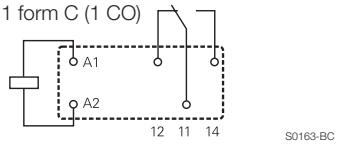
16A, pinning 5 mm



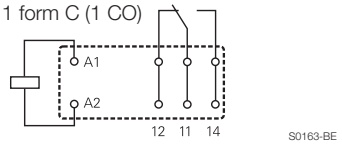
1 form C (1 CO)



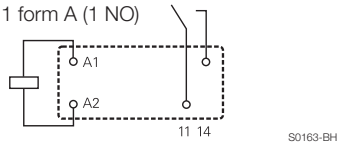
1 form C (1 CO)



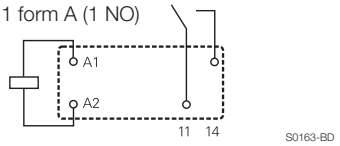
1 form C (1 CO)



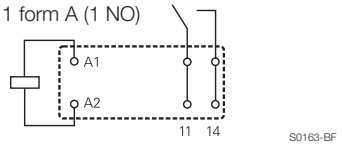
1 form A (1 NO)



1 form A (1 NO)



1 form A (1 NO)



Product code structure

Typical product code **RP 3 1 4 024**

Type
- **RP** Power PCB Relay RPII/1

Version
- **3** 16A, flux proof
- **4** 8/12A, flux proof
- **7** 16A, wash tight
- **8** 8/12A, wash tight

Contact arrangement
- **1** 1 form C contact (1 CO)
- **3** 1 form A contact (1 NO)
- **5** 1 form B contact (1 NC)

Contact material and pinning
- **1** AgNi0.15, 8A, pinning 5mm
- **2** AgNi0.15, 8A, pinning 3.5mm
- **0** Discontinued: AgCdO, pinning 5mm[2)]
- **8** Discontinued: AgCdO, 8/12A, pinning 3.5mm[2)]
- **4** AgNi 90/10, pinning 5mm
- **N** AgNi 90/10, 12A, pinning 3,5mm

Coil
- Coil code: please refer to coil versions table

2) AgCdO contacts are discontinued and replaced with AgNi contacts (see PCN E-18-003947)

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Power PCB Relay RPII/1 (Continued)

Product Code	Version	Contacts	Cont. Material	Pinning	Coil Version	Coil	Part Number
RP314005	16A, flux proof	1 form C (CO) contact	AgNi 90/10	5 mm	monostable	5VDC	8-1415546-4
RP314006						6VDC	8-1415546-5
RP314010						10VDC	8-1415546-6
RP314012						12VDC	8-1415546-7
RP314024						24VDC	8-1415546-8
RP314048						48VDC	8-1415546-9
RP314110						110VDC	9-1415546-0
RP314F12					REM II	12VDC	8-1415546-1
RP314F24						24VDC	8-1415546-2
RP334012		1 form A (NO) contact			monostable	12VDC	9-1415546-1
RP334024						24VDC	9-1415546-2
RP334048						48VDC	9-1415546-4
RP354012		1 form B (NC) contact				12VDC	9-1415546-5
RP411012	8A, flux proof	1 form C (CO) contact	AgNi0.15			12VDC	9-1393230-4
RP411024						24VDC	9-1393230-5
RP411048						48VDC	9-1393230-6
RP411060						60VDC	9-1393230-7
RP411110						110VDC	9-1393230-8
RP431012		1 form A (NO) contact				12VDC	4-1393231-5
RP412012		1 form C (CO) contact		3,5 mm		12VDC	1-1393231-1
RP412024						24VDC	1-1393231-2
RP412F12					REM II	24VDC	1393231-6
RP414012	12A, flux proof	1 form C (CO) contact	AgNi 90/10	5 mm	monostable	12VDC	1415546-4
RP414024						24VDC	1415546-5
RP414A24					REM I	24VDC	9-1415546-6
RP414F24					REM II	24VDC	9-1415546-7
RP41N024				3,5 mm	monostable	24VDC	1-1415547-7
RP434024		1 form A (NO) contact		5 mm		24VDC	9-1415546-3
RP43N024				3,5 mm		24VDC	7-1415547-0
RP45N024		1 form B (NC) contact				24VDC	7-1415547-1
RP714006	16A, wash tight	1 form C (CO) contact		5 mm		6VDC	9-1415546-8
RP714012						12VDC	9-1415546-9
RP714024						24VDC	1415547-1
RP714048						48VDC	1415547-2
RP734012		1 form A (NO) contact				12VDC	1415547-6
RP734020						20VDC	1415547-7
RP734024						24VDC	1415547-8
RP734036						36VDC	1415547-9
RP734A12					REM I	12VDC	1415547-3
RP814012	12A, wash tight	1 form C (CO) contact			monostable	12VDC	1-1415547-0
RP814024						24VDC	1-1415547-1
RP814048						48VDC	1-1415547-2

Note. This list represents the most common types and does not show all variants covered by this datasheet. Other types on request.

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