

**Miniature PCB Relay PE**

- 1 pole 5 A, 1 CO or 1 NO contact
- Cadmium-free contacts
- Sensitive coil 200 mW
- 4 kV coil-contact
- Ambient temperature 85°C
- Low height 10.0 mm
- Plastic materials according to IEC60335-1 (domestic appliances)
- RoHS compliant (Directive 2002/95/EC) as per product date code 0352



F0169-B

**Applications**

Industrial electronics, white goods, measurement and control

**Approvals**

VDE REG.-Nr. 6656, **CE** us E214025 (for version with 1 NO in process)  
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	5 A
Rated voltage / max.switching voltage AC	240/400 VAC
Maximum breaking capacity AC	1250 VA
Contact material	AgNi90/10
Mechanical endurance	15x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	6/1200 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
PE014	5 A, 250 VAC, resistive, 85°C, 6 cycles/min, 50% df, EN61810-1	1x10 <sup>5</sup>
PE014	5 A, 30 VDC, resistive, on NO-contact, 85°C, 6 cycles/min, 50% duty factor, EN61810-1,	1x10 <sup>5</sup>
PE014	5 A, 240 VAC resistive load, on NO or NC contact, UL508	1x10 <sup>5</sup>
PE034	5 A, 250 VAC, resistive, 85°C, 6 cycles/min, 50% df, EN61810-1	1x10 <sup>5</sup>
PE034	5 A, 30 VDC, resistive, 85°C, 6 cycles/min, 50% duty factor, EN61810-1,	1x10 <sup>5</sup>
PE034	5 A, 240 VAC resistive load, UL508	1x10 <sup>5</sup>

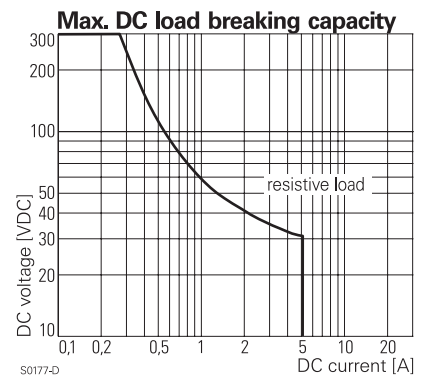
**Coil data**

Rated coil voltage range DC coil	5...48 VDC
Coil power DC coil	typ. 200 mW
Operative range	2

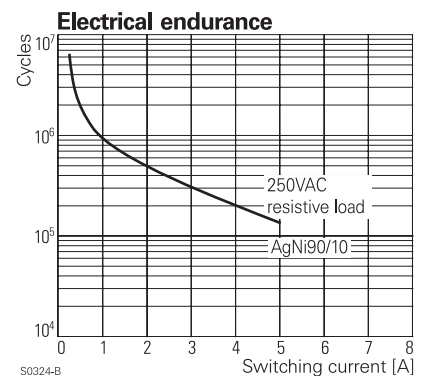
**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
005	5	3.8	0.5	125±10%	200
006	6	4.5	0.6	172±10%	209
012	12	9.0	1.2	685±10%	210
024	24	18.0	2.4	2725±10%	211
048	48	36.0	4.8	10970±10%	210

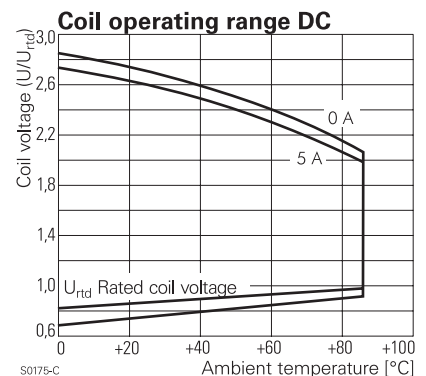
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request



S0177-D



S0324-B

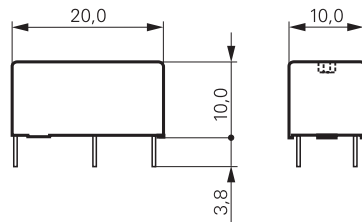


S0175-C

Insulation	
Dielectric strength coil-contact circuit	4000 V <sub>rms</sub>
open contact circuit	1000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 3,2 / 4 mm
Material group of insulation parts	IIIa
Tracking index of relay base	PTI 250
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	basic
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	230 V
Overvoltage category	III

Other data	
RoHS - Directive 2002/95/EC	compliant as per product date code 0352
Flammability class according to UL94	V-0
Ambient temperature range	-40...85°C
Operate- / release time	typ. 5/2 ms
Bounce time NO / NC contact	typ. 1/5 ms
Vibration resistance (function) NO / NC contact	> 15/5 g
Shock resistance (destruction)	> 100 g
Category of protection	RTII - flux proof (RTIII - wash tight on request)
Resistance to soldering heat flux-proof version	270°C / 10 s
Relay weight	5 g
Packaging unit	25/500 pcs

**Dimensions**

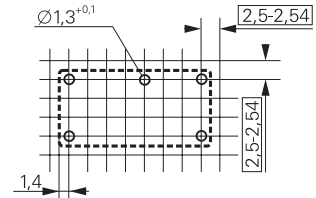


S0271-AA

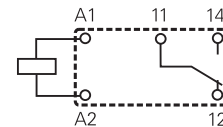
**PCB layout / terminal assignment**

Bottom view on solder pins

CO version

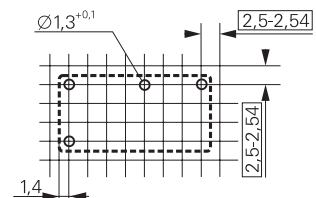


S0176-BA

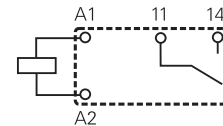


S0176-BB

NO version



S0176-BC



S0176-BD

**Product key**

Type

Version

0 flux proof

Contact configuration

1 1 CO contact

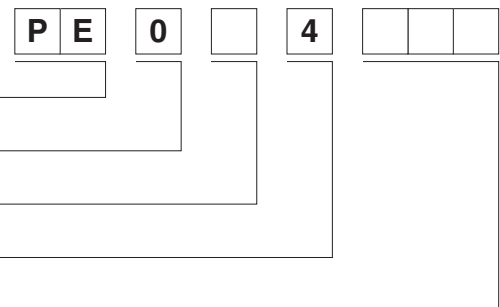
3 NO contact

Contact material

4 AgNi 90/10

Coil

Coil code: please refer to coil versions table



Product key	Version	Contacts	Contact material	Coil	Part number
PE014005	flux proof	1 CO contact	AgNi 90/10	5 VDC	0-1393219-3
PE014006				6 VDC	0-1393219-4
PE014012				12 VDC	0-1393219-6
PE014024				24 VDC	1-1393219-0
PE014048			48 VDC	1-1393219-3	
PE034005		1 NO contact		5 VDC	4-1415535-6
PE034006				6 VDC	4-1415535-7
PE034012				12 VDC	4-1415535-9
PE034024				24 VDC	5-1415535-1
PE034048				48 VDC	5-1415535-2

**Miniature PCB Relay PE bistable**

- 1pole 5 A, polarized bistable version
- 1 CO contact
- Sensitive version with 200 mW coil
- 4 kV coil-contact, Insulation according to IEC 255
- Ambient temperature 70 °C
- Low height 10.0 mm
- RoHS compliant (Directive 2002/95/EC) as per product date code 0352

**Applications**

Room thermostats, electricity meters, domotic devices, white goods, battery powered controls



F0221-A

**Approvals**

VDE REG.-Nr. 6656, cULus E214025  
Technical data of approved types on request

**Contact data**

Contact configuration	1 CO contact
Contact set	single contact
Type of interruption	micro disconnection
Rated current	5 A
Rated voltage / max.switching voltage AC	240/400 VAC
Maximum breaking capacity AC	1250 VA
Contact material	AgNi90/10
Mechanical endurance	5x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	6 / 1200 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
PE014	5 A, 250 VAC, 85°C, resistive load, 6 min <sup>-1</sup> , 50% df, EN61810-1	1x10 <sup>5</sup>
PE014	5 A, 240 VAC resistive load, on NO or NC contact, UL508	1x10 <sup>5</sup>
PE014	5 A, 30 VDC resistive, 85°C, 6 min <sup>-1</sup> , 50% duty factor, EN61810-1	1x10 <sup>5</sup>

**Coil data**

Rated coil voltage range	2,2...48 VDC
Coil power	typ. 200 mW
Operative range	2
Reset voltage maximum, % of rated coil voltage	120% at -40°C
Minimum energization duration	20 ms
Information on reduced pulse duration with higher energization voltages on demand	
Maximum energization duration	1 min at <10% duty factor

**Coil versions, bistable, 1 coil**

Coil code *)	Rated voltage VDC	Operate voltage VDC	Reset voltage VDC	Coil resistance Ohm	Rated coil power mW	
F02	H02	2.2	1.65	1.65	22±10%	220
F03	H03	3	2.25	2.25	41±10%	220
F05	H05	5	3.75	3.75	125±10%	200
F06	H06	6	4.5	4.5	180±10%	200
F12	H12	12	9.0	9.0	650±10%	222
F24	H24	24	18.0	18.0	2750±10%	209

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

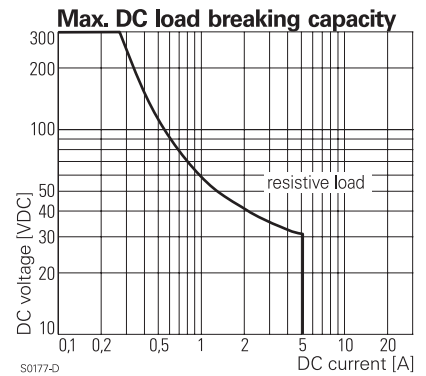
\*) Coil codes F.. and H.. have opposite polarity; refer to coil operation table

Other coil voltages on request

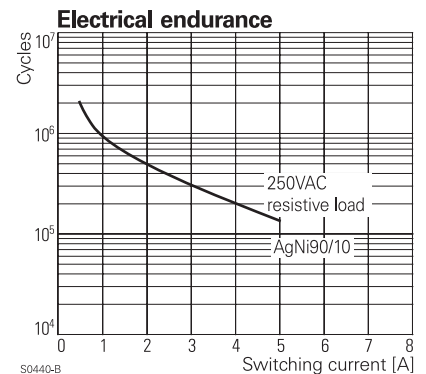
**Coils - operation**

Version	F..		H..	
Coil terminals	A1	A2	A1	A2
Operate	+	-	-	+
Reset	-	+	+	-

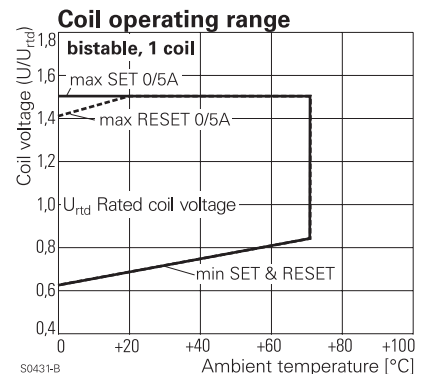
Contact position not defined at delivery



S0177-D



S0440-B



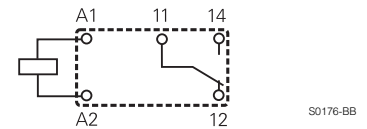
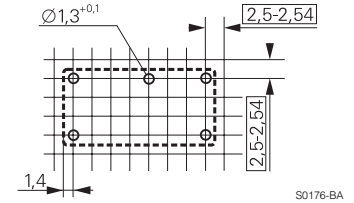
S0431-B

**Miniature PCB Relay PE bistable (Continued)**

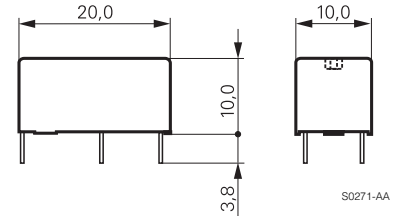
Insulation	
Dielectric strength coil-contact circuit	4000 V <sub>rms</sub>
open contact circuit	1000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 3,2 / 4 mm
Material group of insulation parts	IIIa
Tracking index of relay base	PTI 250
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	basic
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	230 V
Overvoltage category	2
	400 V
	III

Other data	
RoHS - Directive 2002/95/EC	compliant as per product date code 0352
Flammability class according to UL94	V-0
Ambient temperature range	-40...85°C, 70°C at 100% duty factor
Shock resistance (destruction)	> 100 g
Category of protection	RTII - flux proof (RTIII - wash tight on request)
Resistance to soldering heat flux-proof version	270°C / 10 s
Relay weight	5 g
Packaging unit	25/500 pcs

**PCB layout / terminal assignment**  
Bottom view on solder pins



**Dimensions**



**Product key**

Type	
Version	<b>0</b> flux proof
Contact configuration	<b>1</b> 1 CO contact
Contact material	<b>4</b> AgNi 90/10
Coil	Coil code: please refer to coil versions table



Product key	Version	Contacts	Contact material	Coil	Coil	Part number
PE014F02	flux proof	1 CO contact	AgNi 90/10	bistable	2,2 VDC	9-1415389-1
PE014F03				1-coil	3 VDC	0-1415390-1
PE014F05				polarity F	5 VDC	1-1415390-1
PE014F06				200 mW	6 VDC	2-1415390-1
PE014F12					12 VDC	3-1415390-1
PE014F24					24 VDC	5-1415390-1
PE014H02				bistable	2,2 VDC	7-1415390-1
PE014H03				1-coil	3 VDC	8-1415390-1
PE014H05				polarity H	5 VDC	9-1415390-1
PE014H06				200 mW	6 VDC	0-1415391-1
PE014H12					12 VDC	1-1415391-1
PE014H24					24 VDC	2-1415391-1

**Minature PCB Relay REL**

- 1 pole 5 A, 1 NO contact
- Low height 12.0 mm
- Especially suited for applications white goods, consumer electronics, etc.
- Plastic materials according to IEC60335-1 (domestic appliances)
- RoHS compliant (Directive 2002/95/EC) as per product date code 0352



F0275-A

**Applications**

PLC's, timers, temperature control, I/O cards, white goods

**Approvals**

VDE REG.-Nr. 6127, **UL** us E214025  
Technical data of approved types on request

**Contact data**

Contact configuration	1 NO
Contact set	single contact
Type of interruption	micro disconnection
Rated current	5 A
Rated voltage / max.switching voltage AC	240/400 VAC
Limiting making capacity, max 4 s, duty factor 10%	15 A
Contact material	AgNi90/10, AgCdO
Mechanical endurance	>10x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	6/1200 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
REL3.	5 A, 250 VAC, resistive, 85°C, 50% df, 6 min <sup>-1</sup> , VDE EN61810-1	1x10 <sup>5</sup>
REL3.	3 A, 400 VAC, resistive, 85°C, 50% df, 20 min <sup>-1</sup> , VDE EN61810-1	4x10 <sup>5</sup>
REL34	5 A, 250 VAC, general purpose, 85°C, UL508	1x10 <sup>5</sup>
REL30	1/4 hp, 240 VAC, general purpose, UL508	3x10 <sup>4</sup>
REL30	B300, UL508	

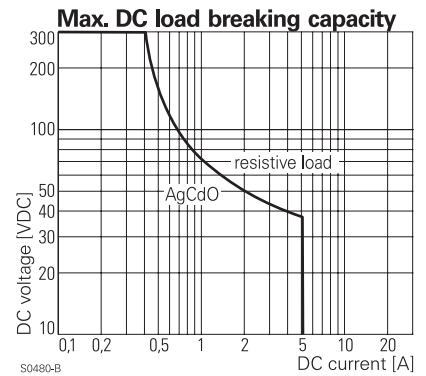
**Coil data**

Rated coil voltage range DC coil	5 ... 48 VDC
Coil power DC coil	360 mW
Operative range	2
Coil insulation system according UL1446	F

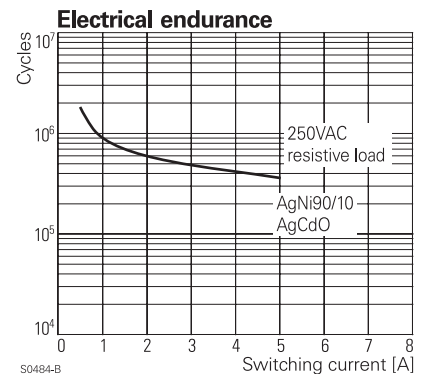
**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
005	5	3.75	0.5	70±10%	357
006	6	4.5	0.6	100±10%	360
012	12	9	1.2	400±10%	360
024	24	18	2.4	1600±10%	360
036	36	27	3.6	3600±15%	360
048	48	36	4.8	6400±15%	360

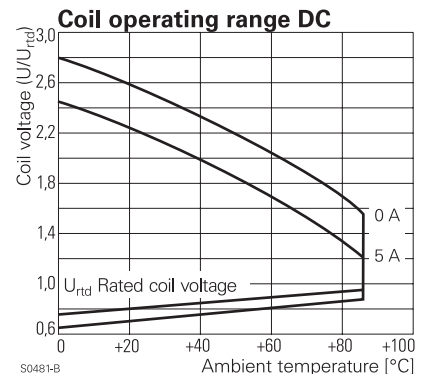
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request



S0480-B



S0484-B



S0481-B

**Insulation**

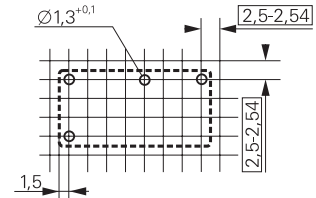
Dielectric strength coil-contact circuit	3000 V <sub>rms</sub>
open contact circuit	1000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 4 / 4 mm
Material group of insulation parts	IIIa
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	basic
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	230/400 V
Overvoltage category	III

**Other data**

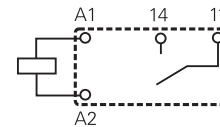
RoHS - Directive 2002/95/EC	compliant as per product date code 0352
Flammability class according to UL94	V-0
Ambient temperature range	-40...+85°C
Operate- / release time	5/1 ms
Bounce time NO / NC contact	1 ms
Shock resistance (destruction)	100 g
Category of protection	RT II - flux proof
Resistance to soldering heat flux-proof version	270°C / 10 s
Relay weight	5 g
Packaging unit	25 pcs

**PCB layout / terminal assignment**

Bottom view on solder pins

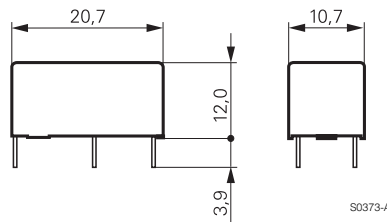


S0176-BL



S0176-BJ

**Dimensions**



S0373-A

**Product key**



Type					
Contact configuration	<b>3</b>	1 NO contact			
Contact material	<b>4</b>	AgNi90/10	<b>0</b>	AgCdO	
Coil	Coil code: please refer to coil versions table				

Product key	Version	Contacts	Contact material	Coil	Part number
REL34006	flux proof	1 NO contact	AgNi90/10	6 VDC	3-1415535-5
REL34012				12 VDC	3-1415535-6
REL34024				24 VDC	3-1415535-7
REL34048				48 VDC	3-1415535-8
REL30006			AgCdO	6 VDC	0-1393218-2
REL30012				12 VDC	4-1393217-6
REL30024				24 VDC	4-1393217-7
REL30048				48 VDC	0-1393218-3

**Miniature PCB Relay RE**

- 1 pole 6 A, 1NO contact
- Sensitive coil 200 mW
- 4 kV coil-contact
- Optimized height 10,6 mm
- PCB area 200 mm<sup>2</sup>
- Wash tight
- Plastic materials according to IEC60335-1 (domestic appliances)
- RoHS compliant (Directive 2002/95/EC) as per product date code 0352

**Applications**

PLC's, timers, temperature control, I/O cards, white goods



F0141-A

**Approvals**

VDE REG.-Nr. 5063, cULus E214025  
Technical data of approved types on request

**Contact data**

Contact configuration	1 NO
Contact set	single contact
Type of interruption	micro disconnection
Rated current	6 A
Rated voltage / max.switching voltage AC	240/400 VAC
Maximum breaking capacity AC	1500 VA
Limiting making capacity, max 4 s, duty factor 10%	15 A
Contact material	AgCdO AgNi0.15 and AgNi90/10 in preparation
Mechanical endurance	>30x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	6/1200 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
RE030	6 A, 250 VAC, resistive, 70°C, 50% df, 6 min <sup>-1</sup> , EN61810-1	1x10 <sup>5</sup>
RE030	1/4 hp, 240 VAC, UL508	3x10 <sup>4</sup>
RE030	B 300, UL508	

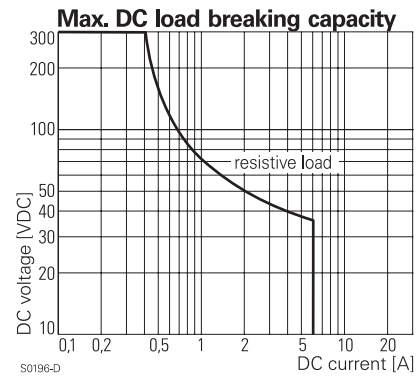
**Coil data**

Rated coil voltage range DC coil	5 ... 48 VDC
Coil power DC coil	typ. 200 mW
Operative range	2
Coil insulation system according UL1446	F

**Coil versions, DC-coil**

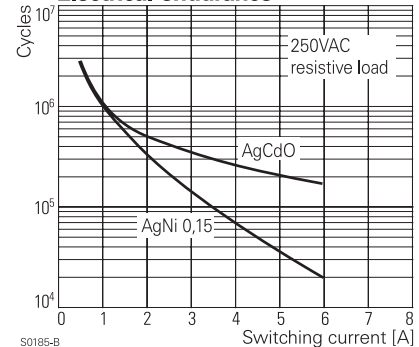
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
005	5	3.5	0.5	125±10%	200
006	6	4.2	0.6	180±10%	200
012	12	8.4	1.2	720±10%	200
024	24	16.8	2.4	2880±15%	200
048	48	33.6	4.8	11520±15%	200

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



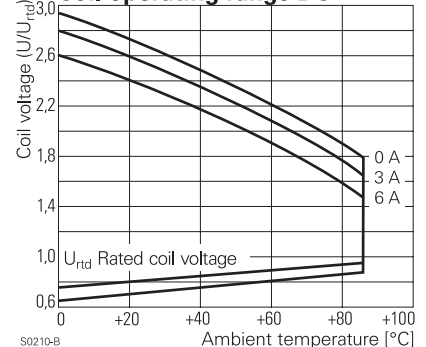
S0196-D

**Electrical endurance**



S0185-B

**Coil operating range DC**



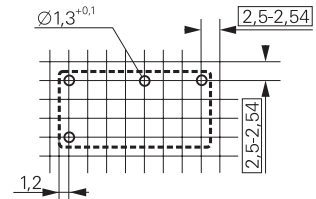
S0210-B



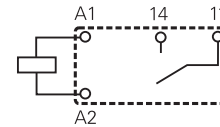
Insulation	
Dielectric strength coil-contact circuit	4000 V <sub>rms</sub>
open contact circuit	1000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 4/4 mm
Material group of insulation parts	IIIa
Tracking index of relay base	PTI 250
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	basic
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	230/400 V
Overvoltage category	III

**PCB layout / terminal assignment**

Bottom view on solder pins



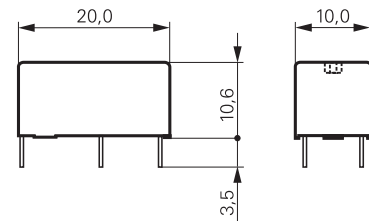
S0176-BH



S0176-BJ

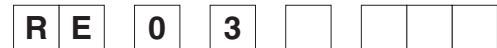
Other data	
RoHS - Directive 2002/95/EC	compliant as per product date code 0352
Flammability class according to UL94	V-0
Ambient temperature range	-40 ... +70°C
	-40 ... +85°C at 4 A
Operate- / release time	5/1 ms
Bounce time NO / NC contact	1 ms
Category of protection	RTIII - wash-tight
Resistance to soldering heat wash-tight version	260°C / 5 s
Relay weight	5 g
Packaging unit	25 pcs

**Dimensions**



S0271-AH

**Product key**



Type					
Version	<b>0</b> wash-tight				
Contact configuration	<b>3</b> 1 NO contact				
Contact material	<table border="0"> <tr> <td><b>1</b> AgNi 0.15</td> <td><b>2</b> AgNi 0.15 gold plated</td> </tr> <tr> <td><b>4</b> AgNi 90/10</td> <td><b>0</b> AgCdO</td> </tr> </table>	<b>1</b> AgNi 0.15	<b>2</b> AgNi 0.15 gold plated	<b>4</b> AgNi 90/10	<b>0</b> AgCdO
<b>1</b> AgNi 0.15	<b>2</b> AgNi 0.15 gold plated				
<b>4</b> AgNi 90/10	<b>0</b> AgCdO				
Coil	Coil code: please refer to coil versions table				

Product key	Version	Contacts	Contact material	Coil	Part number
RE030005	wash tight	1 NO contact	AgCdO	5 VDC	0-1393217-1
RE030006				6 VDC	0-1393217-2
RE030012				12 VDC	0-1393217-4
RE030024				24 VDC	0-1393217-8
RE030048				48 VDC	1-1393217-1
RE032005			AgNi 0,15 gold plated	5 VDC	1-1393217-9
RE032006				6 VDC	2-1393217-0
RE032012				12 VDC	2-1393217-2
RE032024				24 VDC	2-1393217-4
RE032048				48 VDC	2-1393217-5
RE034005			AgNi 90/10	5 VDC	2-1416010-3
RE034006				6 VDC	2-1416010-4
RE034012				12 VDC	2-1416010-6
RE034024				24 VDC	2-1416010-7
RE034048				48 VDC	2-1416010-8



**Slim PCB Relay PCN**

- 1 pole 3 A, 1 NO contact
- Only 5 mm wide
- 3 A switching current
- Load range 1 mA up to 3 A
- Sensitive coil 120 mW
- Allows high function-/packing density
- Cadmium-free contacts
- Z type with reinforced insulation
- RoHS compliant (Directive 2002/95/EC) as per product date code 0424



F0258-A

**Applications**

Centralized and decentralized heating control, extremely narrow interface elements, interface technology, timers, PLC's, I/O modules, I/O-ports

**Approvals**

VDE REG.-Nr. 6166; cRU us E82292  
Technical data of approved types on request

**Contact data**

Contact configuration	1NO
Contact set	bifurcated contact
Type of interruption	micro disconnection
Rated current	3 A
Rated voltage / max.switching voltage AC	240/277 VAC
Limiting continuous current	3 A
Maximum breaking capacity AC	750 VA
Limiting making capacity, max 4 s, duty factor 10%	5 A
Contact material	AgNi90/10
Minimum contact load	5V / 1mA
Mechanical endurance	20x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	10 / 1200 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
PCN-1..D3M.(-,H).(-,Z)	3 A, 250 VAC resistive, 70°C, 20 cycles/min, EN61810-1	1x10 <sup>5</sup>
PCN-1..D3M.(-,H).(-,Z)	3 A, 30 VDC, resistive, 70°C, 20 cycles/min, EN61810-1	1x10 <sup>5</sup>
PCN-1..D3M.(-,H).(-,Z)	Pilot Duty B300 240 VAC, UL508	6x10 <sup>3</sup>
PCN-1..D3M.(-,H).(-,Z)	Pilot Duty B300 120 VAC, UL508	6x10 <sup>3</sup>

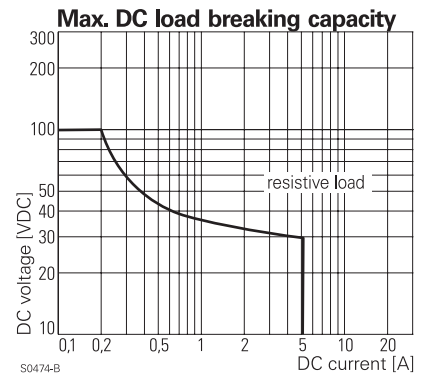
**Coil data**

Rated coil voltage range DC coil	DC5...24 VDC
Coil power DC coil	typ 120 mW
Operative range	1

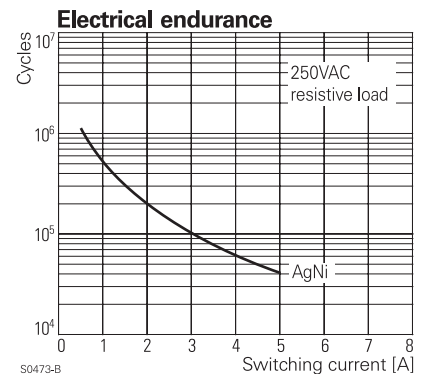
**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
005	5	3.5	0.5	208±10%	120
006	6	4.2	0.6	300±10%	120
009	9	6.3	0.9	675±10%	120
012	12	8.4	1.2	1200±10%	120
024	24	16.8	2.4	4800±10%	120

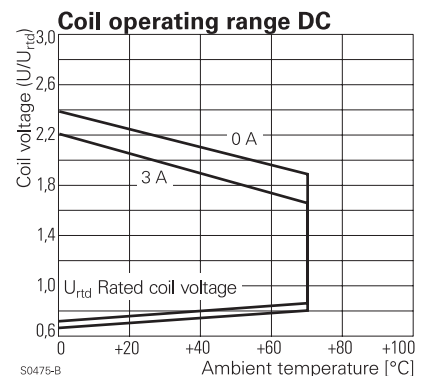
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request



S0474-B



S0473-B



S0475-B

**Slim PCB Relay PCN (Continued)**

**Insulation**

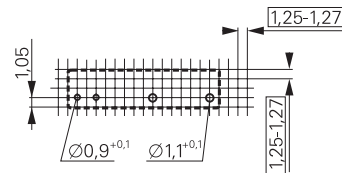
Dielectric strength coil-contact circuit	3000 V <sub>rms</sub>
open contact circuit	750 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 3,5 / 3,5 mm
Material group of insulation parts	I
Tracking index of relay base	PTI 600
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	reinforced
open contact circuit	functional
Rated insulation voltage	277 V
Pollution degree	2
Rated voltage system	277 V
Overvoltage category as basic insulation	III
Overvoltage category as reinforced insulation	II

**Other data**

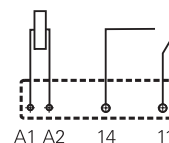
RoHS - Directive 2002/95/EC	compliant as per product date code 0424
Flammability class according to UL94	V-0
Ambient temperature range	-30...+70 °C
Operate- / release time	typ. 5/2 ms
Bounce time NO / NC contact	< 1ms
Vibration resistance (function) NO / NC contact	10 g
Shock resistance (function) NO / NC contact	10 g
Shock resistance (destruction)	100 g
Category of protection	RTIII - wash tight
Mounting	pcb
Mounting position	any
Minimum mounting distance	0 mm
Resistance to soldering heat wash tight version	260°C / 5 s
Relay weight	3 g
Packaging unit	25 / 2000 pcs

**PCB layout / terminal assignment**

Bottom view on solder pins

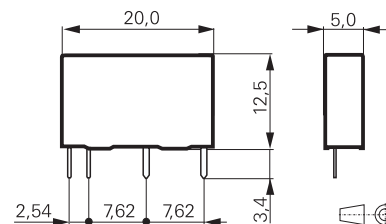


S0471-AA



S0471-AB

**Dimensions**



S0472-A

**Product key**



Type	
Number of contacts	<b>1</b> 1 pole
Coil	Coil code: please refer to coil versions table
Coil version	<b>D</b> standard 120 mW
Contact material	<b>3</b> AgNi
Contact configuration	<b>M</b> 1 NO contact
Version	<b>H</b> wash tight
Insulation	<b>Z</b> tracking resistance of relay base PTI 600
Other types on request	

Product key	Contacts	Coil	Coil	Contacts	Version	Part number
PCN-105D3MHZ	1-pole	5 VDC	standard	1 NO contact	wash tight	3-1461491-0
PCN-106D3MHZ		6 VDC	120 mW	AgNi	high insulation	3-1461491-1
PCN-112D3MHZ		12 VDC				3-1461491-3
PCN-124D3MHZ		24 VDC				3-1461491-6

**Slim PCB Relay SNR**

- 1 pole 6 A, 1 CO or 1 NO contact
- Only 5 mm wide
- Sensitive coil 170 mW
- 4 kV coil-contact, 6 / 8 mm clearance/creepage, NO version with 8 / 8 mm clearance/creepage on request
- Reinforced insulation (protection class II)
- Allows high function-/packing density
- Cadmium-free contacts, AgNi 90/10 for AC-loads
- RoHS compliant (Directive 2002/95/EC) as per product date code 0404

**Applications:** centralized and decentralized heating control, extremely narrow interface elements, interface technology, timers, PLC's, I/O modules, I/O-ports



F0140-C

**Approvals**

VDE REG.-Nr. 6666, **C** **RU** **us** E214024  
Technical data of approved types on request

**Contact data**

Contact configuration	1CO or 1NO		
Contact set	single contact		
Type of interruption	micro disconnection		
Rated current	6 A		
Rated voltage / max.switching voltage AC	240/400 VAC		
Maximum breaking capacity AC	1500 VA		
Limiting making capacity, max 4 s, duty factor 10%	10 A		
Contact material	AgSnO <sub>2</sub>	AgSnO <sub>2</sub>	AgNi90/10 gold plated
Minimum contact load	100mA, 12V	50mW	100mA, 12V
Mechanical endurance	10x10 <sup>6</sup> cycles		
Rated frequency of operation with / without load	6 / 1200 min <sup>-1</sup>		

**Contact ratings**

Type	Load	Cycles
V23092-****-A302	3(1,5)A, 250VAC, 85°C, 1mm mounting distance, 6 cycles / min, EN60730-1	100x10 <sup>3</sup>
V23092-****-A302	5(1,5)A, 250VAC, 85°C, 0,5mm mounting distance, 6 cycles / min, EN60730-1	10x10 <sup>3</sup>
V23092-	Pilot Duty R300 28 VDC, 85°C, 6000 cycles, UL508	
V23092-	Pilot Duty B300 240 VAC, 85°C, 6000 cycles, UL508	

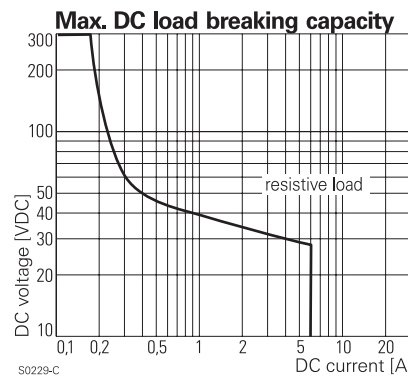
**Coil data**

Rated coil voltage range DC coil	5...60 VDC
Coil power DC coil	typ. 170 mW
Operative range	2

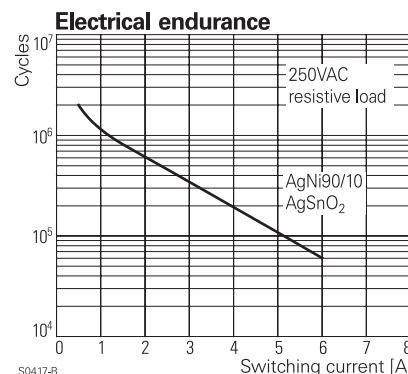
**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
005	5	3.5	0.25	147 ± 10%	170
012	12	8.4	0.6	848 ± 10%	170
024	24	16.8	1.2	3390 ± 10%	170
048	48	33.6	2.4	10600 ± 15%	217

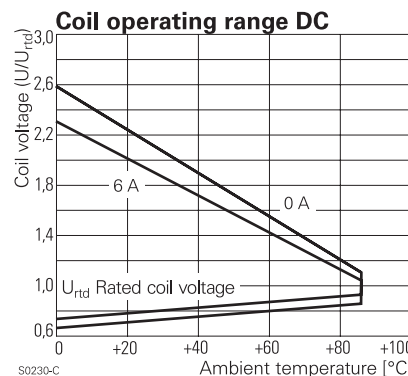
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request



S0229-C



S0417-B



S0230-C

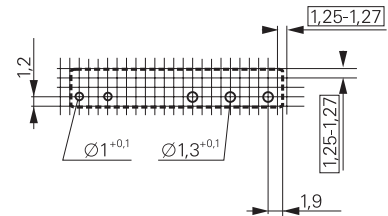
**Slim PCB Relay SNR (Continued)**

**Insulation**

Dielectric strength coil-contact circuit	4000 V <sub>rms</sub>
open contact circuit	1000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 6 / 8 mm
Material group of insulation parts	IIIa
Tracking index of relay base	PTI 250
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	reinforced
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	230 V
Overvoltage category	III

**PCB layout / terminal assignment**

Bottom view on solder pins

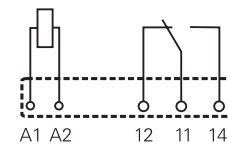


S0258-AA

**Other data**

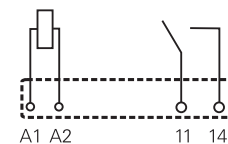
RoHS - Directive 2002/95/EC	compliant as per product data code 0404
Flammability class according to UL94	V-0
Ambient temperature range	-40...+85°C
Operate- / release time	5 / 2,5 ms
Bounce time NO / NC contact	1,5 / 5 ms
Vibration resistance (function) NO / NC contact	10 / 5 g
Shock resistance (function) NO / NC contact	10 / 5 g
Shock resistance (destruction)	30 g
Category of protection	RTIII - wash tight
Mounting	pcb
Mounting position	any
Minimum mounting distance	0 mm
Resistance to soldering heat	260°C / 5 s
Relay weight	6 g
Packaging unit	20 / 1000 pcs

1 CO contact



S0258-AB

1 NO contact

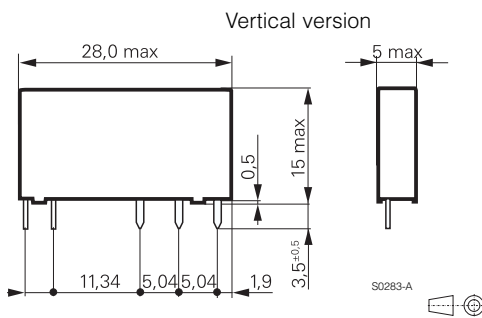


S0258-AC

**Accessories**

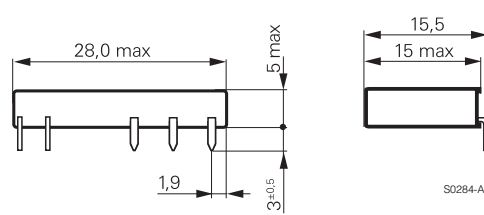
For details see datasheet Accessories SNR

**Dimensions**



S0283-A

Flat pack version



S0284-A

**Slim PCB Relay SNR** (Continued)

**Product key**

V 2 3 0 9 2 - 1 - A

Type

Version

**A** PCB vertical version      **B** PCB flat pack version

Version

**1** wash tight

Coil

Coil code: please refer to coil versions table

Contact system

**A** standard

Contact material

**2** AgSnO<sub>2</sub>, gold plated      **3** AgSnO<sub>2</sub>  
**8** AgNi 90/10

Contact configuration

**01** 1 CO contact      **02** 1 NO contact

NO version with 8/8 mm clearance and creepage and other types on request

Product key	Version	Contacts	Contact material	Coil	Part number
V23092-A1005-A201	PCB	1 CO contact	AgSnO <sub>2</sub> , gold pl.	5 VDC	0-1393236-1
V23092-A1005-A202	vertical version	1 NO contact			8-1415067-1
V23092-A1005-A301	wash tight	1 CO contact	AgSnO <sub>2</sub>		0-1393236-2
V23092-A1005-A302		1 NO contact			9-1415067-1
V23092-A1005-A801		1 CO contact	AgNi 90/10		1-1415068-1
V23092-A1005-A802		1 NO contact			0-1415068-1
V23092-A1012-A201		1 CO contact	AgSnO <sub>2</sub> , gold pl.	12 VDC	0-1393236-4
V23092-A1012-A202		1 NO contact			0-1393236-5
V23092-A1012-A301		1 CO contact	AgSnO <sub>2</sub>		0-1393236-7
V23092-A1012-A302		1 NO contact			0-1393236-8
V23092-A1012-A801		1 CO contact	AgNi 90/10		1-1393236-3
V23092-A1012-A802		1 NO contact			2-1415068-1
V23092-A1024-A201		1 CO contact	AgSnO <sub>2</sub> , gold pl.	24 VDC	2-1393236-1
V23092-A1024-A202		1 NO contact			2-1393236-2
V23092-A1024-A301		1 CO contact	AgSnO <sub>2</sub>		2-1393236-4
V23092-A1024-A302		1 NO contact			2-1393236-5
V23092-A1024-A801		1 CO contact	AgNi 90/10		3-1393236-0
V23092-A1024-A802		1 NO contact			5-1415063-1
V23092-A1048-A201		1 CO contact	AgSnO <sub>2</sub> , gold pl.	48 VDC	3-1393236-5
V23092-A1048-A202		1 NO contact			3-1393236-6
V23092-A1048-A301		1 CO contact	AgSnO <sub>2</sub>		3-1393236-7
V23092-A1048-A302		1 NO contact			3-1393236-8
V23092-A1048-A801		1 CO contact	AgNi 90/10		3-1393236-9
V23092-A1048-A802		1 NO contact			3-1415068-1



**Miniature PCB Relay OJ**

- 1 pole 8 A, 1NO contact
- Sensitive coil, 200 mW
- 4 kV dielectric strength between coil and contacts
- Miniature size
- RoHS compliant (Directive 2002 / 95 / EC) as per product date code 0424



F0277-B

**Approvals**

 REG.-Nr. 6835 in process,  US E82292 in process  
Technical data of approved types on request

**Contact data**

Contact configuration	1 NO
Contact set	single contact
Type of interruption	micro disconnection
Rated current	8 A
Rated voltage / max.switching voltage AC	240/400 VAC
Maximum breaking capacity AC	1920 VA
Contact material	AgSnO <sub>2</sub>
Mechanical endurance	5x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	10 / 600 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
OJ-SS-1..LMH2	8 A, 250 VAC, 70 °C, resistive, VDE EN61810-1	5x10 <sup>4</sup>
OJ-SS-1..LMH2	5 A, 250 VAC, 85 °C, resistive, VDE EN61810-1	1x10 <sup>5</sup>
OJ-SS-1..LMH2	8 A, 250 VAC, 70 °C, resistive, UL 508	5x10 <sup>4</sup>
OJ-SS-1..LMH2	5 A, 250 VAC, 85 °C, resistive, UL 508	1x10 <sup>5</sup>

**Coil data**

Rated coil voltage range DC coil	3 ... 48 VDC
Coil power DC coil	typ. 200 mW
Operative range	2

**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
03	3	2.25	0.15	45±10%	200
05	5	3.75	0.25	125±10%	200
06	6	4.5	0.3	180±10%	200
09	9	6.75	0.45	400±10%	203
12	12	9	0.6	720±10%	200
24	24	18	1.2	2800±10%	206

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

**Miniature PCB Relay OJ (Continued)**

**Insulation**

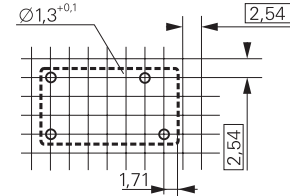
Dielectric strength coil-contact circuit	4000 V <sub>rms</sub>
open contact circuit	1000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 6/8 mm
Material group of insulation parts	IIIa
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	basic
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	230/400 V
Overvoltage category	III

**Other data**

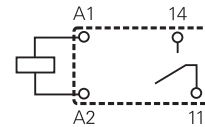
RoHS - Directive 2002/95/EC	compliant as per product date code 0424
Flammability class according to UL94	V-0
Ambient temperature range	-30 ... +85°C
Operate- / release time	15/4 ms
Category of protection	RTII - flux proof
Resistance to soldering heat flux-proof version	270° / 10 s
Relay weight	9 g
Packaging unit	500 pcs

**PCB layout / terminal assignment**

Bottom view on solder pins

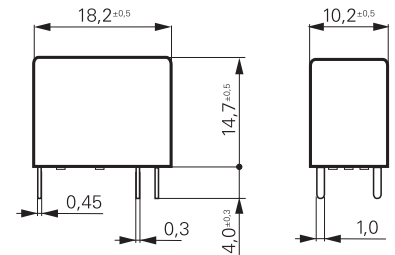


S0497-AA



S0497-AB

**Dimensions**



S0498-A

**Product key**



Type	
Coil	Coil code: please refer to coil versions table
Coil version	<b>L</b> sensitive 200 mW
Contact configuration	<b>M</b> 1 NO contact
Contact rating	<b>H</b> 8 A
Contact material	<b>2</b> AgSnO <sub>2</sub>

Product key	Version	Contacts	Contact material	Coil	Part number
OJ-SS-103LMH2	flux proof	1 NO contact	AgSnO <sub>2</sub>	3 VDC	0-1721181-1
OJ-SS-105LMH2				5 VDC	0-1721181-2
OJ-SS-106LMH2				6 VDC	0-1721181-3
OJ-SS-109LMH2				9 VDC	0-1721181-4
OJ-SS-112LMH2				12 VDC	0-1721181-5
OJ-SS-124LMH2				24 VDC	0-1721181-6



**Miniature PCB Relay PCJ**

- 1 pole 3 / 5 A, 1 NO contact
- Sensitive coil 200 mW
- 8 mm creepage / clearance
- Version for 105°C
- WG version: Product in accordance to IEC60335-1
- RoHS compliant (Directive 2002/95/EC) as per product date code 0424

**Applications**  
Domestic appliances



F0276-A

**Approvals**

 3 A versions: REG.-Nr. 122301 ÜG, 5 A versions pending;  E82292  
Technical data of approved types on request

**Contact data**

Contact configuration	1 NO	
Contact set	single contact	
Type of interruption	micro disconnection	
Rated current	3 A	5 A
Rated voltage / max.switching voltage AC	240/400 VAC	
Maximum breaking capacity AC	750 VA	1250 VA
Contact material	AgNi	AgSnOInO
Mechanical endurance	10x10 <sup>6</sup> cycles	
Rated frequency of operation with / without load	30 / 300 min <sup>-1</sup>	

**Contact ratings**

Type	Load	Cycles
AgNi	3 A, 240 VAC, 90°C	1x10 <sup>5</sup>
AgSnOInO	5 A, 240 VAC, 85°C	1x10 <sup>5</sup>
AgSnOInO	3 A, 240 VAC, 105°C	1x10 <sup>5</sup>

**Coil data**

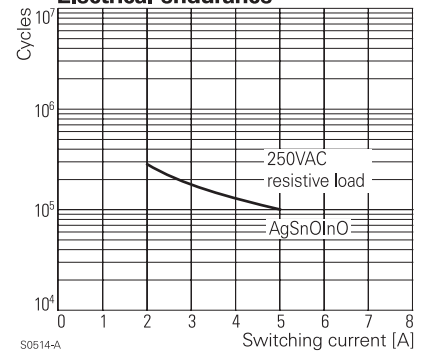
Rated coil voltage range DC coil	3...24 VDC
Coil power DC coil	typ. 200 mW
Operative range	2
Coil insulation system according UL1446	A F

**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
03	3	2.25	0.15	45±10%	200
05	5	3.75	0.25	125±10%	200
06	6	4.5	0.3	180±10%	200
09	9	6.75	0.45	405±10%	200
12	12	9	0.6	720±10%	200
24	24	18	1.2	2880±10%	200

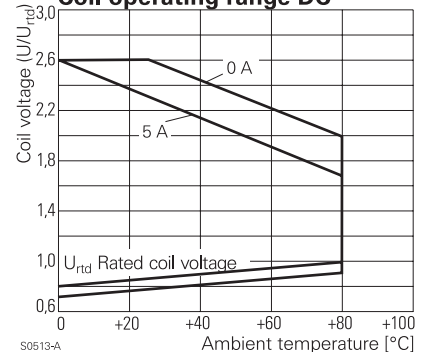
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request

**Electrical endurance**



S0514-A

**Coil operating range DC**



S0513-A

**Insulation**

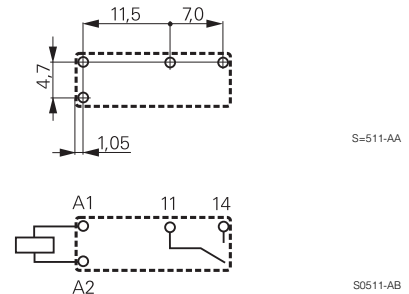
Dielectric strength coil-contact circuit	4000 V <sub>rms</sub>
open contact circuit	750 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 8 / 8 mm
Material group of insulation parts	≥ IIIa
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	reinforced
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	230/400 V
Overvoltage category	III

**Other data**

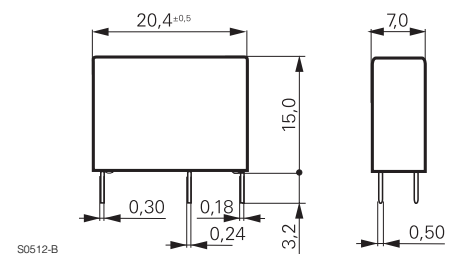
RoHS - Directive 2002/95/EC	compliant as per product date code 0424
Flammability class according to UL94	V-0
For WG version: GWF1 to IEC 60695-2-12	850°C (WG version)
GWT to IEC 60695-2-13	750°C (WG version)
Ambient temperature range	-40...+90 (105) °C
Operate- / release time	10 / 4 ms
Vibration resistance (function) NO / NC contact	>10 g
Shock resistance (function) NO / NC contact	>10 g
Shock resistance (destruction)	>100 g
Category of protection	RTII - flux proof / RTIII - wash tight
Resistance to soldering heat flux-proof version	270°C / 10 s
wash-tight version	260°C / 5 s
Relay weight	4 g
Packaging unit	100 pcs

**PCB layout / terminal assignment**

Bottom view on solder pins



**Dimensions**



**Product key**



Type		
Version		
<b>1</b>	single contact	
Coil	Coil code: please refer to coil versions table	
Coil power		
<b>D</b>	standard 200 mW	
Contact material		
<b>2</b>	AgSnOInO, 5 A, Class F	<b>3</b> AgNi, 3 A, Class A
Contact configuration		
<b>M</b>	1 NO contact	
Enclosure		
<b>Blank</b>	flux proof	
<b>H</b>	wash tight	
Special		
<b>Blank</b>	standard version	
<b>WG</b>	Product in accordance with IEC 60335-1 (domestic appliances)	

Other types on request

Product key	Version	Contacts	Contact material	Coil	Part number
PCJ-105D3M	flux proof	1 NO contact	AgNi	5 VDC	0-1721081-2
PCJ-109D3M		3 A	Class A	9 VDC	0-1721081-4
PCJ-112D3M				12 VDC	0-1721081-5
PCJ-124D3M				24 VDC	0-1721081-7
PCJ-105D3MH	wash tight			5 VDC	0-1721081-9
PCJ-109D3MH				9 VDC	1-1721081-1
PCJ-112D3MH				12 VDC	1-1721081-2
PCJ-124D3MH				24 VDC	1-1721081-4
PCJ-105D2M-WG	flux proof	1 NO contact	AgSnOInO	5 VDC	0-1721348-2
PCJ-109D2M-WG		5 A	Class F	9 VDC	0-1721348-4
PCJ-112D2M-WG				12 VDC	0-1721348-5
PCJ-124D2M-WG				24 VDC	0-1721348-7
PCJ-105D2MH-WG	wash tight			5 VDC	0-1721348-9
PCJ-109D2MH-WG				9 VDC	1-1721348-1
PCJ-112D2MH-WG				12 VDC	1-1721348-2
PCJ-124D2MH-WG				24 VDC	1-1721348-4

**Miniature Power PCB Relay RY II**

- 1 pole 8 A, 1 CO or 1 NO or 1 NC contact
- Low component height 12.3 mm
- 5 kV / 8 mm coil-contact
- Reinforced insulation (protection class II)
- Pinnings: 3.2 and 5 mm
- Sockets with PCB-type or screw-type terminals
- Especially suitable for resistive and inductive loads on NO and NC contacts
- Plastic materials according to IEC60335-1 (domestic appliances)
- RoHS compliant (Directive 2002 / 95 / EC) as per product date code 0403

Applications: heating control, interface technology, domestic appliances, timers, temperature control



F0142-C

**Approvals**

VDE REG.-Nr. 5358, cULus E214025  
Technical data of approved types on request

**Contact data**

Contact configuration	1CO or 1NO or 1NC
Contact set	single contact
Type of interruption	micro disconnection
Rated current	8 A
Rated voltage / max.switching voltage AC	240/400 VAC
Maximum breaking capacity AC	2000 VA
Contact material	AgNi0,15, AgSnO <sub>2</sub> , AgCdO
Mechanical endurance	30x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	6 / 1200 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
RY610	B300, 120 VAC, 70°C, UL508	
RY610	B300, 240 VAC, 70°C, UL508	
RY610	1/4 hp, 120 VAC, 70°C, UL508	
RY610	1/2 hp, 240 VAC, 70°C, UL508	
RY610	8 A, 28 VDC, 70°C, UL508	>3x10 <sup>4</sup>
RY610	0.28 A, 250 VDC, 70°C, UL508	>3x10 <sup>4</sup>
RY531	6 (4) A, 250 VAC, 85°C, VDE 0631	1x10 <sup>5</sup>

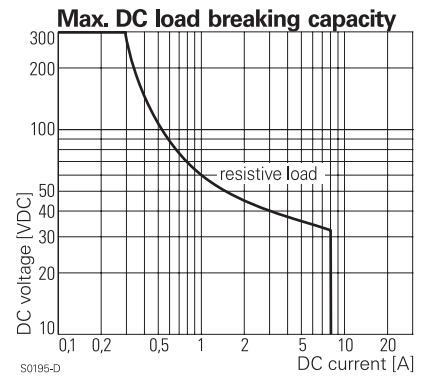
**Coil data**

Rated coil voltage range DC coil	5...60 VDC
Coil power DC coil	typ. 220 mW
Operative range	2

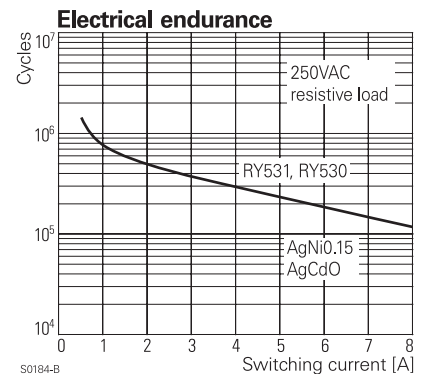
**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
005	5	3.5	0.5	112±10%	223
006	6	4.2	0.6	162±10%	222
009	9	6.3	0.9	320±10%	253
012	12	8.4	1.2	627±10%	230
024	24	16.8	2.4	2350±10%	245
048	48	33.6	4.8	9391±10%	245
060	60	42.0	6.0	14000±10%	257

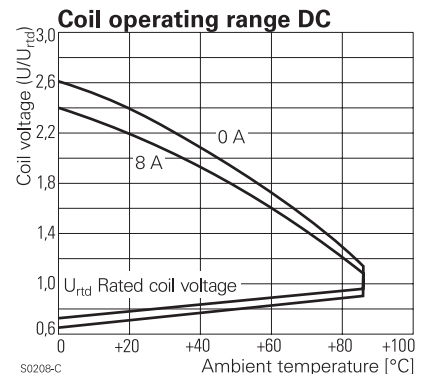
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request



S0195-D



S0184-B



S0208-C

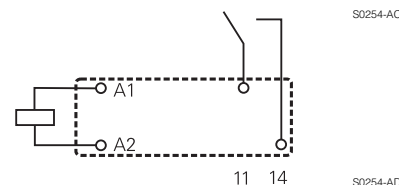
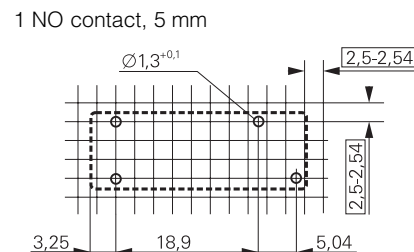
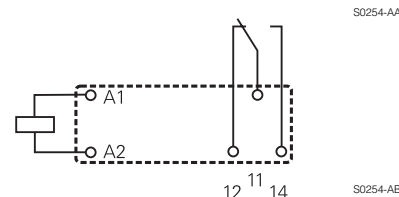
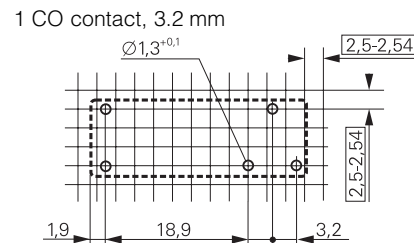
Insulation	CO contact	NO contact
Dielectric strength coil-contact circuit		5000 V <sub>rms</sub>
open contact circuit		1000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 8 / 8 mm	≥ 8 / 8 mm
Material group of insulation parts	IIIa	IIIa
Tracking index of relay base	PTI250	PTI250
Insulation to IEC 60664-1		
Type of insulation coil-contact circuit	reinforced	reinforced
open contact circuit	functional	functional
Rated insulation voltage	250 V	250 V
Pollution degree	3	2
Rated voltage system	230 V	400 V
Overvoltage category	III	III

Other data	
RoHS - Directive 2002/95/EC	compliant as per product date code 0403
Flammability class according to UL94	V-0
For WG version: GWFI to IEC 60335-1	> 850 °C
GWT to IEC 60335-1	> 750 °C
Ambient temperature range	-40...+70°C
Ambient temperature max.	85°C at 6A
Operate- / release time	typ. 7 / 3 ms
Bounce time NO / NC contact	2,5 / 4,5 ms
Vibration resistance (function) NO / NC contact	20 / 5 g
Shock resistance (function) NO / NC contact	20 / 5 g
Shock resistance (destruction)	100 g
Category of protection	RTII-flux proof, RTIII- wash tight
Mounting	pcb
Mounting position	any
Minimum mounting distance	0 mm
Resistance to soldering heat flux-proof version	270°C / 10 s
wash-tight version	260°C / 5 s
Relay weight	8 g
Packaging unit	20 / 500 pcs

Accessories	
For details see datasheet	Accessories RYII

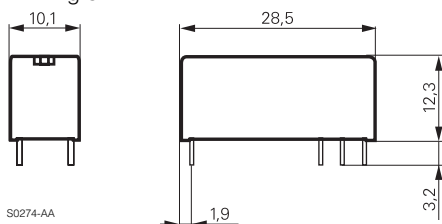
**PCB layout / terminal assignment**

Bottom view on solder pins

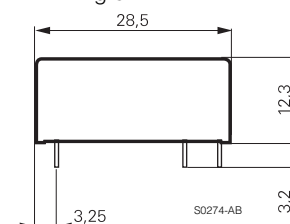


**Dimensions**

Pinning 3.2 mm



Pinning 5 mm



**Product key**

Type

Version

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| <b>2</b> pinning 3.2 mm, flux proof | <b>6</b> pinning 3.2 mm, wash tight |
| <b>5</b> pinning 5 mm, flux proof   | <b>A</b> pinning 5 mm, wash tight   |

Contact configuration

- |                                       |                                     |
|---------------------------------------|-------------------------------------|
| <b>1</b> 1 CO contact, pinning 3.2 mm | <b>3</b> 1 NO contact, pinning 5 mm |
|---------------------------------------|-------------------------------------|

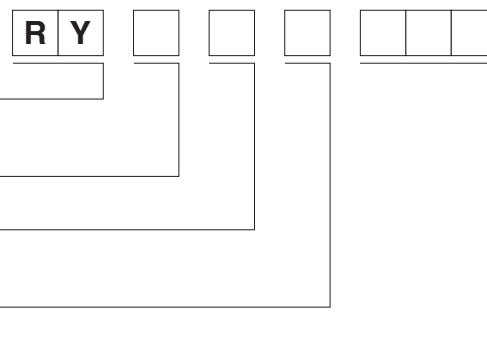
Contact material

- |                    |                                |
|--------------------|--------------------------------|
| <b>0</b> AgCdO     | <b>2</b> AgNi 0.15 gold plated |
| <b>1</b> AgNi 0.15 | <b>3</b> AgSnO <sub>2</sub>    |

Coil

Coil code: please refer to coil versions table

Other types on request



**Miniature Power PCB Relay RY II (Continued)**

Product key	Version	Contacts	Contact material	Coil	Part number		
RY210005	pinning 3.2 mm flux proof	1 CO contact	AgCdO	5 VDC	3-1393224-1		
RY210012				12 VDC	3-1393224-5		
RY210024				24 VDC	3-1393224-8		
RY210048				48 VDC	4-1393224-1		
RY211005			AgNi 0.15	5 VDC	4-1393224-2		
RY211012				12 VDC	4-1393224-6		
RY211024				24 VDC	4-1393224-9		
RY211048				48 VDC	5-1393224-1		
RY212005			AgNi 0.15 gold plated	5 VDC	5-1393224-2		
RY212012				12 VDC	5-1393224-5		
RY212024				24 VDC	5-1393224-8		
RY212048				48 VDC	5-1393224-9		
RY213005			AgSnO <sub>2</sub>	5 VDC	6-1393224-0		
RY213012				12 VDC	6-1393224-1		
RY213024				24 VDC	6-1393224-2		
RY213048				48 VDC	6-1393224-3		
RY530005	pinning 5 mm flux proof	1 NO contact	AgCdO	5 VDC	6-1393224-6		
RY530012				12 VDC	6-1393224-9		
RY530024				24 VDC	7-1393224-2		
RY530048				48 VDC	7-1393224-4		
RY531005			AgNi 0.15	5 VDC	7-1393224-6		
RY531012				12 VDC	7-1393224-9		
RY531024				24 VDC	8-1393224-2		
RY531048				48 VDC	8-1393224-3		
RY532012			AgNi 0.15 gold plated	12 VDC	8-1393224-4		
RY532024				24 VDC	8-1393224-5		
RY533012				AgSnO <sub>2</sub>	12 VDC	8-1393224-8	
RY533024					24 VDC	8-1393224-9	
RY533048			48 VDC	9-1393224-0			
RY610005			pinning 3.2 mm wash tight	1 CO contact	AgCdO	5 VDC	0-1393225-7
RY610012						12 VDC	1-1393225-0
RY610024						24 VDC	1-1393225-4
RY610048	48 VDC	1-1393225-5					
RY611005	AgNi 0.15	5 VDC			1-1393225-7		
RY611012		12 VDC			1-1393225-9		
RY611024		24 VDC			2-1393225-1		
RY611048		48 VDC			2-1393225-2		
RY612005	AgNi 0.15 gold plated	5 VDC			2-1393225-3		
RY612012		12 VDC			2-1393225-6		
RY612024		24 VDC			2-1393225-9		
RY612048		48 VDC			3-1393225-0		
RY613005	AgSnO <sub>2</sub>	5 VDC			5-1419136-2		
RY613012		12 VDC			3-1393225-1		
RY613024		24 VDC			3-1393225-3		
RY613048		48 VDC			3-1393225-4		
RYA30005	pinning 5 mm wash tight	1 NO contact	AgCdO	5 VDC	0-1393224-1		
RYA30012				12 VDC	0-1393224-4		
RYA30024				24 VDC	0-1393224-6		
RYA30048				48 VDC	7-1393225-7		
RYA31005			AgNi 0.15	5 VDC	0-1393224-7		
RYA31012				12 VDC	0-1393224-9		
RYA31024				24 VDC	1-1393224-2		
RYA31048				48 VDC	1-1393224-3		
RYA32005			AgNi 0.15 gold plated	5 VDC	1-1393224-4		
RYA32012				12 VDC	1-1393224-6		
RYA32024				24 VDC	1-1393224-8		
RYA33005				AgSnO <sub>2</sub>	5 VDC	1-1393224-9	
RYA33024			24 VDC		2-1393224-1		

**Miniature Power PCB Relay MSR**

- 1 pole 8 / 10 A, 1CO or 1NO contact
- High inrush currents with AgSnO contacts (TV4 = 65 A)
- 4 kV/8 mm coil-contact
- Reinforced insulation (protection class II)
- Ambient temperature up to 85°C at 8 A
- Plastic materials according to IEC60335-1 (domestic appliances)
- RoHS compliant (Directive 2002 / 95 / EC) as per product date code 0404

**Applications**

HVAC, interface technology, power supplies, TV-/Monitor control, computer-/communication technology, domestic appliances, Hi-Fi products, timers



F0143-C

**Approvals**

VDE REG.-Nr. 3919, cULus E214024  
Technical data of approved types on request

**Contact data**

Contact configuration	1CO or 1NO	
Contact set	single contact	
Type of interruption	micro disconnection	
Rated current	versions A,B:	8 A
	versions C,D:	10 A
Rated voltage / max.switching voltage AC	240/400 VAC	
Maximum breaking capacity AC	2000 VA	
Limiting making capacity, max 20 ms	A302: 65 A	
max 4 s, duty factor 10%	15 A	15 A
Contact material	AgSnO <sub>2</sub> , AgCdO	AgNiO, 15*
Mechanical endurance	10x10 <sup>6</sup> cycles	
Rated frequency of operation with / without load	6 / 1200 min <sup>-1</sup>	

\*not recommended for AC loads with arcing (CC2 according prEN61810-2)

**Contact ratings**

Type	Load	Cycles
V23061-A1***-A302	8 A, 250 VAC, resistive load, 85°C, 1 mm mountig distance, 6 cycles min <sup>-1</sup> , 50% duty factor, EN61810-1	100x10 <sup>3</sup>
V23061-C2***-A302	10 A, 250 VAC, resistive load, 85°C, 0 mm mountig distance, 6 cycles min <sup>-1</sup> , 50% duty factor, EN61810-1	10x10 <sup>3</sup>
V23061-C2***-A302	5 A, 250 VAC, resistive load, 105°C, 0 mm mountig distance, 6 cycles min <sup>-1</sup> , 50% duty factor, EN61810-1	100x10 <sup>3</sup>
V23061-A1***-A302	TV-4 Tungsten, 120 VAC, UL508	25x10 <sup>3</sup>
V23061-*****-A30*	240 VAC, A300, Pilot duty, UL508	6x10 <sup>3</sup>

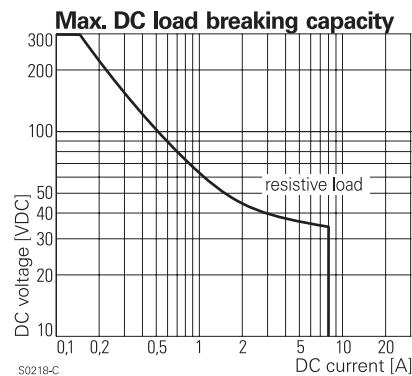
**Coil data**

Rated coil voltage range DC coil	3...60 VDC
Coil power DC coil	typ. 220 mW
Operative range	2
Coil insulation system according UL1446	Class A, Class F

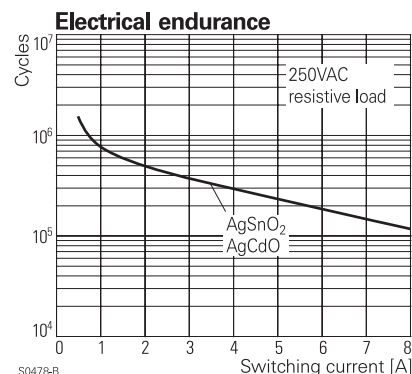
**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
001	3	2.1	0.3	40±10%	225
002	5	3.4	0.5	118±10%	212
003	6	4.1	0.6	165±10%	218
004	9	6.1	0.9	364±10%	223
005	12	8.2	1.2	652±10%	221
007	24	16.3	2.4	2270±10%	254
009	48	32.6	4.8	8790±10%	262
010	60	40.8	6.0	15265±15%	236

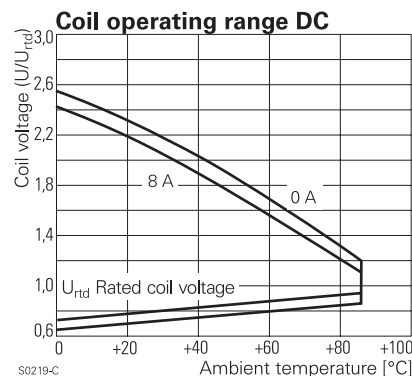
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request



S0218-C



S0478-B



S0219-C

**Miniature Power PCB Relay MSR (Continued)**

Insulation	CO contact	NO contact
Dielectric strength coil-contact circuit		4000 V <sub>rms</sub>
open contact circuit		1000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 8 / 8 mms	≥ 8 / 8 mm
Material group of insulation parts	IIIb	IIIb
Insulation to IEC 60664-1		
Type of insulation coil-contact circuit	reinforced	reinforced
open contact circuit	functional	functional
Rated insulation voltage	250 V	250 V
Pollution degree	3	2
Rated voltage system	230 V	400 V
Overvoltage category	III	III

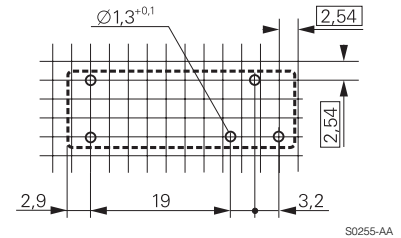
**Other data**

RoHS - Directive 2002/95/EC	compliant as per product date code 0404	
Flammability class according to UL94	V-0	
For WG version: GWFI to IEC 60335-1	> 850 °C	
GWIT to IEC 60335-1	> 775 °C	
Ambient temperature range	-40...+85°C	
Operate- / release time	6 / 2,5 ms	
Bounce time NO / NC contact	0,5 / 4 ms	
Vibration resistance (function) NO / NC contact	10 / 4 g	
Shock resistance (function) NO / NC contact	20 / 5 g	
Shock resistance (destruction)	100 g	
Category of protection	RTII-flux proof; RTIII- wash tight	
Mounting	pcb	
Mounting position	any	
Minimum mounting distance	0 mm	
Resistance to soldering heat flux-proof version	270°C / 10 s	
wash-tight version	260°C / 5s	
Relay weight	11 g	
Packaging unit	20 / 1000 pcs	

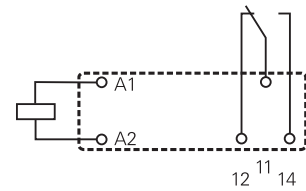
**PCB layout / terminal assignment**

Bottom view on solder pins

1 CO contact, 3,2 mm

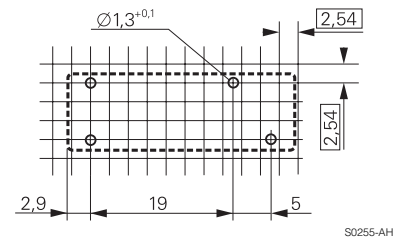


S0255-AA

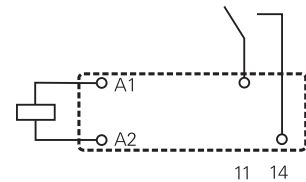


S0255-AB

1 NO contact, 5 mm



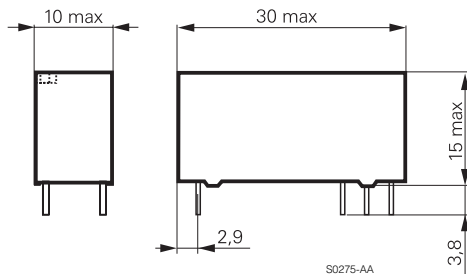
S0255-AH



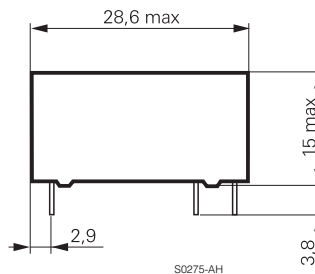
S0255-AI

**Dimensions**

1 CO contact, 3,2 mm



1 NO contact, 5 mm





**Miniature Power PCB Relay MSR (Continued)**

**Product key**

V 2 3 0 6 1 - - - - - A - - - - -

Type

Version

**A** 1 NO contact, UL-class A      **B** 1 CO contact, UL-class A  
**C** 1 NO contact, UL-class F      **D** 1 CO contact, UL-class F

Version

**1** wash tight      **2** flux proof

Coil

Coil code: please refer to coil versions table

Contact system

**A** standard

Contact material

**3** AgSnO<sub>2</sub>      **5** AgNi 0.15  
**4** AgCdO      **6** AgCdO, gold plated

Contact configuration

**01** 1 CO contact      **02** 1 NO contact

Other types on request

Product key	Version	Contacts	Contact material	Coil	Part number
V23061-A1002-A302	wash tight	1 NO contact	AgSnO <sub>2</sub>	5 VDC	0-1393222-4
V23061-A1002-A502			AgNi 0.15		0-1393222-6
V23061-A1003-A302			AgSnO <sub>2</sub>	6 VDC	0-1393222-9
V23061-A1003-A502			AgNi 0.15		1-1393222-3
V23061-A1005-A302			AgSnO <sub>2</sub>	12 VDC	2-1393222-0
V23061-A1005-A502			AgNi 0.15		2-1393222-7
V23061-A1005-A602			AgCdO gold pl.		2-1393222-8
V23061-A1007-A302			AgSnO <sub>2</sub>	24 VDC	3-1393222-9
V23061-A1007-A502			AgNi 0.15		4-1393222-6
V23061-A1007-A602			AgCdO gold pl.		4-1393222-7
V23061-A1009-A502			AgNi 0.15	48 VDC	5-1393222-7
V23061-A1009-A602			AgCdO gold pl.		5-1393222-8
V23061-A1010-A502			AgNi 0.15	60 VDC	6-1393222-2
V23061-A1010-A602			AgCdO gold pl.		6-1393222-3
V23061-B1002-A301		1 CO contact	AgSnO <sub>2</sub>	5 VDC	7-1393222-2
V23061-B1002-A501			AgNi 0.15		7-1393222-4
V23061-B1002-A601			AgCdO gold pl.		7-1393222-5
V23061-B1003-A501			AgNi 0.15	6 VDC	8-1393222-1
V23061-B1003-A601			AgCdO gold pl.		8-1393222-2
V23061-B1005-A301			AgSnO <sub>2</sub>	12 VDC	9-1393222-1
V23061-B1005-A501			AgNi 0.15		9-1393222-7
V23061-B1005-A601			AgCdO gold pl.		9-1393222-9
V23061-B1007-A301			AgSnO <sub>2</sub>	24 VDC	1-1393223-7
V23061-B1007-A501			AgNi 0.15		2-1393223-5
V23061-B1007-A601			AgCdO gold pl.		2-1393223-6
V23061-B1009-A301			AgSnO <sub>2</sub>	48 VDC	3-1393223-7
V23061-B1009-A501			AgNi 0.15		3-1393223-9
V23061-B1009-A601			AgCdO gold pl.		4-1393223-0
V23061-B1010-A501			AgNi 0.15	60 VDC	4-1393223-3
V23061-B1010-A601			AgCdO gold pl.		4-1393223-4
V23061-A2002-A402	flux proof	1 NO contact	AgCdO	5 VDC	6-1393222-8
V23061-A2003-A402				6 VDC	1-1416200-9
V23061-A2005-A402				12 VDC	2-1416200-1
V23061-A2007-A402				24 VDC	2-1416200-3
V23061-A2009-A402				48 VDC	2-1416200-5
V23061-A2010-A402				60 VDC	2-1416200-6
V23061-B2002-A401		1 CO contact		5 VDC	2-1416200-7
V23061-B2003-A401				6 VDC	2-1416200-8
V23061-B2005-A401				12 VDC	3-1416200-1
V23061-B2007-A401				24 VDC	5-1393223-0
V23061-B2009-A401				48 VDC	3-1416200-6
V23061-B2010-A401				60 VDC	4-1416200-0

**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**

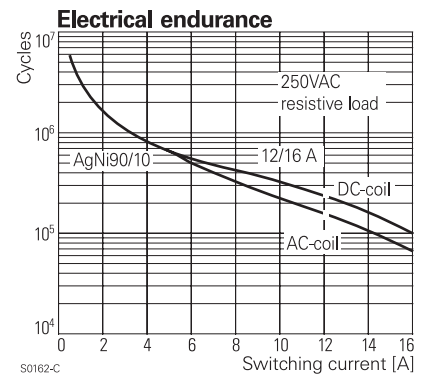
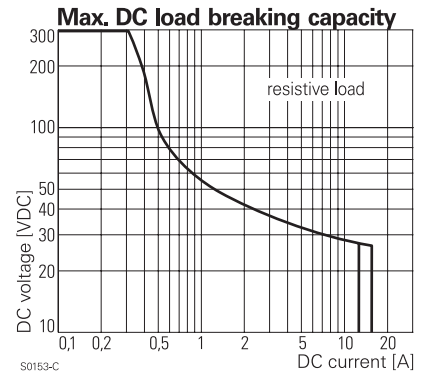
Contact configuration	1 CO or 1 NO contact	
Contact set	single contact	
Type of interruption	micro disconnection	
Rated current	12 A	16 A
Rated voltage / max.switching voltage AC	240/400 VAC	
Limiting continuous current	UL: 20 A	
Maximum breaking capacity AC	3000 VA	4000 VA
Limiting making capacity, 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 <sup>6</sup> cycles	
AC coil	> 10 x 10 <sup>6</sup> cycles	
Rated frequency of operation with / without load	6 / 1200 min <sup>-1</sup>	

**Contact ratings**

Type	Load	Cycles
RT314	16 A, 250 VAC, NO contact, 85°C, DF 10%, UL508	50x10 <sup>3</sup>
RT314	16 A, 250 VAC, NC contact, 70°C, 30min <sup>-1</sup>	53x10 <sup>3</sup>
RT314	20 A, 250 VAC, NO contact, 85°C, UL508	6x10 <sup>3</sup>
RT314	1000 W incandescent lamp, 250 VAC	1.2x10 <sup>3</sup>
RT314	10 A, 250 VAC, cosφ=0.6, CO contact, 70°C	200x10 <sup>3</sup>
RT314	5 A / 2 A, 250 VAC, cosφ=1, motor, NO contact, 10min <sup>-1</sup> , 70°C	1.1x10 <sup>6</sup>
RT314	0.26 A / 0.01 A, 230 VAC, cosφ=0.38, valve, NO contact, 25min <sup>-1</sup>	7.6x10 <sup>6</sup>
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



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

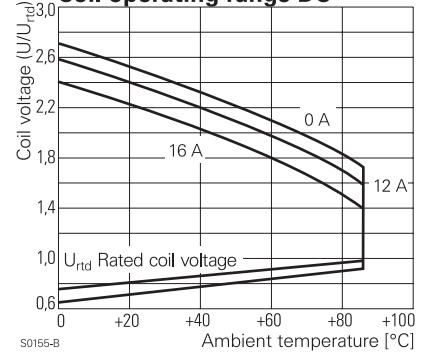
**Other data**

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

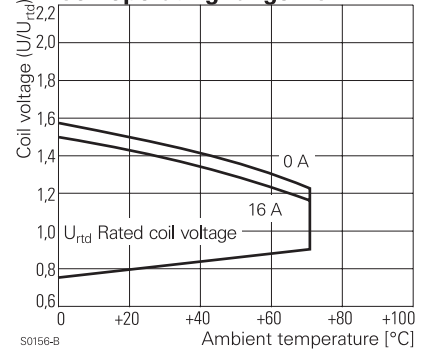
**Accessories**

For details see datasheet	Accessories Power Relay RT
---------------------------	----------------------------

**Coil operating range DC**

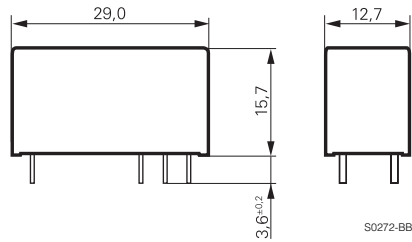


**Coil operating range AC**



**Power PCB Relay RT1 (Continued)**

**Dimensions**

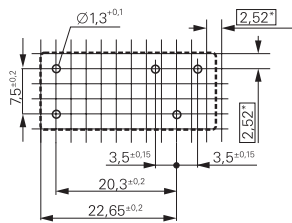


**PCB layout / terminal assignment**

Bottom view on solder pins

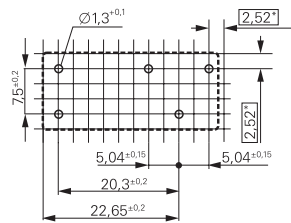
\*) With the recommended PCB hole sizes a grid pattern from 2.5 mm to 2.54 mm can be used.

12 A, pinning 3.5 mm



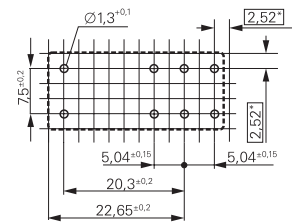
S0418-CB

12 A, pinning 5 mm



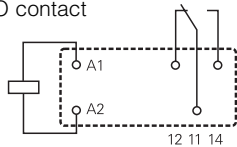
S0418-CN

16 A, pinning 5 mm



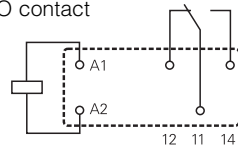
S0418-CA

1 CO contact



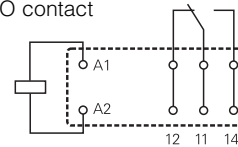
S0163-BG

1 CO contact



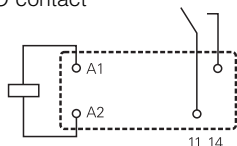
S0163-BC

1 CO contact



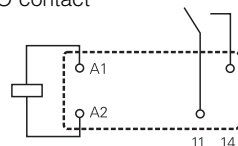
S0163-BE

1 NO contact



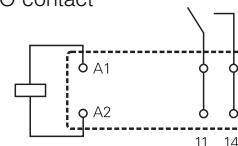
S0163-BH

1 NO contact



S0163-BD

1 NO contact



S0163-BF

**Product key**



Type

Version

- |  |   |
|--|---|
| <b>1</b> 12 A, pinning 3.5 mm, flux proof  | <b>B</b> 12 A, pinning 3.5 mm, wash tight |
| <b>2</b> 12 A, pinning 5 mm, flux proof *) |   |
| <b>3</b> 16 A, pinning 5 mm, flux proof    | <b>D</b> 16 A, pinning 5 mm, wash tight   |

Contact configuration

- |                       |                       |
|-----------------------|-----------------------|
| <b>1</b> 1 CO contact | <b>3</b> 1 NO contact |
|-----------------------|-----------------------|

Contact material

- |                     |  |
|---------------------|--|
| <b>4</b> AgNi 90/10 | <b>5</b> AgNi 90/10 gold plated (for type RT31.) |
|---------------------|--|

Coil

Coil code: please refer to coil versions table

Version

- |  |
|--|
| <b>Blank</b> Standard version  |
| <b>WG</b> Product in accordance with IEC 60335-1 (domestic appliances) |

Preferred types in bold print

\*) Wash tight version on request

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

**Power PCB Relay RT1 bistable**

- 1 pole 16 A, 1 CO contact
- Polarized bistable version with 1 or 2 coils
- 5 kV / 10 mm coil-contact
- Reinforced insulation
- RoHS compliant (Directive 2002 / 95 / EC) as per product date code 0413

**Applications**

Battery powered equipment or applications with "memory function"



F0176-B

**Approvals**

VDE REG.-Nr. 6106, cULus E214025  
Technical data of approved types on request

**Contact data**

Contact configuration	1 CO contact
Contact set	single contact
Type of interruption	micro disconnection
Rated current	16 A
Rated voltage / max.switching voltage AC	240/400 VAC
Limiting continuous current	20 A
Maximum breaking capacity AC	4000 VA
Limiting making capacity, max 4 s, duty factor 10%	30 A
Contact material	AgNi 90/10
Mechanical endurance	> 5 x 10 <sup>6</sup> cycles
Rated frequency of operation with / without load	6 / 1200 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
RT314	20 A, 250 VAC, NO contact, 85°C, UL508	6x10 <sup>3</sup>
RT314	Pilot duty A300 (NO contact), B300 (CO/NC contact), UL508	
RT314	1hp @ 240 VAC, 1/2hp @ 120 VAC, NO contact, UL508	

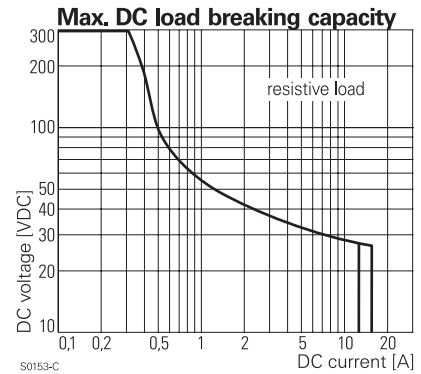
**Coil data**

	1 coil	2 coils
Rated coil voltage range DC coil	5...24 VDC	
Coil power	typ 400 mW	typ 600 mW
Operative range	2	
Limiting voltage, % of rated coil voltage	120%	150%
Minimum energization duration	30 ms	
Maximum energization duration	1 min at < 10% DF	
Coil insulation system according UL1446	class F	

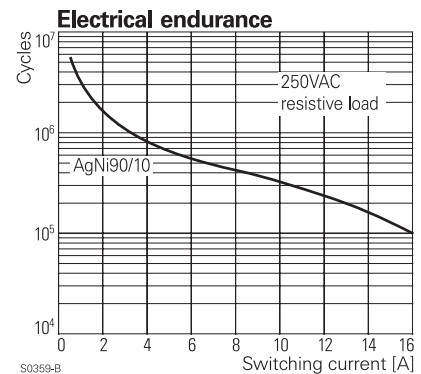
**Coil versions, bistable coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Reset voltage VDC	Coil resistance Ω	Rated coil power mW
<b>bistable, 1 coil</b>					
A05	5	3.5	3.5	62 ± 10%	403
A06	6	4.2	4.2	90 ± 10%	400
<b>A12</b>	<b>12</b>	<b>8.4</b>	<b>8.4</b>	<b>360 ± 10%</b>	<b>400</b>
<b>A24</b>	<b>24</b>	<b>16.8</b>	<b>16.8</b>	<b>1440 ± 10%</b>	<b>400</b>
<b>bistable, 2 coils</b>					
F05	5	3.5	3.5	42 ± 10%	595
F06	6	4.2	4.2	55 ± 10%	655
<b>F12</b>	<b>12</b>	<b>8.4</b>	<b>8.4</b>	<b>240 ± 10%</b>	<b>600</b>
<b>F24</b>	<b>24</b>	<b>16.8</b>	<b>16.8</b>	<b>886 ± 10%</b>	<b>650</b>

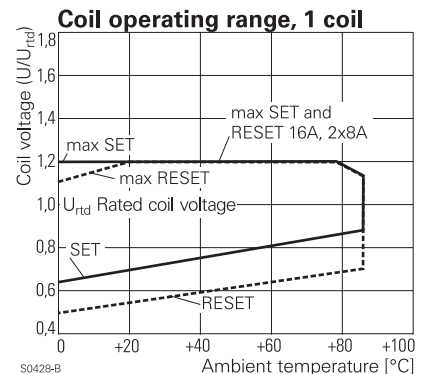
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request



S0153-C



S0359-B



S0428-B

**Power PCB Relay RT1 bistable (Continued)**

**Coils operation**

Version	1 coil		2 coils		
Coil terminals	A1	A2	A1	A3	A2
Pull-in	+	-	-	+	-
Reset	-	+	-	+	-

Contact position not defined at delivery

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

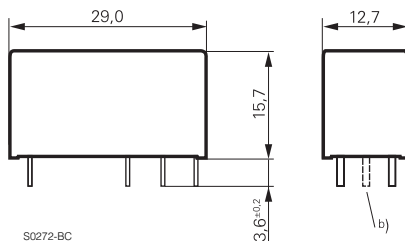
**Other data**

RoHS - Directive 2002/95/EC	compliant as per product date code 0413	
Flammability class according to UL94	V-0	
Ambient temperature range 1 coil	-10...+85°C	
2 coils	-40...+85°C	
Operate- / reset time	typ 5 / 4 ms	
Bounce time NO / NC contact	typ 1 / 3 ms	
Vibration / shock resistance (function) opening NC contact	3 / 5 g	
opening closed NO contact	6 / 15 g	
Shock resistance (destruction)	100 g	
Category of protection	RTII - flux proof	
Mounting	pcb or on socket	
Mounting distance	0 mm	
Resistance to soldering heat flux-proof version	270 °C / 10 s	
Relay weight	14 g	
Packaging unit 1 coil	20 / 500 pcs	
2 coils	100 pcs	

**Accessories**

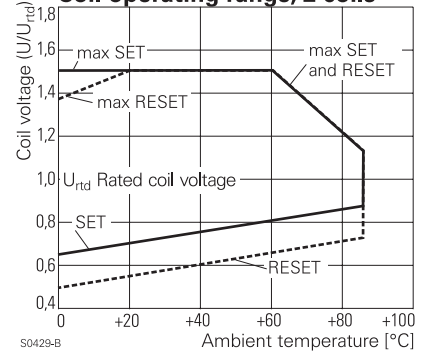
For 1 coil version, details see datasheet	Accessories Power Relay RT
---	----------------------------

**Dimensions**



- a) Indicated contact position during or after coil energization with reset voltage.
- b) for 2 coil version only

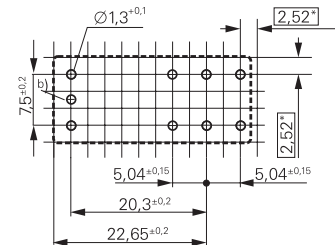
**Coil operating range, 2 coils**



**PCB layout / terminal assignment**

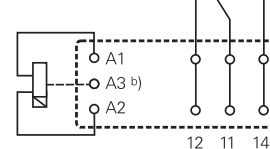
Bottom view on solder pins

16 A, pinning 5 mm



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

1 CO contact



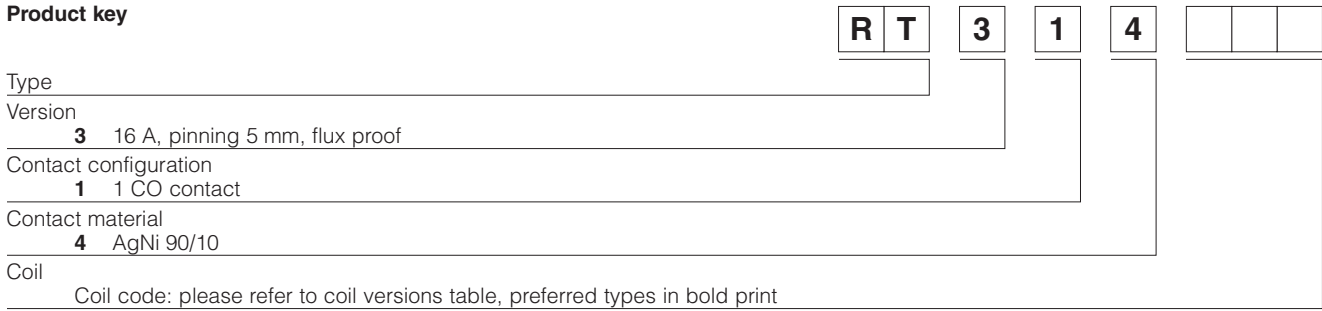
a)

S0163-CI



**Power PCB Relay RT1 bistable** (Continued)

**Product key**



Product key	Version	Contacts	Cont. material	Coil	Coil	Part number
RT314A12	16 A	1 CO contact	AgNi 90/10	bistable	12 VDC	8-1393239-0
RT314A24	pinning 5 mm			1-coil	24 VDC	8-1393239-1
RT314F12	flux proof			bistable	12 VDC	8-1393239-7
RT314F24				2-coils	24 VDC	8-1393239-8

**Power PCB Relay RT1 sensitive**

- 1 pole 10 A, 1 CO or 1 NO contact
- Highly sensitive version, coil power 250 mW
- 5 kV / 10 mm coil-contact
- Reinforced insulation
- Ambient temperature 85°C at rated load
- RoHS compliant (Directive 2002/95/EC) as per product date code 0413



F0145-B

**Applications**

Domestic appliances, heating control

**Approvals**

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

**Contact data**

Contact configuration	1 CO or 1 NO
Contact set	single contact
Type of interruption	micro disconnection
Rated current	10 A
Rated voltage / max.switching voltage AC	240/400 VAC
Maximum breaking capacity AC	2500 VA
Limiting making capacity, max 4 s, duty factor 10%	15 A
Contact material	AgNi 90/10
Mechanical endurance	> 30 x 10 <sup>6</sup> cycles
Rated frequency of operation with / without load	50 / 1200 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
RT174	10 A, 250 VAC, CO contact, 85°C, EN61810-1	100x10 <sup>3</sup>
RT174	8 A, 250 VAC	430x10 <sup>3</sup>
RT174	370 W, 230 VAC, compressor	>330x10 <sup>3</sup>
RT174	550 W, 250 VAC, incandescent lamps	190x10 <sup>3</sup>
RT174	0.8/0.08 A, 230 VAC, cosφ=0.23, contactor 190/90 VA	>8.8x10 <sup>6</sup>
RT184	Pilot duty B300, R150, UL508	6x10 <sup>3</sup>
RT174	3/4hp @ 240 VAC, 1/3hp @ 120 VAC, NO contact, UL508	
RT174	1/2hp @ 240 VAC, 1/4hp @ 120 VAC, CO contact, UL508	

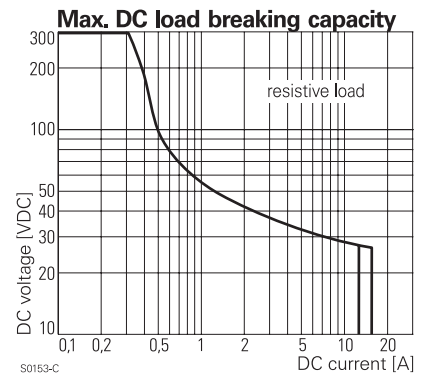
**Coil data**

Rated coil voltage range DC coil	5...60 VDC
Coil power DC coil	typ 250 mW
Operative range	2
Coil Coil insulation system according UL1446	class F

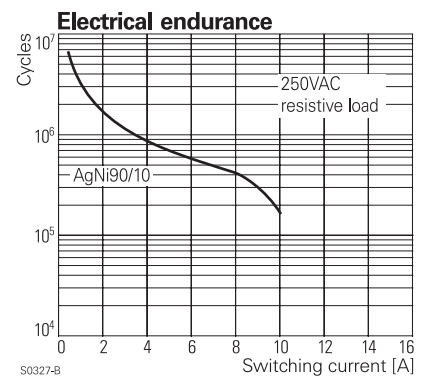
**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω	Rated coil power mW
005	5	3.7	0.5	100±10%	250
006	6	4.5	0.6	144±10%	250
<b>012</b>	<b>12</b>	<b>9.0</b>	<b>1.2</b>	<b>576±10%</b>	<b>250</b>
<b>024</b>	<b>24</b>	<b>18.0</b>	<b>2.4</b>	<b>2304±10%</b>	<b>250</b>
048	48	36.0	4.8	9216±10%	250
060	60	45.0	6.0	12857±12%	280

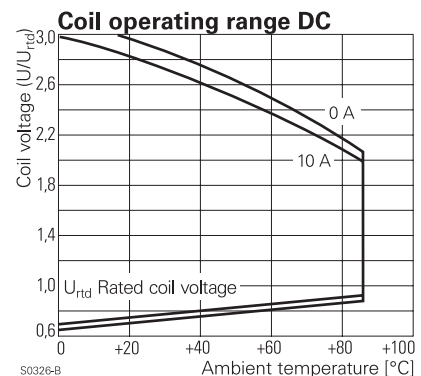
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request



S0153-C



S0327-B



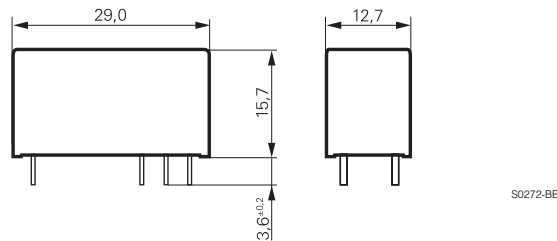
S0326-B

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 60664-1	
Type of insulation coil-contact circuit	reinforced
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	240/400 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
Ambient temperature range	-40...+85°C
Operate- / release time	typ 7 / 3 ms
Bounce time NO / NC contact	typ 2 / 4 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 distance	0 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

**Dimensions**



**Product key**

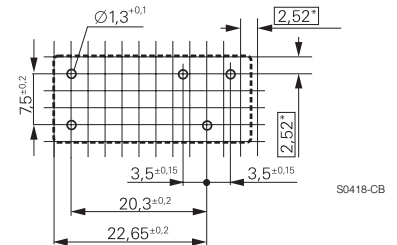
Type	<b>R</b>	<b>T</b>			<b>4</b>		
Version	<b>1</b> 10 A, pinning 3.5 mm, flux proof		<b>B</b> 10 A, pinning 3.5 mm, wash tight				
Contact configuration	<b>7</b> 1 CO contact		<b>8</b> 1 NO contact				
Contact material	<b>4</b> AgNi 90/10						
Coil	Coil code: please refer to coil versions table						
Preferred types in bold print							

Product key	Version	Contacts	Contact material	Coil	Part number
RT174005	10 A	1 CO contact	AgNi 90/10	5 VDC	3-1393239-6
RT174006	pinning 3.5 mm			6 VDC	3-1393239-7
RT174012	flux proof			12 VDC	3-1393239-8
RT174024				24 VDC	3-1393239-9
RTB74012	10 A, 3.5mm			12 VDC	4-1393238-4
RTB74024	wash tight			24 VDC	4-1393238-6

**PCB layout / terminal assignment**

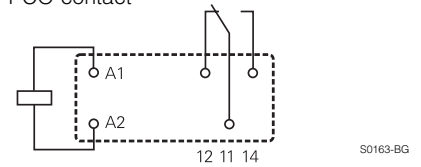
Bottom view on solder pins

10 A, pinning 3.5 mm

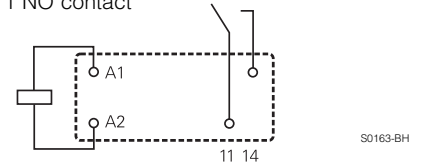


\*) With the recommended PCB hole sizes a grid pattern from 2.5 mm to 2.54 mm can be used.

**1 CO contact**



**1 NO contact**



**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
- RoHS compliant (Directive 2002/95/EC)


**Applications**

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



F0144-B

**Approvals**

 in process  
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 current	12 A	16 A
Rated voltage / max.switching voltage AC	240/400 VAC	
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
Mechanical endurance	> 30 x 10 <sup>6</sup> cycles	
Rated frequency of operation with / without load	6 / 600 min <sup>-1</sup>	

**Contact ratings**

Type	Load	Cycles
RT33C	16 A, 240 VAC, NO contact, 85°C	50x10 <sup>3</sup>
RT31C	10 mA, 24 V, CO contact	10x10 <sup>6</sup>
RTB8D	12 A, 240 VAC, NO contact, 85°C	6x10 <sup>3</sup>
RTB7D	5 A, 240 VAC, CO contact, 85°C	100x10 <sup>3</sup>
RTB7D	10 mA, 1 V, CO contact	10x10 <sup>6</sup>

**Coil data**

	12 A version	16 A version
Rated coil voltage range	5...60 VDC	5...110 VDC
Coil power	typ 200 mW	typ 400 mW
Operative range	2	
Coil insulation system according UL1446	class F	

**Power PCB Relay RT1 bifurcated (Continued)**

**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**

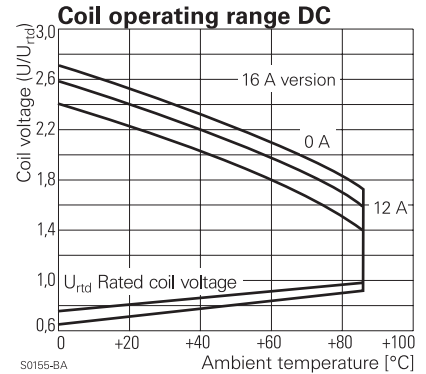
Dielectric strength coil-contact circuit	5000 V <sub>rms</sub>	
open contact circuit	1000 V <sub>rms</sub>	
Clearance / creepage coil-contact circuit	≥ 10 / 10 mm	
Material group of insulation parts	≥ IIIa	
Tracking index of relay base	PTI 250 V	
Insulation to IEC 60664-1		
Type of insulation coil-contact 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
Overtoltage category	III	

**Other data**

RoHS - Directive 2002/95/EC	compliant
Flammability class according to UL94	V-0
Ambient temperature range	-40...+85°C
Operate- / release time	typ 7 / 3 ms
Bounce time, NO contact	typ 3 ms
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
Mounting position	any
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

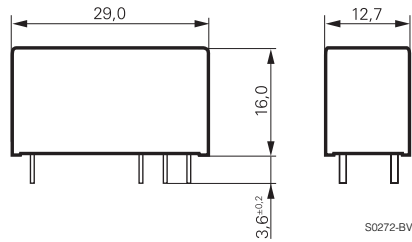
**Accessories**

For details see datasheet Accessories Power Relay RT



**Power PCB Relay RT1 bifurcated (Continued)**

**Dimensions**

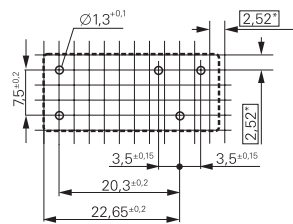


**PCB layout / terminal assignment**

Bottom view on solder pins

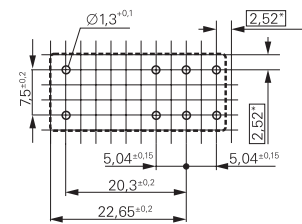
\*) With the recommended PCB hole sizes a grid pattern from 2.5 mm to 2.54 mm can be used.

12 A, pinning 3.5 mm

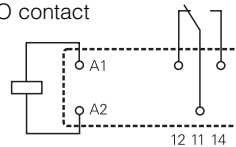


S0418-CB

16 A, pinning 5 mm

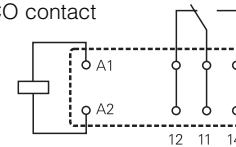


1 CO contact



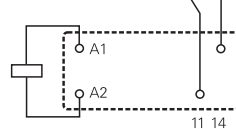
S0163-BG

1 CO contact



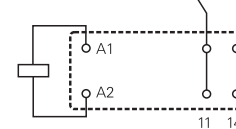
S0418-CA

1 NO contact



S0163-BH

1 NO contact



S0163-BE

S0163-BF

**Product key**

Type

Version

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

Configuration

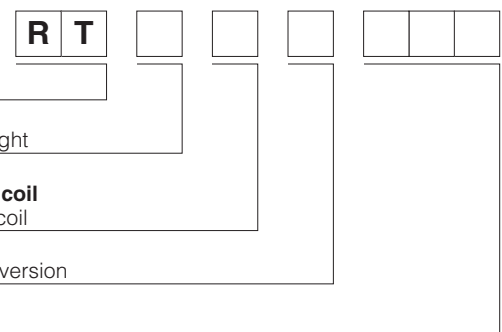
**1** 1 CO contact, 16 A, 400 mW coil      **7** 1 CO contact, 12 A, 200 mW coil  
**3** 1 NO contact, 16 A, 400 mW coil      **8** 1 NO contact, 12 A, 200 mW coil

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	0-1415900-2
RT31C024	flux proof	bifurcated contact			24 VDC	0-1415900-7
RTB7D012	12 A, 3.5mm		AgNi 90/10		12 VDC	0-1415900-5
RTB7D024	wash tight		gold plated		24 VDC	0-1415900-6

**Power PCB Relay RT1 Inrush**

- 1 pole 16 A, 1 CO or 1 NO contact
- For inrush peak currents up to 80 A
- Sensitive coil 400 mW
- 5 kV / 10 mm coil-contact
- Reinforced insulation
- Ambient temperature 85°C
- RoHS compliant (Directive 2002/95/EC) as per product date code 0413



F0177-B

**Applications**

Domestic appliances, heating control, lighting control

**Approvals**

VDE REG.-Nr. 6106, **CE** us E214025  
Technical data of approved types on request

**Contact data**

Contact configuration	1 CO or 1 NO
Contact set	single contact
Type of interruption	micro disconnection
Rated current	16 A
Rated voltage / max.switching voltage AC	240/400 VAC
Limiting continuous current	UL: 20 A
Maximum breaking capacity AC	4000 VA
Limiting making capacity, max 4 s, duty factor 10% max 20 ms (incandescent lamps)	30 A 80 A
Contact material	AgNi 90/10, AgSnO <sub>2</sub>
Mechanical endurance	> 30 x 10 <sup>6</sup> cycles
Rated frequency of operation with / without load	6 / 1200 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
RT31K	1000 W incandescent lamp, 250 VAC, NO contact	9x10 <sup>4</sup>
RT31L	1000 W incandescent lamp, 250 VAC, NO contact	8x10 <sup>4</sup>
RT31K	16 A, 240 VAC, NO contact, 85°C, VDE/UL508	3x10 <sup>4</sup>
RT31L	16 A, 240 VAC, NO contact, 85°C, VDE/UL508	5x10 <sup>4</sup>
RT31L	21/3.5 A, 230 VAC, compressor, cosφ=0.5, NO contact	2,3x10 <sup>5</sup>

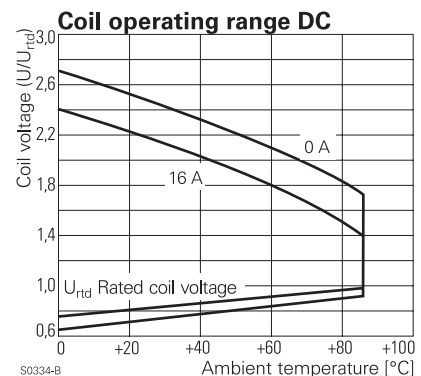
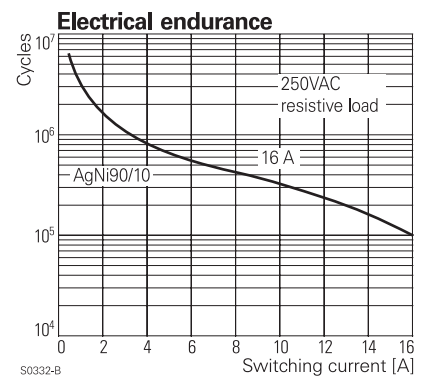
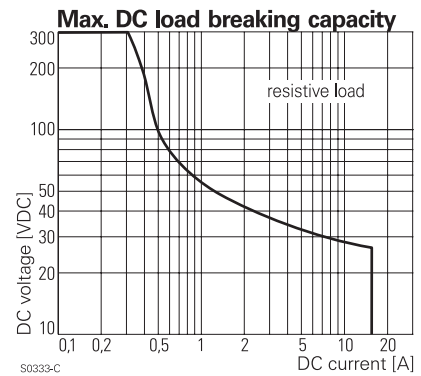
**Coil data, DC-coil**

Rated coil voltage range DC coil	5...110 VDC
Coil power DC coil	typ 400 mW
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 Ω	Rated coil power mW
<b>012</b>	<b>12</b>	<b>8.4</b>	<b>1.2</b>	<b>360±10%</b>	<b>400</b>
<b>024</b>	<b>24</b>	<b>16.8</b>	<b>2.4</b>	<b>1440±10%</b>	<b>400</b>
048	48	33.6	4.8	5520±10%	417
060	60	42.0	6.0	8570±12%	420

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





Coil data, bistable coils	1 coil	2 coils
Coil power	typ 400 mW	typ 600 mW
Operative range	2	
Limiting voltage, % of rated coil voltage	120%	150%
Minimum energization duration	30 ms	
Maximum energization duration	1 min at < 10% DF	
Coil insulation system according UL1446	class F	

Coil versions, bistable coil					
Coil code	Rated voltage VDC	Operate voltage VDC	Reset voltage VDC	Coil resistance Ω	Rated coil power mW
<b>bistable, 1 coil</b>					
A05	5	3.5	3.5	62 ± 10%	403
A06	6	4.2	4.2	90 ± 10%	400
<b>A12</b>	<b>12</b>	<b>8.4</b>	<b>8.4</b>	<b>360 ± 10%</b>	<b>400</b>
<b>A24</b>	<b>24</b>	<b>16.8</b>	<b>16.8</b>	<b>1440 ± 10%</b>	<b>400</b>

<b>bistable, 2 coils</b>					
F05	5	3.5	3.5	42 ± 10%	595
F06	6	4.2	4.2	55 ± 10%	655
<b>F12</b>	<b>12</b>	<b>8.4</b>	<b>8.4</b>	<b>240 ± 10%</b>	<b>600</b>
<b>F24</b>	<b>24</b>	<b>16.8</b>	<b>16.8</b>	<b>886 ± 10%</b>	<b>650</b>

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

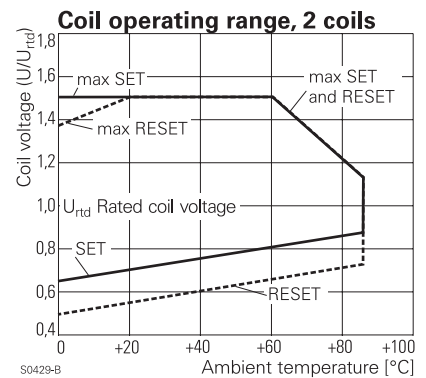
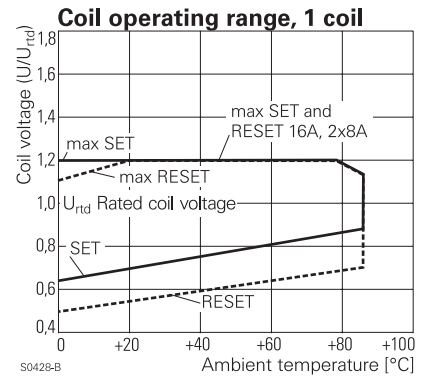
Coils - operation					
Version	1 coil		2 coils		
Coil terminals	A1	A2	A1	A3	A2
Pull-in	+	-		+	-
Reset	-	+	-	+	

Contact position not defined at delivery

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

Other data	
RoHS - Directive 2002/95/EC	compliant as per product date code 0413
Flammability class according to UL94	V-0
Ambient temperature range DC coil	-40...+85°C
bistable 1 coil	-10...+85°C
bistable 2 coils	-40...+85°C
Operate- / release time DC coil	typ 8 / 3 ms
Operate- / reset time bistable	typ 5 / 4 ms
Bounce time NO / NC contact	typ 2 / 3 ms
Vibration resistance DC coil (function) NO / NC contact	20 / 5 g, 30 ... 500 Hz
Shock resistance (destruction)	100 g
Category of protection	RTII - flux proof
Mounting	pcb or on socket
Mounting distance	0 mm
Resistance to soldering heat flux-proof version	270 °C / 10 s
Relay weight	14 g
Packaging unit DC coil, bistable 1 coil	20 / 500 pcs
bistable 2 coils	100 pcs

Accessories	
For details see datasheet	Accessories Power Relay RT





- 1 pole 16 A, 1 NO contact (W pre-make contact + AgSnO<sub>2</sub>)
- 10 A / 250 VAC making and breaking capacity acc. to IEC 60669-1
- 165 A / 20 ms inrush peak current
- Mono- or bistable coil
- 5 kV / 10 mm coil-contact
- Reinforced insulation
- Optional test tab (manual operator)
- RoHS compliant (Directive 2002/95/EC)

**Applications**

Lighting systems, movement sensors, filament and incandescent lamp loads, motors



F0272-A

**Approvals**

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

Contact data	RT.3T	RTS3L
Contact configuration	1 NO	
Contact set	pre-make contact	single contact
Type of interruption	micro disconnection	
Rated current	16 A	
Rated voltage / max.switching voltage AC	250/400 VAC	
Limiting continuous current	16 A	
Maximum breaking capacity AC	4000 VA	
Limiting making capacity		
max 20 ms (incandescent lamps)	165 A	120 A
max 200 µs (fluorescent lamps)	800 A	-
Contact material	W (pre-make cont.)+AgSnO <sub>2</sub>	AgSnO <sub>2</sub>
Mechanical endurance DC	> 5x10 <sup>6</sup> cycles	> 10x10 <sup>6</sup> cycles
bistable	> 3x10 <sup>6</sup> cycles	> 5x10 <sup>6</sup> cycles
tab manually operated	> 10 <sup>3</sup> cycles	-
Rated frequency of operation with / without load	6 / 60 min <sup>-1</sup>	

**Contact ratings**

Type	Load	Cycles
RTS3T	3000 W, 230 VAC, DF 8,3%, 5 min <sup>-1</sup> , incandescent lamp	typ. 12x10 <sup>3</sup>
RT*3T	16 A, 250 VAC, capacitive load 140 µF, 7,5 min <sup>-1</sup> , EN60669-1	> 20x10 <sup>3</sup>
RT*3T	TV5, UL508, 40°C	25x10 <sup>3</sup>
RTS3L	16 A, 250 VAC, 85°C	> 100x10 <sup>3</sup>
RTS3L	1.5 hp, 240 VAC	
RTS3L	TV8, UL508, 40°C	25x10 <sup>3</sup>
RTS3L	10/100 A / 250 VAC, simulated lamp load, acc. to IEC 61810-2	20x10 <sup>3</sup>

**Coil data**

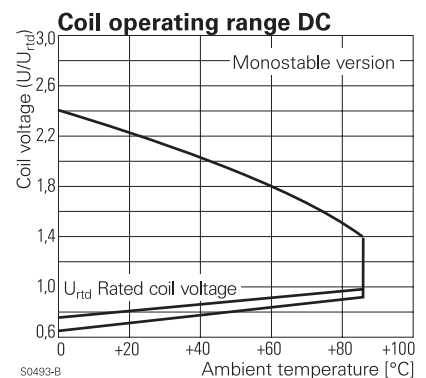
**Coil data, monostable coil**

Rated coil voltage range	5...110 VDC
Coil power	typ 400 mW
Operative range	2
Coil insulation system according UL1446	class F

**Coil versions, monostable DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω	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



**Power PCB Relay RT1 Inrush Power (Continued)**

Coil data, bistable coils	1 coil	2 coils
Rated coil voltage range	3...24 VDC	
Coil power	typ 400 mW	typ 600 mW
Operative range	2	
Limiting voltage, % of rated coil voltage	120%	150%
Minimum energization duration	30 ms	
Maximum energization duration	1 min at < 10% DF	
Coil insulation system according UL1446	class F	

Coil versions, bistable 1 coil					
Coil code	Rated voltage VDC	Operate voltage VDC	Reset voltage VDC	Coil resistance Ω	Rated coil power mW
A03	3	2.1	2.1	21±10%	429
A12	12	8.4	8.4	360±10%	400
A24	24	16.8	16.8	1440±10%	400

Coil versions, bistable 2 coils					
Coil code	Rated voltage VDC	Operate voltage VDC	Reset voltage VDC	Coil resistance Ω	Rated coil power mW
F03	3	2.1	2.1	15±10%	600
F12	12	8.4	8.4	240±10%	600
F24	24	16.8	16.8	886±10%	650

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

Coils - operation					
Version	1 coil		2 coils		
Coil terminals	A1	A2	A1	A3	A2
Pull-in	+	-	+	+	-
Reset	-	+	-	+	-

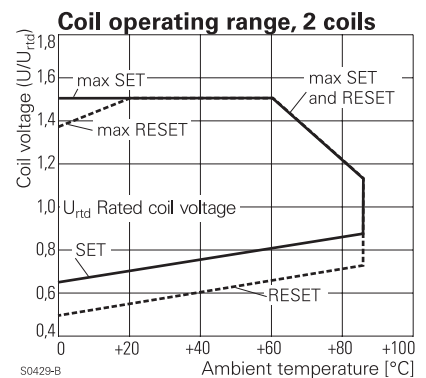
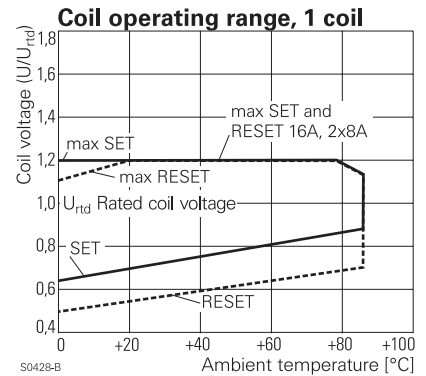
Contact position not defined at delivery

Insulation	
Dielectric strength coil-contact circuit	4000 V <sub>rms</sub>
open contact circuit	1250 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 60664-1	
Type of insulation coil-contact circuit	reinforced
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	240 V
Overvoltage category	III

Other data	RT.3T	RTS3L
RoHS - Directive 2002/95/EC	compliant	
Flammability class according to UL94	V-0	
Ambient temperature range	-40...70°C	-40...85°C
Vibration resistance (function) monostable	10 g	20 g
Shock resistance (destruction)	100 g	
Category of protection	RTII - flux proof	
Mounting	pcb or on socket*)	
Mounting distance	0 mm	
Resistance to soldering heat	270 °C / 10 s	
Relay weight with / without test tab	16 / 14 g	- / 14 g
Packaging unit with / without test tab	100 / 500 pcs	- / 500 pcs

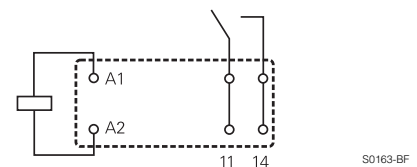
\*) RTT3T: pcb mounting only

Accessories RTS3.	
For details see datasheet	Accessories Power Relay RT

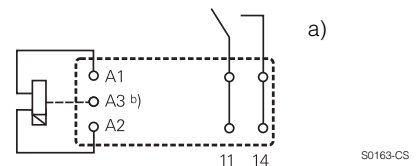


**Terminal assignment**  
Bottom view on solder pins

monostable version



bistable version



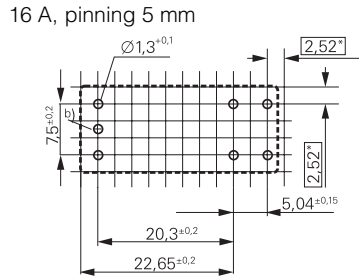
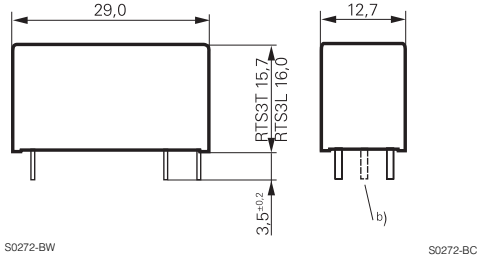
a) Indicated contact position during or after coil energization with reset voltage.

b) for 2 coil version only

**Power PCB Relay RT1 Inrush Power (Continued)**

**Dimensions / PCB layout**

version without test tab

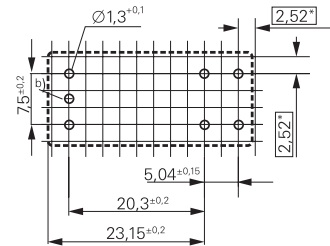
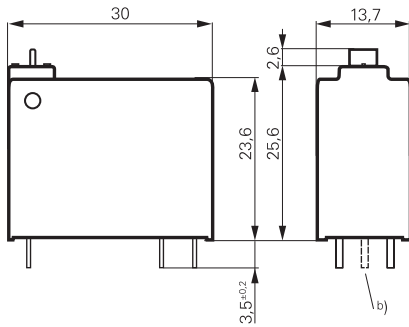


S0418-CV b) for 2 coil version only

version with test tab



S0491-B



S0492-CU

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

**Product key**

Type	<b>R</b>	<b>T</b>		<b>3</b>			
Version	<b>S</b> without test tab		<b>T</b> with test tab (manual operator) for contact material 'T' only				
Contact configuration	<b>3</b> 1 NO contact						
Contact material	<b>L</b> AgSnO <sub>2</sub>		<b>T</b> Tungsten (W) pre-make + AgSnO <sub>2</sub>				
Coil	Coil code: please refer to coil versions table						

**Power PCB Relay RT1 Inrush Power (Continued)**

Product key	Version	Contacts	Cont. material	Coil	Coil	Part number
RTS3L005	without	1 NO contact	AgSnO <sub>2</sub>	monostable	5 VDC	1-1415898-8
RTS3L012	test tab			coil	12 VDC	1-1415898-9
RTS3L018					18 VDC	2-1415898-0
RTS3L024					24 VDC	1-1415898-4
RTS3L048					48 VDC	2-1415898-1
RTS3L060					60 VDC	2-1415898-2
RTS3LA12				bistable	12 VDC	2-1415898-3
RTS3LA24				1-coil	24 VDC	2-1415898-4
RTS3LF12				bistable	12 VDC	2-1415898-5
RTS3LF24				2-coils	24 VDC	2-1415898-6
RTS3T012			W pre-make +	monostable	12 VDC	0-1415898-0
RTS3T024			AgSnO <sub>2</sub>	coil	24 VDC	0-1415898-1
RTS3TA12				bistable	12 VDC	0-1415898-2
RTS3TA24				1-coil	24 VDC	0-1415898-3
RTS3TF03				bistable	3 VDC	0-1415898-4
RTS3TF12				2-coils	12 VDC	0-1415898-5
RTS3TF24					24 VDC	0-1415898-6
RTT3TA12	with			bistable	12 VDC	0-1415898-7
RTT3TA24	test tab			1-coil	24 VDC	0-1415898-8
RTT3TF12				bistable	12 VDC	0-1415898-9
RTT3TF24				2-coils	24 VDC	1-1415898-0

**Power PCB Relay RTH 105°C 16A**

- 1 pole 16 A, 1 CO or 1 NO contact
- High-temperature version
- Sensitive coil 400 mW
- 5 kV / 10 mm coil-contact
- Reinforced insulation
- WG version: Product in accordance to IEC60335-1
- Ambient temperature 105°C at rated load
- RoHS compliant (Directive 2002/95/EC) as per product date code 0413



F0220-C

**Applications**

Oven control, cooking plate control

**Approvals**

VDE REG.-Nr. 6106, cULus E214025  
Technical data of approved types on request

**Contact data**

Contact configuration	1 CO or 1 NO
Contact set	single contact
Type of interruption	micro disconnection
Rated current	16 A <sup>1)</sup>
Rated voltage / max.switching voltage AC	240/400 VAC
Limiting continuous current NO/NC contact	16 / 25 A
Maximum breaking capacity AC	4000 VA
Limiting making capacity, max 4 s, duty factor 10%	30 A
Contact material	AgNi 90/10
Mechanical endurance	> 10 x 10 <sup>6</sup> cycles
Rated frequency of operation with / without load	6 / 1200 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
RTH14	10 A, 250 VAC, NO contact, 105°C, EN61810-1	1,5x10 <sup>5</sup>
RTH14	16 A, 250 VAC, NO contact, 105°C, UL508	3x10 <sup>4</sup>
RTH14	16 A, 250 VAC, CO contact, 105°C, EN61810-1	1x10 <sup>4</sup>
RTHH4	10 A, 250 VAC, 105°C	typ 3x10 <sup>5</sup>
RTHH4	16/8 A, 250 VAC, 105°C	typ 2,5x10 <sup>5</sup>
RTHH4	15 A, 250 VAC, 105°C, 10% DF, 7.5 min <sup>-1</sup> , UL508	1x10 <sup>5</sup>

**Coil data**

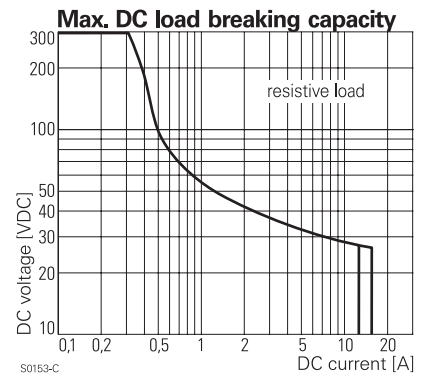
Rated coil voltage range DC coil	5...60 VDC
Coil power	typ 400 mW <sup>1)</sup>
Operative voltage range, % of rated coil voltage	90 - 110 %
Coil insulation system according UL1446	class F

**Coil versions, DC-coil**

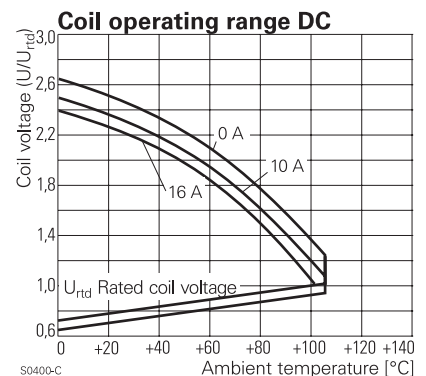
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω	Rated coil power mW
009	9	6.3	0.9	203±10%	399
012	12	8.4	1.2	360±10%	400
024	24	16.8	2.4	1440±10%	400

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

<sup>1)</sup> Continuous thermal load > 10 A at 105°C requires reduction of coil power to 64% of rated power after 100 ms



S0153-C



S0400-C



**Power PCB Relay RTH 105°C 16A (Continued)**

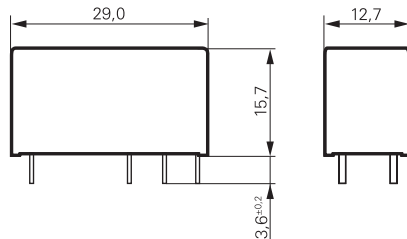
**Insulation**

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 60664-1	
Type of insulation coil-contact circuit	reinforced
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	240 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	-40...+105°C
Operate- / release time	typ 7 / 3 ms
Bounce time NO / NC contact	typ 1 / 3 ms
Vibration resistance (function) NO / NC contact	20 / 5 g, 30 ... 150 Hz
Shock resistance (destruction)	100 g
Category of protection	RTII - flux proof
Mounting	pcb
Mounting distance	0 mm
Resistance to soldering heat flux-proof version	270 °C / 10 s
Relay weight	14 g
Packaging unit	20 / 500 pcs

**Dimensions**



S0272-BA

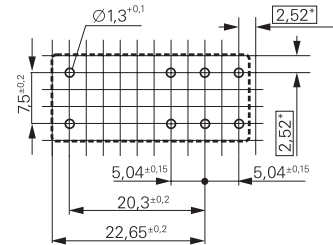
**Product key**

Type	
Version	<b>H</b> 16 A, pinning 5 mm, 105°C
Contact configuration	<b>1</b> 1 CO contact <b>3</b> 1 NO contact <b>H</b> 1 NO contact "High Performance"
Contact material	<b>4</b> AgNi 90/10
Coil	Coil code: please refer to coil versions table
Version	<b>Blank</b> Standard version <b>WG</b> Product in accordance with IEC 60335-1 (domestic appliances)

**PCB layout / terminal assignment**

Bottom view on solder pins

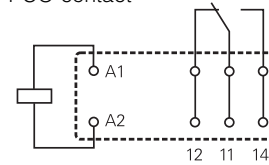
16 A, pinning 5 mm



S0418-CA

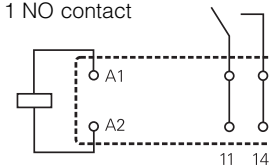
\*) With the recommended PCB hole sizes a grid pattern from 2.5 mm to 2.54 mm can be used.

**1 CO contact**



S0163-BE

**1 NO contact**



S0163-BF

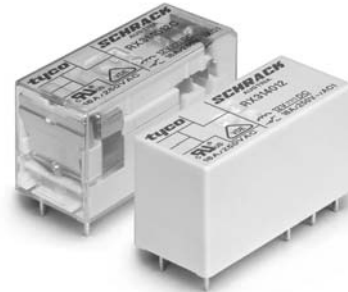
Product key	Version	Contacts	Contact material	Coil	Part number
RTH14012	16 A, 105°C	1 CO contact	AgNi 90/10	12 VDC	8-1415006-1
RTH34012	pinning 5mm	1 NO contact			9-1415006-1
RTHH4012	flux proof	1 NO high perform.			8-1415047-1
RTH14012WG	16 A, 105°C	1 CO contact			1-1415538-1
RTH34012WG	pinning 5mm	1 NO contact			1-1415536-9
RTH14024WG	flux proof	1 CO contact		24 VDC	9-1415535-4
RTH34024WG	IEC 60335-1	1 NO contact			2-1415536-0

**Power PCB Relay RX1**

- 1 pole 12 or 16 A, 1 CO or 1 NO
- DC- or AC-coil
- Reinforced insulation
- Transparent cover optional
- RoHS compliant (Directive 2002/95/EC) as per product date code 0413

**Applications**

Domestic appliances, heating control, emergency lighting, automatic doors



S0271-A

**Approvals**

VDE REG.-Nr. A651, cULus E214025  
Technical data of approved types on request

**Contact data**

Contact configuration	1 CO or 1 NO	
Contact set	single contact	
Type of interruption	micro disconnection	
Rated current	12 A	16 A
Rated voltage / max.switching voltage AC	240/400 VAC	
Maximum breaking capacity AC	3000 VA	4000 VA
Limiting making capacity, max 4 s, duty factor 10%	25 A	
Contact material	AgNi 90/10	
Mechanical endurance DC coil	> 5 x 10 <sup>6</sup> cycles	
AC coil	> 1 x 10 <sup>6</sup> cycles	
Rated frequency of operation with / without load	6 / 600 min <sup>-1</sup>	

**Contact ratings**

Type	Load	Cycles
RX1	12 A, 250 VAC, DC coil, NO contact, 85°C, EN61810-1	1x10 <sup>5</sup>
RX1	12 A, 250 VAC, AC coil, NO contact, 70°C, EN61810-1	1x10 <sup>5</sup>
RX3	16 A, 250 VAC, NO contact, 70°C, DF 50%, EN61810-1	5x10 <sup>4</sup>
RX3	16 A, 250 VAC, NO contact, 85°C, DF 10%, UL508	5x10 <sup>4</sup>

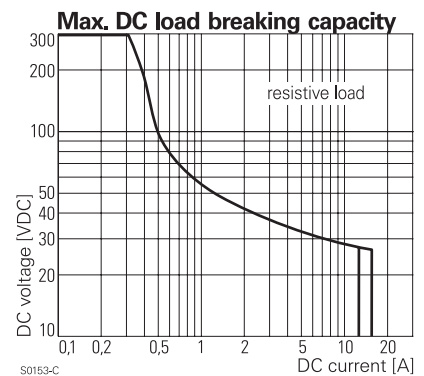
**Coil data**

Rated coil voltage range DC coil	5...110 VDC
AC coil	24...230 VAC
Coil power DC coil	520 mW
AC coil	typ 0,75 VA
Operative range	2
Coil insulation system according UL1446	class F

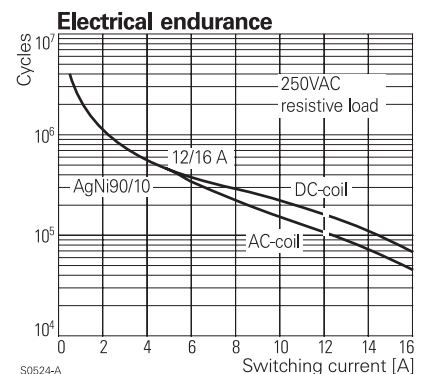
**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
005	5	3.5	0.5	50±10%	500
006	6	4.2	0.6	68±10%	529
012	12	8.4	1.2	274±10%	526
024	24	16.8	2.4	1095±10%	526
048	48	33.6	4.8	4380±10%	526
060	60	42.0	6.0	6845±10%	526
110	110	77.0	11.0	23010±10%	526

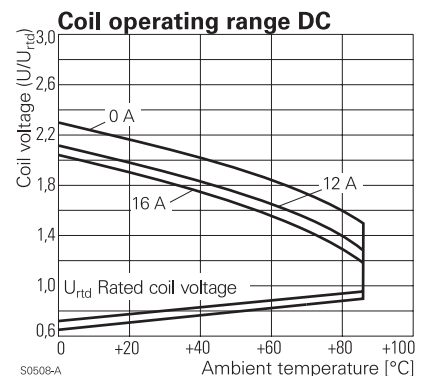
All figures are given for coil without preenergization, at ambient temperature +23°C



S0153-C



S0524-A



S0508-A

**Coil versions, AC-coil 50Hz**

Coil code	Rated voltage	Operate voltage 50 Hz	Release voltage 50 Hz	Coil resistance	Rated coil power 50 Hz
	VAC	VAC	VAC	Ohm	VA
524	24	18.0	3.6	350±10%	0.76
615	115	86.3	17.3	8100±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	4000 V <sub>rms</sub>		
open contact circuit	1000 V <sub>rms</sub>		
Clearance / creepage coil-contact circuit	≥ 8 / 8 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**

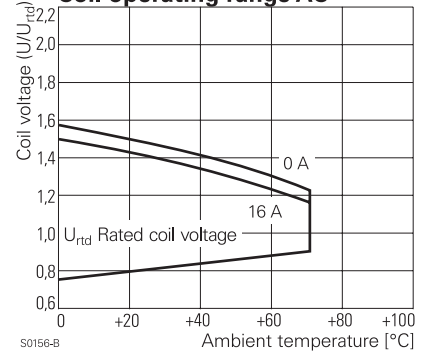
RoHS - Directive 2002/95/EC	compliant as per product date code 0413
Flammability class according to UL94	V-0
Ambient temperature range DC coil	-40...85°C <sup>1)</sup>
AC coil	-40...70°C
Operate- / release time DC coil	typ 7 / 2 ms
Bounce time DC coil, NO / NC contact	typ 1 / 3 ms
Vibration resistance (function) NO / NC contact	20 / 4 g, 10 ... 150 Hz
Shock resistance (destruction)	100 g
Category of protection	RTII - flux proof
Mounting standard version (white cover)	pcb or on socket
transparent version	pcb
Mounting distance	2,5 mm
Resistance to soldering heat flux-proof version	270 °C / 10 s
Relay weight	14 g
Packaging unit	500 pcs

<sup>1)</sup> Version with transparent cover: -40...+70°C

**Accessories**

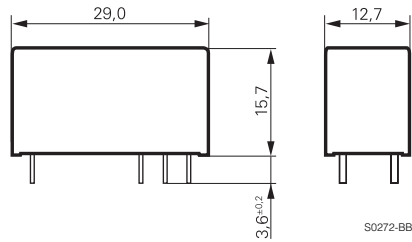
For standard version (white cover), details see datasheet accessories RT

**Coil operating range AC**



**Power PCB Relay RX1 (Continued)**

**Dimensions**

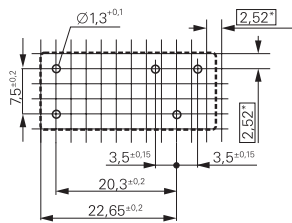


**PCB layout / terminal assignment**

Bottom view on solder pins

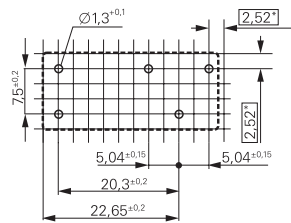
\*) With the recommended PCB hole sizes a grid pattern from 2.5 mm to 2.54 mm can be used.

12 A, pinning 3.5 mm



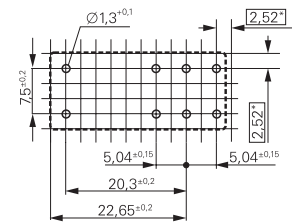
S0418-CB

12 A, pinning 5 mm



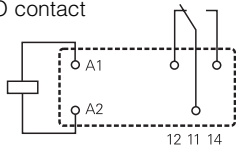
S0418-CN

16 A, pinning 5 mm



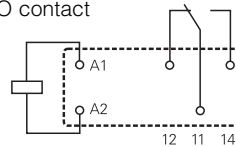
S0418-CA

1 CO contact



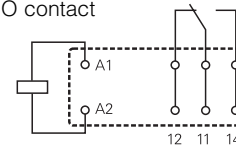
S0163-BG

1 CO contact



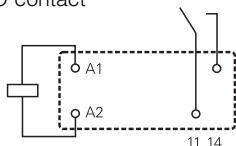
S0163-BC

1 CO contact



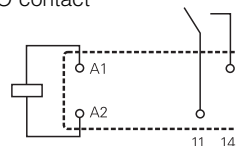
S0163-BE

1 NO contact



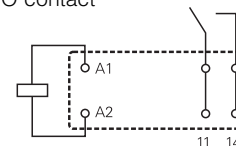
S0163-BH

1 NO contact



S0163-BD

1 NO contact



S0163-BF

**Product key**

Type

Version

- 1 12 A, pinning 3.5 mm, flux proof
- 3 16 A, pinning 5 mm, flux proof

Contact configuration

- 1 1 CO contact
- 3 1 NO contact

Contact material

- 4 AgNi 90/10

Coil

Coil code: please refer to coil versions table

Cover

- Blank** standard cover (white)
- C** transparent cover (clear)



**Power PCB Relay RX1 (Continued)**

Product key	Version	Contacts	Cont. material	Coil	Cover	Part number
RX114012	12 A	1 CO contact	AgNi 90/10	12 VDC	white	6-1415502-1
RX114012C	pinning 3.5mm				transparent	1-1415503-1
RX114024	flux proof			24 VDC	white	7-1415502-1
RX114024C					transparent	2-1415503-1
RX114730				230 VAC	white	8-1415502-1
RX114730C					transparent	5-1415503-1
RX134012		1 NO contact		12 VDC	white	9-1415502-1
RX134024				24 VDC		0-1415503-1
RX314012		1 CO contact		12 VDC		1-1415502-1
RX314012C					transparent	3-1415503-1
RX314024				24 VDC	white	2-1415502-1
RX314024C					transparent	4-1415503-1
RX314730				230 VAC	white	3-1415502-1
RX314730C					transparent	6-1415503-1
RX334012		1 NO contact		12 VDC	white	4-1415502-1
RX334024				24 VDC		5-1415502-1

**Special Load PCB Relay RP 3 SL**

- 1 pole 16 A, 1 NO contact
- For high inrush currents,
- 120 A / 20 ms inrush peak current
- Mono- or bistable
- 4 kV / 8 mm coil-contact
- RoHS compliant (Directive 2002/95/EC) as per product date code 0404

**Applications**

Lighting control, timers, motor control, building automation



F0147-A

**Approvals**

VDE REG.-Nr. 3736 (DC versions only), **CE** **UL** **us** E214024, **KEMA** **KEUR** 2011340.05 (DC vers. only)  
 Technical data of approved types on request

**Contact data**

Contact configuration	1 NO
Contact set	single contact
Type of interruption	micro-disconnection
Rated current relay version RP3 / RP7	16 A / 12 A
Rated voltage / max.switching voltage AC	250/400 VAC
Limiting continuous current	16 A
Maximum breaking capacity AC RP3 / RP7	4000 VA / 3000 VA
Limiting making capacity, max 4 s, duty factor 10% peak value, max 20 ms	25 A 120 A
Contact material	AgSnO <sub>2</sub>
Mechanical endurance DC-coil	> 20x10 <sup>6</sup> cycles
bistable coil	> 1x 10 <sup>6</sup> cycles
Rated frequency of operation with / without load	16 / 1200 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
RP3SL	16 A, 250 VAC, 70°C, 16 min <sup>-1</sup> , IEC61810-1	5x10 <sup>4</sup>
RP3SL	12 A, 250 VAC, 70°C, 16 min <sup>-1</sup> , IEC61810-1	1x10 <sup>5</sup>

**Coil data**

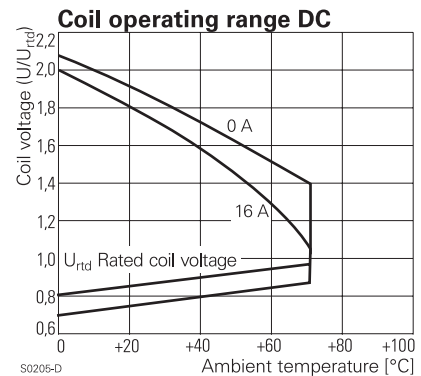
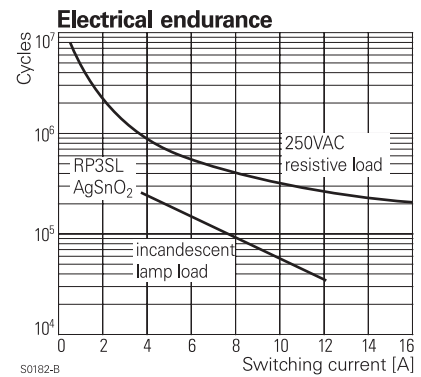
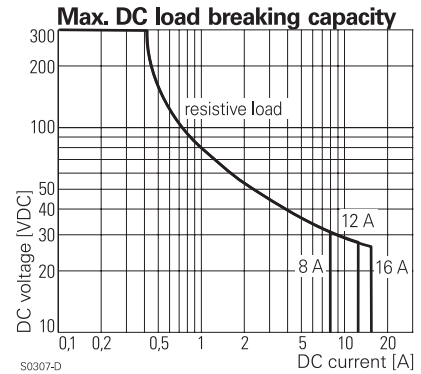
**Coil data, monostable coil**

Rated coil voltage range	5...110 VDC
Coil power	typ 520 mW
Operative range RTII / RTIII	2 / 1

**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω	Rated coil power mW
012	12	9.0	1.2	270±10%	533
024	24	18.0	2.4	1100±15%	524
048	48	36.0	4.8	4400±15%	524
060	60	45.0	6.0	6540±15%	550

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



**Special Load PCB Relay RP 3 SL (Continued)**

Coil data, bistable coils	1 coil	2 coils
Rated coil voltage range	5...24 VDC	
Coil power	typ 1,25 W	
Operative range	1	
Reset voltage minimum / maximum, % of $U_{rd}$	70% / 110%	75% / 120%
Minimum energization duration	20 ms	
Maximum energization duration	1 min at < 50% DF	

**Coil versions, bistable DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Reset voltage VDC	Reset R1 $\Omega$ / W	Coil resistance $\Omega$	Rated coil power mW
<b>bistable, 1 coil</b>						
A05	5	3.7	3.6	39/0.5	21±10%	1190
A12	12	9.0	8.7	220/0.5	115±10%	1252
A24	24	18.0	16.7	820/0.5	460±10%	1252
<b>bistable, 2 coils</b>						
F12	12	9.0	9.0		105±15%	1371
F24	24	18.0	18.0		460±15%	1252

All figures are given for coil without preenergization, at ambient temperature +23°C, duty factor 20%. Other coil voltages on request

**Insulation**

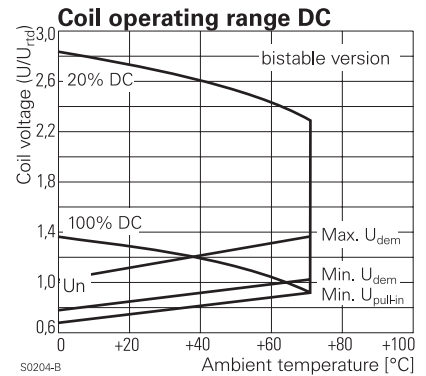
Dielectric strength coil-contact circuit	4000 V <sub>rms</sub>	
open contact circuit	2000 V <sub>rms</sub>	
Clearance / creepage coil-contact circuit	≥ 8 / 8 mm	
Material group of insulation parts	≥ IIIa	
Tracking index of relay base	PTI 250 V	
Insulation to IEC 60664-1		
Type of insulation coil-contact circuit	basic	
open contact circuit	functional	
Rated insulation voltage	250 V	
Pollution degree	3	2
Rated voltage system	240 V	400 V
Overvoltage category	III	

**Other data**

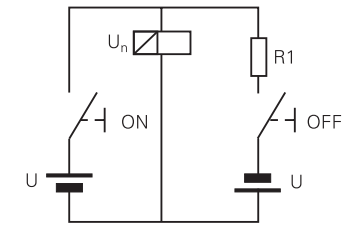
RoHS - Directive 2002/95/EC	compliant as per product date code 0404	
Flammability class according to UL94	V-2	
Ambient temperature range RTII - flux proof	-40...+70°C	
RTIII - wash tight	-40...+35°C	
Operate- / release time DC coil	typ 8 / 2 ms	
Operate- / reset time bistable coils	typ 6 / 2 ms	
Bounce time	typ 2 ms	
Vibration resistance (function), opening of closed contact	20 g	
Shock resistance (destruction)	100 g	
Category of protection	RTII - flux proof, RTIII - wash tight	
Mounting	pcb or on socket	
Mounting distance 12A / 16A	0 / 3 mm	
Resistance to soldering heat flux proof version	270 °C / 10 s	
wash tight version	260°C / 5 s	
Relay weight	18 g	
Packaging unit monostable, bistable 1 coil	20 / 500 pcs	
bistable 2 coils	100 pcs	

**Accessories**

For monostable and bistable 1 coil version, details see accessories RT



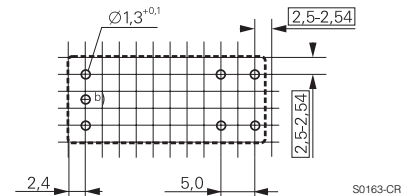
Circuit scheme for bistable 1 coil



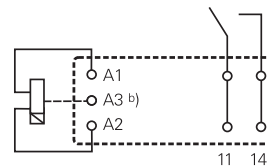
S0328-A

**PCB layout / terminal assignment**

Bottom view on solder pins



S0163-CR



S0163-CS

Bistable versions:

Indicated contact position during or after coil energization with reset voltage.

2-coil versions:

Operate A2, A3  
Reset A1, A3

b) for 2 coil version only





# Power PCB Relay RP II/1

1 pole 8 / 12 / 16 A

www.DataSheet4U.com



F0146-B

## Features

- 1 C/O or 1 N/O contact
- 4 kV / 8 mm coil-contact
- Pinning 3.5 or 5 mm (8 / 12 A) and 5 mm (16 A)
- PCB-sockets
- Versions with Ag, or AgNi 0.15 contact material: RoHS compliant (Directive 2002 / 95 / EC) as per product date code 0404

## Applications

Power supplies, domestic appliances, heating control, installation



Technical data of approved types on request

## Contact data

Configuration	1 C/O contact or 1 N/O contact		
Type of contact	single contact		
Rated current	8 A	12 A	16 A
Rated voltage / max. breaking voltage AC	250 Vac / 440 Vac		
Maximum breaking capacity AC	2000 VA	3000 VA	4000 VA
Make current	16 A	20 A	25 A
Contact material	AgNi 0.15	AgCdO	AgCdO

## Contact ratings

Type	Load	Operations	Standard
RP410	12 A, 250 Vac, $\cos\phi=1$ , 1200/h, 40% duty cycle	$1.1 \times 10^5$	AC 1
RP410	9.1 A, 220 Vac, $\cos\phi=1$ , 360/h, 15% duty cycle	$2 \times 10^5$	AC 1
RP418	3.4 A ON, 0.42 A OFF, 220 Vac, $\cos\phi=0.6$	$> 1.1 \times 10^6$	
RP411	8 A, 250 Vac, $\cos\phi=1$ , 50% duty cycle	$10^5$	AC 1
RP412	8 A, 250 Vac, $\cos\phi=1$ , 50% duty cycle	$10^5$	AC 1
RP330	18.2 A, 250 Vac, $\cos\phi=1$ , 600/h, 15% duty cycle	$1.1 \times 10^5$	AC 1
RP330	96 A ON, 16 A OFF, 250 Vac, $\cos\phi=0.6$ , 450/h	$> 3 \times 10^4$	VDE 0630

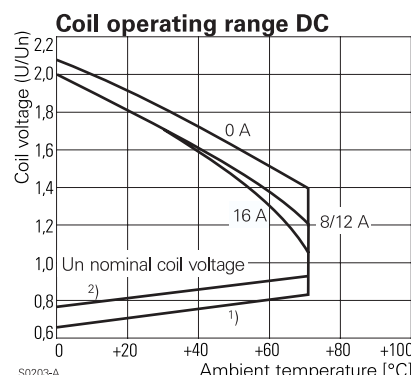
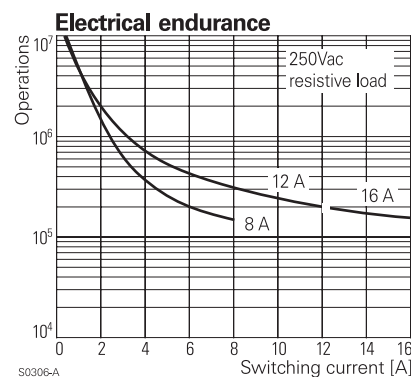
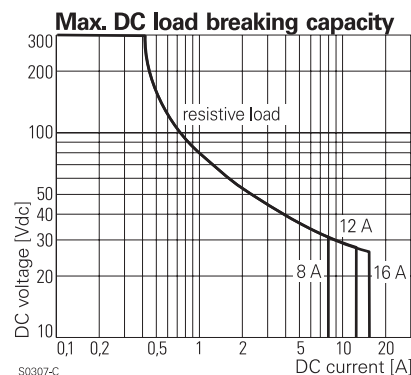
## Coil data

Nominal voltage	5...110 Vdc
Nominal coil power	500 mW
Operate category	2 / b

## Coil versions, DC-coil

Coil code	Nominal voltage Vdc	Pull-in voltage Vdc	Release voltage Vdc	Maximum voltage Vdc	Coil resistance $\Omega$	Coil current mA
005	5	3.5	0.5	9.0	$54 \pm 10\%$	92.6
006	6	4.2	0.6	10.8	$68 \pm 10\%$	88.2
012	12	8.4	1.2	21.6	$270 \pm 10\%$	44.4
024	24	16.8	2.4	43.2	$1100 \pm 15\%$	21.8
048	48	33.6	4.8	86.4	$4400 \pm 15\%$	10.9
060	60	42.0	6.0	108.0	$6540 \pm 15\%$	9.2
110	110	77.0	11.0	198.0	$23100 \pm 15\%$	4.8

All figures are given for coil without preenergization, at ambient temperature +20°C  
Other coil voltages on request



Edition: 07 / 2004

Rights to change data / design reserved

# Power PCB Relay RP II/1

1 pole 8 / 12 / 16 A

www.DataSheet4U.com

## Insulation

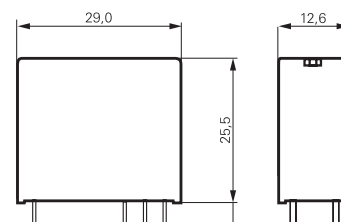
Dielectric strength	coil-contacts	4000 V <sub>rms</sub>
	open contact circuit	1000 V <sub>rms</sub>
Clearance / creepage		8 / 8 mm
Insulation to IEC 60664		
Voltage rating		250 V
Pollution degree		3
Overtoltage category		III
Insulation to VDE 0110b (2/79)		
Insulation category / reference voltage		C / 250

## Other data

RoHS - Directive 2002 / 95 / EC		
versions with Ag, or AgNi 0.15 contacts:	compliant as per product date code 0404	
Ambient temperature	-40...+70 °C	
Mechanical life	30x10 <sup>6</sup> operations	
Max. switching rate at rated- / minimum load	10 min <sup>-1</sup> / 1200 min <sup>-1</sup>	
Operate- / release time	typ. 8 / 2 ms	
Bounce time N/O contact/N/C contact	typ. 2 / 4 ms	
Vibration resistance N/O contact/N/C contact	>10 / 2 g, 30...300 Hz	
Shock resistance (destruction)	100 g	
Category of protection (IEC 61810)	RT II - flux proof, RT III - wash tight	
Relay weight	18 g	
Packaging unit	20 / 500 pcs.	
Accessories	see accessories RT and RT	

## Dimensions

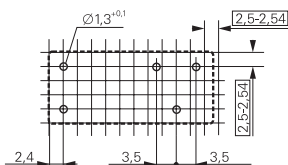
Dimensions in mm



S0273-AA

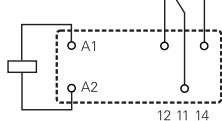
## PCB layout / terminal assignment

8 / 12 A, pinning 3.5 mm



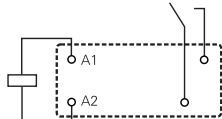
S0163-CQ

1 C/O



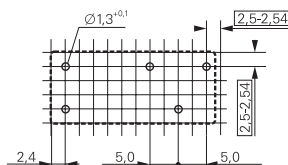
S0163-BG

1 N/O



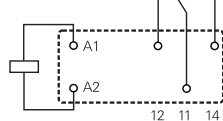
S0163-BH

8 / 12 A, pinning 5 mm



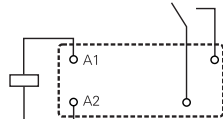
S0163-CP

1 C/O



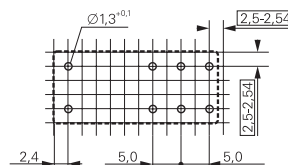
S0163-BC

1 N/O



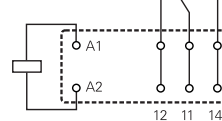
S0163-BD

16 A, pinning 5 mm



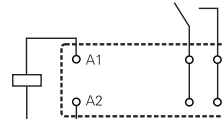
S0163-CO

1 C/O



S0163-BE

1 N/O



S0163-BF

Bottom view on solder pins

Dimensions in mm

Editor: 07/2004

Rights to change data / design reserved

# Power PCB Relay RP II/1

1 pole 8 / 12 / 16 A

www.DataSheet4U.com

## Product key



Type

Version

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

Contacts

**1** 1 C/O contact                              **3** 1 N/O contact

Contact material

**0 AgCdO, 16 A or 12 A, pinning 5 mm**                      **2 AgNi 0.15, 8 A, pinning 3.5 mm**  
**1 AgNi 0.15, 8 A, pinning 5 mm**                              **8 AgCdO, 12 A, pinning 3.5 mm**

Coil

Coil code: please refer to coil versions table

Preferred types in bold print

Product key	Version	Contacts	Contact material	Coil	Part number
RP310005	16 A	1 C/O contact	AgCdO	5 Vdc	2-1393230-5
RP310012	flux proof		pinning 5mm	12 Vdc	2-1393230-9
RP310024				24 Vdc	3-1393230-2
RP310048				48 Vdc	3-1393230-3
RP330005		1 N/O contact		5 Vdc	4-1393230-5
RP330012				12 Vdc	4-1393230-7
RP330024				24 Vdc	4-1393230-9
RP330048				48 Vdc	5-1393230-1
RP410012	12 A	1 C/O contact	AgCdO	12 Vdc	8-1393230-1
RP410024	flux proof		pinning 5mm	24 Vdc	8-1393230-2
RP411012	8 A		AgNi 0.15	12 Vdc	9-1393230-4
RP411024	flux proof		pinning 5mm	24 Vdc	9-1393230-5
RP412012			AgNi 0.15	12 Vdc	1-1393231-1
RP412024			pinning 3.5mm	24 Vdc	1-1393231-2
RP418012	12 A		AgCdO	12 Vdc	2-1393231-5
RP418024	flux proof		pinning 3.5mm	24 Vdc	2-1393231-8
RP438012		1 N/O contact		12 Vdc	5-1393231-0
RP438024				24 Vdc	5-1393231-2
RP710005	16 A	1 C/O contact	AgCdO	5 Vdc	7-1393231-0
RP710012	wash tight		pinning 5mm	12 Vdc	7-1393231-2
RP710024				24 Vdc	7-1393231-5
RP710048				48 Vdc	7-1393231-6
RP730012		1 N/O contact		12 Vdc	8-1393231-2
RP730024				24 Vdc	8-1393231-4
RP812012	8 A	1 C/O contact	AgNi 0.15	12 Vdc	0-1393232-8
RP812024	wash tight		pinning 3.5mm	24 Vdc	0-1393232-9
RP818012	12 A		AgCdO	12 Vdc	1-1393232-7
RP818024	wash tight		pinning 3.5mm	24 Vdc	1-1393232-9
RP838012		1 N/O contact		12 Vdc	2-1393232-6
RP838024				24 Vdc	2-1393232-8

Edition: 07 / 2004

Rights to change data / design reserved

**Power Relay RF**

- 1 pole 16 A, 1 NO or 1 NC contact
- Switching capacity 4000 VA
- Coil power 400 mW
- Reinforced insulation (EN 61810, 60335, 60730)
- Ambient temperature up to 105°C
- Quick connect terminals for load side
- WG version: Materials in accordance to IEC 60335-1
- RoHS compliant (Directive 2002/95/EC)

**Applications**

Oven control, electric heating, power supplies, air conditioning, microwares, hobs



F0273-AI

**Approvals**

VDE REG.-Nr. A652, cULus E214025  
Technical data of approved types on request

**Contact data**

Contact configuration	1NO or 1NC
Contact set	single contact
Type of interruption	micro disconnection
Rated current	16 A
Rated voltage / max.switching voltage AC	240/400 VAC
Maximum breaking capacity AC	4000 VA
Limiting making capacity, max 4 s, duty factor 10%	25 A
Contact material	AgNi90/10
Minimum contact load	12VAC / 500mA
Mechanical endurance	1x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	6 / 1200 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
RFH34	16 A, 250 VAC, 105°C	50 x10 <sup>3</sup>
RFH34	11 A, 400 VAC, 105°C	100 x10 <sup>3</sup>

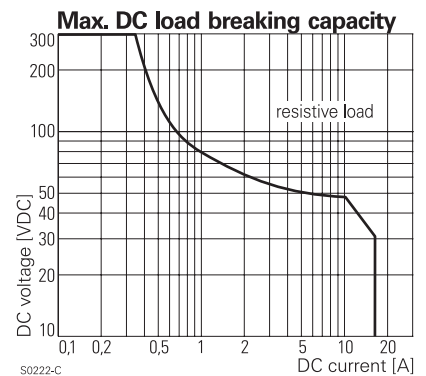
**Coil data**

Rated coil voltage DC coil	5...60 VDC
Coil power DC coil	typ. 400 mW
Operative range	2
Coil insulation system according UL1446	Class F

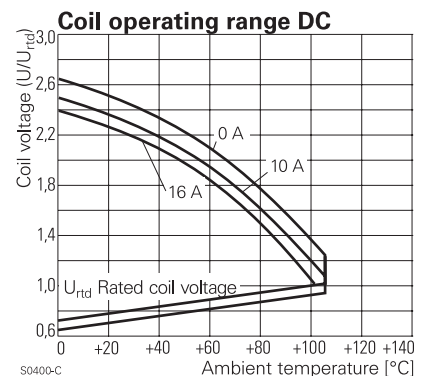
**Coil versions, DC-coil**

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
009	9	6.3	0.9	203 ± 10%	399
<b>012</b>	<b>12</b>	<b>8.4</b>	<b>1.2</b>	<b>360 ± 10%</b>	<b>400</b>
<b>024</b>	<b>24</b>	<b>16.8</b>	<b>2.4</b>	<b>1440 ± 10%</b>	<b>400</b>
048	48	33.6	4.8	5520 ± 10%	417
060	60	42.0	6.0	8570 ± 10%	420

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



S0222-C



S0400-C



**Power Relay RF (Continued)**

**Product key**

Type							
Version	<b>3</b> 16 A, 85°C		<b>H</b> 16 A, 105°C				
Contact configuration	<b>3</b> 1 NO contact, quick connect term. vertical		<b>5</b> 1 NC contact, quick connect term. vertical				
	<b>D</b> 1 NO contact, quick connect term. horizontal		<b>F</b> 1 NC contact, quick connect term. horizontal				
Contact material	<b>4</b> AgNi 90/10						
Coil	Coil code: please refer to coil versions table						
Version	<b>Blank</b> Standard version						
	<b>WG</b> Product in accordance with IEC 60335-1 (domestic appliances)						

Wash tight version on request

Product key	Version	Configuration	Cont. material	Coil	Part number
RF334006	16 A	1 NO contact	AgNi 90/10	6 VDC	5-1415513-1
RF334009	85°C	quick connect term.		9 VDC	7-1415513-1
RF334012		vertical		12 VDC	8-1415513-1
RF334024				24 VDC	9-1415513-1
RF354006		1 NC contact		6 VDC	2-1415514-1
RF354009		quick connect term.		9 VDC	3-1415514-1
RF354012		vertical		12 VDC	4-1415514-1
RF354024				24 VDC	5-1415514-1
RFH34006	16 A	1 NO contact		6 VDC	8-1415510-1
RFH34009	105°C	quick connect term.		9 VDC	9-1415510-1
RFH34012		vertical		12 VDC	6-1415510-1
RFH34024				24 VDC	0-1415511-1
RFH54006		1 NC contact		6 VDC	4-1415511-1
RFH54009		quick connect term.		9 VDC	5-1415511-1
RFH54012		vertical		12 VDC	6-1415511-1
RFH54024				24 VDC	7-1415511-1
RF334006WG	16 A	1 NO contact		6 VDC	5-1415517-1
RF334009WG	85°C	quick connect term.		9 VDC	6-1415517-1
RF334012WG	materials according IEC 60335-1	vertical		12 VDC	7-1415517-1
RF334024WG				24 VDC	8-1415517-1
RF354006WG		1 NC contact		6 VDC	2-1415518-1
RF354012WG		quick connect term.		9 VDC	4-1415518-1
RF354024WG		vertical		12 VDC	5-1415518-1
RF354048WG				24 VDC	6-1415518-1
RFH34006WG	16 A	1 NO contact		6 VDC	3-1415520-1
RFH34009WG	105°C	quick connect term.		9 VDC	4-1415520-1
RFH34012WG	materials according IEC 60335-1	vertical		12 VDC	5-1415520-1
RFH34024WG				24 VDC	6-1415520-1
RFH54006WG		1 NC contact		6 VDC	0-1415521-1
RFH54009WG		quick connect term.		9 VDC	1-1415521-1
RFH54012WG		vertical		12 VDC	2-1415521-1
RFH54024WG				24 VDC	3-1415521-1



**Power Relay 410 63 125°C**

- 1 pole 16 A, 1 NO or 1 NC contact
- Switching capacity 4000 VA
- Coil power 360 mW
- 4 kV / 8 mm coil-contact, insulation to VDE 0631 and 0700
- Ambient temperature up to 125°C
- Quick connect terminals for load side
- WG version: Materials in accordance to IEC 60335-1
- RoHS compliant (Directive 2002/95/EC) as per product date code 0349

**Applications**

White goods appliances, oven control, electric heating, power supplies, air conditioning, motors, magnetic valves



F0248-AA

**Approvals**

VDE REG.-Nr. 3725, **UL** E214025  
Technical data of approved types on request

**Contact data**

Contact configuration	1NO or 1NC
Contact set	single contact
Type of interruption	micro disconnection
Rated current	16 A
Rated voltage / max.switching voltage AC	240/400 VAC
Limiting making capacity, max 4 s, duty factor 10%	25 A
Contact material	AgCdO, AgNi
Mechanical endurance	1x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	10 / 600 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
NO contact	16 A, 250 VAC, resistive, 125°C	1x10 <sup>5</sup>
NO contact	12 A, 250 VAC, resistive, 70°C	4,5x10 <sup>5</sup>
NC contact	16 A, 250 VAC, resistive, 125°C	1,5x10 <sup>5</sup>
NO contact	10 A, 400 VAC, resistive, 125°C	5x10 <sup>4</sup>
NO contact	12 A, 250 VAC, cosφ=0.6, 125°C	5x10 <sup>4</sup>

**Coil data**

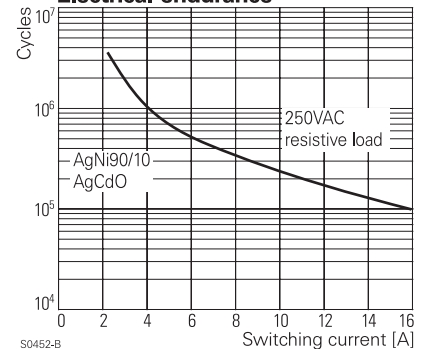
Rated coil voltage DC coil	6...60 VDC
Coil power DC coil	typ. 360 mW
Operative range	1
Coil insulation system according UL1446	Class F

**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
054	6	3.6	0.45	100±10%	360
053	9	5.5	0.68	230±10%	352
050	12	7.3	0.9	400±10%	360
046	24	14.6	1.8	1600±10%	360
043	48	29.2	3.6	6400±10%	360
042	60	36.5	4.5	10000±10%	360

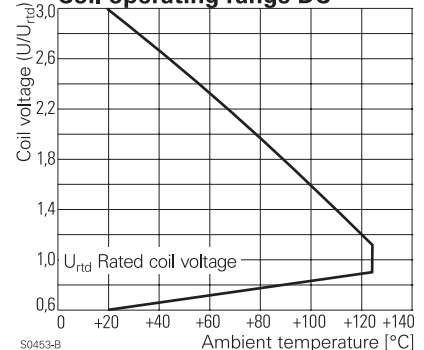
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request

**Electrical endurance**



S0452-B

**Coil operating range DC**



S0453-B



**Power Relay 410 83 3 mm**

- 1 pole 16 A, 1 NO bridging contact
- Contact gap > 3 mm
- Switching capacity 4000 VA
- Coil power 360 mW
- 4 kV / 8 mm coil-contact, insulation to VDE 0631 and 0700
- Ambient temperature up to 85°C
- Quick connect terminals for load side
- WG version: Materials in accordance to IEC 60335-1
- RoHS compliant (Directive 2002/95/EC) as per product date code 0349

**Applications: Washing machines, tumble dryers, absolute safe power supply disconnection in other domestic applications**



F0246-AB

**Approvals**

VDE REG.-Nr. 6198, **UL** us E214025  
Technical data of approved types on request

**Contact data**

Contact configuration	1NO
Contact set	single contact, bridging contact
Type of interruption	full disconnection
Rated current	16 A
Rated voltage / max.switching voltage AC	240/400 VAC
Maximum breaking capacity AC	4000 VA
Limiting making capacity, max 4 s, duty factor 10%	20 A
Contact material	AgNi
Contact gap	>3 mm
Mechanical endurance	1x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	10 / 600 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
410 83	16 A, 250 VAC, resistive, 85°C	3x10 <sup>4</sup>
410 83	10 A, 250 VAC, resistive, 85°C	1x10 <sup>5</sup>
410 83	10 A, 400 VAC, resistive, 85°C	1x10 <sup>5</sup>

**Coil data**

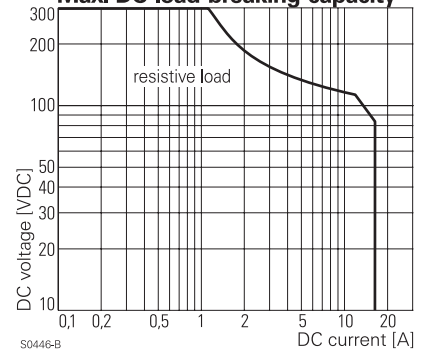
Rated coil voltage range DC coil	6...60 VDC
Coil power DC coil	typ. 360 mW
Operative range	1
Coil insulation system according UL1446	Class F

**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
054	6	3.9	0.45	100±10%	360
050	12	7.9	0.9	400±10%	360
046	24	15.8	1.8	1600±10%	360
043	48	31.6	3.6	6400±10%	360
042	60	39.5	4.5	10000±10%	360

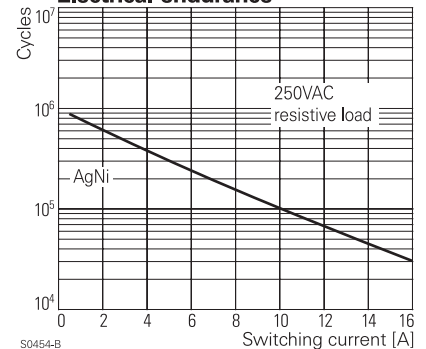
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request

**Max. DC load breaking capacity**



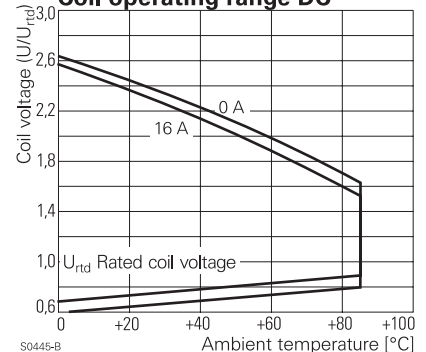
S0446-B

**Electrical endurance**



S0454-B

**Coil operating range DC**



S0445-B



**Power PCB Relay RT2**

- 2 pole 8 A, 2 CO or 2 NO contacts
- DC- or AC-coil
- Sensitive coil 400 mW
- Reinforced insulation
- WG version: Product in accordance to IEC60335-1
- RoHS compliant (Directive 2002/95/EC) as per product date code 0413



F0149-B

**Applications**

Domestic appliances, heating control, emergency lighting, modems

**Approvals**

VDE REG.-Nr. 6106, cULus E214025, BEAR C0786  
 Technical data of approved types on request

**Contact data**

Contact configuration	2 CO or 2 NO
Contact set	single contact
Type of interruption	micro disconnection
Rated current	8 A, UL: 10 A
Rated voltage / max.switching voltage AC	240/400 VAC
Limiting continuous current	UL: 10 A
Maximum breaking capacity AC	2000 VA
Limiting making capacity, max 4 s, duty factor 10%	15 A
Contact material	AgNi 90/10, AgNi 90/10 gold plated, AgSnO <sub>2</sub>
Mechanical endurance DC coil	> 30 x 10 <sup>6</sup> cycles
AC coil	> 5 x 10 <sup>6</sup> cycles
Rated frequency of operation with / without load	6 / 1200 min-1

**Contact ratings**

Type	Load	Cycles
RT424	8 A, 250 VAC, NO contact, 70°C, EN61810-1	100x10 <sup>3</sup>
RT444	6(3) A, 250 VAC, NO contact, 85°C; EN60730-1	100x10 <sup>3</sup>
RT424	6(2) A, 250 VAC, NO/NC contact, 85°C; EN60730-1	100x10 <sup>3</sup>
RT424	10 A, 250 VAC, CO contact, 70°C; General purpose, UL508	30x10 <sup>3</sup>
RT424	1/2hp @ 240 VAC, 1/4hp @ 120 VAC, UL508	
RT424	Pilot duty B300, UL508	
RT424	8 A, 30 VDC, General Purpose, UL508	
RT424	4 A, 230 VAC, cosφ=0.6, gas burner	150x10 <sup>3</sup>

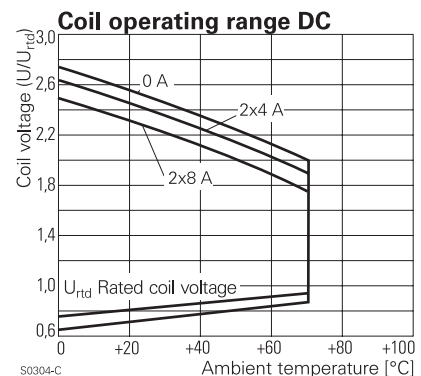
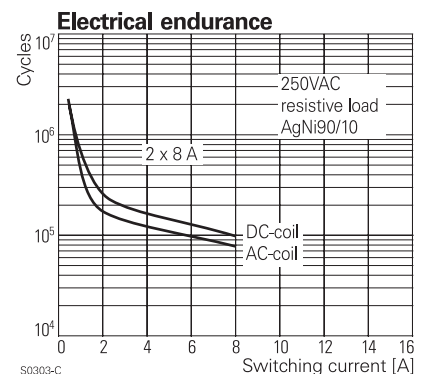
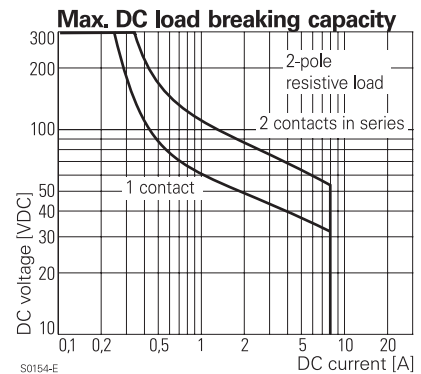
**Coil data**

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 Ω	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



**Power PCB Relay RT2 (Continued)**

**Coil versions, AC-coil 50Hz**

Coil code	Rated voltage	Operate voltage	Release voltage	Coil resistance	Rated coil power
	VAC	50 Hz	50 Hz	$\Omega$	50 Hz
		VAC	VAC		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 <sub>rms</sub>
open contact circuit	1000 V <sub>rms</sub>
adjacent contact circuits	2500 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 10 / 10 mm
adjacent contact circuits	≥ 3 / 4 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
adjacent contact circuits	basic
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	240 V
Overvoltage category	III

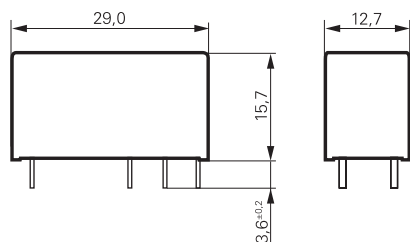
**Other data**

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	-40...+70°C
Operate- / release time DC coil	typ 7 / 2 ms
Bounce time DC coil NO / NC contact	typ 1 / 3 ms
Vibration resistance (function) NO / NC contact	20 / 5 g, 30 ... 300 Hz
Shock resistance (destruction)	100 g
Category of protection	RTII - flux proof, RTIII - wash tight
Mounting	pcb or on socket
Mounting distance DC / AC coils	0 mm
Resistance to soldering heat flux-proof version	270°C / 10 s
wash-tight version	260°C / 5 s
Relay weight	13 g
Packaging unit	20 / 500 pcs

**Accessories**

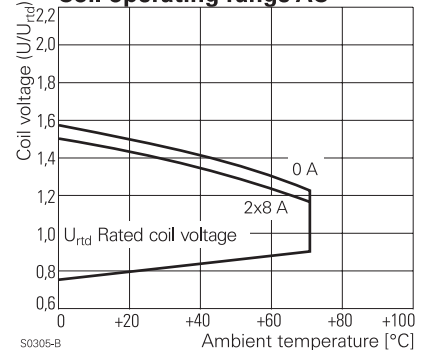
For details see datasheet	accessories RT
---------------------------	----------------

**Dimensions**



S0272-BA

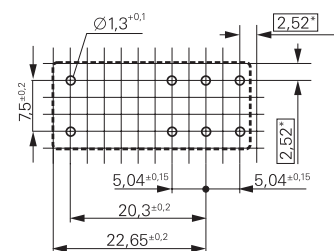
**Coil operating range AC**



S0305-B

**PCB layout / terminal assignment**

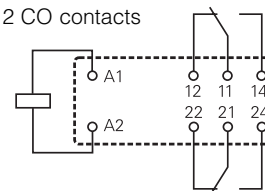
Bottom view on solder pins



S0418-CA

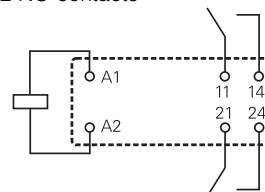
\*) With the recommended PCB hole sizes a grid pattern from 2.5 mm to 2.54 mm can be used.

**2 CO contacts**



S0163-BJ

**2 NO contacts**



S0163-BK

**Power PCB Relay RT2 (Continued)**

**Product key**

<b>R</b>	<b>T</b>	<b>4</b>					
----------	----------	----------	--	--	--	--	--

Type

Version

- 4** 8 A, pinning 5 mm, flux proof
- E** 8 A, pinning 5 mm, wash tight

Contact configuration

- 2** **2 CO contacts** 4 2 NO contacts

Contact material

- 3** AgSnO<sub>2</sub>
- 4** **AgNi 90/10** 5 AgNi 90/10 gold plated

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

Product key	Version	Contacts	Cont. material	Coil	Coil	Part number
RT424005	8 A	2 CO contacts	AgNi 90/10	DC-coil	5 VDC	5-1393243-9
RT424006	pinning 5 mm flux proof				6 VDC	6-1393243-1
RT424012					12 VDC	6-1393243-3
RT424024					24 VDC	6-1393243-8
RT424048					48 VDC	7-1393243-0
RT424060					60 VDC	7-1393243-3
RT424110					110 VDC	7-1393243-5
RT424524				AC-coil	24 VAC	7-1393243-6
RT424615					115 VAC	7-1393243-8
RT424730					230 VAC	7-1393243-9
RT425005			AgNi 90/10 gold plated	DC-coil	5 VDC	8-1393243-0
RT425012					12 VDC	8-1393243-2
RT425024					24 VDC	8-1393243-5
RT425524				AC-coil	24 VAC	9-1393243-1
RT425615					115 VAC	9-1393243-2
RT425730					230 VAC	9-1393243-3
RT444012		2 NO contacts	AgNi 90/10	DC-coil	12 VDC	9-1393243-7
RT444024					24 VDC	9-1393243-9
RTE24005	8 A	2 CO contacts			5 VDC	0-1393243-1
RTE24006	pinning 5 mm wash tight				6 VDC	0-1393243-2
RTE24012					12 VDC	0-1393243-4
RTE24024					24 VDC	1-1393243-0
RTE24048					48 VDC	1-1393243-1
RTE24060					60 VDC	1-1393243-3
RTE24110					110 VDC	1-1393243-4
RTE24524				AC-coil	24 VAC	1-1393243-5
RTE24615					115 VAC	1-1393243-7
RTE24730					230 VAC	1-1393243-8
RTE25005			AgNi 90/10 gold plated	DC-coil	5 VDC	1-1393243-9
RTE25012					12 VDC	2-1393243-0
RTE25024					24 VDC	2-1393243-1



**Power PCB Relay RT2 bistable**

- 2 pole 8 A, 2 CO contacts
- Polarized bistable version with 1 or 2 coils
- 5 kV / 10 mm coil-contact
- Reinforced insulation
- RoHS compliant (Directive 2002/95/EC) as per product date code 0413

**Applications**

Battery powered equipment or applications with "memory function" (e.g. mains failure)



F0219-B

**Approvals**

VDE REG.-Nr. 6106, **CE** us E214025  
Technical data of approved types on request

**Contact data**

Contact configuration	2 CO
Contact set	single contact
Type of interruption	micro disconnection
Rated current	8 A, UL: 10 A
Rated voltage / max. switching voltage AC	240/400 VAC
Limiting continuous current	UL: 10 A
Maximum breaking capacity AC	2000 VA
Limiting making capacity, max 4 s, duty factor 10%	15 A
Contact material	AgNi 90/10
Mechanical endurance	> 2 x 10 <sup>6</sup> cycles
Rated frequency of operation with / without load	15 / 1200 min <sup>-1</sup>

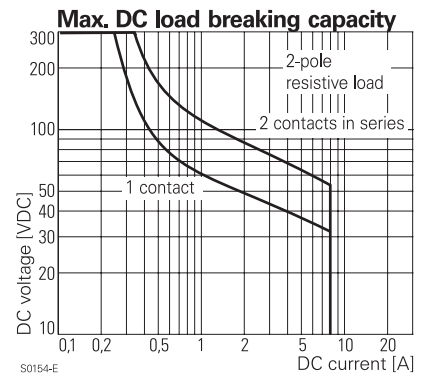
**Coil data**

	1 coil	2 coils
Rated coil voltage range	5...24 VDC	
Coil power	typ 400 mW	typ 600 mW
Operative range	2	
Limiting voltage, % of rated coil voltage	120%	150%
Minimum energization duration	30 ms	
Maximum energization duration	1 min at < 10% DF	
Coil insulation system according UL1446	class F	

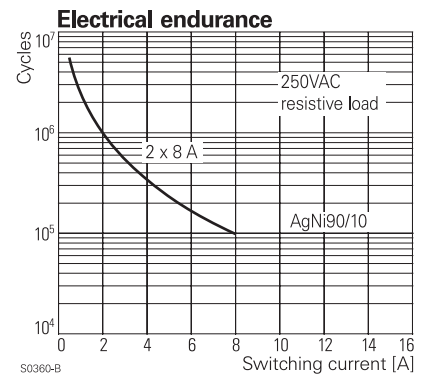
**Coil versions, bistable DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Reset voltage VDC	Coil resistance Ω	Rated coil power mW
<b>bistable, 1 coil</b>					
A05	5	3.5	3.5	62 ± 10%	403
A06	6	4.2	4.2	90 ± 10%	400
<b>A12</b>	<b>12</b>	<b>8.4</b>	<b>8.4</b>	<b>360 ± 10%</b>	<b>400</b>
<b>A24</b>	<b>24</b>	<b>16.8</b>	<b>16.8</b>	<b>1440 ± 10%</b>	<b>400</b>
<b>bistable, 2 coils</b>					
F05	5	3.5	3.5	42 ± 10%	595
F06	6	4.2	4.2	55 ± 10%	655
<b>F12</b>	<b>12</b>	<b>8.4</b>	<b>8.4</b>	<b>240 ± 10%</b>	<b>600</b>
<b>F24</b>	<b>24</b>	<b>16.8</b>	<b>16.8</b>	<b>886 ± 10%</b>	<b>650</b>

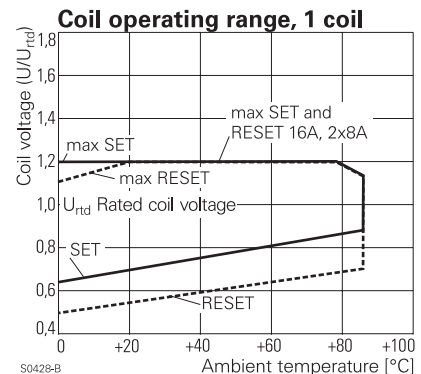
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request



S0154-E



S0360-B



S0428-B

**Power PCB Relay RT2 bistable (Continued)**

**Coils operation**

Version	1 coil		2 coils		
Coil terminals	A1	A2	A1	A3	A2
Pull-in	+	-		+	-
Reset	-	+	-	+	
Contact position not defined at delivery					

**Insulation**

Dielectric strength coil-contact circuit	5000 V <sub>rms</sub>	
open contact circuit	1000 V <sub>rms</sub>	
adjacent contact circuits	2500 V <sub>rms</sub>	
Clearance / creepage coil-contact circuit	≥ 10 / 10 mm	
adjacent contact circuits	≥ 3 / 4 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	
adjacent contact circuits	basic	
Rated insulation voltage	250 V	
Pollution degree	3	2
Rated voltage system	240 V	400 V
Overvoltage category	III	

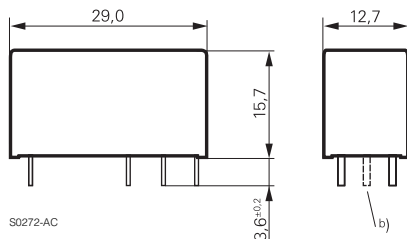
**Other data**

RoHS - Directive 2002/95/EC	compliant as per product date code 0413
Flammability class according to UL94	V-0
Ambient temperature range	-40...+85°C
Operate- / release time	typ 5 / 3 ms
Bounce time NO / NC contact	typ 1 / 4 ms
Vibration / shock resistance (function) opening NC contact	3 / 5 g
opening closed NO contact	6 / 15 g
Shock resistance (destruction)	100 g
Category of protection	RTII - flux-proof
Mounting	pcb or on socket
Mounting distance DC / AC coils	0 mm
Resistance to soldering heat	270°C / 10 s
Relay weight	13 g
Packaging unit DC coil, bistable 1 coil	20 / 500 pcs
bistable 2 coils	100 pcs

**Accessories**

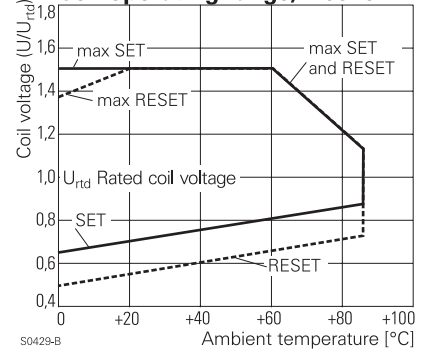
For 1-coil version, details see datasheet	accessories RT
---	----------------

**Dimensions**



a) Indicated contact position while or after coil energization with reset voltage.  
b) for 2 coil version only

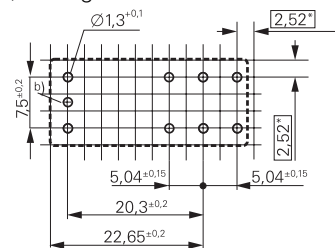
**Coil operating range, 2 coils**



**PCB layout / terminal assignment**

Bottom view on solder pins

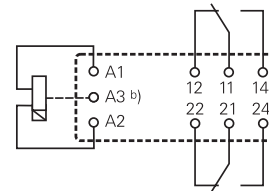
8 A, Pinning 5 mm



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

2 CO contacts

a)



S0163-CL

**Power PCB Relay RT2 bistable** (Continued)

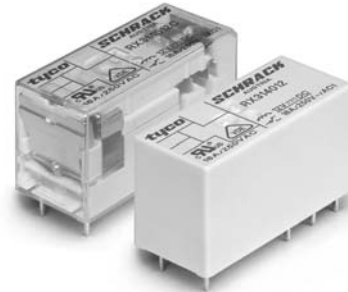
**Product key**

Type	<b>R</b>	<b>T</b>	<b>4</b>	<b>2</b>	<b>4</b>			
Version	8 A, pinning 5 mm, flux proof							
Contact configuration	2 CO contacts							
Contact material	4 AgNi 90/10							
Coil	Coil code: please refer to coil versions table, preferred types in bold print							

Product key	Version	Contacts	Cont. material	Coil	Coil	Part number
RT424A12	8 A	2 CO contacts	AgNi 90/10	bistable	12 VDC	4-1393243-6
RT424A24	pinning 5 mm			1 coil	24 VDC	4-1393243-7
RT424F12	flux tight			bistable	12 VDC	5-1393243-4
RT424F24				2 coils	24 VDC	5-1393243-6

**Power PCB Relay RX2**

- 2-pole 8 A, 2 CO contacts
- DC- or AC-coil
- Reinforced insulation
- Height 15.7 mm
- Transparent cover optional
- RoHS compliant (Directive 2002/95/EC) as per product date code 0413



S0271-A

**Applications**

Domestic appliances, heating control, emergency lighting, automatic doors

**Approvals**

VDE REG.-Nr. A651, cULus E214025  
Technical data of approved types on request

**Contact data**

Contact configuration	2 CO
Contact set	single contact
Type of interruption	micro disconnection
Rated current	8 A
Rated voltage / max.switching voltage AC	240/400 VAC
Maximum breaking capacity AC	2000 VA
Limiting making capacity, max 4 s, duty factor 10%	15 A
Contact material	AgNi 90/10
Mechanical endurance DC coil	> 5 x 10 <sup>6</sup> cycles
AC coil	> 1 x 10 <sup>6</sup> cycles
Rated frequency of operation with / without load	6 / 600 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
RX4	8 A, 250 VAC, 70°C, EN61810-1	4x10 <sup>4</sup>
RX4	8 A, 250 VAC, 70°C, UL508 General purpose	4x10 <sup>4</sup>

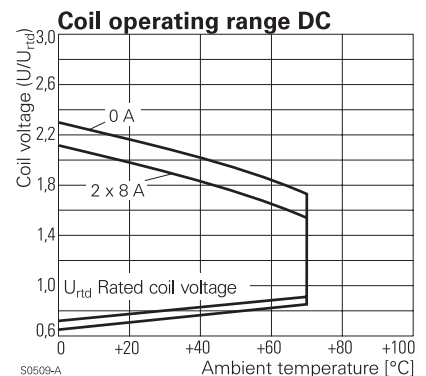
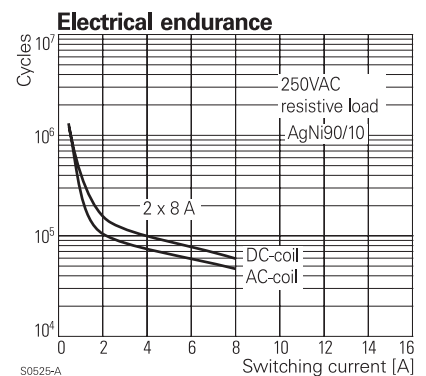
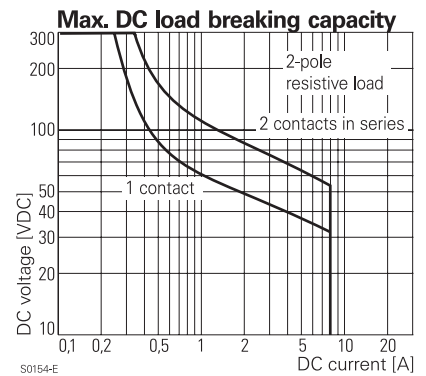
**Coil data**

Rated coil voltage range DC coil	5...110 VDC
AC coil	24...230 VAC
Coil power DC coil	520 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	50 ± 10%	500
006	6	4.2	0.6	68 ± 10%	529
012	12	8.4	1.2	274 ± 10%	526
024	24	16.8	2.4	1095 ± 10%	526
048	48	33.6	4.8	4380 ± 10%	526
060	60	42.0	6.0	6845 ± 10%	526
110	110	77.0	11.0	23010 ± 10%	526

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



**Coil versions, AC-coil 50Hz**

Coil code	Rated voltage	Operate voltage 50 Hz	Release voltage 50 Hz	Coil resistance	Rated coil power 50 Hz
	VAC	VAC	VAC	Ohm	VA
524	24	18.0	3.6	350 ± 10%	0.76
615	115	86.3	17.3	8100 ± 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	4000 V <sub>rms</sub>
open contact circuit	1000 V <sub>rms</sub>
adjacent contact circuits	2500 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 8 / 8 mm
adjacent contact circuits	≥ 3 / 4 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
adjacent contact circuits	basic
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	240 V
Overvoltage category	III

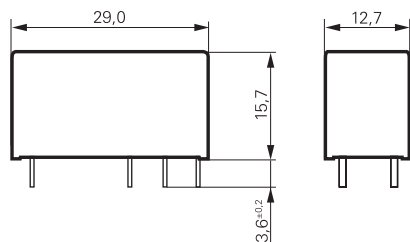
**Other data**

RoHS - Directive 2002/95/EC	compliant as per product date code 0413
Flammability class according to UL94	V-0
Ambient temperature range	-40...70°C
Operate- / release time DC coil	typ 7 / 2 ms
Bounce time DC coil, NO / NC contact	typ 1 / 3 ms
Vibration resistance (function) NO / NC contact	20 / 4 g, 10 ... 150 Hz
Shock resistance (destruction)	100 g
Category of protection	RTII - flux proof
Mounting standard version (white cover)	pcb or on socket
transparent version	pcb
Mounting distance	2,5 mm
Resistance to soldering heat flux-proof version	270°C / 10 s
Relay weight	14 g
Packaging unit	500 pcs

**Accessories**

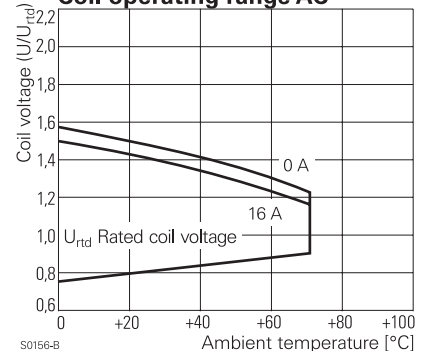
For standard version (white cover), details see	accessories RT
---	----------------

**Dimensions**



S0272-BA

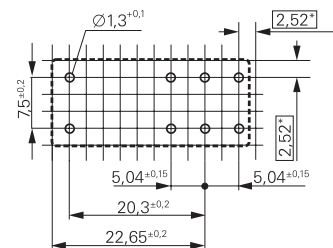
**Coil operating range AC**



S0156-B

**PCB layout / terminal assignment**

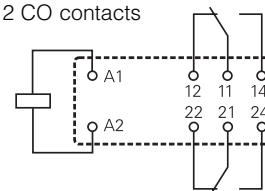
Bottom view on solder pins



S0418-CA

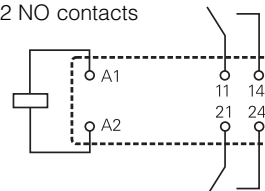
\*) With the recommended PCB hole sizes a grid pattern from 2.5 mm to 2.54 mm can be used.

**2 CO contacts**



S0163-BJ

**2 NO contacts**



S0163-BK

**Power PCB Relay RX2 (Continued)**

**Product key**

Type	R	X	4	2	4				
Version	4		8 A, pinning 5 mm, flux proof						
Contact configuration	2		2 CO contacts						
Contact material	4		AgNi 90/10						
Coil	Coil code: please refer to coil versions table								
Cover	<b>Blank</b> standard cover (white) <b>C</b> transparent cover (clear)								

Product key	Version	Contacts	Cont. material	Coil	Cover	Part number
RX424012	8 A	2 CO contacts		12 VDC		2-1415504-1
RX424012C	pinning 5mm			12 VDC	transparent	5-1415504-1
RX424024	flux proof			24 VDC	white	3-1415504-1
RX424024C				24 VDC	transparent	6-1415504-1
RX424524				24 VAC	white	5-1415532-1
RX424730				230 VAC		4-1415504-1
RX424730C				230 VAC	transparent	7-1415504-1

# Power PCB Relay RP II/2

2 pole 8 A

www.DataSheet4U.com



## Features

- 2 C/O or 2 N/O contacts
- 4 kV / 8 mm coil-contact
- Twin contacts available
- PCB-sockets
- Versions with Ag, or AgNi 0.15 contact material: RoHS compliant (Directive 2002 / 95 / EC) as per product date code 0404

## Applications

Domestic appliances, UPS's



Technical data of approved types on request

F0150-B

## Contact data

Configuration	2 C/O contact or 2 N/O contact
Type of contact	single contact
Rated current	8 A (UL: 10 A)
Rated voltage / max.breaking voltage AC	250 Vac / 440 Vac
Maximum breaking capacity AC	2000 VA
Make current (max. 4 s at duty cycle 10%)	14 A
Contact material	AgNi 0.15, AgCdO

## Contact ratings

Type	Load	Operations	Standard
RP440	64 A ON, 2 A OFF, 250 Vac	1x10 <sup>4</sup>	VDE 0860
RP421	2 A, 50 Vdc, resistive	approx. 2x10 <sup>6</sup>	
RP421	1/10hp, 240 Vac, per contact		UL 508
RP421	3 A, 380 Vac, AC11	approx. 3x10 <sup>4</sup>	VDE 0660
RP421	0.18 A, 110 Vdc, DC11	approx. 1x10 <sup>5</sup>	VDE 0660
RP420	0.6 A, 220 Vac, cosφ=0.8, single phase motor	approx. 1.3x10 <sup>6</sup>	

## Coil data

Nominal voltage	5...110 Vdc
Nominal coil power	500 mW
Operate category	2 / b

## Coil versions, DC-coil

Coil code	Nominal voltage Vdc	Pull-in voltage Vdc	Release voltage Vdc	Maximum voltage Vdc	Coil resistance Ω	Coil current mA
005	5	3.5	0.5	9.0	54±10%	92.6
006	6	4.2	0.6	10.8	68±10%	88.2
012	12	8.4	1.2	21.6	270±10%	44.4
024	24	16.8	2.4	43.2	1100±15%	21.8
048	48	33.6	4.8	86.4	4400±15%	10.9
060	60	42.0	6.0	108.0	6540±15%	9.2
110	110	77.0	11.0	198.0	23100±15%	4.8

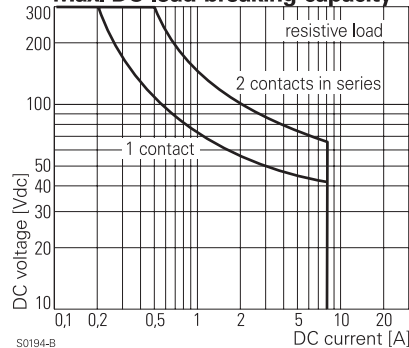
All figures are given for coil without preenergization, at ambient temperature +20°C

Other coil voltages on request

## Insulation

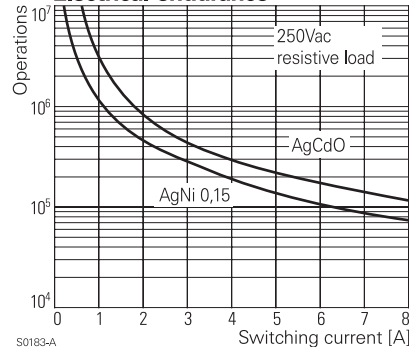
Dielectric strength	coil-contacts	4000 V <sub>rms</sub>
	open contact circuit	1000 V <sub>rms</sub>
	adjacent contacts	2500 V <sub>rms</sub>
Clearance / creepage		8 / 8 mm

## Max. DC load breaking capacity



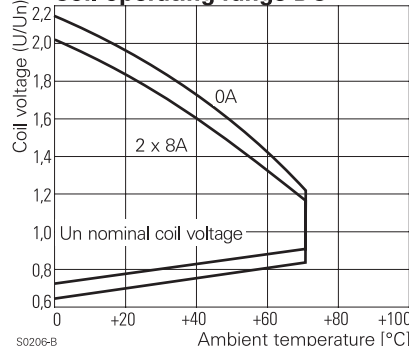
S0194-B

## Electrical endurance



S0183-A

## Coil operating range DC



S0206-B

Edition: 07 / 2004

Rights to change data / design reserved





**Power PCB Relay Card E**

- 1 pole 8 A, 1 CO or 1 NO contact
- 4 kV coil-contact
- Vertical and horizontal version
- Version with bifurcated contacts
- Wash tight
- RoHS compliant (Directive 2002/95/EC) as per product date code 0426

**Applications**

I/O modules, heating control, timers



F0151-B

**Approvals**

VDE REG.-Nr. 5146, **UL** E214024  
Technical data of approved types on request

**Contact data**

Contact configuration	1CO or 1NO		
Contact set	single cont.	single cont.	twin contact
Type of interruption	micro disconnection		
Rated current	8 A	5 A	5 A
Rated voltage / max.switching voltage AC	240/400 VAC		
Maximum breaking capacity AC	2000 VA	1250 VA	1250 VA
Limiting making capacity, max 4 s, duty factor 10%	15 A		
Contact material	AgCdO; AgNi20	AgNi0,15	AgNi0,15
Mechanical endurance	20x10 <sup>6</sup> cycles		
Rated frequency of operation with / without load	6 / 1200 min <sup>-1</sup>		

**Contact ratings**

Type	Load	Cycles
-A102	4 A, 30 VDC, resistive	2x10 <sup>6</sup>
-A102	1 A, 24 VDC, inductive L/R=40ms	2x10 <sup>5</sup>
-A402	1 A, 230 VAC, cosφ=0.4	5x10 <sup>5</sup>

**Coil data**

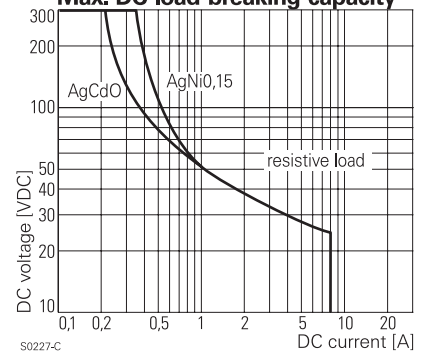
Rated coil voltage range DC coil	6...60 VDC
Coil power DC coil	450...500 mW

**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
001	6	4.0	0.6	80±10%	450
002	12	8.0	1.2	330±10%	436
006	24	16.0	2.4	1200±15%	480
013	48	32.0	4.8	4700±15%	490
023	60	40.0	6.0	7200±15%	500

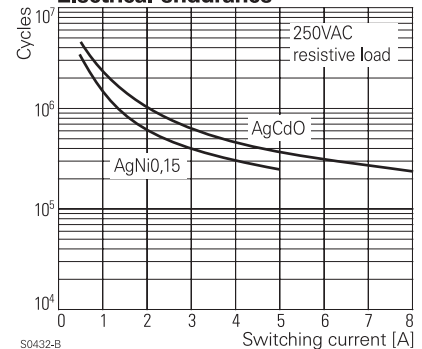
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request

**Max. DC load breaking capacity**



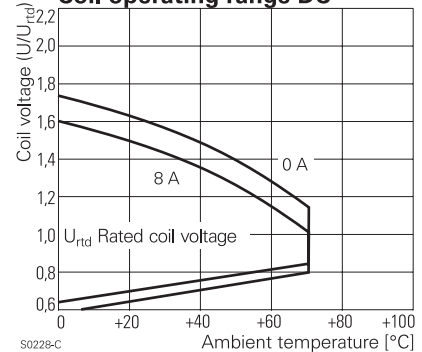
S0227-C

**Electrical endurance**



S0432-B

**Coil operating range DC**



S0228-C

**Power PCB Relay Card E (Continued)**

**Insulation**

Dielectric strength coil-contact circuit	4000 V <sub>rms</sub>
open contact circuit	1000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 4 / 4 mm
Material group of insulation parts	IIIa
Tracking index of relay base	PTI 225
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	basic
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	230 V
Overvoltage category	III

**Other data**

RoHS - Directive 2002/95/EC	compliant as per product date code 0426
Flammability class according to UL94	V-0
Ambient temperature range	-40...+70°C
Operate- / release time	typ. 7 / 3 ms
Bounce time NO / NC contact	typ. 0,5 / 3 ms
Category of protection	RTIII-wash tight
Mounting	pcb
Mounting distance	5 mm
Resistance to soldering heat	260°C / 5 s
Relay weight	14 g
Packaging unit	20 / 400 pcs

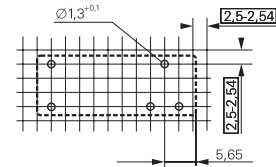
**Accessories**

For details see datasheet	Accessories Card E
---------------------------	--------------------

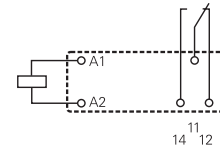
**PCB layout / terminal assignment**

Bottom view on solder pins

Vertical version

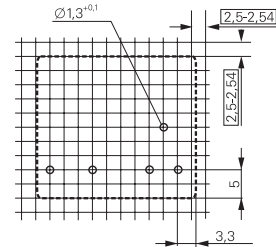


S0257-AH

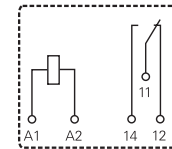


S0257-AB

Horizontal version



S0257-AI

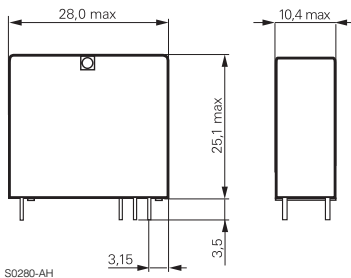


S0257-AE

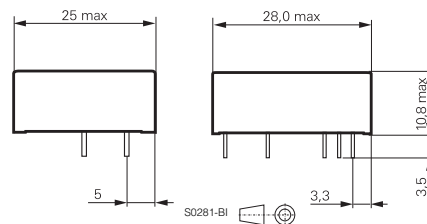
**Dimensions**

Vertical version

Horizontal version



S0280-AH



S0281-BI

**Power PCB Relay Card E (Continued)**

**Product key**

V 2 3 0 5 7 - 0 - - -

Type

Version

**A** horizontal                      **B** vertical

Version

**0** standard                      **2** flux proof

Coil

**001** 6 VDC                      **013** 48 VDC  
**002** 12 VDC                      **023** 60 VDC  
**006** 24 VDC

Contact set

**A** single contact                      **B** bifurcated contact (CO version only)

Contact material

**1** AgNi 0.15                      **4** AgCdO  
**2** AgNi 20

Contact configuration

**01** 1 CO contact                      **02** 1 NO contact

Other types on request

Product key	Version	Cont.type	Cont.material	Cont.config.	Coil	Part number
V23057-A0002-A101	horizontal	single contact	AgNi 0.15	1 CO	12 VDC	0-1393215-4
V23057-A0002-A401			AgCdO	contact		0-1393215-9
V23057-A0006-A101	vertical	single contact	AgNi 0.15	1 NO cont.	24 VDC	2-1393215-1
V23057-A0006-A401			AgCdO			2-1393215-5
V23057-A0006-A402			AgNi 0.15		2-1393215-7	
V23057-A0013-A101			AgCdO		3-1393215-8	
V23057-A0013-A401			AgNi 0.15		4-1393215-0	
V23057-A0023-A101			AgCdO		5-1393215-5	
V23057-A0023-A401	vertical	single contact	AgNi 0.15	1 NO cont.	60 VDC	5-1393215-6
V23057-B0002-A101			AgCdO			6-1393215-7
V23057-B0002-A401			AgNi 0.15	7-1393215-1		
V23057-B0002-A402			AgCdO	7-1393215-2		
V23057-B0006-A101			AgNi 0.15	7-1393215-5		
V23057-B0006-A102			AgCdO	7-1393215-9		
V23057-B0006-A401			AgNi 0.15	8-1393215-5		
V23057-B0006-A402			AgCdO	8-1393215-6		
V23057-B0013-A101			AgNi 0.15	9-1393215-4		
V23057-B0013-A401			AgCdO	9-1393215-6		
V23057-B0023-A401					60 VDC	0-1393216-6

**Power PCB Relay U/UB**

- 1 pole 7 A, mono or bistable
- 1 CO or 1 NO or 1 NC contact
- Bistable and DC-version
- Wash tight version
- Version for 10 A on request
- RoHS compliant (Directive 2002/95/EC) as per product date code 0402



F0153-B

**Applications**

Heating control, installation, battery powered equipment

**Approvals**

**UL** US E194065  
Technical data of approved types on request

**Contact data**

Contact configuration	1 CO, 1 NO or 1 NC
Contact set	single contact
Type of interruption	micro disconnection
Rated current	standard and bistable: 7 A sensitive: 5 A
Rated voltage / max.switching voltage AC	240/400 V
Maximum breaking capacity AC	standard and bistable: 1750 VA sensitive: 1250 VA
Limiting making capacity, max 4 s, duty factor 10%	12 A
Contact material	AgNi 90/10
Mechanical endurance	20x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	10/300 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
standard and bistable	7 A, 250 VAC, resistive	5x10 <sup>4</sup>
standard	5 A, 250 VAC, resistive	1,5x10 <sup>5</sup>
sensitive	5 A, 250 VAC, resistive	1x10 <sup>5</sup>
bistable	5 A, 250 VAC, resistive	1x10 <sup>5</sup>
standard and bistable	7 A, 24 VDC, resistive	5x10 <sup>4</sup>
sensitive	5 A, 24 VDC, resistive	3x10 <sup>4</sup>

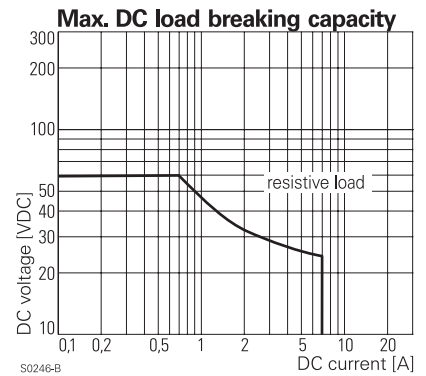
**Coil data**

	monostable		sensitive
Rated coil voltage range DC coil	6 ... 48 VDC		
Coil power DC coil	3..24 VDC	450 mW	330 mW
	48 VDC	610 mW	570 mW
Operative range	2		

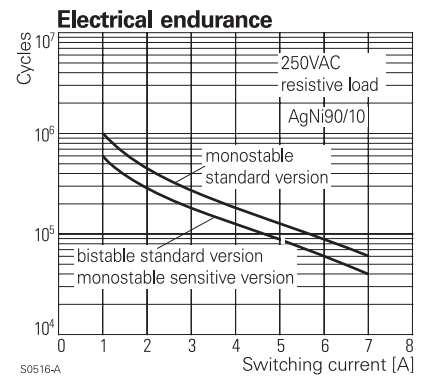
**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
<b>standard coil</b>					
003	6	4.2	0.6	80±10%	450
005	12	8.4	1.2	320±10%	450
007	24	16.8	2.4	1280±10%	450
008	48	33.6	4.8	3800±10%	606
<b>sensitive coil</b>					
103	6	4.4	0.6	110±10%	327
105	12	8.8	1.2	440±10%	327
107	24	17.5	2.4	1780±10%	324
108	48	35.0	4.8	4000±10%	576

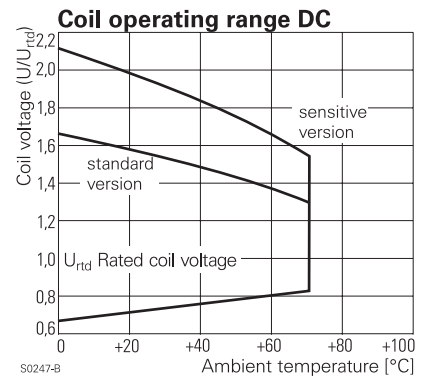
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request



S0246-B



S0516-A



S0247-B

**Power PCB Relay U/UB (Continued)**

Coil data		bistable
Rated coil voltage range		6 ... 48 VDC
Rated operate power		900...1300 mW / 20 ms
Reset voltage min., % of rated coil voltage		25%
Reset voltage max., % of rated coil voltage		45%

Coil versions, bistable					
Coil code	Rated voltage VDC	Operate voltage VDC	Reset voltage VDC	Coil resistance Ohm	Rated coil power mW
003	6	4.7	1.5	33 ± 10%	1091
005	12	9.4	3.0	119 ± 10%	1210
007	24	18.7	6.0	475 ± 10%	1213
008	48	37.4	12.0	1750 ± 10%	1317

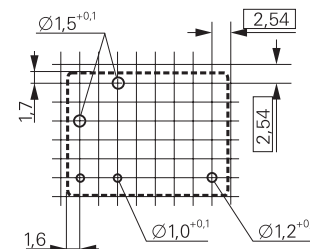
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request

Insulation	
Dielectric strength coil-contact circuit	2000 V <sub>rms</sub> version V23148-*0*** 4000 V <sub>rms</sub> version V23148-*1***
open contact circuit	1000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 2.5 / 2.5 mm version V23148-*0*** ≥ 3.5 / 3.5 mm version V23148-*1***
Material group of insulation parts	≥ IIIa
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	basic
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	2
Rated voltage system	230/400 V
Overvoltage category	II

Other data	
RoHS - Directive 2002/95/EC	compliant as per produc date code 0402
Flammability class according to UL94	V-0
Ambient temperature range	-25...+70°C
Operate- / release time	standard: 5/3 ms sensitive: 7/3 ms
Operate- / reset time	5/3 ms
Bounce time NO / NC contact	2/10 ms
Vibration resistance (function) NO / NC contact	10/10 g
Shock resistance (function) NO / NC contact	10/10 g
Category of protection	RT III - wash tight
Resistance to soldering heat wash-tight version	260°C / 5 s
Relay weight	9,5 g
Packaging unit	25 pcs

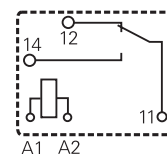
**PCB layout / terminal assignment**  
Bottom view on solder pins

Monostable and bistable 1 coil



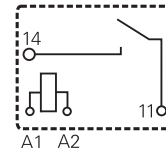
S0285-AA

CO contact



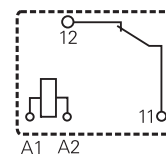
S0285-AB

NO contact



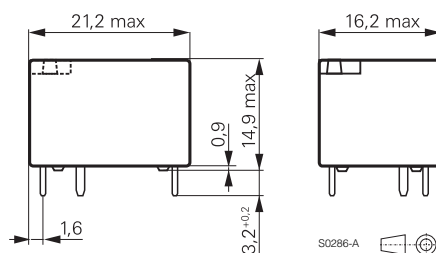
S0285-AC

NC contact



S0285-AD

**Dimensions**







**Low Profile PCB Relay PCD**

- 1 pole 10 A
- 1 NO contact
- Low coil power 200 mW
- Height 10.2 mm
- Wash tight
- RoHS compliant (Directive 2002/95/EC) as per product date code 0424 (DT)



**Applications**

Domestic appliances, coffee machines, irons, office equipment

F0154-C

**Approvals**



Technical data of approved types on request

**Contact data**

Contact configuration	1 NO
Contact set	single contact
Type of interruption	micro disconnection
Rated current	10 A
Rated voltage / max.switching voltage AC	240/400 VAC
Limiting continuous current	10 A
Maximum breaking capacity AC	2500 VA
Contact material	AgSnO <sub>2</sub> , AgCdO
Mechanical endurance	>10x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	10/300 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
PCD-1...D2(H)	10 A, 250 VAC, resistive, UL	6x10 <sup>3</sup>
PCD-1...D2(H)	5 A, 250 VAC, resistive, 70 °C, UL	6x10 <sup>3</sup>
PCD-1...D2(H)	10 A, 277 VAC, resistive, 70°C, TÜV	10x10 <sup>4</sup>

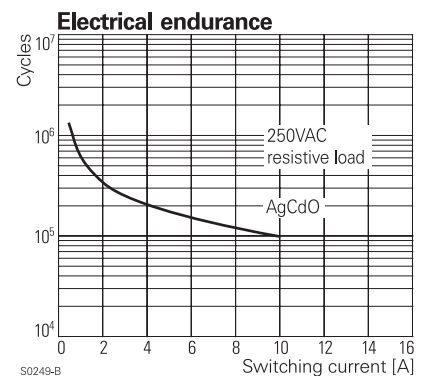
**Coil data**

Rated coil voltage range DC coil	3 ... 48 VDC
Coil power DC coil	200 mW
Operative range	2

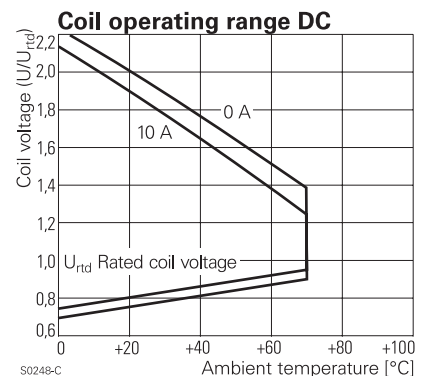
**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
006	6	4.5	0.3	180±10%	200
012	12	9.0	0.6	720±10%	200
024	24	18.0	1.2	2880±10%	200

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



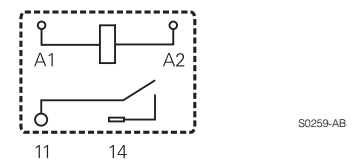
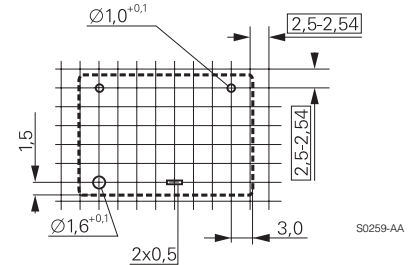
S0249-B



S0248-C

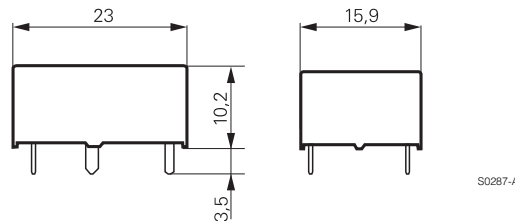
Insulation	
Dielectric strength coil-contact circuit	2500 V <sub>rms</sub>
open contact circuit	750 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 4/4 mm
Material group of insulation parts	≥ IIIa
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	basic
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	230/400 V
Overvoltage category	III

**PCB layout / terminal assignment**  
Bottom view on solder pins



Other data	
RoHS - Directive 2002/95/EC	compliant per as par product date code "DT" (refers to June 2004),
Ambient temperature range	-30 ... +70 °C
Operate- / release time	8/2 ms
Shock resistance (function) NO / NC contact	10 ms
Shock resistance (destruction)	100 g
Category of protection	RT II - flux proof, RT III - wash tight
Resistance to soldering heat flux-proof version	270°C / 10 s
wash-tight version	260°C / 5 s
Relay weight	9 g
Packaging unit	1000 pcs

**Dimensions**



**Product key**



Type					
Number of contacts	1 1 NO contact				
Coil	5 5 VDC	6 6 VDC			
	12 12 VDC	24 24 VDC			
Coil version	D standard 200 mW				
Contact material	1 AgCdO	2 AgSnO <sub>2</sub>			
Contact configuration	M 1 NO contact				
Version	- flux proof	H wash tight			
Other types on request					

Product key	Version	Cont-material	Cont.configuration	Coil	Part number
PCD-105-D2M	standard 200mW	AgSnO <sub>2</sub>	1 NO contact	5 VDC	0-1721105-1
PCD-112-D2M	flux proof			12 VDC	0-1721105-4
PCD-124-D2M				24 VDC	0-1721105-5
PCD-148-D2M				48 VDC	0-1721105-6
PCD-105-D2MH	standard 200mW			5 VDC	0-1721105-7
PCD-112-D2MH	wash tight			12 VDC	1-1721105-0
PCD-124-D2MH				24 VDC	1-1721105-1
PCD-148-D2MH				48 VDC	1-1721105-2

**Miniature Power PCB Relay PB**

- 1pole 10 A, 1 CO or 1 NO contact
- Environmentally-friendly cadmium-free contacts
- Class F coil system standard
- Compact and simple design gives high process security
- Versions PB1 and PB5: Product in accordance to IEC60335-1 (PB3 on request)
- RoHS compliant (Directive 2002/95/EC) as per product date code 0346



F0224-A

**Applications**

White goods, small home appliances, heating temperature controllers

**Approvals**

VDE REG.-Nr. 121560, c RU us E214025  
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	10 A
Rated voltage / max.switching voltage AC	240/400 VAC
Maximum breaking capacity AC	2500 VA
Limiting making capacity, max 4 s, duty factor 10%	15 A
Contact material	AgNi 90/10, AgSnO <sub>2</sub>
Mechanical endurance	5x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	6/600 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
AgNi NO	10 A, 250 VAC, 85°C, resistive, 50Hz, EN61810	20x10 <sup>3</sup>
AgSnO NO	10 A, 250 VAC, 85°C, resistive, 50Hz, EN61810	40x10 <sup>3</sup>
AgNi NO	6 A, 250 VAC, 85°C, resistive, 50Hz, EN61810	100x10 <sup>3</sup>
AgNi CO	10 A/3 A, 250 VAC, 85°C, resistive, 50Hz, EN61810	30x10 <sup>3</sup>
AgNi CO	(NO tested), 10 A, 250 VAC, 85°C, resistive, 50Hz, EN61810	30x10 <sup>3</sup>
AgNi CO	10 A/10 A, 250 VAC, 85°C, resistive, 50Hz, EN61810	1x10 <sup>3</sup>

**Coil data**

	PB standard	PB 500 mW
Rated coil voltage range DC coil	5...48 VDC	5...24 VDC
Coil power DC coil	typ. 360 mW	typ. 500 mW
Operative range	2	
Non-release voltage, % of rated coil voltage	50%	

**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
-----------	-------------------	---------------------	---------------------	---------------------	---------------------

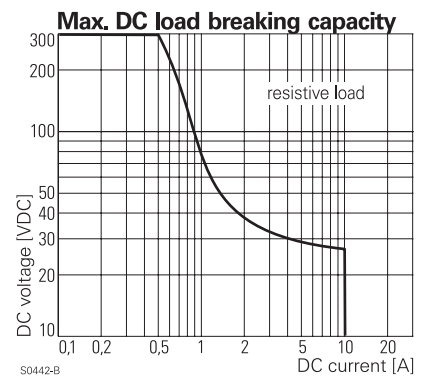
**Coil versions, DC-coil, 360mW**

005	5	3.75	0.5	70±10%	357
006	6	4.5	0.6	100±10%	360
009	9	6.75	0.9	225±10%	360
012	12	9.0	1.2	400±10%	360
018	18	13.5	1.8	900±10%	360
022	22	16.5	2.2	1344±10%	360
024	24	18.0	2.4	1600±10%	360
048	48	36	4.8	6400±10%	360

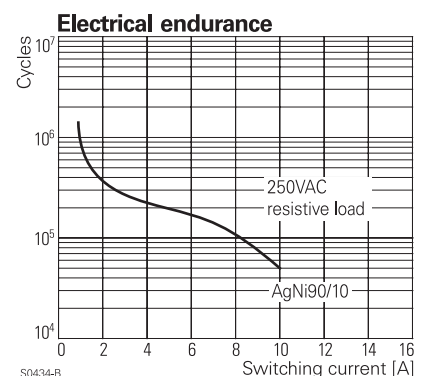
**Coil versions, DC-coil, 500mW**

005	5	3.75	0.5	48±10%	521
006	6	4.5	0.6	69±10%	522
012	12	9	1.2	274±10%	526
024	24	18	2.4	1097±10%	525

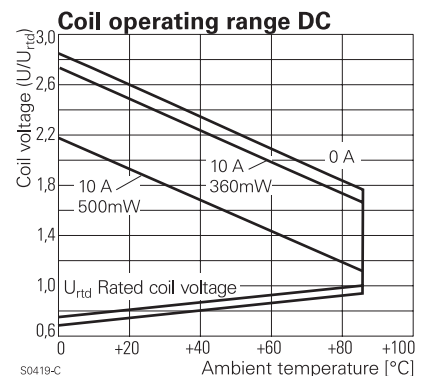
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request



S0442-B



S0434-B



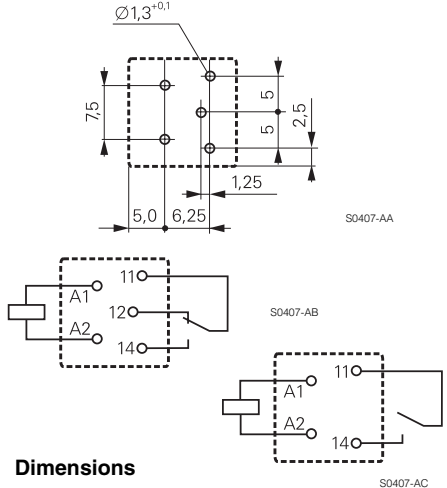
S0419-C

**Miniature Power PCB Relay PB (Continued)**

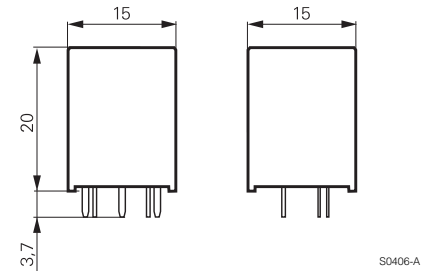
Insulation	PB1..	PB3..	PB5..
Dielectric strength coil-contact circuit		2500 V <sub>rms</sub>	
open contact circuit		1000 V <sub>rms</sub>	
Clearance / creepage coil-contact circuit		≥ 3/4 mm	
Material group of insulation parts		IIIa	
Tracking index of relay base	CTI 250	CTI 300	CTI 250
Insulation to IEC 60664-1			
Type of insulation coil-contact circuit		basic	
open contact circuit		functional	
Rated insulation voltage		250 V	
Pollution degree		3	
Rated voltage system		230/400 V	
Overvoltage category		III	

Other data	PB standard	PB 500 mW
RoHS - Directive 2002/95/EC	compliant as per product date code 0346	
Flammability class according to UL94	V-0	
For version PB1, PB5: GWFI to IEC 60695-2-12	≥ 850°C	
GWIT to IEC 60695-2-13	≥ 775°C	
Ambient temperature range	-40...85°C	
Operate- / release time	< 20 ms	
Bounce time NO / NC contact	< 15 ms	
Vibration resistance (function) NO / NC contact	>10/4g	>10/8g
	30...400Hz	30...400Hz
Shock resistance (destruction)	100 g	
Category of protection	RTII - flux proof	
Mounting	pcb	
Resistance to soldering heat	270°C / 10s	
Relay weight	5.4 g	
Packaging unit	35/1050 pcs	

**PCB layout / terminal assignment**  
Bottom view on solder pins



**Dimensions**



**Product key**

Type		
Version		
1	standard version, CTI 250	3 high CTI version, CTI 300
5	500 mW version, CTI 250	
Contact configuration		
1	1 CO contact	3 1 NO contact
Contact material		
3	AgSnO <sub>2</sub>	4 AgNi 90/10
Coil		
Coil code: please refer to coil versions table		

Other types on request

Product key	Version	Contacts	Contact material	Coil	Part number
PB114005	standard	1 CO contact	AgNi 90/10	5 VDC	6-1415029-1
PB114006	CTI 250/class F			6 VDC	7-1415029-1
PB114012				12 VDC	8-1415029-1
PB114024				24 VDC	9-1415029-1
PB134005		1 NO contact		5 VDC	0-1415030-1
PB134006				6 VDC	1-1415030-1
PB134012				12 VDC	2-1415030-1
PB134024				24 VDC	3-1415030-1
PB314005	high CTI version	1 CO contact		5 VDC	4-1415030-1
PB314006	CTI 300			6 VDC	5-1415030-1
PB314012				12 VDC	6-1415030-1
PB314024				24 VDC	7-1415030-1
PB334005		1 NO contact		5 VDC	8-1415030-1
PB334006				6 VDC	9-1415030-1
PB334012				12 VDC	0-1415031-1
PB334024				24 VDC	1-1415031-1

**Miniature Power PCB Relay PBH 105°C**

- 1pole 6 A, 1 CO or 1 NO contact
- Environmentally-friendly cadmium-free contacts
- Class F coil system standard
- For ambient temperatures up to 105°C
- Product in accordance to IEC60335-1
- RoHS compliant (Directive 2002/95/EC) as per product date code 0346



F0224BB

**Applications**

White goods, domestic appliances

**Approvals**

VDE REG.-Nr. 121560, c RU us E214025  
 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	6 A
Rated voltage / max.switching voltage AC	240/400 VAC
Maximum breaking capacity AC	1500 VA
Limiting making capacity, max 4 s, duty factor 10%	10 A
Contact material	AgNi 90/10
Mechanical endurance	2x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	6/600 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
NO	2 A, 250 VAC, 105°C, resistive, 50Hz, EN61810	250x10 <sup>3</sup>
NO	5 A, 250 VAC, 105°C, resistive, 50Hz, EN61810	150x10 <sup>3</sup>
CO	6 A, 250 VAC, 105°C, resistive, 50Hz, EN61810	100x10 <sup>3</sup>

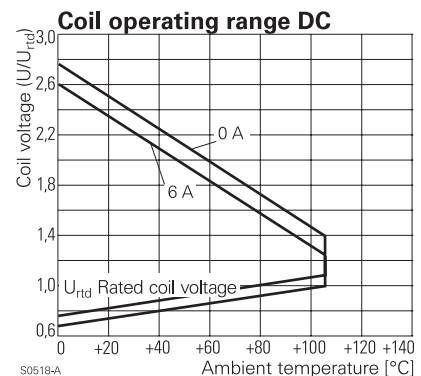
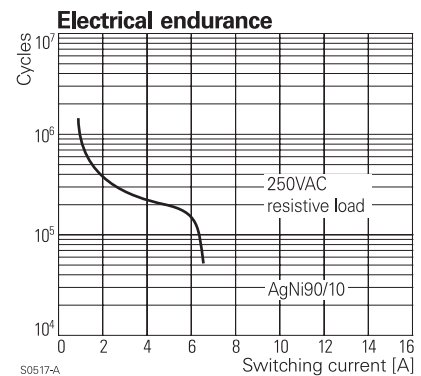
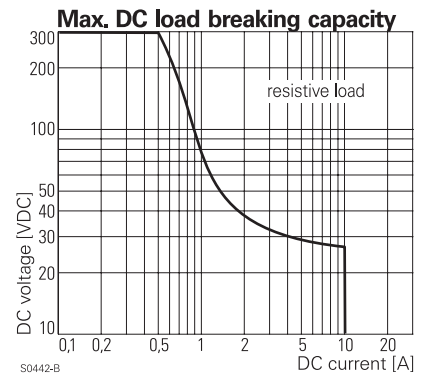
**Coil data**

Rated coil voltage range DC coil	5...36 VDC
Coil power DC coil	typ. 360 mW
Operative voltage range, % of rated coil voltage	90...100%
Non-release voltage, % of rated coil voltage	50%

**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
005	5	3.75	0.5	70±10%	357
006	6	4.5	0.6	100±10%	360
009	9	6.75	0.9	225±10%	360
012	12	9.0	1.2	400±10%	360
018	18	13.5	1.8	900±10%	360
022	22	16.5	2.2	1344±10%	360
024	24	18.0	2.4	1600±10%	360
048	48	36	4.8	6400±10%	360

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

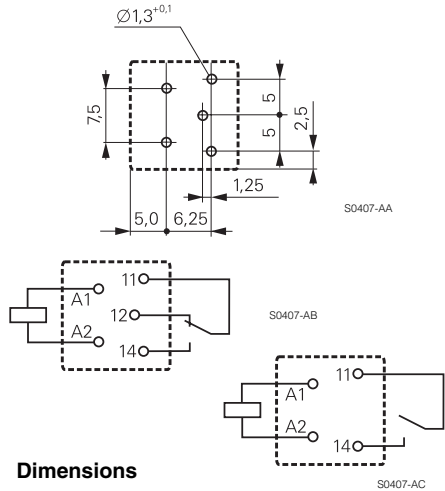


Insulation	
Dielectric strength coil-contact circuit	2500 V <sub>rms</sub>
open contact circuit	1000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 3/4 mm
Material group of insulation parts	IIIa
Tracking index of relay base	CTI 250
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	basic
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	230/400 V
Overvoltage category	III

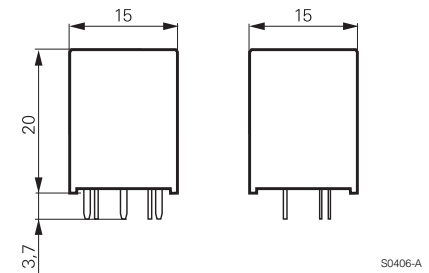
Other data	
RoHS - Directive 2002/95/EC	compliant as per product date code 0346
Flammability class according to UL94	V-0
GWFI to IEC 60335-1	≥ 850°C
GWIT to IEC 60335-1	≥ 775°C
Ambient temperature range	-20...105°C
Operate- / release time	< 20 ms
Bounce time NO / NC contact	< 15 ms
Vibration resistance (function) NO / NC contact	>10/4g, 30...400Hz
Shock resistance (destruction)	100 g
Category of protection	RTII - flux proof
Mounting	pcb
Resistance to soldering heat	270°C / 10 s
Relay weight	5.4 g
Packaging unit	35/1050 pcs

**PCB layout / terminal assignment**

Bottom view on solder pins



**Dimensions**



**Product key**

Type					
Version					
	<b>H</b>	High temperature version			
Contact configuration	<b>1</b>	<b>3</b>			
	1 CO contact	1 NO contact			
Contact material					
	<b>4</b>	AgNi 90/10			
Coil					
	Coil code: please refer to coil versions table				
Other types on request					

Product key	Version	Contacts	Contact material	Coil	Part number
PBH14005	high temperature version	1 CO contact	AgNi 90/10	5 VDC	9-1415356-1
PBH14006				6 VDC	8-1415356-1
PBH14009				9 VDC	7-1415356-1
PBH14012				12 VDC	6-1415356-1
PBH14018				18 VDC	6-1415357-1
PBH14022				22 VDC	7-1415357-1
PBH14024				24 VDC	6-1415355-1
PBH14036				36 VDC	9-1415355-1
PBH34005		1 NO contact		5 VDC	5-1415356-1
PBH34006				6 VDC	4-1415356-1
PBH34009				9 VDC	3-1415356-1
PBH34012				12 VDC	2-1415356-1
PBH34018				18 VDC	8-1415357-1
PBH34022				22 VDC	9-1415357-1
PBH34024				24 VDC	1-1415356-1
PBH34036				36 VDC	0-1415356-1

**Miniature Power PCB Relay T7S**



- 1pole 10 / 6 A, 1CO or 1NO contact
- Sensitive 360 mW coil
- Version T7S-WG with tracking resistance PTI 325 on relay base and cover
- WG version: Product in accordance to IEC60335-1
- RoHS compliant (Directive 2002/95/EC) as per product date code 0424



**Applications**

Domestic appliances, heating control, building control, measurement&control

**Approvals**

T7S / T7S-WG:  B265  in process  
Technical data of approved types on request

Contact data	T7S**E	T7S**H
Contact configuration	1 CO or 1 NO	
Contact set	single contact	
Type of interruption	micro-disconn.	
Rated current	10 A	6 A
Rated voltage / max.switching voltage AC	240/400 VAC	
Maximum breaking capacity AC	2500 VA	
Contact material	AgZnO	
Mechanical endurance	10x10 <sup>6</sup> cycles	
Rated frequency of operation with / without load	10/300 min <sup>-1</sup>	

**Contact ratings**

Type	Load	Cycles
T7SV5E	C/O (N/O tested): 10 A, 250VAC, 85°C, resistive	50x10 <sup>3</sup>
T7SV5H	C/O (N/O tested): 6 A, 250VAC, 105°C, resistive	100x10 <sup>3</sup>
T7SV5E	C/O (N/O tested): 10 A, 250VAC, 85°C, UL 508	50x10 <sup>3</sup>
T7SV5H	C/O (N/O tested): 6 A, 250VAC, 105°C, UL 508	100x10 <sup>3</sup>

**Coil data**

Rated coil voltage range DC coil	5...48 VDC
Coil power DC coil	typ. 360 mW
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
05	5	3.5	0.5	70±10%	357
06	6	4.2	0.6	100±10%	360
09	9	6.3	0.9	225±10%	360
12	12	8.4	1.2	400±10%	360
24	24	16.8	2.4	1600±10%	360
36	36	25.2	3.6	3600±10%	360
48	48	33.6	4.8	6400±10%	360

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







Product key	Version	Cont. material	Cont.configuration	Coil	Part number
T7SV1E6-05	flux proof	AgZnO	1 NO contact	5 VDC	0-1721382-1
T7SV1E6-06				6 VDC	0-1721382-2
T7SV1E6-09				9 VDC	0-1721382-3
T7SV1E6-12				12 VDC	0-1721382-4
T7SV1E6-24				24 VDC	0-1721382-5
T7SV5E6-05			1 CO contact	5 VDC	0-1721381-1
T7SV5E6-06				6 VDC	0-1721381-2
T7SV5E6-09				9 VDC	0-1721381-3
T7SV5E6-12				12 VDC	0-1721381-4
T7SV5E6-24				24 VDC	0-1721381-5
T7SV1E6-05-WG	flux proof according IEC 60335-1		1 NO contact	5 VDC	2-1721382-5
T7SV1E6-06-WG				6 VDC	2-1721382-6
T7SV1E6-09-WG				9 VDC	2-1721382-7
T7SV1E6-12-WG				12 VDC	2-1721382-8
T7SV1E6-24-WG				24 VDC	2-1721382-9
T7SV5E6-05-WG			1 CO contact	5 VDC	2-1721381-5
T7SV5E6-06-WG				6 VDC	2-1721381-6
T7SV5E6-09-WG				9 VDC	2-1721381-7
T7SV5E6-12-WG				12 VDC	2-1721381-8
T7SV5E6-24-WG				24 VDC	2-1721381-9
T7SS1E6-05	wash tight		1 NO contact	5 VDC	0-1721382-7
T7SS1E6-06				6 VDC	0-1721382-8
T7SS1E6-09				9 VDC	0-1721382-9
T7SS1E6-12				12 VDC	1-1721382-0
T7SS1E6-24				24 VDC	1-1721382-1
T7SS5E6-05			1 CO contact	5 VDC	0-1721381-7
T7SS5E6-06				6 VDC	0-1721381-8
T7SS5E6-09				9 VDC	0-1721381-9
T7SS5E6-12				12 VDC	1-1721381-0
T7SS5E6-24				24 VDC	1-1721381-1
T7SS1E6-05-WG	wash tight according IEC 60335-1		1 NO contact	5 VDC	3-1721382-1
T7SS1E6-06-WG				6 VDC	3-1721382-2
T7SS1E6-09-WG				9 VDC	3-1721382-3
T7SS1E6-12-WG				12 VDC	3-1721382-4
T7SS1E6-24-WG				24 VDC	3-1721382-5
T7SS5E6-05-WG			1 CO contact	5 VDC	3-1721381-1
T7SS5E6-06-WG				6 VDC	3-1721381-2
T7SS5E6-09-WG				9 VDC	3-1721381-3
T7SS5E6-12-WG				12 VDC	3-1721381-4
T7SS5E6-24-WG				24 VDC	3-1721381-5

**Miniature Power PCB Relay T7N / T7N-WG**

- 1pole 10 A, 1CO or 1NO contact
- Version T7N-WG with tracking resistance CTI 325
- WG version: Product in accordance to IEC60335-1
- RoHS compliant (Directive 2002/95/EC) as per product date code 0424

**Applications**

Domestic appliances, heating control, building control, measurement&control



F0189-B

**Approvals**

T7N: REG.-Nr. 6175, us E214025;

T7N-WG: REG.-Nr. 119012, us E214025  
 Technical data of approved types on request

Contact data	T7N	T7N-WG
Contact configuration	1 CO or 1 NO	1 CO or 1 NO
Contact set	single contact	single contact
Type of interruption	micro-disconn.	micro-disconn.
Rated current	10 A	10 A
Rated voltage / max.switching voltage AC	240/400 VAC	240/400 VAC
Maximum breaking capacity AC	2500 VA	2500 va
Limiting making capacity, max 4 s, duty factor 10%	35 A	35 A
Contact material	AgSnO <sub>2</sub> / AgCdO	AgSnO <sub>2</sub>
Mechanical endurance	10x10 <sup>6</sup> cycles	10x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	30/300 min <sup>-1</sup>	30/300 min <sup>-1</sup>

**Contact ratings**

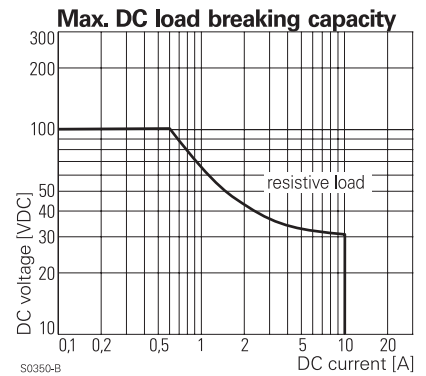
Type	Load	Cycles
T7N-WG CO (NO tested):	10 A, 250 V, 85 °C, resistive, EN61810-1	100x10 <sup>3</sup>
T7N-WG CO (NC tested):	6 A, 250 V, 85 °C, resistive, EN61810-1	50x10 <sup>3</sup>
T7N (AgSnO <sub>2</sub> ):	10 A, 250 V, 85 °C, resistive, EN61810-1	10x10 <sup>3</sup>
T7N (AgSnO <sub>2</sub> ):	5 A, 250 V, 85 °C, resistive, EN61810-1	100x10 <sup>3</sup>
T7N (AgCdO):	5 A, 250 V, 85 °C, resistive, EN61810-1	100x10 <sup>3</sup>

Coil data	T7N	T7N-WG
Rated coil voltage range DC coil	3...48 VDC	5...48 VDC
Coil power DC coil	typ. 360 mW	typ. 360 mW
Operative range	2	2
Non-release voltage, % of rated coil voltage	50%	50%
Coil insulation system according UL1446	class F	class F

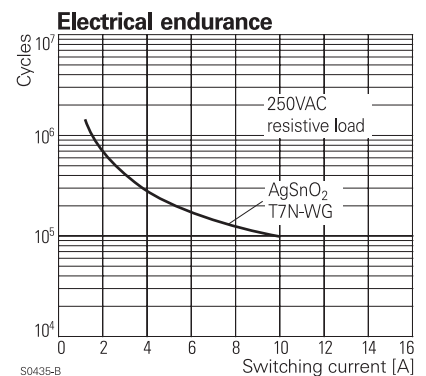
**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
05	5	3.5	0.5	70±10%	357
06	6	4.2	0.6	100±10%	360
09	9	6.3	0.9	225±10%	360
12	12	8.4	1.2	400±10%	360
24	24	16.8	2.4	1600±10%	360
36	36	25.2	3.6	3600±10%	360
48	48	33.6	4.8	6400±10%	360

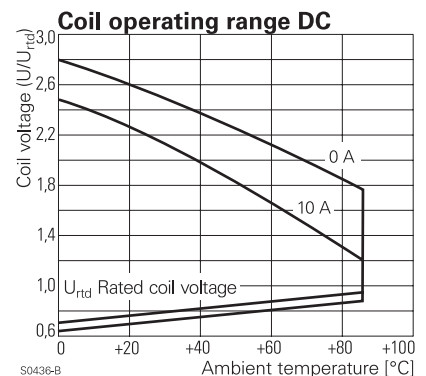
All figures are given for coil without preenergization, at ambient temperature +23°C  
 Other coil voltages on request



S0350-B



S0435-B



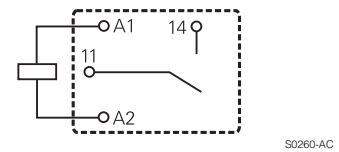
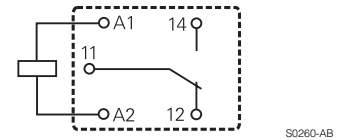
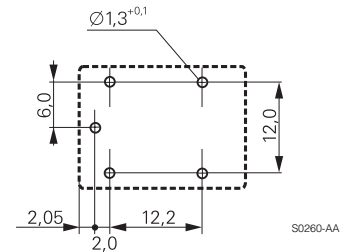
S0436-B

**Miniature Power PCB Relay T7N / T7N-WG (Continued)**

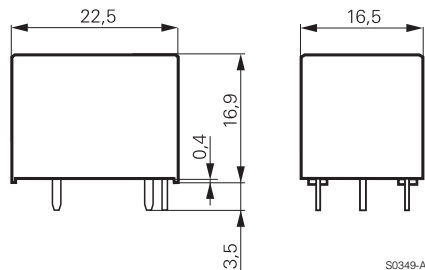
Insulation	T7N	T7N-WG
Dielectric strength coil-contact circuit	2500 V <sub>rms</sub>	2500 V <sub>rms</sub>
open contact circuit	1000 V <sub>rms</sub>	1000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 2/3 mm	≥ 2,5 / 3,5 mm
Material group of insulation parts	IIIa	IIIa
Tracking index of relay base	CTI 225	CTI 325
Insulation to IEC 60664-1		
Type of insulation coil-contact circuit	basic	basic
open contact circuit	functional	functional
Rated insulation voltage	250 V	250 V
Pollution degree	2	2
Rated voltage system	240 V	240 V
Overvoltage category	II	II

Other data	T7N	T7N-WG
RoHS - Directive 2002/95/EC	compliant as per product date code 0424	
Flammability class according to UL94	V0	V0
For WG version: GWFI to IEC 60695-2-12	-	850°C
GWIT to IEC 60695-2-13	-	775°C
Ambient temperature range	-40...85°C	-40...85°C
Operate- / release time	typ. 10/5 ms	typ. 10/5 ms
Vibration resistance (function) NO / NC contact	> 14 / 8 g, 30...400 Hz	
Shock resistance (destruction)	100 g	100 g
Category of protection	RTIII - wash tight (RTII - flux proof)	RTII - flux proof RTIII - wash tight
Mounting	PCB	
Resistance to soldering heat flux-proof version	270°C / 10 s	270°C / 10 s
wash-tight version	260°C / 5 s	260°C / 5 s
Relay weight	11 g	11 g
Packaging unit	25/1000 pcs	25/1000 pcs

**PCB layout / terminal assignment**  
Bottom view on solder pins



**Dimensions**



**Product key**

Type	T 7 N					
Version	[ ] [ ] [ ] [ ] [ ] [ ]					
<b>S</b> wash tight	<b>V</b> flux proof					
Contact configuration	[ ] [ ] [ ] [ ] [ ] [ ]					
<b>1</b> 1 NO contact	<b>5</b> 1 CO contact					
Coil version	[ ] [ ] [ ] [ ] [ ] [ ]					
<b>H</b> DC coil 450 mW	<b>D</b> DC coil 360 mW					
Contact material	[ ] [ ] [ ] [ ] [ ] [ ]					
<b>1</b> AgCdO	<b>4</b> AgSnO <sub>2</sub>					
Coil	[ ] [ ] [ ] [ ] [ ] [ ]					
Coil code: please refer to coil versions table						
Version	[ ] [ ] [ ] [ ] [ ] [ ]					
<b>Blank</b> T7N standard version, CTI 225	<b>WG</b> CTI 325 version, product in accordance with IEC 60335-1					
<b>WG-A</b> CTI 325 for relay base only						

Other types on request

**Miniature Power PCB Relay T7N / T7N-WG (Continued)**

Product key	Version	Cont. material	Cont.configuration	Coil	Part number
T7NS1D4-05	wash tight	AgSnO <sub>2</sub>	1 NO contact	5 VDC	6-1440006-9
T7NS1D4-06	CTI 225			6 VDC	7-1440006-0
T7NS1D4-09				9 VDC	7-1440006-1
T7NS1D4-12				12 VDC	7-1440006-2
T7NS1D4-24				24 VDC	7-1440006-4
T7NS1D4-36				36 VDC	7-1440006-5
T7NS1D4-48				48 VDC	7-1440006-6
T7NS5D4-05			1 CO contact	5 VDC	5-1440005-2
T7NS5D4-06				6 VDC	6-1440006-1
T7NS5D4-09				9 VDC	6-1440006-2
T7NS5D4-12				12 VDC	6-1440006-3
T7NS5D4-24				24 VDC	6-1440006-5
T7NS5D4-36				36 VDC	6-1440006-6
T7NS5D4-48				48 VDC	6-1440006-7
T7NV1D4-05-WG	flux proof		1 NO contact	5 VDC	0-1649336-8
T7NV1D4-06-WG	CTI 325			6 VDC	0-1649336-9
T7NV1D4-09-WG	according			9 VDC	1-1649336-0
T7NV1D4-12-WG	IEC 60335-1			12 VDC	1-1649336-1
T7NV1D4-24-WG				24 VDC	1-1649336-2
T7NV1D4-36-WG				36 VDC	1-1649336-3
T7NV1D4-48-WG				48 VDC	1-1649336-4
T7NV5D4-05-WG			1 CO contact	5 VDC	0-1649305-8
T7NV5D4-06-WG				6 VDC	0-1649305-9
T7NV5D4-09-WG				9 VDC	1-1649305-0
T7NV5D4-12-WG				12 VDC	1-1649305-1
T7NV5D4-24-WG				24 VDC	1-1649305-2
T7NV5D4-36-WG				36 VDC	1-1649305-3
T7NV5D4-48-WG				48 VDC	1-1649305-4
T7NV1D4-05-WG-A	flux proof		1 NO contact	5 VDC	2-1649280-0
T7NV1D4-06-WG-A	relay base			6 VDC	2-1649280-1
T7NV1D4-09-WG-A	CTI 325			9 VDC	2-1649280-2
T7NV1D4-12-WG-A				12 VDC	2-1649280-3
T7NV1D4-24-WG-A				24 VDC	2-1649280-4
T7NV1D4-36-WG-A				36 VDC	2-1649280-5
T7NV1D4-48-WG-A				48 VDC	2-1649280-6
T7NV5D4-05-WG-A			1 CO contact	5 VDC	1-1649324-0
T7NV5D4-06-WG-A				6 VDC	1-1649324-1
T7NV5D4-09-WG-A				9 VDC	1-1649324-2
T7NV5D4-12-WG-A				12 VDC	1-1649324-3
T7NV5D4-24-WG-A				24 VDC	1-1649324-4
T7NV5D4-36-WG-A				36 VDC	1-1649324-5
T7NV5D4-48-WG-A				48 VDC	1-1649324-6

**Miniature Power Relay LN / LNH**

- 1 pole 10 A / 16 A, 1 CO or 1 NO contact
- High performance 10 A version (LN1)
- 16 A High capacity version available (LN3)
- Version for HOT-applications (LNH)
- Flux proof
- Plastic materials according to IEC60335-1 (domestic appliances)
- RoHS compliant (Directive 2002/95/EC) as per product date code 0424



F0278-A

**Applications**

Domestic appliances

**Approvals**

VDE REG.-Nr. 40004596, **CE** **UL** **US** E214025  
Technical data of approved types on request

Contact data	LN1	LN3	LNH
Contact configuration	1 CO or 1 NO	1 CO or 1 NO	1 CO or 1 NO
Contact set	single contact		
Type of interruption	micro-disconnection		
Rated current	10 A	16 A <sup>1)</sup>	10 A
Rated voltage / max.switching voltage AC	240/400 VAC	240/400 VAC	240/400 VAC
Maximum breaking capacity AC	2500 VA	4000 VA	2500 VA
Limiting making capacity, max 4 s, df 10%	35 A	35 A	35 A
Contact material	AgSnO <sub>2</sub>	AgSnO <sub>2</sub> (AgCdO)	AgSnO <sub>2</sub>
Mechanical endurance	10x10 <sup>6</sup> cycles		
Rated frequency of operation with / without load	30/300 min <sup>-1</sup>		

**Contact ratings**

Type	Load	Cycles
LN1	10 A, 250V, 85 °C, resistive, EN61810-1	250x10 <sup>3</sup>
LN3	16 A, 250V, 85 °C, resistive, EN61810-1	50x10 <sup>3</sup> <sup>1)</sup>
LNH NO	10 A, 250V, 105 °C, resistive, EN61810-1	200x10 <sup>3</sup>
LNH NO	8 A, 250V, 105 °C, resistive, EN61810-1	250x10 <sup>3</sup>

<sup>1)</sup> For 16 A at 85°C: coil power reduction to 50% necessary  
For 16A with 100% coil power: max. ambient temperature 75°C  
For 100% coil power at 85°C: max. contact current 15A

Coil data	LN1	LN3	LNH
Rated coil voltage range DC coil	6...48 VDC	6...48 VDC	6...48 VDC
Coil power DC coil	typ. 400 mW	typ. 400 mW	typ. 400 mW
Operative range	2	2	
Operative voltage range, % of rated coil voltage			90 - 110%
Coil insulation system according UL1446	class F	class F	class F

**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
006	6	4.2	0.6	90±10%	400
009	9	6.3	0.9	202±10%	401
012	12	8.4	1.2	360±10%	400
024	24	16.8	2.4	1440±10%	400
036	36	25.2	3.6	3240±10%	400
048	48	33.6	4.8	5760±10%	400

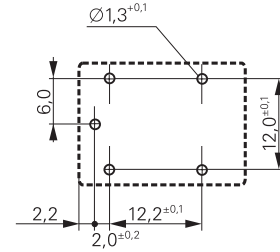
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request

**Miniature Power Relay LN / LNH (Continued)**

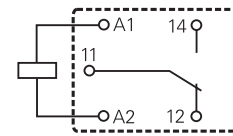
Insulation	LN1	LN3	LNH
Dielectric strength coil-contact circuit		2000 V <sub>rms</sub>	
open contact circuit		1000 V <sub>rms</sub>	
Clearance / creepage coil-contact circuit		≥ 2,5/2,5 mm	
Material group of insulation parts		IIIa	
Tracking index of relay base		CTI 325	
Insulation to IEC 60664-1			
Type of insulation coil-contact circuit		basic	
open contact circuit		functional	
Rated insulation voltage		250 V	
Pollution degree		2	
Rated voltage system		240 V	
Overvoltage category		II	

Other data	LN1	LN3	LNH
RoHS - Directive 2002/95/EC	compliant per product date code 0424		
Flammability class according to UL94	V-0	V-0	V-0
For WG version: GWFI to IEC 60695-2-12	850°C	850°C	850°C
GWIT to IEC 60695-2-13	775°C	775°C	775°C
Ambient temperature range	-40...85°C	-40...75 (85)°C	-40...105°C
Operate- / release time	typ. 10/5 ms		
Vibration resistance (function), NO / NC contact	>14 / 8 g, 30...400 Hz		
Shock resistance (destruction)	100 g		
Category of protection	RTII - flux proof		
Mounting	PCB		
Resistance to soldering heat flux proof	270°C / 10 s		
Relay weight	12 g		
Packaging unit	25/1000 pcs		

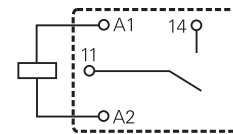
**PCB layout / terminal assignment**  
Bottom view on solder pins



S0260-AN

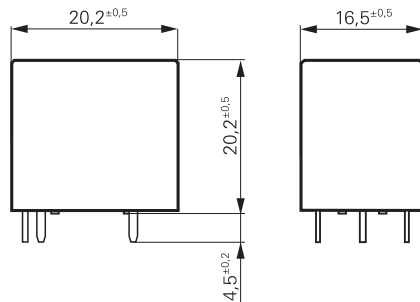


S0260-AB



S0260-AC

**Dimensions**



S0486-A

**Miniature Power Relay LN / LNH (Continued)**

**Product key**

Type					
Version					
<b>1</b> 10 A, 85°C		<b>3</b> 16 A, 85°C			
<b>H</b> 10 A, 105°C					
Contact configuration					
<b>1</b> 1 CO contact		<b>3</b> 1 NO contact			
Contact material					
<b>0</b> AgCdO		<b>3</b> AgSnO <sub>2</sub>			
Coil					
<b>006</b> 6 VDC		<b>024</b> 24 VDC			
<b>009</b> 9 VDC		<b>036</b> 36 VDC			
<b>012</b> 12 VDC					

Product key	Version	Cont. material	Cont. configuration	Coil	Part number
LN133006	LN1	AgSnO <sub>2</sub>	1 NO contact	6 VDC	0-1721249-1
LN133009	10 A			9 VDC	0-1721249-2
LN133012	85°C			12 VDC	0-1721249-3
LN133024				24 VDC	0-1721249-4
LN133036				36 VDC	0-1721249-5
LN133048				48 VDC	0-1721249-6
LN113006			1 CO contact	6 VDC	0-1721249-7
LN113009				9 VDC	0-1721249-8
LN113012				12 VDC	0-1721249-9
LN113024				24 VDC	1-1721249-0
LN113036				36 VDC	1-1721249-2
LN113048				48 VDC	1-1721249-3
LNH33006	LNH		1 NO contact	6 VDC	0-1721253-2
LNH33009	10 A			9 VDC	0-1721253-3
LNH33012	105°C			12 VDC	0-1721253-4
LNH33024				24 VDC	0-1721253-5
LNH33036				36 VDC	0-1721253-6
LNH33048				48 VDC	0-1721253-7
LNH13006			1 CO contact	6 VDC	0-1721253-9
LNH13009				9 VDC	1-1721253-0
LNH13012				12 VDC	1-1721253-1
LNH13024				24 VDC	1-1721253-2
LNH13036				36 VDC	1-1721253-3
LNH13048				48 VDC	1-1721253-4



**Power Relay T9A**

- 1 pole 30 A, 1 NO or 1 CO contact
- High breaking capacity 7500 VA
- PCB- and PCB/quick connect terminals
- Chassis mount version with quick connect terminals
- UL-class F as standard
- Ambient temperature 85°C
- Open version available
- RoHS compliant (Directive 2002/95/EC) as per product date code 0509

**Applications**

**HVAC, power supplies, domestic appliances, measurement&control**



F0156-A



F0179-A

**Approvals**

**UL** E22575, **CS** LR15734

Technical data of approved types on request

**Contact data**

Contact configuration	1 NO contact	1 CO contact
Contact set	single contact	
Type of interruption	micro disconnection	
Rated current NO / NC contact	30 A	20 / 10 A
Rated voltage / max.switching voltage AC	240/400 VA	
Contact material	AgCdO	
Minimum contact load	≥ 1A, 5VDC / 12 VAC	
Mechanical endurance	typ. 10x10 <sup>5</sup> cycles	

**Contact ratings**

Type	Load	Cycles
NO	UL General Purpose, 30 A @ 240 VAC	1x10 <sup>5</sup>
CO	UL General Purpose, 20 A/10 A @ 240 VAC	1x10 <sup>5</sup>
NO	Resistive, 25 A @ 240 VAC	1x10 <sup>5</sup>
CO	Resistive, 20 A/10 A @ 240 VAC	1x10 <sup>5</sup>

**Coil data**

Rated coil voltage range DC coil	5...48 VDC
Coil power DC coil	1000mW

**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω	Rated coil power mW
6	6	4.5	0.6	36±10%	1000
12	12	9.0	1.2	144±10%	1000
24	24	18.0	2.4	576±10%	1000
48	48	36.0	4.8	2304±10%	1000

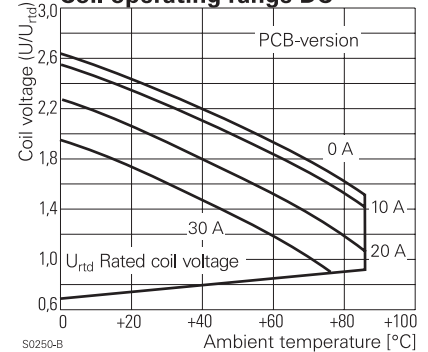
All figures are given for coil without preenergization, at ambient temperature +23°C

Other coil voltages on request

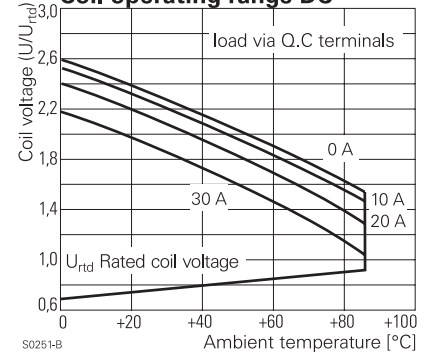
**Insulation**

Insulation resistance coil-contact circuit	> 10 <sup>9</sup> Ohms
Dielectric strength coil-contact circuit	2500 V <sub>rms</sub>
open contact circuit	1500 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 2.5 / 4 mm; ≥3.1 / 6.3 mm (UL508)
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	basic
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	240/400 V
Overvoltage category	III

**Coil operating range DC**



**Coil operating range DC**





**Power Relay T9A** (Continued)

**Product key**

<b>T</b>	<b>9</b>	<b>A</b>			<b>D</b>		<b>2</b>			
----------	----------	----------	--	--	----------	--	----------	--	--	--

Type

Enclosure

- P** dust protected (flange mount)
- S** wash tight (PCB- or PCB-/quick connect version)

Contact configuration

- 1** 1 NO contact
- 5** 1 CO contact

Coil version

- D** DC coil 1 W

Mounting

- 1** PCB-version
- 2** PCB-terminals for coil and contacts, quick connect terminals for contacts
- 5** Flange mount, 4.75 mm quick connect term. for coil, 6.35 mm quick connect term. for contacts

Contact material

- 2** AgCdO

Coil

Coil code: please refer to coil versions table

Other types on request

Product key	Version	Cont-material	Cont.configuration	Coil	Part number
T9AS1D12-12	pcb-version	AgCdO	1 NO contact	12 VDC	1-1393210-3
T9AS1D12-18	wash tight			18 VDC	1-1393210-5
T9AS1D22-12	pcb terminals			12 VDC	1-1419104-7
T9AS1D22-24	quick connect term.			24 VDC	2-1419104-1
T9AS5D22-12	for contacts		1 CO contact	12 VDC	3-1419104-3
T9AS5D22-24	wash tight			24 VDC	3-1419104-6

**Power Relay T9C AC coil**

- 1 pole 20 A, 1 NO contact
- 1.6 VA coil (cULus recognized)
- 1.2 VA coil (VDE approved)
- 2.5 kV coil - contact
- Flange mount

**Applications**

HVAC, power supplies, domestic appliances, measurement&control



Approvals



Technical data of approved types on request

**Contact data**

Contact configuration	1 CO contact / 1 NO contact
Contact set	single contact
Type of interruption	micro disconnection
Rated current NO / NC contact	20 A / 10 A
Rated voltage / max.switching voltage AC	250 VAC /400 VAC
Maximum breaking capacity AC	5000 VA
Contact material	AgSnInO
Minimum contact load	> 1A, 5VDC / 12 VAC
Mechanical endurance	typ. 5x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	6 / 300 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
CO	UL Resistive, 20 A/10 A @ 240 VAC	6x10 <sup>3</sup>
NO	UL General Purpose, 15 A, 240 VAC, 70°C	1x10 <sup>5</sup>
NO, E coil	15 A 250 VAC resistive	1x10 <sup>5</sup>
NO, A coil	20 A 250 VAC resistive	1x10 <sup>5</sup>

**Coil data**

Rated coil voltage range AC coil	12...240 VAC
Coil power AC coil	1.2 VA / 1.6 VA

**Coil versions, 1.2 VA AC-coil**

Coil code	Rated voltage VAC	Operate voltage VAC	Release voltage VAC	Coil resistance Ω	Rated coil power VA
12	12	9.6	3.6	52±10%	1.2
24	24	19.2	7.2	198±10%	1.2
48	48	38.4	14.4	824±10%	1.2
120	110	88.0	33.0	3728±10%	1.2
240	220	176.0	66.0	14810±10%	1.2

**Coil versions, 1.6 VA AC-coil**

Coil code	Rated voltage VAC	Operate voltage VAC	Release voltage VAC	Coil resistance Ω	Rated coil power VA
12	12	9.6	3.6	36±10%	1.6
24	24	19.2	7.2	144±10%	1.6
48	48	38.4	14.4	576±10%	1.6
120	110	88.0	33.0	3025±10%	1.6
240	220	176.0	66.0	12000±10%	1.6

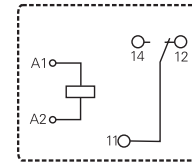
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request

**Power Relay T9C AC coil (Continued)**

**Insulation**

Dielectric strength coil-contact circuit	2500 V <sub>rms</sub>
open contact circuit	1500 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 2.5 / 4 mm; ≥ 3.1 / 6.3 mm (UL508)
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	basic
open contact circuit	functional
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	240/400 V
Overvoltage category	III

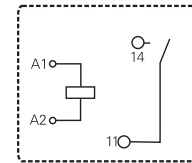
**Terminal assignment**



S0261-AI

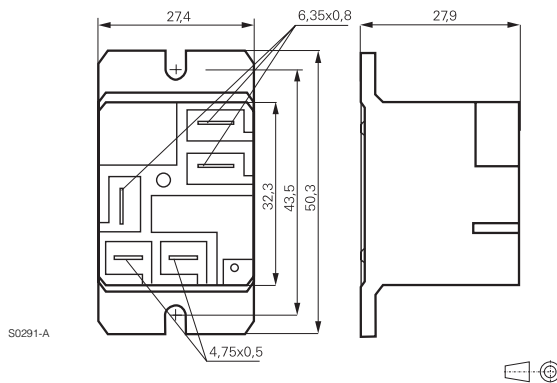
**Other data**

Flammability class according to UL94	V-0
Ambient temperature range	-40...+70°C
Operate- / release time including bounce time	15 / 15ms
Vibration resistance (function) NO / NC contact	1.5 mm, 10...55 Hz
Shock resistance (function) NO / NC contact	10 g for 11 ms
Shock resistance (destruction)	100 g for 6 ms
Category of protection	RT I - dust protected
Relay weight	33 g
Packaging unit	250 pcs



S0261-AJ

**Dimensions**



S0291-A

**Power Relay T9C AC coil (Continued)**

**Product key**



Type	
Enclosure	<b>P</b> dust protected (flange mount)
Contact configuration	<b>1</b> 1 NO contact <b>5</b> 1 CO contact
Coil version	<b>A</b> AC coil 1.6 VA <b>E</b> AC coil 1.2 VA (VDE approved)
Mounting	<b>5</b> Flange mount, 4.75 mm quick connect term. for coil, 6.35 mm quick connect term. for contacts
Contact material	<b>4</b> AgSnInO
Coil	Coil code: please refer to coil versions table
Other types on request	

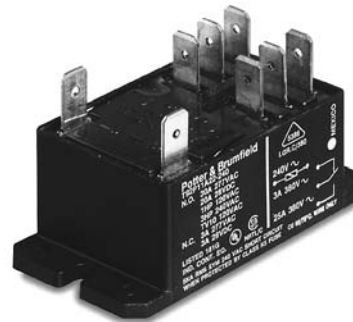
Product key	Version	Cont. material	Cont.configuration	Coil	Part number
T9CP1A54-12	flange mount	AgSnInO	1 NO contact	12 VAC	0-1649341-7
T9CP1A54-24	quick connect term.			24 VAC	0-1649341-8
T9CP1A54-48				48 VAC	0-1649341-9
T9CP1A54-120				120 VAC	2-1649341-1
T9CP1A54-1240				240 VAC	0-1649341-2
T9CP5A54-12			1 CO contact	12 VAC	1-1649341-6
T9CP5A54-24				24 VAC	1-1649341-7
T9CP5A54-48				48 VAC	1-1649341-8
T9CP5A54-120				120 VAC	1-1649341-9
T9CP5A54-240				240 VAC	2-1649341-0

**Power Relay T92**

- 2 pole 30 A, 2 CO or 2 NO contacts
- High switching capacity up 30 A / 400 VAC
- DC- or AC coil
- 4 kV / 8 mm coil-contact
- Insulation to VDE 0631 and VDE 0700
- PCB- or quick connect terminals or chassis mount
- Adapter for DIN-rail mounting
- RoHS compliant (Directive 2002/95/EC) as per product date code 0509

**Applications**

Power supplies, heating & ventilation, control equipment



F0167-A

**Approvals**

VDE REG.-Nr. 5386 (addl. mounting version 5 in preparation), E22575, LO15734  
Technical data of approved types on request

**Contact data**

Contact configuration	2 NO contacts	2 CO contacts
Contact set	single contact	
Type of interruption	micro disconnection	
Rated current		
NO contact (PCB / flange mount)	30 / 25 A	30 / 25 A
NC contact		3 A
Rated voltage / max.switching voltage AC	400 / 600 VAC	
Maximum breaking capacity AC, NO / NC contact	12 kVA	12 / 1.2 kVA
Contact material	AgCdO	
Minimum contact load	500mA, 12V	
Mechanical endurance	>5x10 <sup>6</sup> cycles	
Rated frequency of operation with / without load	14 min <sup>-1</sup> / 120 min <sup>-1</sup>	

**Contact ratings**

Type	Load	Cycles
NO contacts, PCB version	30 A @ 400 VAC	1x10 <sup>5</sup>
NO contacts, flange mount version	25 A @ 400 VAC	1x10 <sup>5</sup>
NO / NC contacts, all versions	25 A / 3 A @ 400 VAC	3x10 <sup>4</sup>
NO / NC contacts, all versions	20 A / 3 A @ 28 VDC	1x10 <sup>5</sup>

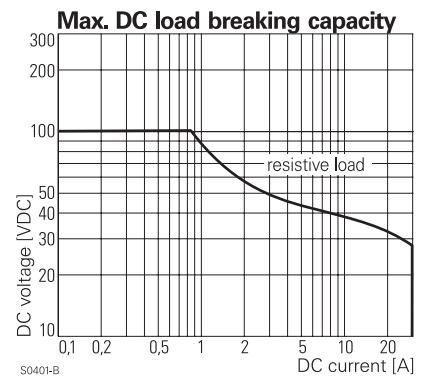
**Coil data**

Rated coil voltage range DC coil	5...110 VDC
AC coil	24...240 VAC
Coil power DC coil	1700 mW
AC coil	4 VA
Operative range	1

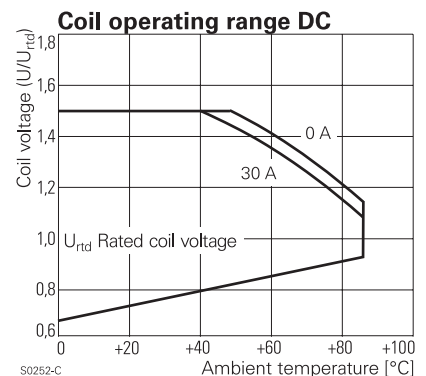
**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
12	12	9.0	1.2	86±10%	1674
24	24	18.0	2.4	350±10%	1646
48	48	36.0	4.8	1390±10%	1658
110	110	83.0	11.0	7255±10%	1668

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



S0401-B



S0252-C

**Power Relay T92 (Continued)**

**Coil versions, AC-coil 50/60 Hz**

Coil code	Rated voltage VAC	Frequ. Hz	Operate voltage VAC	Release voltage VAC	DC-coil resistance Ohm	Rated coil power VA
24	24	60	19.2	2.4	44 ± 10%	4
120	110/120	50/60	96.0	12.0	950 ± 10%	4
240	220/240	50/60	192.0	24.0	3800 ± 10%	4

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

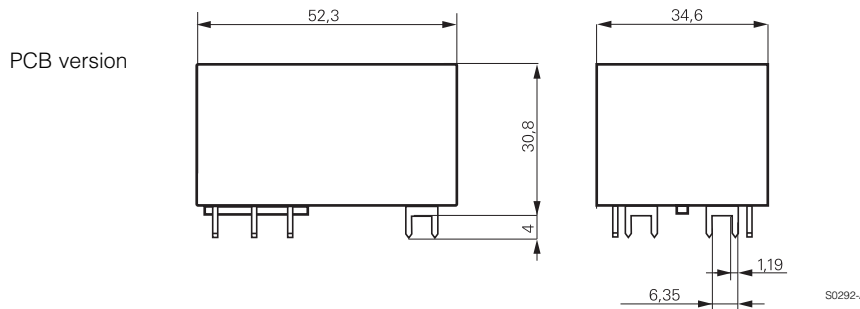
**Insulation**

Insulation resistance coil-contact circuit	< 10 <sup>9</sup> Ohms
Dielectric strength coil-contact circuit	4000 V <sub>rms</sub>
open contact circuit	1500 V <sub>rms</sub>
adjacent contact circuits	2000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 8 / 9.5 mm
Tracking index of relay base	PTI 100M
Insulation to IEC 60664-1, VDE 0110b (2/79)	
Type of insulation coil-contact circuit	basic
open contact circuit	functional
adjacent contact circuits	basic
Rated insulation voltage	400 V
Pollution degree	2
Rated voltage system	400/600 V
Overvoltage category	III

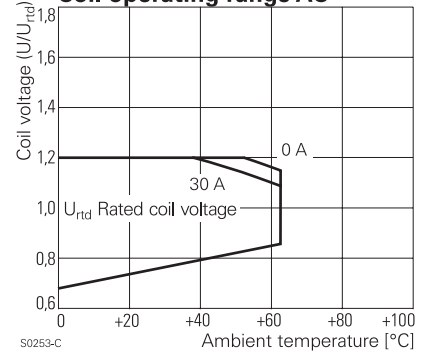
**Other data**

RoHS - Directive 2002/95/EC	compliant per product date code 0509
Flammability class according to UL94	V-0
Ambient temperature range DC-coil	-40...+85°C
AC-coil	-40...+65°C
Operate- / release time	15 ms / 10 ms
Bounce time NO / NC contact	10 ms / 15 ms
Vibration resistance (function) NO / NC contact	1.65 mm, 10...55 Hz
Shock resistance (function) NO / NC contact	10 g, 11 ms half sine
Shock resistance (destruction)	100 g, 11 ms half sine
Category of protection	RT I (dust protected) RT III (wash tight)
Relay weight	86 g
Packaging unit	30 pcs

**Dimensions**



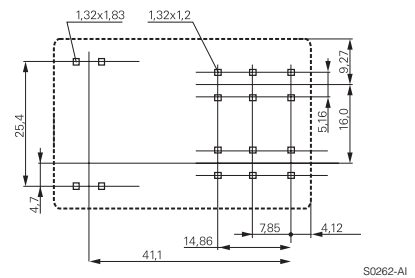
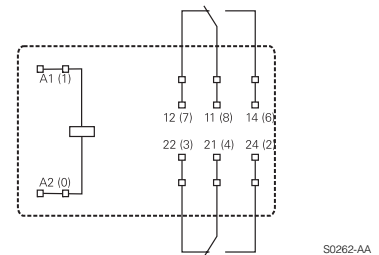
**Coil operating range AC**



**PCB layout / terminal assignment**

Bottom view on solder pins

PCB version



Only necessary terminals are present on 2 NO models.

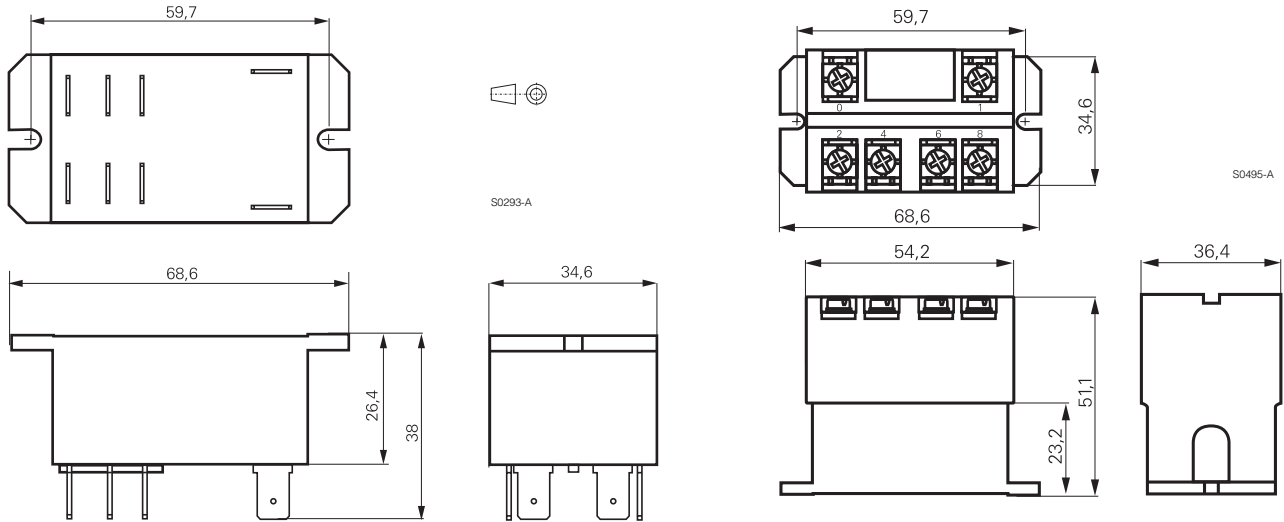


**Power Relay T92 (Continued)**

**Dimensions**

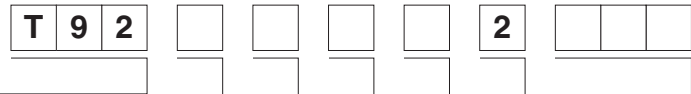
Flange mount

M4 screw terminals



Only necessary terminals are present on 2 NO models.

**Product key**



Type

Enclosure

- P** dust protected
- S** wash tight (PCB version only)

Contact configuration

- 7** 2 NO contacts
- 11** 2 CO contacts

Coil version

- A** AC-coil 50/60 Hz
- D** DC-coil

Mounting

- 1** PCB-version
- 2** Flange mount, 6.35 mm quick connect terminals for contacts and coil
- 5** M4 screw terminals (requires enclosure P and contact configuration 7)

Contact material

- 2** AgCdO

Coil

Coil code: please refer to coil versions table

Other types on request

Product key	Version	Mounting	Cont.configuration	Coil	Coil	Part number
T92P11A22-24	dust-proof	flange mount	2 CO contacts	AC-coil	24 VAC	4-1393211-3
T92P11A22-240					240 VAC	4-1393211-4
T92P7A22-120			2 NO contacts		120 VAC	5-1393211-7
T92P7A22-240					240 VAC	6-1393211-2
T92P7D12-12		pcb-version		DC-coil	12 VDC	6-1393211-5
T92P7D22-12		flange mount				6-1393211-9
T92P7D22-24					24 VDC	7-1393211-1
T92S11A12-240	wash tight	pcb-version	2 CO contacts	AC-coil	240 VAC	8-1393211-2
T92S11A22-240		flange mount				8-1393211-7
T92S11D12-24		pcb-version		DC-coil	24 VDC	9-1393211-0
T92S7A12-240			2 NO contacts	AC-coil	240 VAC	9-1393211-9
T92S7A22-240		flange mount				0-1393212-5
T92S7D12-24		pcb-version		DC-coil	24 VDC	1-1393212-0
T92S7D22-24		flange mount				1-1393212-7

**Power Relay 430 3 mm**

- 1 pole 16 A, 1 NO contact
  - Safety mains isolation
  - Contact gap > 3 mm
  - DC- and AC-coil
  - 4 kV / 8 mm coil-contact, reinforced insulation (VDE 0700)
  - PCB mounting or quick connect terminals
  - Mounting brackets or snap mounting
  - Version with arc blow magnet for high DC-loads
  - Product in accordance to IEC60335-1
  - RoHS compliant (Directive 2002/95/EC) as per product date code 0349
- Applications: Domestic appliances, industrial appliances, industrial controls



F0256-A

**Approvals**

VDE REG.-Nr. A513, cULus E214024  
Technical data of approved types on request

**Contact data**

Contact configuration	1NO
Contact set	bifurcated contact
Type of interruption	full disconnection
Rated current	16 A
Rated voltage / max.switching voltage AC	240/400 VAC
Maximum breaking capacity AC	4000 VA
Limiting making capacity, max 4 s, duty factor 10%	25 A
Contact material	AgCu <sub>3</sub> , AgCdO
Contact gap	> 3 mm
Mechanical endurance	> 2,5x10 <sup>5</sup> cycles
Rated frequency of operation with / without load	15 / 300 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
430X5	16 A, 250 VAC, resistive, 70°C	1,5x10 <sup>5</sup>
430X5	10 A, 250 VAC, resistive, 105°C	1,5x10 <sup>5</sup>

**Coil data**

Rated coil voltage range	DC coil	6...110 VDC
	AC coil	6...240 VAC
Coil power	DC coil	1 W
	AC coil	1,8 VA
Operative range		2

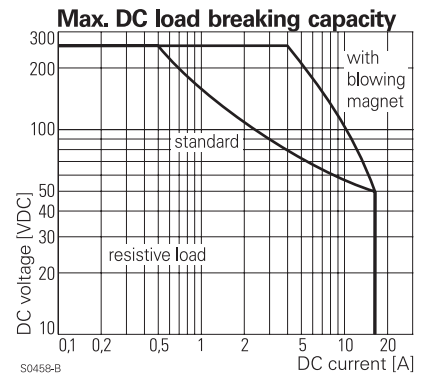
**Coil versions, DC-coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
09	12	7.8	0.6	145±10%	993
10	24	15.6	1.2	580±10%	993
11	48	31.2	2.4	2200±10%	1047
13	110	71.5	5.5	13000±10%	931
03	60	42.0	4.5	7500±10%	480

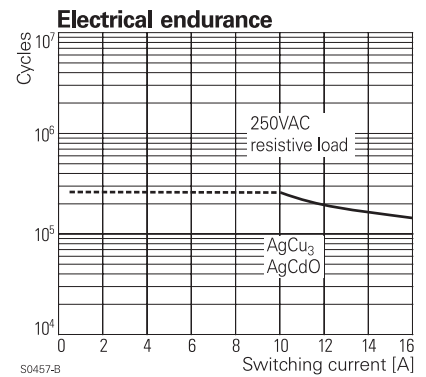
**Coil versions, AC-coil 50Hz**

Coil code	Rated voltage VAC	Operate voltage VAC	Release voltage VAC	Coil resistance Ohm	Rated coil power VA
23	24	18	3.6	145±10%	1.8
25	60	45	9.0	950±10%	1.8
26	110	83	16.0	3100±10%	1.8
27	230	175	35.0	11400±10%	1.8
28	240	185	36.0	13000±10%	1.8
03	60	42.0	4.5	7500±10%	1.8

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



S0458-B



S0457-B

**Power Relay 430 3 mm (Continued)**

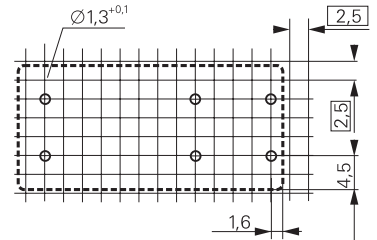
**Insulation**

Dielectric strength coil-contact circuit	4000 V <sub>rms</sub>
open contact circuit	2000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 8 / 8 mm
Material group of insulation parts	≥ IIIa
Tracking index of relay base	PTI 380H
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	reinforced
open contact circuit	basic
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	230/400 V
Overvoltage category	III

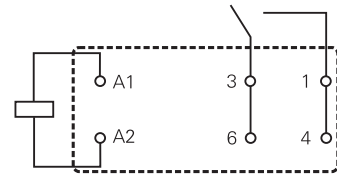
**Other data**

RoHS - Directive 2002/95/EC	compliant as per product date code 0349
Ambient temperature range	-20...+70°C
Operate- / release time	typ. 15 / 8 ms
Bounce time NO / NC contact	typ. 4 ms
Shock resistance (destruction)	100 g
Category of protection	RT I - dust protected
Mounting	pcb, mounting brackets, snap mounting, DIN rail
Resistance to soldering heat	270°C / 10 s
Relay weight	32 g
Packaging unit	50 pcs

**PCB layout / terminal assignment**  
Bottom view on solder pins



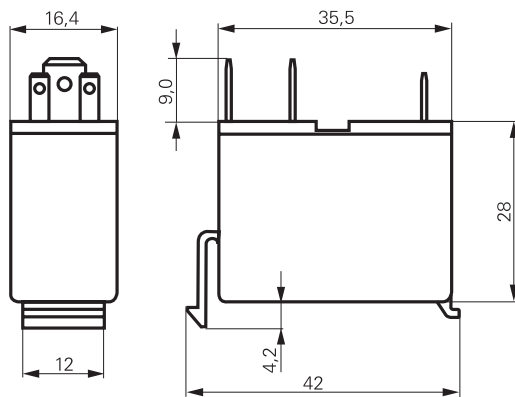
S0448-AE



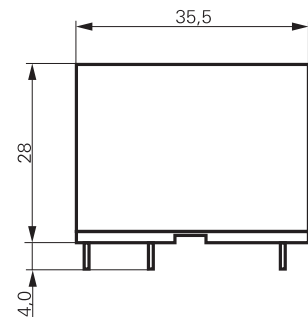
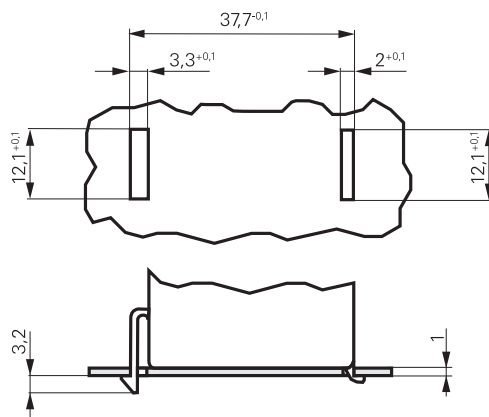
S0448-AF

**Dimensions**

Snap mounting



S0449-AH



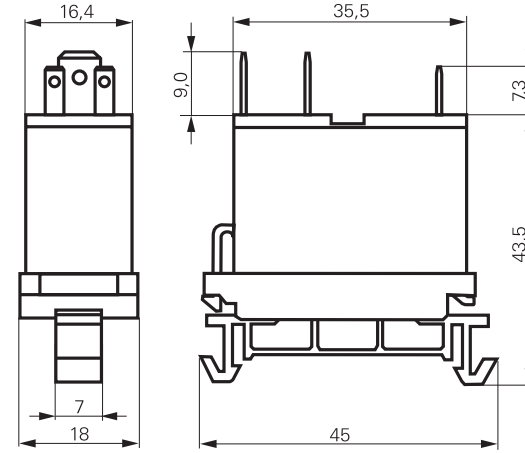
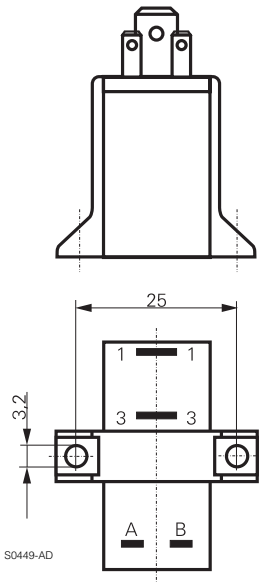
S0449-AB

**Power Relay 430 3 mm (Continued)**

**Dimensions**

Mounting brackets

DIN-rail mount



S0449-AK

**Product key**



Type

Mounting

- 0 PCB version
- 1 mounting brackets
- 2 snap mounting
- 5 DIN-rail mounting

Contact design

- 4 arc blowing magnet
- 5 standard

Coil

Coil code: please refer to coil versions table

Contact material

- 0 AgCu 3
- 1 AgCdO

Other types on request

Product key	Version	Cont-material	Cont.configuration	Coil	Coil	Part number
0430 25 0911 00	snap mounting	AgCdO	1 NO contact	DC-coil	12 VDC	1-1415404-1
0430 25 1011 00	1.0mm plate				24 VDC	1-1415404-3
0430 25 2811 00				AC-coil	240 VAC	1-1415404-6



**Power Relay 430 (Continued)**

**Insulation**

Dielectric strength coil-contact circuit	4000 V <sub>rms</sub>
open contact circuit	1000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 8/8 mm
adjacent contact circuits	≥ 3/4 mm
Material group of insulation parts	≥ IIIa
Tracking index of relay base	PTI 380M
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	reinforced
open contact circuit	functional
adjacent contact circuits	basic
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	230/400 V
Overvoltage category	III

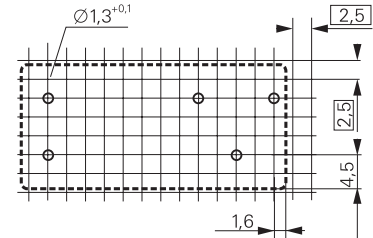
**Other data**

RoHS - Directive 2002/95/EC	compliant as per product date code 0349
Ambient temperature range	-20...+70°C
Operate- / release time	typ. 18 / 3 ms
Bounce time NO / NC contact	typ. 3 ms
Category of protection	RTI - dust protected
Mounting	pcb, mounting brackets, snap mounting, DIN rail
Resistance to soldering heat	270°C / 10 s
Relay weight	32 g
Packaging unit	50 pcs

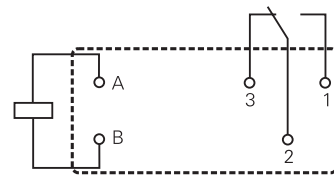
**PCB layout / terminal assignment**

Bottom view on solder pins

PCB version, 1 CO contact

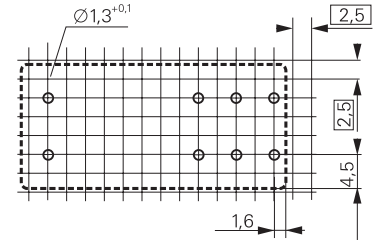


S0448-AA

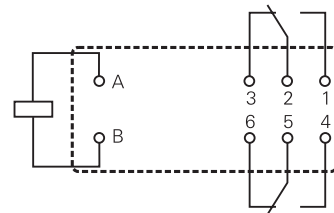


S0448-AB

PCB version, 2 CO contacts



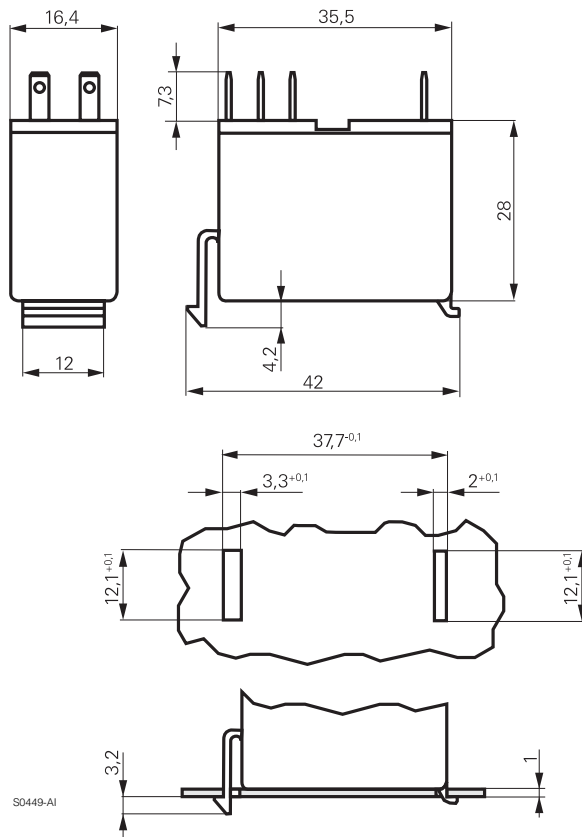
S0448-AC



S0448-AD

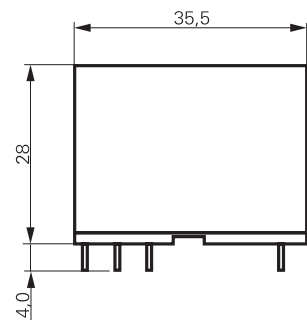
**Dimensions**

Snap mounting



S0449-AI

**Dimensions**



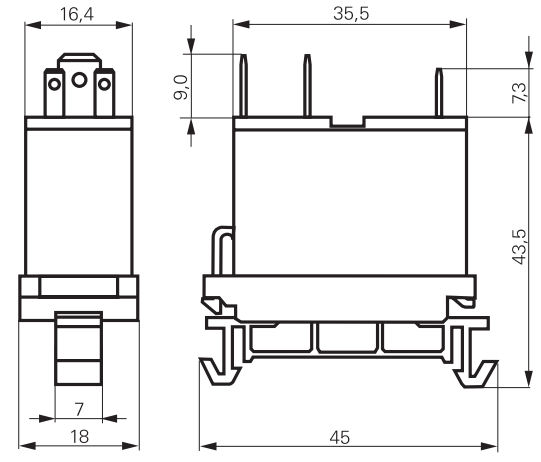
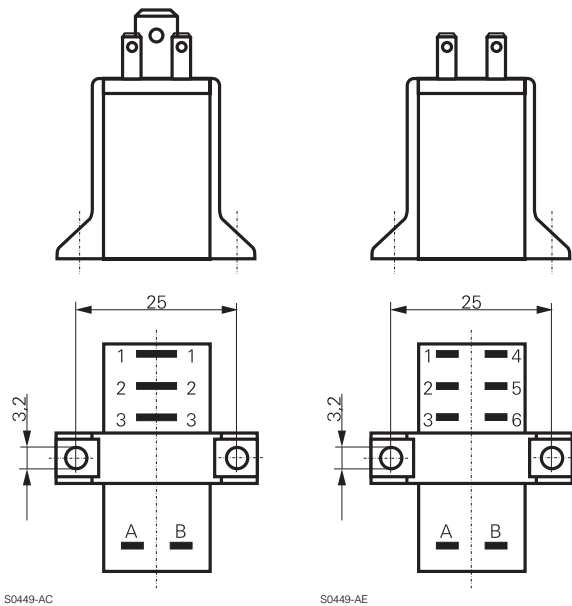
S0449-AA

**Power Relay 430 (Continued)**

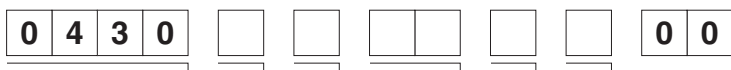
**Dimensions**

Mounting brackets

DIN-rail mount



**Product key**



Type

Mounting

- 0 PCB version
- 1 mounting brackets
- 2 snap mounting
- 5 DIN-rail mounting

Version

- 6 1 pole
- 7 2 pole

Coil

Coil code: please refer to coil versions table

Contact material

- 0 AgCu 3
- 1 AgCdO

Contact configuration

- 1 1 NO contact
- 2 1 NC contact
- 3 1 CO contact
- 4 2 NO contacts
- 5 2 NC contacts
- 6 2 CO contacts

Other types on request

Product key	Version	Cont-material	Cont.configuration	Coil	Coil	Part number
0430 16 0911 00	mounting brackets	AgCdO	1 NO contact	DC-coil	12 VDC	8-1415430-1
0430 16 1011 00					24 VDC	8-1415430-3
0430 16 1013 00			1 CO contact			8-1415430-5
0430 17 0916 00			2 CO contacts			0-1415404-1
0430 17 1016 00	snap mounting 1.0mm plate		1 CO contact	AC-coil	12 VDC	0-1415404-1
0430 26 0713 00			2 CO contacts		24 VDC	0-1415404-4
0430 27 0716 00			1 CO contact		220 VAC	2-1415404-3
			2 CO contacts			2-1415404-8

**Rast 5 Power Relay 419 11 (EA/..)**

- 2 pole 16 A
- Safety mains insulation
- Quick connect terminals 6.3 x 0.8 mm
- Contact gap > 3 mm
- 4 kV / 8 mm coil-contact
- Snap or screw mounting
- Product in accordance to IEC60335-1
- RoHS compliant (Directive 2002/95/EC) as per product date code 0349

**Applications**

Industrial and domestic appliances, heating controls, absolute safe power supply disconnection



F0255-B1

**Approvals**

VDE REG.-Nr. 5064 ÜG, c RU us E214024  
Technical data of approved types on request

**Contact data**

Contact configuration	2 NO
Contact set	bifurcated contacts
Type of interruption	full disconnection
Rated current	16 A
Rated voltage / max.switching voltage AC	240/400 VAC
Limiting making capacity, max 4 s, duty factor 10%	25 A
Contact material	AgCu3
Contact gap	> 3 mm
Mechanical endurance DC-coil	2x10 <sup>6</sup> cycles
AC-coil	0,5x10 <sup>6</sup> cycles
Rated frequency of operation with / without load	15 / 600 min <sup>-1</sup>

**Contact ratings**

Type	Load	Cycles
DC Version	16 A, 250 VAC, cosφ=1	5x10 <sup>5</sup>
DC Version	12 A, 400 VAC, cosφ=1	2,5x10 <sup>5</sup>
DC Version	20 A, 250 VAC, cosφ=1	6x10 <sup>3</sup>
AC Version	16 A, 250 VAC, cosφ=1	2,5x10 <sup>5</sup>

**Coil data**

Rated coil voltage range DC coil	6...60 VDC
AC coil	24...400 VAC
Coil power DC coil	0,72 W
AC coil	2,2 VA
Operative range DC coil / AC coil	1 / 2

**Coil versions, DC-coil**

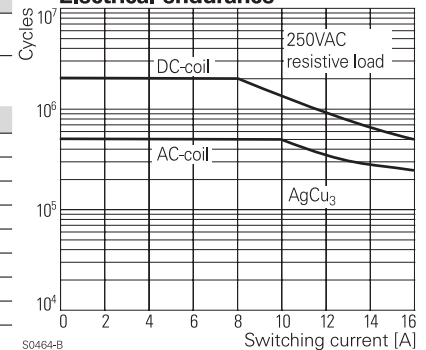
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
10	6	3.5	0.4	50±10%	720
11	10	6.0	0.7	150±10%	667
12	12	7.5	0.9	200±10%	720
13	24	15.0	1.8	800±10%	720

**Coil versions, AC-coil**

Coil code	Rated voltage VAC	Operate voltage VAC	Release voltage VAC	Coil resistance Ohm	Rated coil power VA
01	200..240.50/60Hz	160.0	15.0	4050±10%	2.2
03	230/50Hz	187.0	16.0	4500±10%	2.2
04	100..120.50/60Hz	80.0	7.0	850±10%	2.2

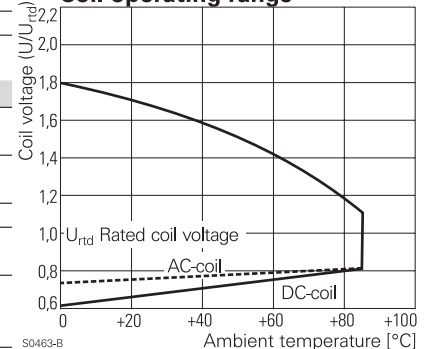
All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request

**Electrical endurance**



S0464-B

**Coil operating range**



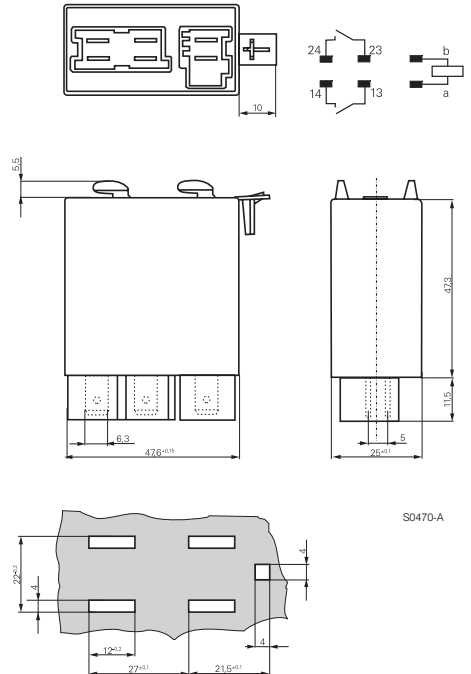
S0463-B



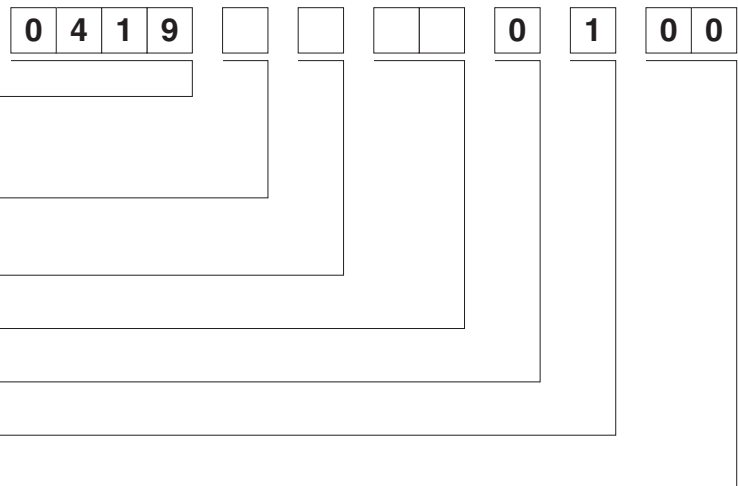
Insulation	
Dielectric strength coil-contact circuit	4000 V <sub>rms</sub>
open contact circuit	2000 V <sub>rms</sub>
adjacent contact circuits	4000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 6 / 8 mm
Material group of insulation parts	≥ IIIa
Tracking index of relay base	PTI 380M
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	reinforced
open contact circuit	basic
adjacent contact circuits	reinforced
Rated insulation voltage	250 V
Pollution degree	3
Rated voltage system	230/400 V
Overvoltage category	III

Other data	
RoHS - Directive 2002/95/EC	compliant as per product date code 0349
Ambient temperature range	-20...+85°C
Operate- / release time	typ. 15 / 12 ms
Bounce time NO	typ. 8 ms
Vibration resistance (function) NO (5...500Hz)	2 g
Shock resistance (destruction)	80 g
Category of protection	RT1 - dust protected
Mounting	snap or screw mounting
Relay weight	92 g
Packaging unit	50 pcs

**Dimensions**



**Product key**



Product key	Version	Cont-material	Cont.configuration	Coil	Coil	Part number
0419 11 0301 00	Snap Mounting	AgCu3	2 NO	AC-coil	230 VAC	3-1415419-5
0419 11 1201 00	1.0 mm plate		contacts	DC-coil	12 VDC	4-1415419-0
0419 11 1301 00					24 VDC	4-1415419-2
0419 31 0301 00	Screw Mounting			AC-coil	230 VAC	4-1415419-9
0419 31 1301 00				DC-coil	24 VDC	5-1415419-5

**RELAYS**
[www.DataSheet4U.com](http://www.DataSheet4U.com)
**Schrack**

- [News](#)
- [Relay Know-How](#)
- [Sales Offices](#)
- [Company Profile](#)
- [Contact Us](#)
- [Schrack Home](#)

**All Relay Brands**

- [Datasheets](#)
- [Products](#)
- [Brands](#)
- [Military Spec](#)
- [Cross Reference](#)
- [Competitor](#)
- [Cross Reference](#)
- [General Info](#)
- [Japan Relay Site](#)
- [Relays Home](#)

**PART NUMBER SEARCH**
**Exact Match**
**Contains**
**Starts With**

Product	Name	Poles	Current	Coils	Datasheets
<b>Definitions</b> jointly valid document for all datasheets					
	<b>SNR Slim Interface Relay SNR</b>	1 pole	6 A	DC-coil	<a href="#">PDF-English</a> <a href="#">PDF-German</a> <a href="#">RoHS declaration</a>
	<b>RT Interface Power Relay RT</b>	1 pole 2 pole	12, 16 A 8 A	DC-coil AC-coil bistable	<a href="#">PDF-English</a> <a href="#">PDF-German</a> <a href="#">RoHS declaration</a>
	<b>PT Miniature Relay PT</b>	2 pole 3 pole 4 pole	12 A 10 A 6 A	DC-coil AC-coil	<a href="#">PDF-English</a> <a href="#">PDF-German</a> <a href="#">RoHS declaration</a>
	<b>PTF Miniature Power Relay PTF</b>	2 pole	10 A	DC-coil AC-coil	<a href="#">PDF-English</a> <a href="#">PDF-German</a> <a href="#">RoHS declaration</a>
	<b>MT Multimode Relay MT</b>	2 pole 3 pole	10 A	DC-coil AC-coil	<a href="#">PDF-English</a> <a href="#">PDF-German</a> <a href="#">RoHS declaration</a>
	<b>RM2/3/7 Power Relay RM2/3/7</b>	2 pole 3 pole	10 A 16 A	DC-coil AC-coil	<a href="#">PDF-English</a> <a href="#">PDF-German</a> <a href="#">RoHS declaration</a>

[www.DataSheet4U.com](http://www.DataSheet4U.com)