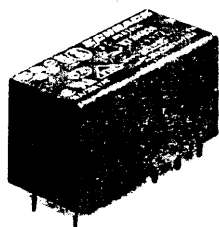


RTB + RTD

## Power PCB Relay RT1

1 pole 12 / 16 A, DC- or AC-coil



- 1 C/O or 1 N/O contact
- Sensitive coil 400 mW
- 5 kV / 10 mm coil-contact, Protection class II (VDE 0700)
- Ambient temperature 85°C (DC-coil)
- Height 15.7 mm
- Sockets with PCB-type or screw-type terminals
- Gold plated contacts available

### Applications

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



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	12 A	16 A
Rated voltage / max. breaking voltage	250 Vac / 440 Vac	
Rated breaking capacity	3000 VA	4000 VA
Make current (max. 4 s at duty cycle 10%)	25 A	30 A
Contact material	AgNi 90/10, AgNi 90/10 gold plated	

### Contact life

Type	Load	Operations
RT314	1000 W, 250 Vac, incandescent lamps	$1.2 \times 10^3$

### Coil data

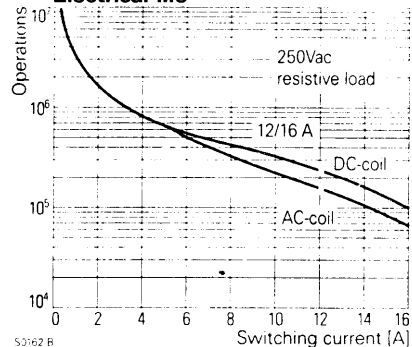
Nominal voltage	DC coil	5...110 Vdc
	AC coil	24...230 Vac
Nominal coil power	DC coil	400 mW
	AC coil	0.75 VA
Operate category	2 / b	

### Coil versions, DC-coil

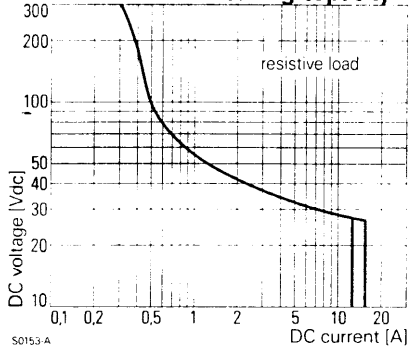
Coil code	Nominal voltage Vdc	Pull-in voltage Vdc	Release voltage Vdc	Maximum voltage Vdc	Coil resistance $\Omega$	Coil current mA
005	5	3.5	0.5	12.7	$62 \pm 10\%$	80.0
006	6	4.2	0.6	15.3	$90 \pm 10\%$	66.7
012	12	8.4	1.2	30.6	$360 \pm 10\%$	33.3
024	24	16.8	2.4	61.2	$1440 \pm 10\%$	16.7
048	48	33.6	4.8	122.4	$5520 \pm 10\%$	8.7
060	60	42.0	6.0	153.0	$7340 \pm 12\%$	8.1
110	110	77.0	11.0	280.5	$26600 \pm 12\%$	4.1

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

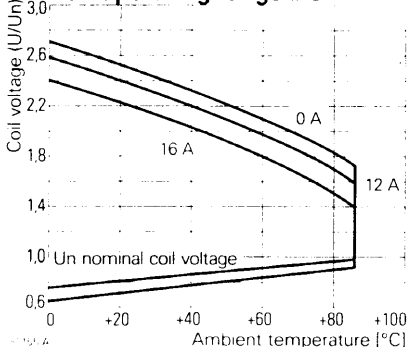
### Electrical life



### Max. DC load breaking capacity



### Coil operating range DC



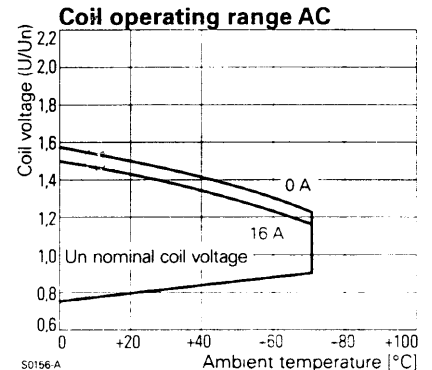
# Power PCB Relay RT1

1 pole 12 / 16 A, DC- or AC-coil

## Coil versions, AC-coil

Coil code	Nominal voltage Vac	Pull-in voltage Vac	Release voltage Vac	Maximum voltage Vac	Coil resistance $\Omega$	Coil current mA
524	24	18.0	3.6	36.0	350 $\pm$ 10%	31.6
615	115	86.3	17.3	172.5	8100 $\pm$ 15%	6.6
730	230	172.5	34.5	345.0	32500 $\pm$ 15%	3.2

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



## Insulation

Dielectric strength	coil-contacts	5000 V <sub>rms</sub>
	open contact circuit	1000 V <sub>rms</sub>
Clearance / creepage		10 / 10 mm
Insulation to IEC 664/VDE 0110 (1/89)		
	Voltage rating	250
	Pollution degree	3
	Overvoltage category	III
Insulation to VDE 0110b (2/79)		
	Insulation category / reference voltage	C / 250, B / 400
Tracking resistance		CTI 250

## Other data

Flammability class UL		V-0
Ambient temperature	DC-coil	-40...+85 °C
	AC-coil	-40...+70 °C
Mechanical life	DC-coil	>30x10 <sup>6</sup> operations
	AC-coil	>10x10 <sup>6</sup> operations
Max. switching rate at rated- / minimum load		6 min <sup>-1</sup> / 1200 min <sup>-1</sup>
Operate- / release time DC-coil		typ. 7 / 3 ms
Bounce time N/O contact/N/C contact		typ. 1 / 3 ms
Vibration resistance N/O / N/C contact		20 / 5 g, 30...500 Hz
Shock resistance (destruction)		100 g
Protection category		IP40 (IP67 on request)
Relay weight		14 g
Packaging unit		20 / 500 pcs.
Accessories		see accessories RT, page 60, 101

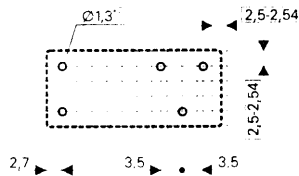
# Power PCB Relay RT1

1 pole 12 / 16 A, DC- or AC-coil

## PCB layout / terminal assignment

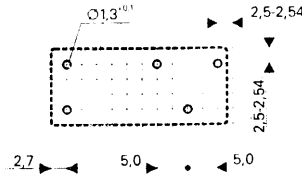
View on solder pins  
Dimensions in mm

12 A, pinning 3.5 mm



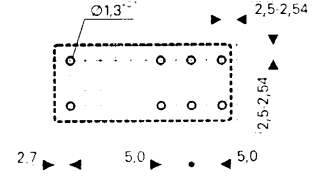
S0163 BB

12 A, pinning 5 mm



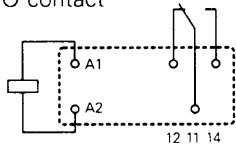
S0163 BC

16 A, pinning 5 mm



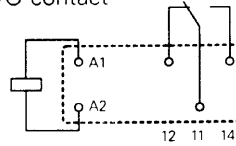
S0163 BD

1 C/O contact



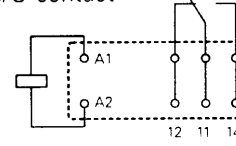
S0163 BG

1 C/O contact



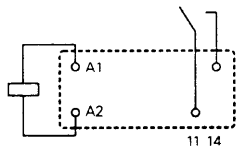
S0163 BE

1 C/O contact



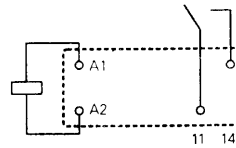
S0163 BF

1 N/O contact



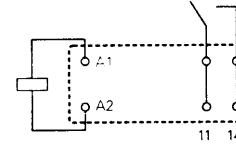
S0163 BH

1 N/O contact



S0163 BE

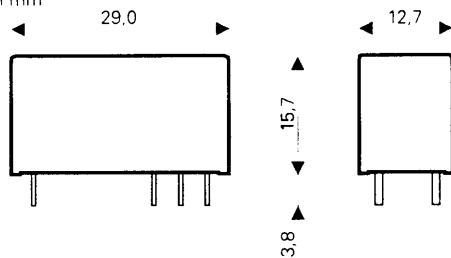
1 N/O contact



S0163 BF

## Dimensions

Dimensions in mm



S0163 AB

RT B = washable version of RT1  
RT D = " " " " RT3.

## Ordering key



Type

Version

- 1 12 A, pinning 3.5 mm, flux-tight \*)**
- 2 12 A, pinning 5 mm, flux-tight \*)**
- 3 16 A, pinning 5 mm, flux-tight \*)**

Contacts

- 1 1 C/O contact**
- 3 1 N/O contact (for type RT1.. and RT3..)**

Contact material

- 4 AgNi 90/10**
- 5 AgNi90/10 gold plated (for type RT31.)**

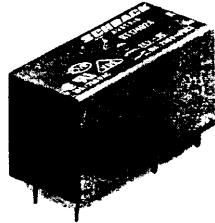
Coil

Coil code: please refer to coil versions table

Preferred types in bold print

\*) Washable version on request

**Power PCB Relay RT1 sensitive**  
1 pole 10 A, highly sensitive version



- 1 C/O or 1 N/O contact
- Sensitive coil 250 mW
- 5 kV / 10 mm coil-contact
- Protection class II (VDE 0700)
- Ambient temperature 85°C at rated load
- Height 15.7 mm
- Sockets with PCB-type or screw-type terminals

Applications  
Domestic appliances, heating control



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	10 A
Rated voltage / max. breaking voltage	250 Vac / 440 Vac
Rated breaking capacity	2500 VA
Make current (max. 4 s at duty cycle 10%)	15 A
Contact material	AgNi 90/10

**Contact life**

Type	Load	Operations
RT174	8 A, 250 Vac	4.3x10 <sup>5</sup>

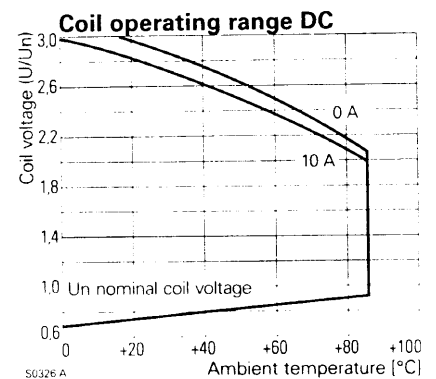
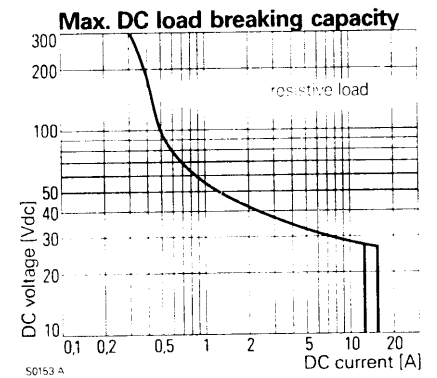
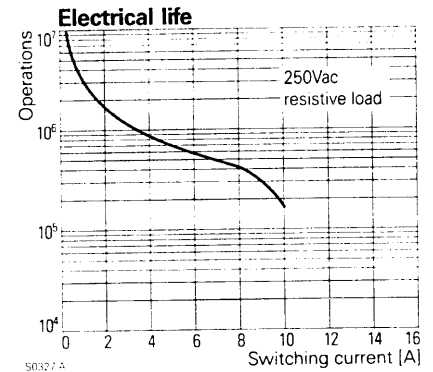
**Coil data**

Nominal voltage	5...60 Vdc
Nominal coil power	250 mW
Operate category	2 / b

**Coil versions, sensitive 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	3.7	0.5	15.0	100±10%	50.0
006	6	4.5	0.6	18.0	144±10%	41.7
<b>012</b>	<b>12</b>	<b>9.0</b>	<b>1.2</b>	<b>36.0</b>	<b>576±10%</b>	<b>20.8</b>
<b>024</b>	<b>24</b>	<b>18.0</b>	<b>2.4</b>	<b>72.0</b>	<b>2304±10%</b>	<b>10.4</b>
048	48	36.0	4.8	144.0	9216±10%	5.4
060	60	45.0	6.0	180.0	12857±12%	4.7

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



# Power PCB Relay RT1 sensitive

1 pole 10 A, highly sensitive version

## Insulation

Dielectric strength	coil-contacts	5000 V <sub>rms</sub>
	open contact circuit	1000 V <sub>rms</sub>
Clearance / creepage		10 / 10 mm
Insulation to IEC 664/VDE 0110 (1/89)		
	Voltage rating	250
	Pollution degree	3
	Overvoltage category	III
Insulation to VDE 0110b (2/79)		
	Insulation category / reference voltage	C / 250, B / 400

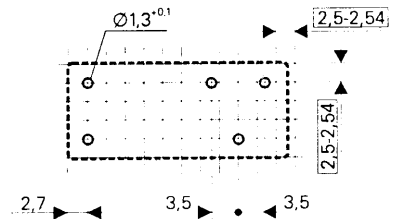
## Other data

Flammability class UL	V-0
Ambient temperature	-40...+85 °C
Mechanical life	30x10 <sup>6</sup> operations
Max. switching rate at rated- / minimum load	50 min <sup>-1</sup> / 1200 min <sup>-1</sup>
Operate- / release time	typ. 7 / 3 ms
Bounce time N/O contact/N/C contact	typ. 2 / 4 ms
Vibration resistance	5 g, 30...150 Hz
Shock resistance (destruction)	100 g
Protection category	IP 40 (IP67 on request)
Relay weight	14 g
Packaging unit	20 / 500 pcs.
Accessories	see accessories RT, page 60, 101

## PCB layout / terminal assignment

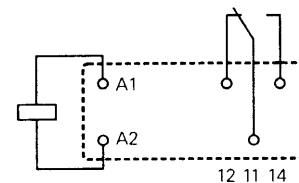
View on solder pins  
Dimensions in mm

10 A, pinning 3.5 mm



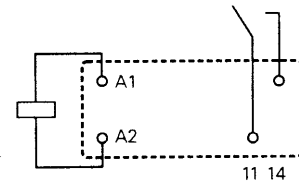
S0163 BB

1 C/O contact



S0163 BG

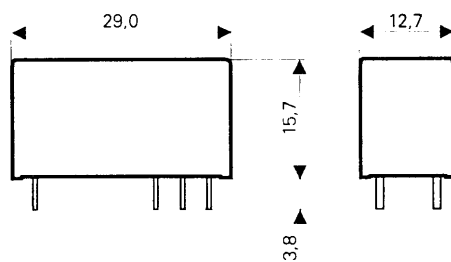
1 N/O contact



S0163 BH

## Dimensions

Dimensions in mm



S0272 AB

## Ordering key



Type

Version

**1** 10 A, pinning 3.5 mm, flux-tight \*)

Contacts

**7** 1 C/O contact

**8** 1 N/O contact

Contact material

**4** AgNi 90/10

Coil

Coil code: please refer to coil versions table

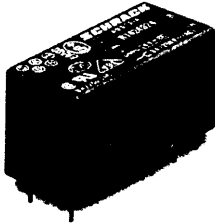
Preferred types in bold print

\*) Washable version on request

RT B = Washable version of RT 1

# Power PCB Relay RT2

2 pole 8 A, DC and AC-coil



- 2 C/O or 2 N/O contacts
- Sensitive coil 400 mW
- DC- or AC-coil
- 5 kV / 10 mm coil-contact
- Protection class II (VDE 0700)
- Height 15.7 mm
- Sockets with PCB-type or screw-type terminals

### Applications

Domestic appliances, heating control, emergency lighting, modems

F0149 A



Technical data of approved types on request

### Contact data

Configuration	2 C/O contacts or 2 N/O contacts
Type of contact	single contact
Rated current	8 A
Rated voltage / max. breaking voltage	250 Vac / 440 Vac
Rated breaking capacity	2000 VA
Make current (max. 4 s at duty cycle 10%)	15 A
Contact material	AgNi 90/10, AgNi 90/10 gold plated

### Contact life

Type	Load	Operations	Standard
RT 424	4 A, 230 Vac, $\cos\phi=0.6$	$1.5 \times 10^5$	
RT 424	6 (2) A, 250 Vac, on the N/O- N/C contact		VDE 0631
RT 424	1/2 hp / 240 Vac, 1/4 hp / 120 Vac	$6 \times 10^3$	UL 508

### Coil data

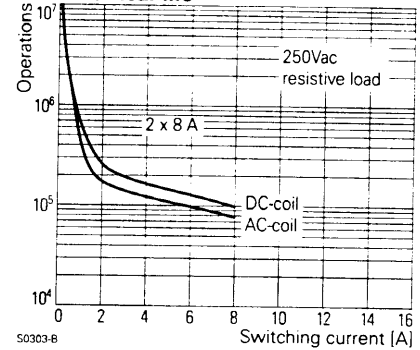
Nominal voltage	DC coil	5...110 Vdc
	AC coil	24...230 Vac
Nominal coil power	DC coil	400 mW
	AC coil	0.75 VA
Operate category		2 / b

### Coil versions, DC-coil

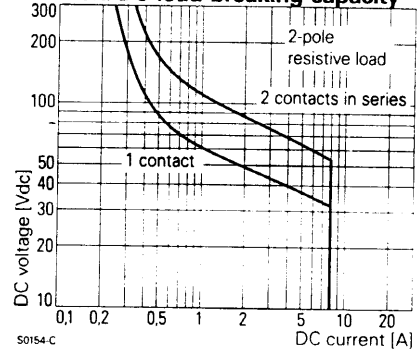
Coil code	Nominal voltage Vdc	Pull-in voltage Vdc	Release voltage Vdc	Maximum voltage Vdc	Coil resistance $\Omega$	Coil current mA
005	5	3.5	0.5	12.7	$62 \pm 10\%$	80.0
006	6	4.2	0.6	15.3	$90 \pm 10\%$	66.7
012	12	8.4	1.2	30.6	$360 \pm 10\%$	33.3
024	24	16.8	2.4	61.2	$1440 \pm 10\%$	16.7
048	48	33.6	4.8	122.4	$5520 \pm 10\%$	8.7
060	60	42.0	6.0	153.0	$7340 \pm 12\%$	8.1
110	110	77.0	11.0	280.5	$26600 \pm 12\%$	4.1

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

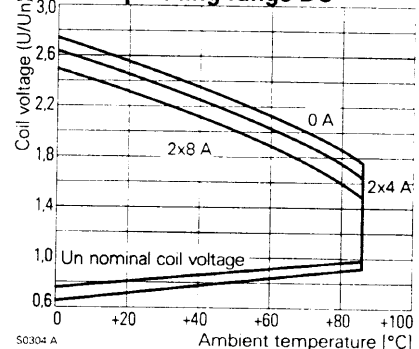
### Electrical life



### Max. DC load breaking capacity



### Coil operating range DC



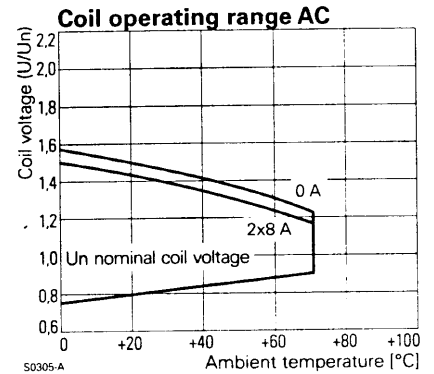
# Power PCB Relay RT2

2 pole 8 A, DC and AC-coil

## Coil versions, AC-coil

Coil code	Nominal voltage Vac	Pull-in voltage Vac	Release voltage Vac	Maximum voltage Vac	Coil resistance $\Omega$	Coil current mA
524	24	18.0	3.6	36.0	350 $\pm$ 10%	31.6
615	115	86.3	17.3	172.5	8100 $\pm$ 15%	6.6
730	230	172.5	34.5	345.0	32500 $\pm$ 15%	3.2

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



## Insulation

Dielectric strength	coil-contacts	5000 V <sub>rms</sub>
	open contact circuit	1000 V <sub>rms</sub>
	adjacent contacts	2500 V <sub>rms</sub>
Clearance / creepage		10 / 10 mm
Insulation to IEC 664/VDE 0110 (1/89)		
	Voltage rating	250
	Pollution degree	3
	Overvoltage category	III
Insulation to VDE 0110b (2/79)		
	Insulation category / reference voltage	C / 250, B / 400

## Other data

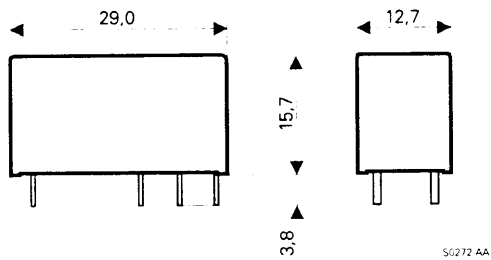
Ambient temperature		-40...+70 °C
Mechanical life	DC-coil	>30x10 <sup>6</sup> operations
	AC-coil	>5x10 <sup>6</sup> operations
Max. switching rate at rated- / minimum load		6 min <sup>-1</sup> / 1200 min <sup>-1</sup>
Operate- / release time DC-coil		typ. 7 / 2 ms
Bounce time N/O contact/N/C contact		typ. 1 / 3 ms
Vibration resistance N/O / N/C contact		20 / 5 g, 30...300 Hz
Shock resistance (destruction)		100 g
Protection category		IP40 (IP67 on request)
Relay weight		13 g
Packaging unit		20 / 500 pcs.
Accessories		see accessories RT, page 74, 101

# Power PCB Relay RT2

2 pole 8 A, DC and AC-coil

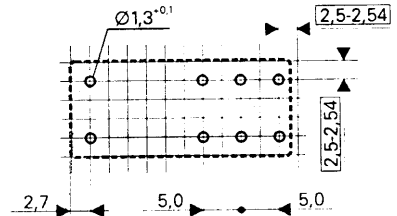
## Dimensions

Dimensions in mm

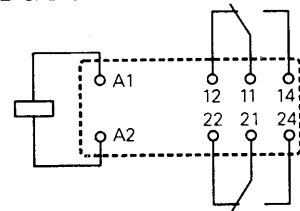


## PCB layout / terminal assignment

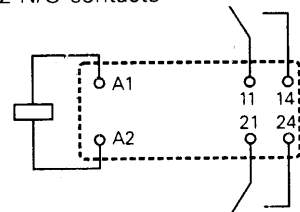
View on solder pins  
Dimensions in mm



### 2 C/O contacts



### 2 N/O contacts



## Ordering key

Type

Version

**4 8 A, pinning 5 mm, flux-tight**

**E 8 A, pinning 5 mm, washable**

Contacts

**2 2 C/O contacts**

**4 2 N/O contacts**

Contact material

**4 AgNi 90/10**

**5 AgNi 90/10 gold plated (for type RT42.)**

Coil

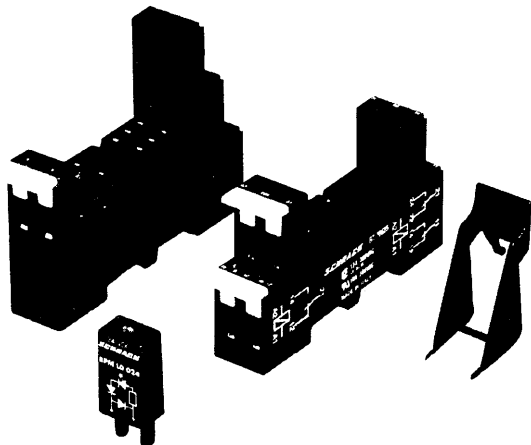
Coil code: please refer to coil versions table

Preferred types in bold print



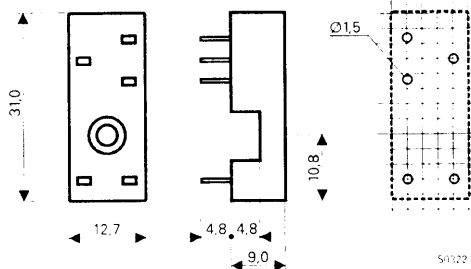


# Accessories Power PCB Relay RT1



- Socket with PCB- or screw terminals
- No reduction of protection class or creepage / clearance with plastic retainer
- Easy replacement of relays
- Socket can be used as connector for diagnosis function
- Not suitable for bistable relays with 2 coils

**RP 78 601** Socket with PCB terminals, pinning 3.5 mm

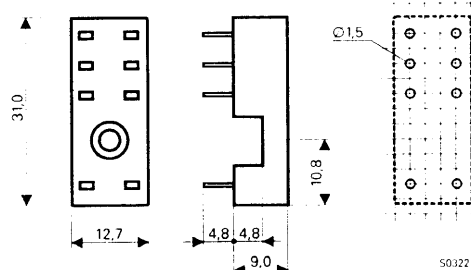


**Technical data**

Rated current	12 A
Rated voltage	300 Vac
Dielectric strength coil/cont.	>5000 V <sub>rms</sub>
Insulation cat. (VDE 0110b)	C / 250 Vac
Ambient temperature	-40...+80 °C
Packaging unit	100 pcs.

Plastic retaining clip **RT 16 041**  
Metal retaining clip **RT 28 516**

**RP 78 602** Socket with PCB terminals, pinning 5 mm

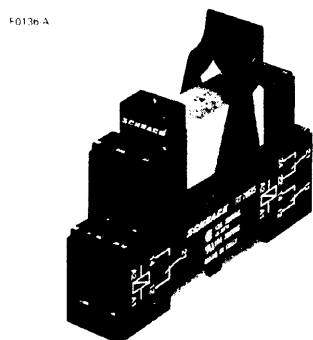


**Technical data**

Rated current	12 A
Rated voltage	300 Vac
Dielectric strength coil/cont.	>5000 V <sub>rms</sub>
Insulation cat. (VDE 0110b)	C / 250 Vac
Ambient temperature	-40...+80 °C
Packaging unit	100 pcs.

Plastic retaining clip **RT 16 041**  
Metal retaining clip **RT 28 516**

Dimensions in mm  
View on solder pins



Relay sockets with screw-type terminals, for DIN rail mounting:  
see page 101