

Power PCB Relay RT1 Inrush Power

- 1 pole 16 A, 1 NO contact (W pre-make contact + AgSnO₂)
- 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
- Test tab (manual operator) optional

Applications

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



F0272-B

Approvals

VDE REG.-Nr. 6106, c **us** E214025, c **us** 14385
Technical data of approved types on request

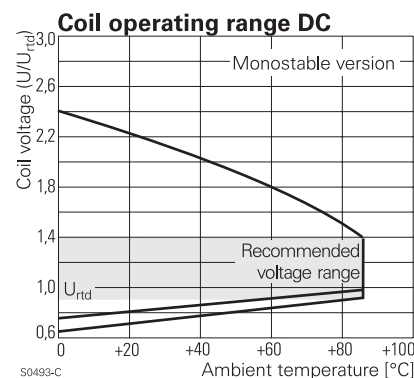
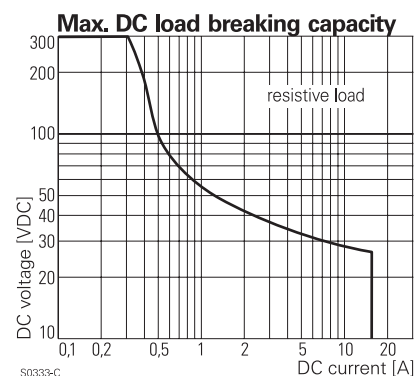
Contact data	RT.3T	RTS3L
Contact configuration	1 NO	
Contact set	pre-make contact	single contact
Type of interruption	micro disconnection	
Rated voltage / max. switching voltage AC	250 / 400 VAC	
Rated current	16 A	
Limiting continuous current	16 A, UL: 20 A (RTS3L)	
Maximum breaking capacity AC	4000 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 ₂	AgSnO ₂
Rated frequency of operation with / without load	6 / 60 min ⁻¹	
Operate- / release time DC coil	max 10 / 5 ms	
Operate- / reset time bistable	max 10 / 10 ms	
Bounce time NO contact	max 4 ms	

Contact ratings

Type	Contact	Load	Ambient temp. [°C]	Cycles
IEC 61810				
RTS3L	NO	20 A, 250 VAC, cosφ=1	70°C	20x10 ³
RTS3L	monostable			
	NO	16 A, 250 VAC, cosφ=1	85°C	100x10 ³
RTS3T	NO	16 A, 250 VAC, cosφ=1	85°C	5x10 ³
UL 508				
RTS3L	NO	20 A, 250 VAC, general purpose	70°C	20x10 ³
RTS3L	NO	16 A, 250 VAC, resistive	85°C	50x10 ³
RTS3L	NO	TV8, 240 VAC	40°C	25x10 ³
RTS3L	NO	1.5 hp, 240 VAC	70°C	30x10 ³
RTS3T	NO	1200 W Tungsten, 120 VAC / 277 VAC, 60 Hz	50°C	6x10 ³
RTS3T	NO	620 W Discharge lamps (standard ballast), 120 VAC / 277VAC, 60 Hz	50°C	6x10 ³

Coil data

Coil data, monostable coil	
Rated coil voltage range	5...110 VDC
Operative range to IEC 61810	2
Coil insulation system according UL1446	class F



Power PCB Relay RT1 Inrush Power (Continued)

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	$62 \pm 10\%$	403
006	6	4.2	0.6	$90 \pm 10\%$	400
012	12	8.4	1.2	$360 \pm 10\%$	400
024	24	16.8	2.4	$1440 \pm 10\%$	400
048	48	33.6	4.8	$5520 \pm 10\%$	417
060	60	42.0	6.0	$8570 \pm 12\%$	420
110	110	77.0	11.0	$28800 \pm 12\%$	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
Rated coil voltage range	3...24 VDC	
Operative range to IEC 61810	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	1.7	$21 \pm 10\%$	429
A12	12	8.4	6.6	$360 \pm 10\%$	400
A24	24	16.8	13.2	$1440 \pm 10\%$	400

Coil versions, bistable 2 coils

F03	3	2.1	1.7	$15 \pm 10\%$	600
F12	12	8.4	6.6	$240 \pm 10\%$	600
F24	24	16.8	13.2	$886 \pm 10\%$	650

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

Coils - operation

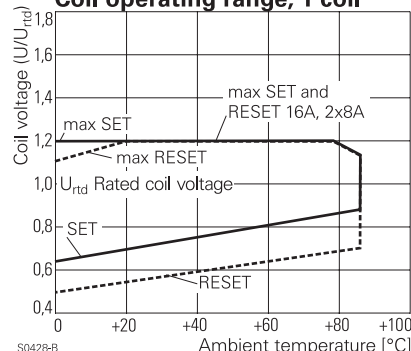
Version	1 coil		2 coils		
Coil terminals	A1	A2	A1	A3	A2
Pull-in	+	-	+	-	-
Reset	-	+	-	+	-

Contact position not defined at delivery

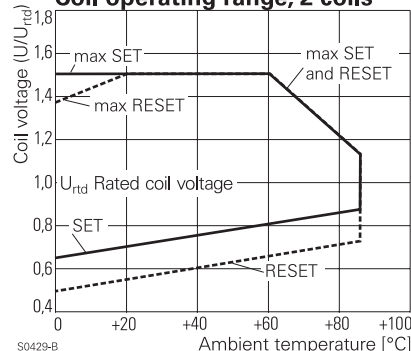
Insulation

Dielectric strength coil-contact circuit	5000 V _{rms}	
open contact circuit	1250 V _{rms}	
Clearance / creepage coil-contact circuit	$\geq 10 / 10$ mm	
Material group of insulation parts	IIIa	
Tracking index of relay base	PTI 250 V	
Insulation to IEC 61810-1		
Type of insulation coil-contact circuit	reinforced	
open contact circuit	micro disconnection	
Rated insulation voltage	250 V	
Pollution degree	3	2
Rated voltage system	240 V	230 / 400 V
Overvoltage category	III	

Coil operating range, 1 coil



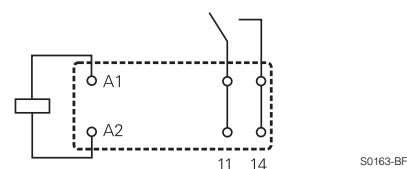
Coil operating range, 2 coils



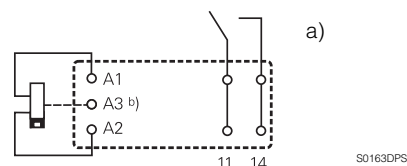
Terminal assignment

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)

Other data	RT.3T	RTS3L
Mechanical endurance DC	> 5x10 ⁶ cycles	> 10x10 ⁶ cycles
bistable	> 3x10 ⁶ cycles	> 5x10 ⁶ cycles
tab manually operated	> 10 ³ cycles	-
Material	compliant	
RoHS - Directive 2002/95/EC		
Environment		
Ambient temperature range monostable	-40...+85°C	
bistable: 1 coil	-10...+85°C	
bistable: 2 coils	-40...+85°C	
Vibration resistance (function) monostable	10 g	20 g
Shock resistance (destruction)	100 g	
Category of protection	RTII - flux proof	
Processing		
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 or bistable 2 coil version, pcb mounting only; see Accessories

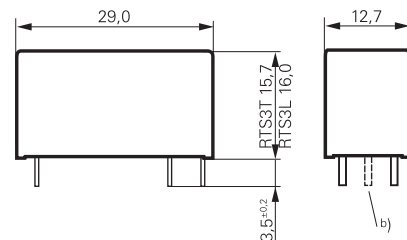
Accessories RTS3.

For details see datasheet

Accessories Power Relay RT

Dimensions / PCB layout

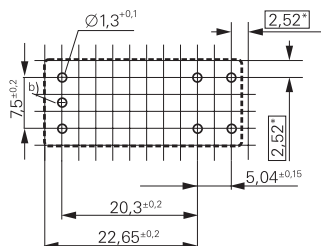
version without test tab



S0272-BW

S0272-BC

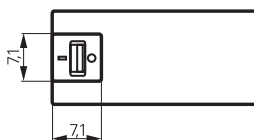
16 A, pinning 5 mm



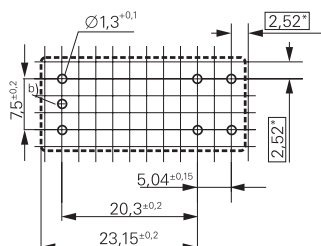
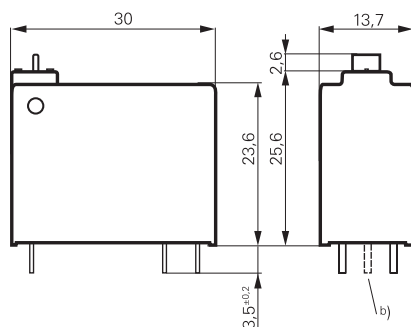
S0418-CV

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.

Power PCB Relay RT1 Inrush Power (Continued)

Product key	Typical product key				
	RT	S	3	T	A12
Type	RT Power PCB Relay RT1 Inrush Power				
Version	S without test tab T with test tab (manual operator) for contact material 'T' and bistable coil only				
Contact configuration	3 1 NO contact (1 form A)				
Contact material	L AgSnO ₂ T Tungsten (W) pre-make + AgSnO ₂				
Coil	Coil code: please refer to coil versions table				

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