

Special Load PCB Relay RP 3 SL

- 1 pole 16 A, 1 NO contact
- For high inrush currents up to 120 A
- Mono- or bistable
- 4 kV / 8 mm coil-contact

Applications

Lighting control, timers, motor control, building automation



F0147-B

Approvals

VDE REG.-Nr. 3736 (DC versions only), **UL** US E214024
 Technical data of approved types on request

Contact data

Contact configuration	1 NO
Contact set	single contact
Type of interruption	micro disconnection
Rated voltage / max. switching voltage AC	250 / 400 VAC
Rated current relay version RP3 / RP7	16 A / 12 A
Limiting continuous current	16 A
Maximum breaking capacity AC, relay version 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 ₂
Rated frequency of operation with / without load	16 / 1200 min ⁻¹
Operate- / release time monostable DC coil	max 14 / 12 ms
Operate- / reset time bistable DC coils	max 30 / 25 ms
Bounce time NO / NC monostable DC coil	max 5 / 7 ms
Bounce time NO / NC bistable DC coil	max 5 / 15 ms

Contact ratings

Type	Contact	Load	Ambient temp. [°C]	Cycles
IEC 61810				
RP3SL	NO	16 A, 250 VAC, cosφ=1	70°C	50x10 ³
RP3SL	NO	12 A, 250 VAC, cosφ=1	70°C	100x10 ³
UL 508				
RP3SL	NO	12 A, 250 VAC, general purpose	40°C	6x10 ³
RP3SL	NO	10 A, 35 VDC, general purpose	40°C	30x10 ³
RP3SL	NO	1/2 hp, 240 VAC	70°C	1x10 ³

Coil data

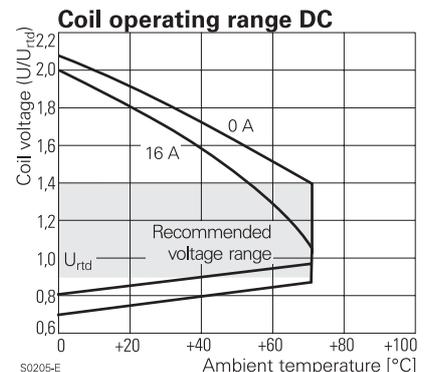
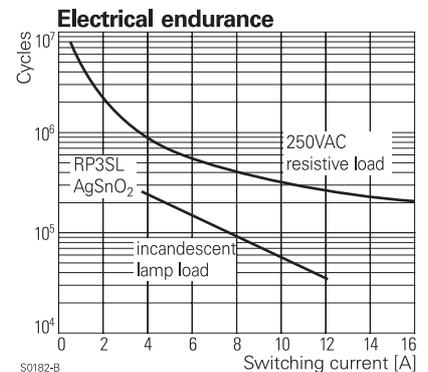
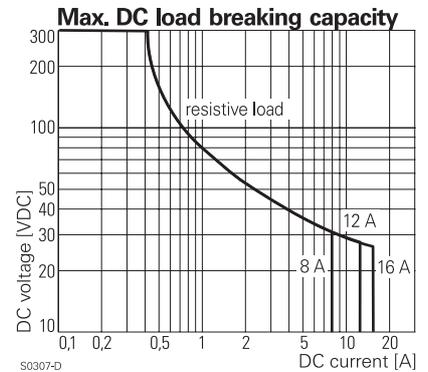
Coil data, monostable coil

Rated coil voltage range	5...110 VDC
Operative range to IEC 61810 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	
Operative range to IEC 61810	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 coil

Coil code	Rated voltage VDC	Operate voltage VDC	Reset voltage VDC	Reset R1 Ω / W	Coil resistance Ω	Rated coil power mW
bistable, 1 coil						
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
bistable, 2 coils						
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 _{rms}	
open contact circuit	2000 V _{rms}	
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 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
Overtoltage category	III	

Other data

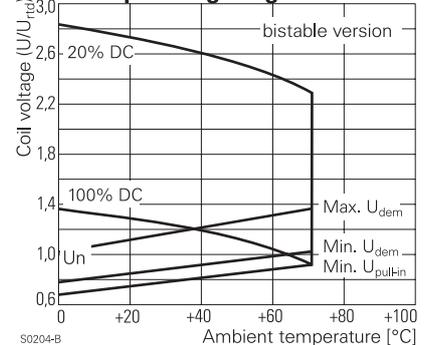
Mechanical endurance DC-coil	> 20x10 ⁶ cycles	
bistable coil	> 1x 10 ⁶ cycles	
Material		
RoHS - Directive 2002/95/EC	compliant as per product date code 0404	
Environment		
Ambient temperature range RTII - flux proof	-40...+70°C	
RTIII - wash tight	-40...+35°C	
Vibration resistance (function), opening of closed cont.	20 g	
Shock resistance (destruction)	100 g	
Category of protection	RTII - flux proof, RTIII - wash tight	
Processing		
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	

*) no socket available for bistable 2 coil version, see Accessories

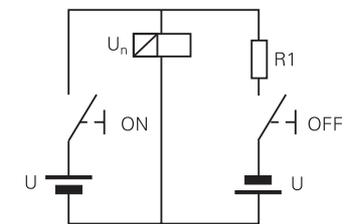
Accessories

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

Coil operating range DC



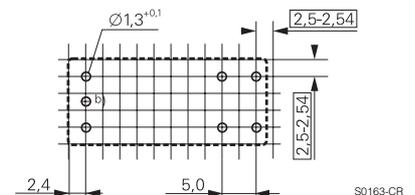
Circuit scheme for bistable 1 coil



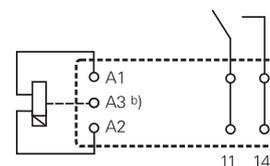
S0328-A

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