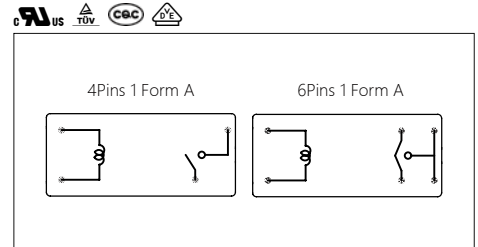


## RB Power Relay

- 1 Form A/C, 2 Form A/C
- Rated current: 8 to 20 A(1P)/4 to 8 A(2P)
- Small high-capability relay
- Meets IEC 60079-15 Anti-explosion Standard
- Dielectric strength between coil & contact 5,000 V AC
- Class F coil insulation
- Control switch has enough insulation distance
- TV Load is available



RB (1P)  
1 Form A, 20 A



### Technical parameters

<b>Coil data</b>		
Coil input voltage		3/5/6/9/12/18/24/48 V DC
Coil power		400 mW
Response voltage		< 75% (Room temp.)
Drop out voltage		> 5% (Room temp.)
Operation time / Release time		Less than 15 ms / less than 8 ms
<b>Contact data</b>		
Contact numbers		1 Form A
Contact material		Ag alloy
Max. switching voltage		277 V AC
Max. switching power		5,000 VA
Contact ratings		16 A 277 VAC, 20 A 250 V AC, 1/2HP 120 V AC, TV-10 <sup>①</sup> 250 V AC
Contact resistance		Max. 100 mΩ (1 A / 6 V DC)
Mechanical service life		1×10 <sup>7</sup> times
Electrical Service life	AC1	1×10 <sup>5</sup> times
<b>General data</b>		
Rated withstand impulse voltage	Coil / Contact Between contacts	5 kV AC / 1 min 1 kV AC / 1 min
Surge voltage		10 kV AC (1.2 / 50 μs)
Insulation Resistance		1,000 MΩ (500 V DC)
Vibration		Malfunction 10~55 Hz (Amplitude 1.5 mm) Endurance 10~55 Hz (Amplitude 1.5 mm)
Shock		Malfunction 98 m/s <sup>2</sup> , Endurance 980 m/s <sup>2</sup>
Ambient temperature (Operation)		-40~105 °C (No condensation)
Operating humidity		20~85%
Dimension L×W×H (mm)		28.9×12.6×15.7
Enclosure type		Flux-proof, sealed
Mounting		PCB
Weight (g)		14
Compliance certification number		cULus:E345228, TUV:R50249912, CQC:CQC12002086471, VDE:40048321

① TV-10 means the inrush current is 191A/20ms at overload test.

### Type designation

Model designation	Number of poles	Coil voltage	Coil power	Contact configuration	Contact material	Insulation class	Distance between different terminals	Contact dimension (Only for 1P)	Enclosure type	Special request
RB	-2	12	D	M	*	F	1	-1	-S	XXX
RB	1: 1 pole 2: 2 poles	03: 3 V 05: 5 V 06: 6 V 09: 9 V 12: 12 V 18: 18 V 24: 24 V 48: 48 V	D: 400 mW	M: Form A Blank: Form C B: Form B	Blank: AgNi 1: AgSnO <sub>2</sub>	Blank: class A F: class F	1: 3.5 mm(4Pins FormA) 2: 5.0 mm(4Pins FormA) 3: 3.5 mm(5Pins FormC) 4: 5.0 mm(5Pins FormC) 5: 5.0 mm(6Pins FormA) 6: 5.0 mm(8Pins FormC) 7: 3.5 mm(4Pins FormB) 8: 5.0 mm(4Pins FormB) 9: 5.0 mm(6Pins FormB)	1: Φ4.5 mm Blank: Φ3.5 mm	Blank: flux-proof S: sealed	335: Stands for product in accordance with IEC 60335-1 (GWT)



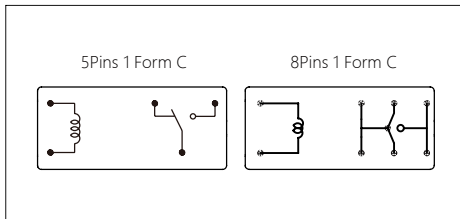
RB (1P)

1 Form C, 16 A



RB (1P)

1 Form B, 20 A



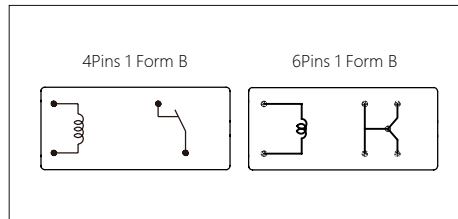
Technical parameters

3/5/6/9/12/18/24/48 V DC  
 400 mW  
 < 75% (Room temp.)  
 > 5% (Room temp.)  
 Less than 15 ms / less than 8 ms

1 Form C  
 Ag alloy  
 277 V AC  
 N.O. 4,432 VA, N.C. 2,216 VA  
 N.O. 16 A 277 V AC, N.C. 8 A 277 V AC  
 N.O. TV-10<sup>①</sup> 250 V AC, N.C. TV-5<sup>②</sup> 250 V AC  
 Max. 100 mΩ (1 A / 6 V DC)  
 1×10<sup>7</sup> times  
 1×10<sup>5</sup> times

5 kV AC / 1 min  
 1 kV AC / 1 min  
 10 kV AC (1.2 / 50 μs)  
 1,000 MΩ (500 V DC)  
 Malfunction 10~55 Hz (Amplitude 1.5 mm)  
 Endurance 10~55 Hz (Amplitude 1.5 mm)  
 Malfunction 98 m/s<sup>2</sup>, Endurance 980 m/s<sup>2</sup>  
 -40~105 °C (No condensation)  
 20~85%  
 28.9×12.6×15.7  
 Flux-proof, sealed  
 PCB  
 14  
 cULus:E345228, TUV:R50249912, CQC:CQC12002086471,  
 VDE:40048321

① TV-10 means the inrush current is 191A/20ms at overload test.  
 ② TV-5 means the inrush current is 111A/20ms at overload test.



Technical parameters

3/5/6/9/12/18/24/48 V DC  
 400 mW  
 < 75% (Room temp.)  
 > 5% (Room temp.)  
 Less than 15 ms / less than 8 ms

1 Form B  
 Ag alloy  
 277 V AC  
 5,000 VA  
 16 A 277 V AC, 20 A 250 V AC  
 Max. 100 mΩ (1 A / 6 V DC)  
 1×10<sup>7</sup> times  
 1×10<sup>5</sup> times

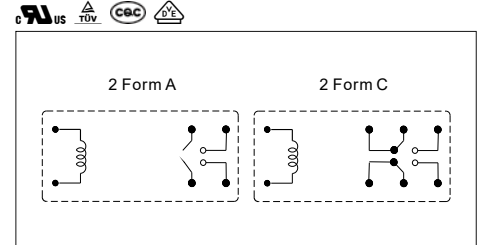
5 kV AC / 1 min  
 1 kV AC / 1 min  
 10 kV AC (1.2 / 50 μs)  
 1,000 MΩ (500 V DC)  
 Malfunction 10~55 Hz (Amplitude 1.5 mm)  
 Endurance 10~55 Hz (Amplitude 1.5 mm)  
 Malfunction 98 m/s<sup>2</sup>, Endurance 980 m/s<sup>2</sup>  
 -40~105 °C (No condensation)  
 20~85%  
 28.9×12.6×15.7  
 Flux-proof, sealed  
 PCB  
 14  
 cULus:E345228, TUV:R50249912, CQC:CQC12002086471,  
 VDE:40048321

## RB Power Relay

- 1 Form A/C, 2 Form A/C
- Rated current: 8 to 20 A(1P)/4 to 8 A(2P)
- Small high-capability relay
- Meets IEC 60079-15 Anti-explosion Standard
- Dielectric strength between coil & contact 5,000 V AC
- Class F coil insulation
- Control switch has enough insulation distance
- TV Load is available



RB (2P)  
2 Form A/C, 8 A



### Technical parameters

<b>Coil data</b>		
Coil input voltage		3/5/6/9/12/18/24/48 V DC
Coil power		400 mW
Response voltage		< 75% (Room temp.)
Drop out voltage		> 5% (Room temp.)
Operation time / Release time		Less than 15 ms / less than 8 ms
<b>Contact data</b>		
Contact numbers		2 Form A/C
Contact material		Ag alloy
Max. switching voltage		277 V AC
Max. switching power		A Type: 2,216 VA, C Type: N.O. 2,216 VA, N.C. 1,108 VA
Contact ratings		A Type: 8 A 277 V AC, 1/4HP 120 V AC, TV-5 <sup>Ⓞ</sup> 250 V AC C Type: N.O. 8 A 277 V AC, 1/4HP 120 V AC, TV-5 250 V AC, N.C. 4 A 277 V AC
Contact resistance		Max. 100 mΩ (1 A / 6 V DC)
Mechanical service life		1×10 <sup>7</sup> times
Electrical Service life	AC1	1×10 <sup>5</sup> times
<b>General data</b>		
Rated withstand impulse voltage	Coil / Contact Between contacts	5 kV AC / 1 min 1 kV AC / 1 min (same contact group), 2.5 kV AC / 1 min (different contact group)
Surge voltage		10 kV AC (1.2 / 50 μs)
Insulation Resistance		1,000 MΩ (500 V DC)
Vibration		Malfunction 10~55 Hz (Amplitude 1.5 mm) Endurance 10~55 Hz (Amplitude 1.5 mm)
Shock		Malfunction 98 m/s <sup>2</sup> , Endurance 980 m/s <sup>2</sup>
Ambient temperature (Operation)		-40~105 °C (No condensation)
Operating humidity		20~85%
Dimension L×W×H (mm)		28.9×12.6×15.7
Enclosure type		Flux-proof, sealed
Mounting		PCB
Weight (g)		14
Compliance certification number		cULus:E345228, TÜV:R50249912, CQC:CQC12002086471, VDE:40048321

Ⓞ TV-5 means the inrush current is 111A/20ms at overload test.

SSA approval rating

Standard	Rating	Temp (°C)	Ops	Standard	Rating	Temp (°C)	Ops
cULus	N.O. 10FLA/60LRA/250VAC (Motor)	105	50,000ops	N.C. 8A/277VAC	105	100,000ops	
	(1formA) 16A/277VAC (Resistive)	105	100,000ops	(2formA) 10A/277VAC	105	100,000ops	
	1/2HP120VAC (HP)	105	30,000ops	8A/277VAC	105	100,000ops	
	20A/250VAC (Resistive)	105	30,000ops	(2formC) N.O. 8A/277VAC	105	100,000ops	
	TV-10 250VAC (TV)	40	25,000ops	N.C. 4A/277VAC	105	100,000ops	
IEC60730-1:	B300/250VAC (Pilot Duty)	105	50,000ops	(1formA) 16A/277VAC	105	20,000ops	
	10FLA/60LRA/250VAC (Motor)	105	50,000ops	(1formA)1 16A/277VAC	105	40,000ops	
	1/1.5HP 250VAC	105	50,000ops	(1formA) 20A/277VAC	105	5,000ops	
	10(6)A/250VAC	105	100,000ops	(1formA)1 20A/277VAC	105	20,000ops	
	10(10)A/250VAC	105	30,000ops	(1formA)1 10A/277VAC cosφ=0.4	105	50,000ops	
(1formB)	16A/277VAC (Resistive)	105	100,000ops	(1formC)a 16A/277VAC	105	20,000ops	
	20A/250VAC (Resistive)	105	30,000ops	(1formC)1a 16A/277VAC	105	40,000ops	
	TV-5 250VAC	40	25,000ops	(1formC) 20A/277VAC	105	5,000ops	
	N.O. 16A/277VAC	105	100,000ops	(1formC)1a 20A/277VAC	105	20,000ops	
	N.C. 8A/277VAC	105	100,000ops	(2formC) 8A/4A/277VAC	105	20,000ops	
(1formC)	N.O. TV-10 250VAC	40	25,000ops	(2formC)1 8A/4A/277VAC	105	25,000ops	
	N.C. 16A 250VAC	105	30,000ops	(2formC) 8A/8A/277VAC	105	30,000ops	
	N.C. TV-5 250VAC	40	25,000ops	(2formC)1 8A/8A/277VAC	70	10,000ops	
	N.O. 1/2HP 120VAC (HP)	105	30,000ops	(2formC)1 5A/3A/277VAC cosφ=0.4	105	45,000ops	
	N.O. B300/250VAC (Pilot Duty)	105	50,000ops				
TUV		(1formA) 16A/277VAC		105	100,000ops		
CQC		(1formA) 16A/277VAC		105	100,000ops		

VDE

(1formA) 16A/277VAC	105	20,000ops
(1formA)1 16A/277VAC	105	40,000ops
(1formA) 20A/277VAC	105	5,000ops
(1formA)1 20A/277VAC	105	20,000ops
(1formA)1 10A/277VAC cosφ=0.4	105	50,000ops
(1formC)a 16A/277VAC	105	20,000ops
(1formC)1a 16A/277VAC	105	40,000ops
(1formC) 20A/277VAC	105	5,000ops
(1formC)1a 20A/277VAC	105	20,000ops
(2formC) 8A/4A/277VAC	105	20,000ops
(2formC)1 8A/4A/277VAC	105	25,000ops
(2formC) 8A/8A/277VAC	105	30,000ops
(2formC)1 8A/8A/277VAC	70	10,000ops
(2formC)1 5A/3A/277VAC cosφ=0.4	105	45,000ops

no numbers: Only with AgNi contact.

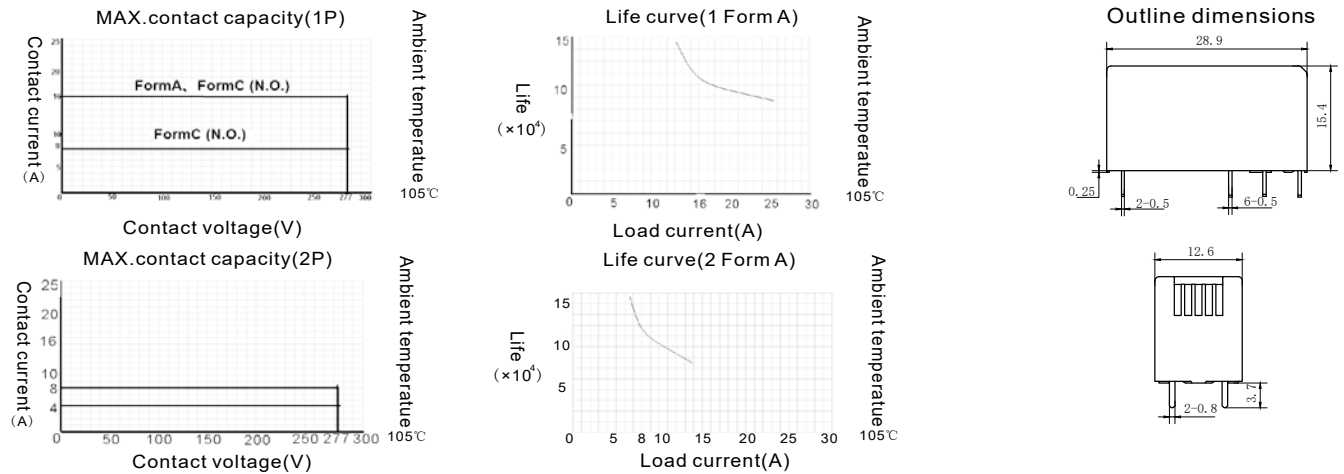
1: Only with AgSnO<sub>2</sub> contact.

a: Only NO circuit being tested.

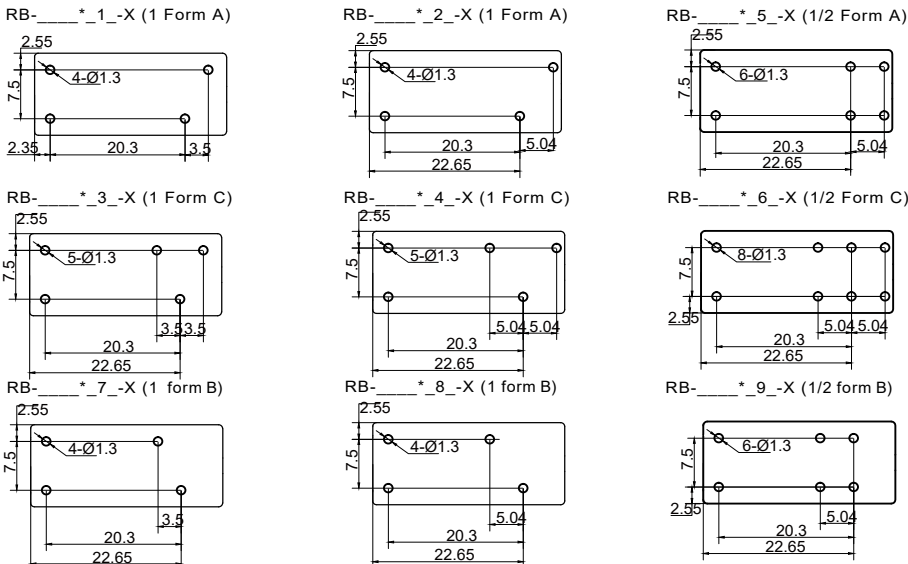
Coil rating

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω±10%)	Operating power (mW)	Operating voltage (VDC)	Release voltage (VDC)	Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω±10%)	Operating power (mW)	Operating voltage (VDC)	Release voltage (VDC)
3	133.3	22.5	400	≤2.25	≥0.15	12	33.3	360	400	≤9.00	≥0.60
5	80.6	62	400	≤3.75	≥0.25	18	22.2	810	400	≤13.50	≥0.90
6	66.7	90	400	≤4.50	≥0.30	24	16.7	1440	400	≤18.00	≥1.20
9	45	200	400	≤6.75	≥0.45	48	8.3	5760	400	≤36.00	≥2.40

MAX. allowable coil voltage: 130% of rated coil voltage (Room temperature)



PCB board layout (Bottom view)



Tolerance	
Outline dimension	
<1mm	±0.2mm
1~5mm	±0.3mm
>5mm	±0.4mm
PCB board layout	
Pitch-row	±0.1mm
Aperture	+0.1mm