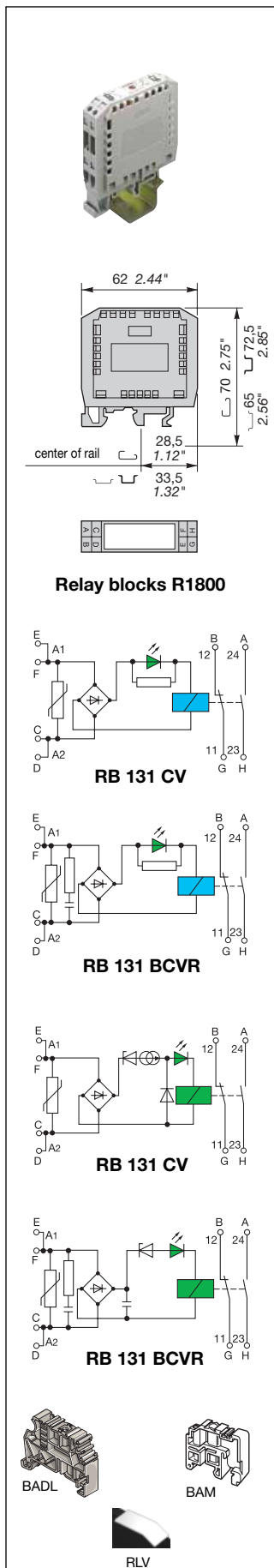


# Relay Interfaces

## R1800 relay modules



DIN 1-3



- Relay : 1 NO and 1 NC high level contacts 10 mA up to 5 A - 18 mm .709" spacing
- Relay : 1 NO and 1 NC very low level contacts 10<sup>-6</sup> mA up to 5 A - 18 mm .709" spacing

### Characteristics

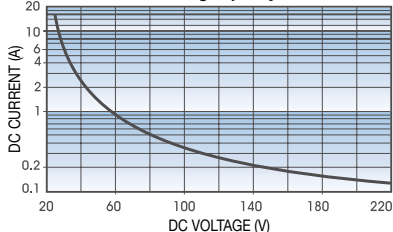
Relay characteristics	RB 131 CV		RB 131 BCVR	RB 131 CV		RB 131 BCVR
	COIL		CONTACT		COIL	
Rated voltage +20%, -15% on DC +10%, -15% on AC	24 V DC	48 V DC	110 V AC	24 V DC	48 V DC	110 V AC
Frequency			50/60 Hz			50/60 Hz
Power	0.6 W	0.7 W	1.9 VA	0.8 W	1.2 W	4.4 VA
Rated current	25 mA	14 mA	17 mA	34 mA	24 mA	40 mA
Drop-out voltage at 20°C	2.4 V DC	4.8 V DC	11 V AC	5 V DC	12 V DC	20 V AC
Permissible leakage current	1 mA	2 mA	2 mA	1 mA	2.2 mA	
Status device	green Led			green Led		
Type	1 NO + 1 NC			1 NO + 1 NC		
Voltage switching range min./max.	12 V / 250 V			10 <sup>-3</sup> V / 250 V		
Current switching range min./max.	10 mA / 5 A			10 <sup>-6</sup> mA / 5 A		
Load switching range	AC1 min. / max. DC1 min. / max.		0.6 VA / 1250 VA 0,6 W / see curve 1 hereunder	10 <sup>-6</sup> VA / 1250 VA 10 <sup>-6</sup> W / see curve 2 hereunder		
Number of on-load operations	2 x 10 <sup>5</sup> resistive			2 x 10 <sup>5</sup> resistive		
Number of off-load operations	2 x 10 <sup>7</sup>			10 <sup>7</sup>		
Operating speed	7 ms			8 ms		
Bounce	10 ms			4 ms		
Insulation coil / contact	4 ms			1 ms		
Resistance to shock coil / contact			2500 V RMS			
Insulation contact / contact			≥ 1000 V RMS			
Ambient temperature storage operating			-40°C à +80°C			
			see derating curves			

### Other characteristics

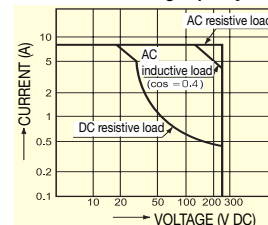
Body material	grey	UL 94 V2
Wire	Solid wire	0 - 4 mm <sup>2</sup> / 20 - 12 AWG
size	Stranded wire	0 - 2.5 mm <sup>2</sup> / 20 - 12 AWG
Rated wire size		2.5 mm <sup>2</sup> / 12 AWG
Wire stripping length		7 mm .276"
Recommended screwdriver		3.5 mm .137"
Protection		IP20 NEMA1
Recommended torque		0.4 - 0.6 Nm 3.5 - 5.3 lb.in
Approvals		CE

Reference standards CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6

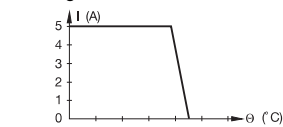
Max. DC load breaking capacity : curve 1



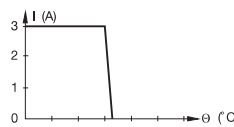
Max. DC load breaking capacity : curve 2



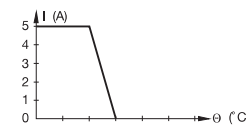
### Derating curves



RB 131 CV  
RB 131 BCVR



RB 131 CV  
Very low level



RB 131 BCVR  
Very low level

### Order codes

Description	Type	Order P/N	Packaging Weight kg
Relay module 1 NO + 1 NC high level	RB 131 CV 24 V DC	1SNA 010 181 R1700	1
Relay module 1 NO + 1 NC high level	RB 131 CV 48 V DC	1SNA 010 182 R1000	1
Relay module 1 NO + 1 NC high level	RB 131 BCVR 110 V AC	1SNA 010 183 R1100	1
Relay module 1 NO + 1 NC very low level	RB 131 CV 24 V DC	1SNA 010 151 R2000	1
Relay module 1 NO + 1 NC very low level	RB 131 CV 48 V DC	1SNA 010 152 R2100	1
Relay module 1 NO + 1 NC very low level	RB 131 BCVR 110 V AC	1SNA 010 153 R2200	1

### Accessories

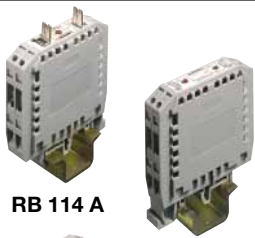
End section	BADL V0	1SNA 399 903 R0200	50
	BAM	1SNA 103 002 R2600	50
	BAM V0	1SNA 399 306 R0300	50
Lengthwise marker	RLV	1SNA 103 849 R0300	100
Marker	RC55	see markers	

# Relay Interfaces

## R1800 relay modules

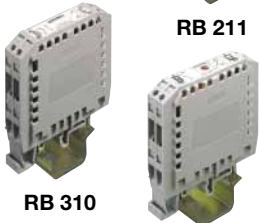


DIN 1-3



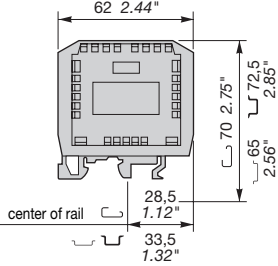
RB 114 A

RB 211

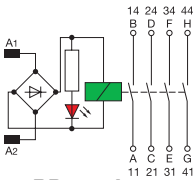


RB 310

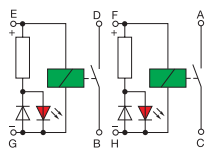
RB 131



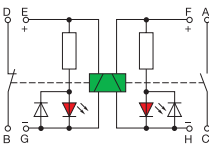
### Relay blocks R1800



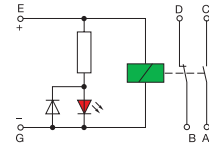
RB 114 A



RB 211



RB 310



RB 131



RLV

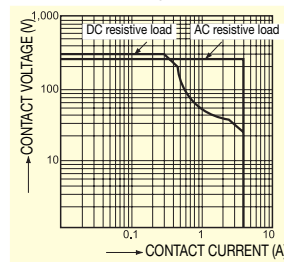
- Relay : 4 NO very low level contacts  $10^{-7}$  A to 4 A - 18 mm .709" spacing
- 2 relays : 1 NO very low level contacts  $10^{-6}$  A to 5 A - 18 mm .709" spacing
- Latching relay : very low level contacts  $10^{-6}$  A to 8 A - 18 mm .709" spacing
- Relay : 1 NO and 1 NC very low level contacts  $10^{-6}$  A to 8 A - 18 mm .709" spacing

### Characteristics

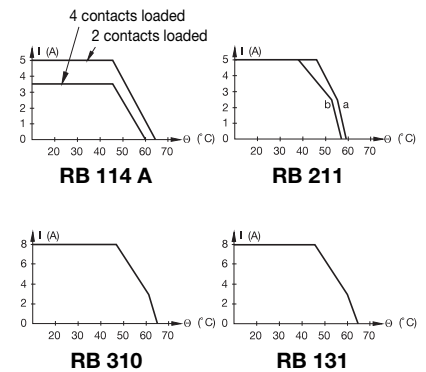
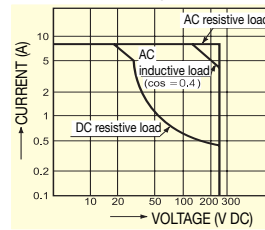
Relay characteristics	RB 114 A	RB 211	RB 310	RB 131
<b>COIL</b>				
Rated voltage +20%, -15% on DC +10%, -15% on AC	24 V AC/DC	48 V AC/DC	24 V DC	24 V DC
Frequency	50/60 Hz	50/60 Hz		
Power	0.6 W / 0.7 VA	0.8 W / 0.9 VA	2 x 0.36 W	0.36 W
Rated current	26 mA	17 mA	15 mA	15 mA
Drop-out voltage	2.7 V AC/DC	4 V AC/DC	2.4 V DC	
Permissible leakage current				2.4 V DC
Status device	Red Led	Red Led	Red Led	
<b>CONTACT</b>				
Type	4 NO	1 NO + 1 NO	1 NO + 1NC	
Voltage switching range min./max.	$10^3$ V / 250 V	$10^3$ V / 250 V	$10^3$ V / 250 V	
Current switching range min./max.	$10^{-7}$ A / 4 A	$10^{-6}$ A / 5 A	$10^{-6}$ A / 8 A	
Load switching range				
AC1 min. / max.	$10^{10}$ VA / 1000 VA	$10^8$ VA / 1250 VA	$10^8$ VA / 2000 VA	
DC1 min. / max.	$10^{10}$ W / see curve 1 hereunder	$10^8$ W / see curve 2	$10^8$ W / see curve 2 hereunder	
Number of on-load operations	$2 \times 10^5$ resistive	$2 \times 10^5$ resistive	$2 \times 10^5$ resistive	
Number of off-load operations	$10^8$	$10^7$	$10^7$	
Operating speed	F 8 ms	8 ms	8 ms	
	O 3 ms	4 ms	4 ms	
Bounce	0.5 ms	1 ms	1 ms	
Insulation coil / contact	1500 V RMS	2500 V RMS	2500 V RMS	
Resistance to shock coil / contact				
Insulation contact / contact	750 V RMS	1500 V RMS	1500 V RMS	
Ambient temperature storage operating		-40°C to +80°C see derating curves		
<b>Other characteristics</b>				
Body material	grey	UL 94 V2		
Wire	Solid wire	0 - 4 mm <sup>2</sup> / 20 - 12 AWG		
size	Stranded wire	0 - 2.5 mm <sup>2</sup> / 20 - 12 AWG		
Rated wire size		2.5 mm <sup>2</sup> / 12 AWG		
Wire stripping length		7 mm .276"		
Recommended screwdriver		3.5 mm .137"		
Protection		IP20 NEMA1		
Recommended torque		0.4 - 0.6 Nm 3.5 - 5.3 lb.in		
Approvals	CE	CE	CE	CE
Reference standards	CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6			

### Derating curves

### Max. DC load breaking capacity :



### Max. DC load breaking capacity :



### Order codes

Description	Type	Order P/N	Packaging Weight kg
Relay module 4 NO very low level	RB 114 A 24 V AC/DC	1SNA 010 126 R1700	1
Relay module 4 NO very low level	RB 114 A 48 V AC/DC	1SNA 010 127 R1000	1
2 relay module 1 NO very low level	RB 211 24 V DC	1SNA 010 014 R1200	1
Latching relay module very low level	RB 310 24 V DC	1SNA 010 063 R2300	1
Latching relay module very low level	RB 310 48 V DC	1SNA 010 064 R2400	1
Relay module 1 NO + 1 NC very low level	RB 131 24 V DC	1SNA 010 055 R2300	1

### Accessories

End section	BADL V0	1SNA 399 903 R0200	50
	BAM	1SNA 103 002 R2600	50
	BAM V0	1SNA 399 306 R0300	50
	Lengthwise marker	RLV	1SNA 103 849 R0300
Marker	RC55	see markers	

# Relay Interfaces

## R1800 relay modules

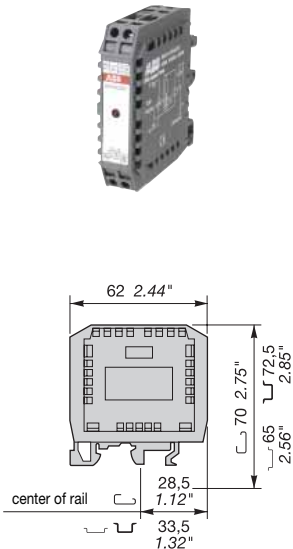


DIN 1-3

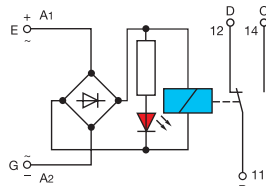
Relay : 1 SPDT high level contacts 10 mA to 8 A - 18 mm .709" spacing

### Characteristics

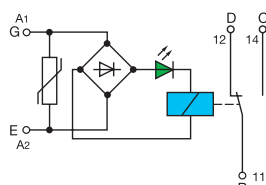
Relay characteristics	RB 121	RB 121 A	RB 121 AV	RB 121 A	
<b>COIL</b>					
Rated voltage +15%, -10% on DC ±15% on AC	12 V DC	24 V AC/DC	48 V AC/DC	110 V AC/DC	220 V AC/DC
Frequency		50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Power	0.5 W	0.7 W	0.96 W	0.5 W	1.1 VA
Rated current	41 mA	29 mA	20 mA	4.3 mA	5 mA
Drop-out voltage at 20°C	3.2 V DC	5 V AC/DC	5.6 V AC/DC	14.5 V AC/DC	25.2 V AC
Permissible leakage current					
Status device	red LED		green LED	red LED	
<b>CONTACT</b>					
Type	1 SPDT				
Voltage switching range min./max.	12 V / 380 V				
Current switching range min./max.	10 mA / 8 A				
Load switching range					
AC1 min. / max.	0.6 VA / 2000 VA				
DC1 min. / max.	0.6 W / see curve below				
Number of on-load operations	2 x 10 <sup>5</sup>				
Number of off-load operations	2 x 10 <sup>7</sup>				
Operating speed	7 ms				
	6 ms				
Bounce	2 ms				
Insulation coil / contact	2500 V RMS				
Resistance to shock coil / contact	4000 V RMS				
Insulation contact / contact	1000 V RMS				
Ambient temperature storage	-40°C to +80°C				
operating	see derating curves				
<b>Other characteristics</b>					
Body material	grey		UL 94 V0		
Wire	Solid wire		0.2 - 4 mm <sup>2</sup> / 22 - 12 AWG		
size	Stranded wire		0.22 - 2.5 mm <sup>2</sup> / 22 - 12 AWG		
Rated wire size			2.5 mm <sup>2</sup> / 12 AWG		
Wire stripping length			7 mm .276"		
Recommended screwdriver			3.5 mm .137"		
Protection			IP20 NEMA1		
Recommended torque			0.4 - 0.6 Nm 3.5 - 5.3 lb.in		
Approvals	us for RB 121A-24VAC/DC and RB 121A-110-220VAC/DC,				
Reference standards	CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.				



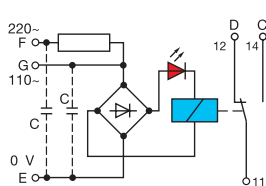
### Relay blocks R1800



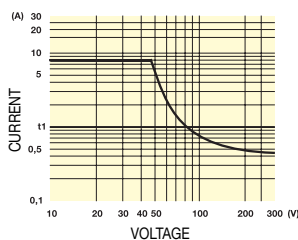
### RB 121 12 VDC RB 121 A 24 VAC/DC



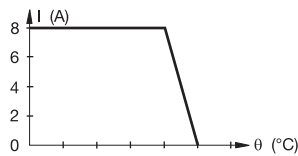
### RB 121 AV 48 VAC/DC



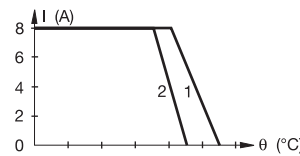
### RB 121 A 110-220 VAC/DC



### Derating curves



### RB 121 12 VDC RB 121 A 24 VAC/DC RB 121 AV 48 VAC/DC



### RB 121 A 110-220 VAC/DC

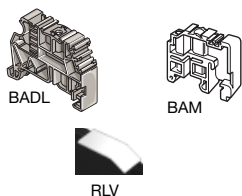
1 : 110 V AC/DC block  
2 : 220 V AC block

### Order codes

Description	Type	Order P/N	Packaging	Weight kg
Relay block 1 SPDT high level	RB 121-12VDC	1SNA 610 125 R2400	1	0.05
Relay block 1 SPDT high level	RB 121A-24VAC/DC	1SNA 610 004 R0700	1	0.05
Relay block 1 SPDT high level	RB 121AV-48VAC/DC	1SNA 610 006 R0100	1	0.05
Relay block 1 SPDT high level	RB 121A-110-220VAC/DC	1SNA 610 132 R2300	1	0.05

### Accessories

End section	Type	Order P/N	Packaging	Weight kg
BADL V0	BADL V0	1SNA 399 903 R0200	50	
BAM	BAM	1SNA 103 002 R2600	50	
BAM V0	BAM V0	1SNA 399 306 R0300	50	
Lengthwise marker	RLV	1SNA 103 849 R0300	100	
Marking method	RC55	see marking		



# Relay Interfaces

## R1800 relay modules



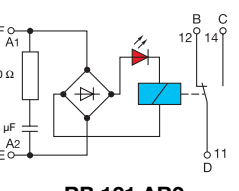
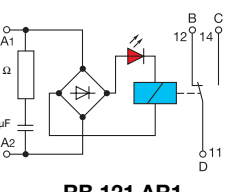
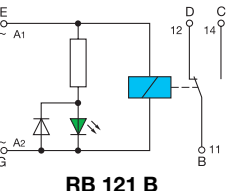
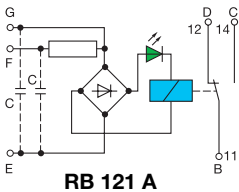
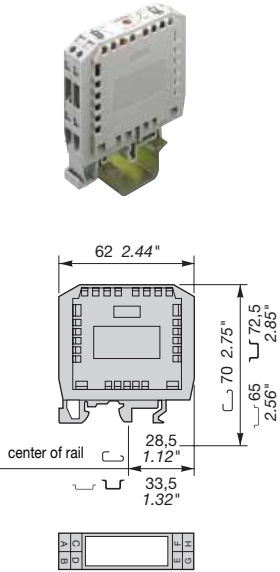
DIN 1-3

Relay : 1 SPDT high level contacts 10 mA to 8 A - 18 mm .709" or 23 mm .906" spacing

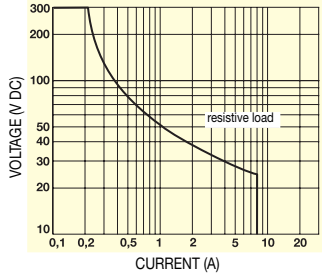
### Characteristics

Relay characteristics	RB 121 A	RB 121 B	RB 121 AR1	RB 121 AR2
<b>COIL</b>				
Rated voltage +20%, -15% on DC +10%, -15% on AC	110 V AC/DC	135 V AC/DC	115 V AC	110 V DC
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Power	0.5 W	0.6 W	1.3 VA	0.5 W
Rated current	4.3 mA	4.4 mA	11 mA	4.5 mA
Drop-out voltage	11 V AC/DC	13.5 V DC	20.7 V AC	19 V DC
Permissible leakage current				
Status device	green LED		red LED	
<b>CONTACT</b>				
Type	1 SPDT		1 SPDT	
Voltage switching range min./max.	12 V / 250 V		12 V / 380 V	
Current switching range min./max.	10 mA / 8 A	10 mA / 3 A	10 mA / 8 A	
Load switching range				
AC1 min. / max.	0.6 VA / 2000 VA		580 mVA / 750 VA	
DC1 min. / max.	0.6 W / see curve		230 mW / see curve	
Number of on-load operations	2 x 10 <sup>6</sup> ohmic		3A/100W : 5 x 10 <sup>5</sup> 3A/750VA : 10 <sup>5</sup>	
Number of off-load operations	2 x 10 <sup>7</sup>		2 x 10 <sup>7</sup>	
Operating speed	F	7 ms	2 ms	7 ms
	O	6 ms	2 ms	3 ms
Bounce		2 ms	0.5 ms	2 ms
Insulation coil / contact	2500 V RMS		1500 V RMS	
Resistance to shock coil / contact				
Insulation contact / contact	1500 V RMS		750 V RMS	
Ambient temperature storage	-40°C to +80°C			
operating	see derating curves			
<b>Other characteristics</b>				
Body material	orange or grey		UL 94 V2	
Wire	Solid wire		0 - 4 mm <sup>2</sup> / 20 - 12 AWG	
size	Stranded wire		0 - 2.5 mm <sup>2</sup> / 20 - 12 AWG	
Rated wire size			2.5 mm <sup>2</sup> / 12 AWG	
Wire stripping length			7 mm .276"	
Recommended screwdriver			3.5 mm .137"	
Protection			IP20 NEMA1	
Recommended torque			0.4 - 0.6 Nm 3.5 - 5.3 lb.in	
Approvals	CE		UL, TÜV, CE, S	
Reference standards	CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6			

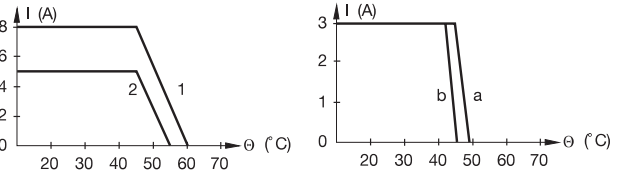
### Relay blocks R1800



### Max. DC load breaking capacity

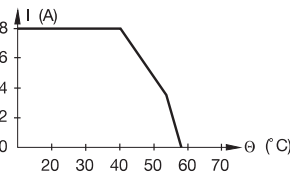


### Derating curves

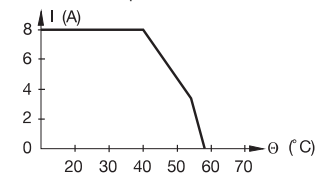


**RB 121 A**  
1 : 110 V AC/DC block  
2 : 135 V AC/DC block

**RB 121 B**  
a : horizontal position  
b : vertical position



**RB 121 AR1**



**RB 121 AR2**

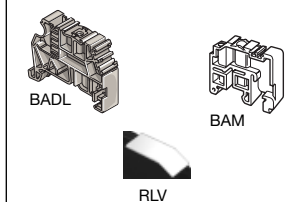
### Order codes

Description	Type	Order P/N	Packaging Weight kg
Relay module 1 SPDT high level 18 mm spacing	RB 121 A 110-135 V AC/DC	1SNA 010 226 R2300	1
Relay module 1 SPDT high level 18 mm spacing	RB 121 B 115 V AC	1SNA 010 067 R2700	1
Relay module orange 1 SPDT high level 23 mm spacing	RB 121 B 115 V AC	1SNA 010 088 R2500	1
Relay module 1 SPDT* high level 18 mm spacing	RB 121 AR1 110 V AC/DC	1SNA 010 158 R0700	1
Relay module 1 SPDT* high level 18 mm spacing	RB 121 AR2 110 V AC/DC	1SNA 010 168 R0100	1

\* with leakage current protection ; orange

### Accessories

End section	BADL V0	1SNA 399 903 R0200	50
	BAM	1SNA 103 002 R2600	50
	BAM V0	1SNA 399 306 R0300	50
Lengthwise marker	RLV	1SNA 103 849 R0300	100
Marker	RC55	see markers	

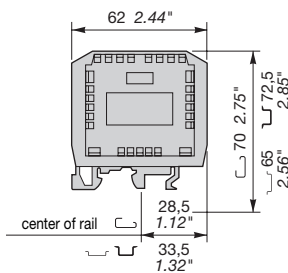


# Relay Interfaces

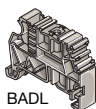
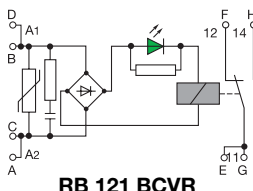
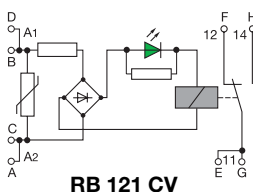
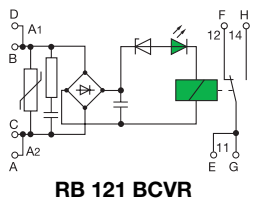
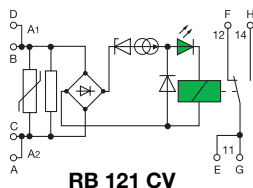
## R1800 relay modules



DIN 1-3



Relay blocks R1800

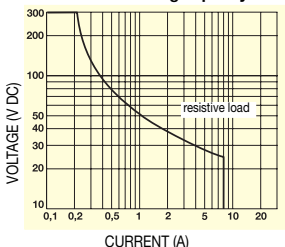


- Relay : 1 SPDT very low level contacts 10<sup>-6</sup> A to 5 A - 18 mm .709" spacing
- Relay : 1 SPDT low level contacts 5 mA to 6 A - 18 mm .709" spacing

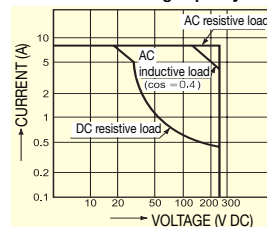
### Characteristics

Relay characteristics	RB 121 CV		RB 121 BCVR	RB 121 CV		RB 121 BCVR
<b>COIL</b>						
Rated voltage +20%, -15% on DC +10%, -15% on AC	13.2 to 26.4 V DC	32.4 to 52.8 V DC	82 to 121 V AC	24 V DC	48 V DC	110 V AC
Frequency			50/60 Hz			50/60 Hz
Power	0.8 W	1.2 W	4.4 VA	0.85 W	1 W	3.9 VA
Rated current	34 mA	24 mA	40 mA	35 mA	20 mA	35 mA
Drop-out voltage	5 V DC	12 V DC	20 V AC	2.4 V DC	4.8 V DC	11 V AC
Permissible leakage current		1 mA	2.2 mA		3.5 mA	2 mA
Status device	green LED					
<b>CONTACT</b>						
Type	1 SPDT			1 SPDT		
Voltage switching range min./max.	10 <sup>-3</sup> V / 250 V			12 V / 250 V		
Current switching range min./max.	10 <sup>-6</sup> A / 5 A			5 mA / 3 A		5 mA / 6 A
Load switching range						
AC1 min. / max. VA	10 <sup>-6</sup> VA / 1250 VA			60 mVA / 750 VA		60 mVA / 1500
DC1 min. / max. VA	10 <sup>-6</sup> W / see curve 2 hereunder			60 mW / see curve 1 hereunder		
Number of on-load operations	2 x 10 <sup>5</sup> ohmic			2 x 10 <sup>5</sup> ohmic		
Number of off-load operations						
Operating speed	10 <sup>7</sup>			2 x 10 <sup>7</sup>		
Bounce	8 ms			7 ms		
Insulation coil / contact	4 ms			10 ms		
Resistance to shock coil / contact	1 ms			4 ms		
Insulation contact / contact	2500 V RMS					
Ambient temperature storage	≥ 1000 V RMS					
operating	-40°C à +80°C					
	see derating curves					
<b>Other characteristics</b>						
Body material	orange			UL 94 V2		
Wire	Solid wire			0 - 4 mm <sup>2</sup> / 20 - 12 AWG		
size	Stranded wire			0 - 2.5 mm <sup>2</sup> / 20 - 12 AWG		
Rated wire size				2.5 mm <sup>2</sup> / 12 AWG		
Wire stripping length				7 mm .276"		
Recommended screwdriver				3.5 mm .137"		
Protection				IP20 NEMA1		
Recommended torque				0.4 - 0.6 Nm 3.5 - 5.3 lb.in		
Approvals				CE		
Reference standards	CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6					

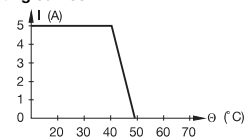
Max. DC load breaking capacity : curve 1



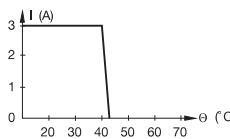
Max. DC load breaking capacity : curve 2



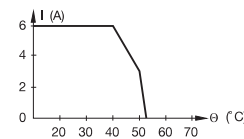
### Derating curves



**RB 121 CV**  
**RB 121 BCVR**



**RB 121 CV**



**RB 121 BCVR**

### Order codes

Description	Type	Order P/N	Packaging Weight kg
Relay module 1 SPDT very low level	RB 121 CV 24 V DC	1SNA 010 154 R2300	1
Relay module 1 SPDT very low level	RB 121 CV 48 V DC	1SNA 010 155 R2400	1
Relay module 1 SPDT very low level	RB 121 BCVR 110 V AC	1SNA 010 156 R2500	1
Relay module 1 SPDT low level	RB 121 CV 24 V DC	1SNA 010 184 R1200	1
Relay module 1 SPDT low level	RB 121 CV 48 V DC	1SNA 010 185 R1300	1
Relay module 1 SPDT low level	RB 121 BCVR 110 V AC	1SNA 010 186 R1400	1

### Accessories

End section	BADL V0	1SNA 399 903 R0200	50
	BAM	1SNA 103 002 R2600	50
	BAM V0	1SNA 399 306 R0300	50
Lengthwise marker	RLV	1SNA 103 849 R0300	100
Marker	RC55	see markers	

# Relay Interfaces

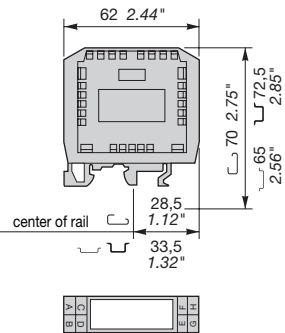
## R1800 relay modules



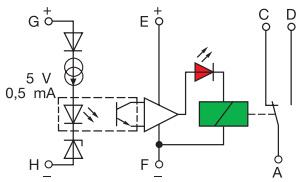
DIN 1-3



EBO 1R



Relay blocks R1800

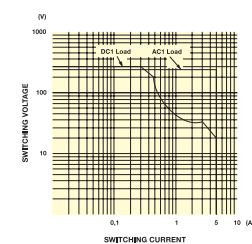


EBO 1R

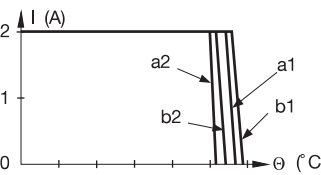
Relay : 1 SPDT with TTL compatible control - 18 mm .709" spacing

### Characteristics

Relay characteristics	EBO 1R	
	Input GH	Power supply EF
<b>COIL/INPUT</b>		
Rated voltage +20%, -15% on DC +10%, -15% on AC	5 V DC	24 V to 30 V DC
Frequency		
Power	2.5 mW	0.83 W
Rated current	0.5 mA	25 mA
Drop-out point	2 V DC	17 V DC
Drop-out voltage	2.1 V	7 V
Insulation input / power supply	2000 V RMS	
Status device	red LED	
<b>CONTACT</b>		
Type	1 SPDT	
Voltage switching range min./max.	125 V AC / 150 V DC	
Current switching range min./max.	2 A	
Load switching range	50 VA / 30 W	
AC1 min. / max.	10 <sup>-5</sup> VA / see curve hereunder	
DC1 min. / max.	10 <sup>-5</sup> W	
Load min.	10 <sup>6</sup>	
Number of on-load operations	2 x 10 <sup>7</sup>	
Number of off-load operations	30 ms	
Operating speed	11 ms	
Bounce	0.2 ms	
Insulation coil / contact	1400 V RMS	
Resistance to shock coil / contact	2 kV	
Ambient temperature storage	-40°C to +80°C	
operating	see derating curve	
<b>Other characteristics</b>		
Body material	gris	
Wire	Solid wire	
size	0 - 4 mm <sup>2</sup> / 20 - 12 AWG	
Stranded wire	0 - 2.5 mm <sup>2</sup> / 20 - 12 AWG	
Rated wire size	2.5 mm <sup>2</sup> / 12 AWG	
Wire stripping length	7 mm .276"	
Recommended screwdriver	3.5 mm .137"	
Protection	IP20 NEMA1	
Recommended torque	0.4 - 0.6 Nm 3.5 - 5.3 lb.in	
Approvals	CE	
Reference standards	CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6	



Derating curve



a1. horizontal at 24 V  
a2. horizontal at 30 V  
b1. vertical at 24 V  
b2. vertical at 30 V

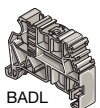
EBO 1R

### Order codes

Description	Type	Order P/N	Packaging Weight kg
Relay module 1 SPDT	EBO 1R 5 V DC	1SNA 010 131 R1400	1

### Accessories

End section	BADL V0	1SNA 399 903 R0200	50
	BAM	1SNA 103 002 R2600	50
	BAM V0	1SNA 399 306 R0300	50
Lengthwise marker	RLV	1SNA 103 849 R0300	100
Marking method	RC55	see markers	

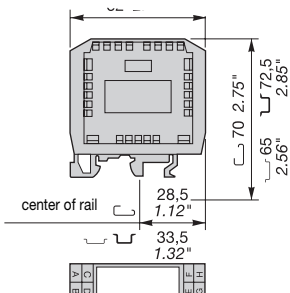


# Relay Interfaces

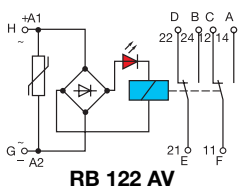
## R1800 relay modules



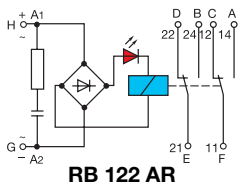
DIN 1-3



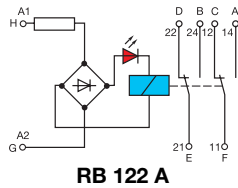
Relay blocks R1800



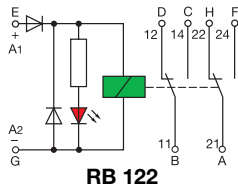
RB 122 AV



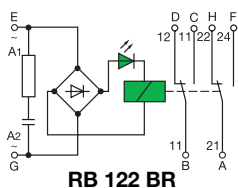
RB 122 AR



RB 122 A



RB 122



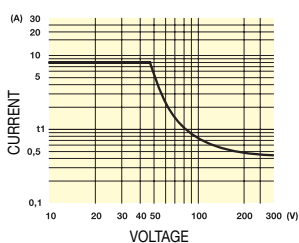
RB 122 BR



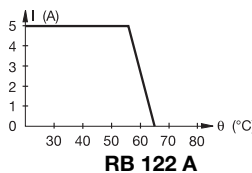
- Relay : 1 DPDT high level contacts 10 mA to 5 A - 18 mm .709" or 23 mm .906" spacing
- Relay : 1 DPDT very low level contacts 10<sup>-7</sup> A to 5 A - 18 mm .709" or 23 mm .906" spacing

### Characteristics

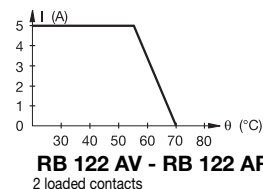
Relay characteristics	RB 122 AV	RB 122 AR	RB 122 A	RB 122	RB 122 BR
<b>COIL</b>					
Rated voltage +15%, -10% on DC ±15% on AC	24 VAC/DC	48 VAC/DC	110 VAC/DC	24 V DC	48 V DC
Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Power	0.7 W	0.7 W	0.7 W - 1.8 VA	1.2 W	0.31 W
Rated current	26 mA	14 mA	16 mA	5.5 mA	13 mA
Drop-out voltage at 20°C	2.4 V AC/DC	4.8 V AC/DC	11 V AC/DC	22 V AC/DC	2.4 V DC
Permissible leakage current		1.6 mA			
Status device			red LED		green LED
<b>CONTACT</b>					
Type	1 DPDT				
Voltage switching range min./max.	12 V / 250 V	10 <sup>-3</sup> V / 250 V	12 V / 250 V	10 <sup>-3</sup> V / 250 V	
Current switching range min./max.	10 mA / 5 A				
Load switching range	10 <sup>-7</sup> A / 5 A				
AC1 min. / max.	0.6 VA / 1250 VA				
DC1 min. / max.	0.6 W / see curve hereunder				
Number of on-load operations	2 x 10 <sup>5</sup>				
Number of off-load operations	2 x 10 <sup>7</sup>				
Operating speed	F 7 ms O 4 ms				
Bounce	3 ms				
Insulation coil / contact	2000 V RMS				
Resistance to shock coil / contact	4000 V RMS				
Insulation contact / contact	1500 V RMS				
Ambient temperature storage	-40°C to +80°C				
operating	see derating curves				
<b>Other characteristics</b>					
Body material	grey				
Wire	Solid wire				
Wire size	Stranded wire				
Rated wire size	0.22 - 2.5 mm <sup>2</sup> / 22 - 12 AWG				
Wire stripping length	2.5 mm <sup>2</sup> / 12 AWG				
Recommended screwdriver	7 mm .276"				
Protection	3.5 mm .137"				
Recommended torque	IP20 NEMA1				
Approvals	0.4 - 0.6 Nm 3.5 - 5.3 lb.in				
Reference standards	UL 94 V0 CECULus for RB 122AR-110VAC/DC, RB 122-24VDC, RB 122BR-110VAC and RB122AV-24VAC/DC, CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEM: IRC 1000-4-2, 3, 4, 5, 6.				



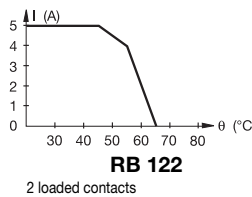
### Derating curves



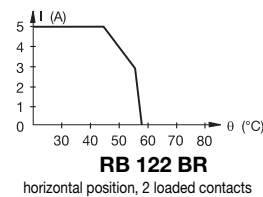
RB 122 A



RB 122 AV - RB 122 AR  
2 loaded contacts



RB 122  
2 loaded contacts



RB 122 BR  
horizontal position, 2 loaded contacts

### Order codes

Description	Type	Order P/N	Packaging	Weight
Relay module 1 DPDT high level 18 mm sp.	RB 122AV-24VAC/DC	1SNA 610 121 R2000	1	0.05
Relay module 1 DPDT high level 18 mm sp.	RB 122AV-48VAC/DC	1SNA 610 122 R2100	1	0.05
Relay module 1 DPDT high level 18 mm sp.	RB 122AR-110VAC/DC	1SNA 610 011 R2500	1	0.05
Relay module 1 DPDT high level 18 mm sp.	RB 122A-220VAC/DC	1SNA 610 123 R2200	1	0.05
Relay module 1 DPDT very low level 18 mm sp.	RB 122-24VDC	1SNA 610 059 R1500	1	0.05
Relay module 1 DPDT very low level 18 mm sp.	RB 122-48VDC	1SNA 610 060 R1200	1	0.05
Relay module 1 DPDT very low level 23 mm sp.	RB 122BR-110VAC	1SNA 610 115 R2200	1	0.05
Relay module 1 DPDT very low level 23 mm sp.	RB 122BR-220VAC	1SNA 610 089 R0400	1	0.05

### Accessories

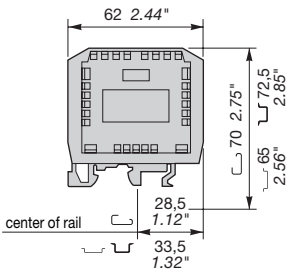
End section	BADL V0	1SNA 399 903 R0200	50
	BAM	1SNA 103 002 R2600	50
	BAM V0	1SNA 399 306 R0300	50
Lengthwise marker	RLV	1SNA 103 849 R0300	
Marking method	RC55	see marking	

# Relay Interfaces

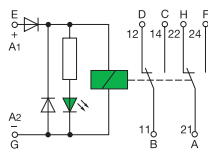
## R1800 relay modules



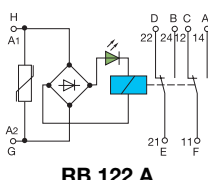
DIN 1-3



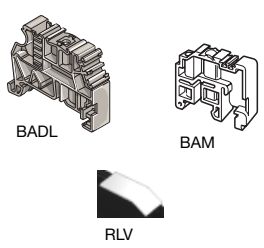
### Relay blocks R1800



RB 122



RB 122 A

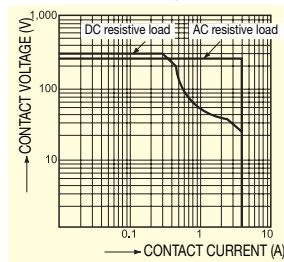


- Relay : 1 DPDT very low level contacts 10<sup>-7</sup> A to 4 A - 18 mm .709" spacing
- Relay : 1 DPDT high level contacts 10 mA to 3 A - 18 mm .709" spacing

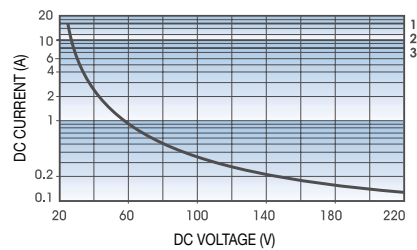
### Characteristics

Relay characteristics	RB 122	RB 122 A
<b>COIL</b>		
Rated voltage +20%, -15% on DC +10%, -15% on AC	12 V DC	135 V AC/DC
Frequency		50/60 Hz
Power	0.26 W	0.8 W
Rated current	22 mA	5.8 mA
Drop-out voltage	2 V DC	13.5 V AC/DC
Drop-in voltage		
Permissible leakage current		
Status device	green LED	green LED
<b>CONTACT</b>		
Type	1 DPDT	1 DPDT
Voltage switching range min./max.	10 <sup>3</sup> V / 250 V	12 V / 250 V
Current switching range min./max.	10 <sup>-7</sup> A / 4 A	10 mA / 3 A
Load switching range		
AC1 min. / max.	10 <sup>-10</sup> VA / 1000 VA	0.6 VA / 750 VA
DC1 min. / max.	10 <sup>-10</sup> W / see curve 1 hereunder	see curve 2 hereunder
Number of on-load operations	2 x 10 <sup>5</sup> resistive	2 x 10 <sup>5</sup> resistive
Number of off-load operations	10 <sup>6</sup>	2 x 10 <sup>6</sup>
Operating speed		
F	8 ms	7 ms
O	7.5 ms	4 ms
Bounce	0.21 ms	3 ms
Insulation coil / contact	1500 V RMS	2000 V RMS
Resistance to shock coil / contact		
Insulation contact / contact	1500 V RMS	2000 V RMS
Ambient temperature storage	-40°C to +80°C	
operating	see derating curves	
<b>Other characteristics</b>		
Body material	grey	UL 94 V2
Wire	Solid wire	0 - 4 mm <sup>2</sup> / 20 - 12 AWG
size	Stranded wire	0 - 2.5 mm <sup>2</sup> / 20 - 12 AWG
Rated wire size		2.5 mm <sup>2</sup> / 12 AWG
Wire stripping length		7 mm .276"
Recommended screwdriver		3.5 mm .137"
Protection		IP20 NEMA1
Recommended torque		0.4 - 0.6 Nm 3.5 - 5.3 lb.in
Approvals	CE	CE, UL, cUL
Reference standards	CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6	

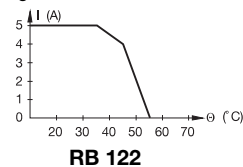
Max. DC load breaking capacity : curve 1



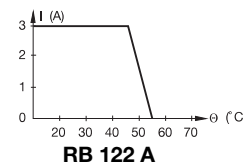
Max. DC load breaking capacity : curve 2



Derating curves



RB 122



RB 122 A

### Order codes

Description	Type	Order P/N	Packaging Weight kg
<span style="color: green;">■</span> Relay module 1 DPDT very low level	RB 122	12 V DC 1SNA 010 174 R0700	1
<span style="color: blue;">■</span> Relay module 1 DPDT high level	RB 122 A	135 V AC/DC 1SNA 010 228 R0500	1

### Accessories

End section	BADL V0	1SNA 399 903 R0200	50
	BAM	1SNA 103 002 R2600	50
	BAM V0	1SNA 399 306 R0300	50
	Lengthwise marker	RLV	1SNA 103 849 R0300
Marker	RC55	see markers	