

Relays Optocouplers



Relays and optocouplers



**NEW
R600**

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Relay interfaces

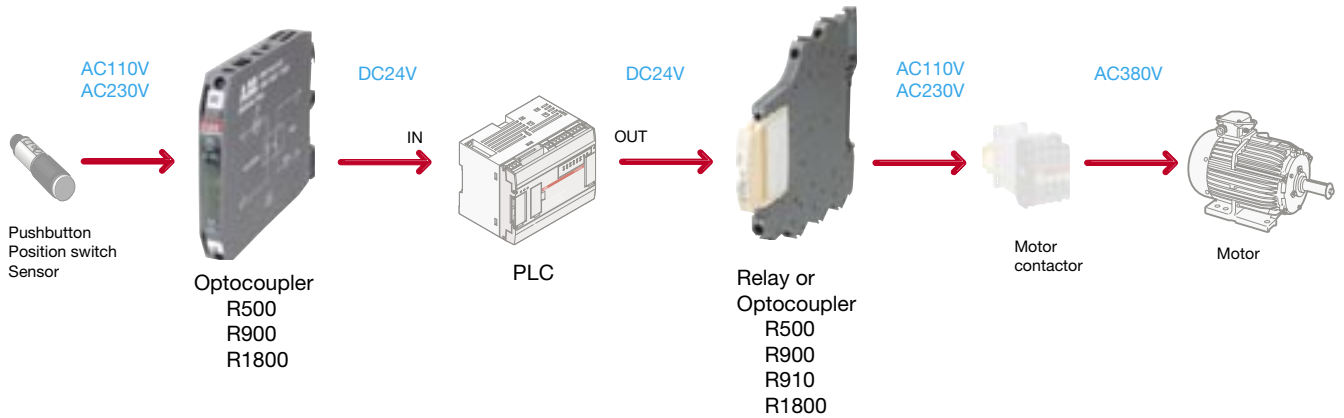
Optocoupler modules

Applications - Technical data

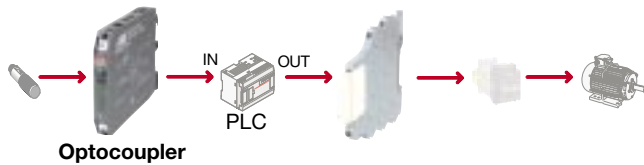
Applications

All the electrical signals from/to sensors/actuators must be adapted to the PLC's electrical level.
It is the first function of the relay or optocoupler interfaces.

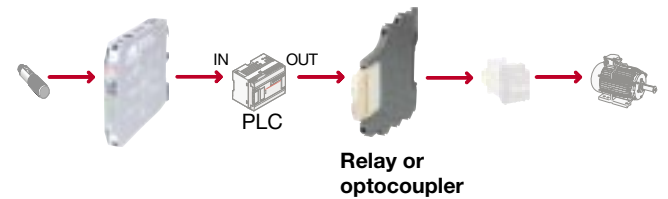
Second function of the relay and optocoupler interfaces is electrical isolation between sensors/actuators and the PLC.



An **optocoupler** is used as input interface. It is a function of insulation and adaptation.



A **relay** is used as output interface. It is voltage adaptation and it allows more power. The **power optocoupler** is used when the number of operations is important.



Technical data

R910 series

It is a terminal block !

- Spacing : 9 mm
- High wiring capacity 4 mm²
- 1 N/O contact 10 mA to 5 A / 250 V
- High isolation 3 kV



R500 series

The relay is pluggable

- Spacing : 5.08 mm (smallest on the market)
- Wire size : 2.5 mm² (4 mm² solid)
- 1 SPDT contact 10 mA to 6 A / 250 VA
- Transistor : 330 mA to 100 mA
MOS : 1 A to 2 A
Triac : 1 A



R900 series

It is the standard enclosure

- Spacing : 9 to 15 mm
- Wire size : 2.5 mm² (4 mm² solid)
- 1 or 2 SPDT contacts 1 mA to 6 A / 250 V
- Transistor : 100 mA to 5 A
MOS : 5 A
Triac : 1 A to 5 A



R1800 series

It is a compact enclosure (small height)

- Spacing : 18 to 23 mm
- Wire size : 2.5 mm² (4 mm² solid)
- 1 or 2 SPDT contacts 10⁻⁷ A to 6 A / 250 V
- Transistor : 100 mA



See cross reference table old part numbers / new part numbers at the end of the relay section.



















Selection guide

Relay modules

		Coil			
		12 V DC	24 V DC	24 V AC/DC	48 V DC
Contact		50/60 Hz			
1 NO without LED		 spacing : 9 mm M 4/9.R111 12 V DC 1SNA 607 029 R0100	 spacing : 9 mm M 4/9.R111 24 V DC 1SNA 607 030 R0600		
1 NO with lamp		 spacing : 9 mm M 4/9.R111L 12 V DC 1SNA 607 001 R0600	 spacing : 9 mm M 4/9.R111L 24 V DC 1SNA 607 002 R0700		
1 SPDT without LED			 spacing : 5.08 mm D 2,5/5-R121 24 V DC 1SNA 607 217 R0200		
1 SPDT with LED		 spacing : 11.5 mm RB 121 12 V DC 1SNA 630 001 R0000	 spacing : 5.08 mm D 2,5/5-R121L 24 V DC 1SNA 607 201 R1300	 spacing : 5.08 mm D 2,5/5-R121AL 24 V AC/DC 1SNA 607 231 R0000	
		 spacing : 18 mm RB 121 A 12 V DC 1SNA 610 125 R2400		 spacing : 11.5 mm RB 121 A 24 V AC/DC 1SNA 630 002 R0100	
		 spacing : 18 mm RB 121 A 24 V AC/DC 1SNA 610 004 R0700		 spacing : 18 mm RB 121 A 24 V AC/DC 1SNA 610 004 R0700	
1 SPDT with LED + switch				 spacing : 11.5 mm RB 121 AI 24 V AC/DC 1SNA 630 007 R0600	
1 DPDT with LED			 spacing : 15 mm RB 122 24 V DC 1SNA 630 019 R0100	 spacing : 18 mm RB 122 AV 24 V AC/DC 1SNA 610 121 R2000	
1 DPDT with LED very low level			 spacing : 18 mm RB 122 24 V DC 1SNA 610 059 R1500	 spacing : 11,5 mm RB 122 A 24 V AC/DC 1SNA 630 011 R2100	 spacing : 18 mm RB 122 48 V DC 1SNA 610 060 R1200

Selection guide

Relay modules

48 V AC/DC 50/60 Hz	110 V AC/DC 50/60 Hz	110 V AC 50 Hz	115 V AC 60 Hz	230 V AC 230 V AC/DC 50/60 Hz
 <p>spacing : 5.08 mm D 2,5/5-R121AL 48 V AC/DC 1SNA 607 232 R0100</p>  <p>spacing : 11.5 mm RB 121 A 48 V AC/DC 1SNA 630 003 R0200</p>  <p>spacing : 18 mm RB 121 AV 48 V AC/DC 1SNA 610 006 R0100</p>	 <p>spacing : 18 mm RB 121 A 110 V AC/DC 1SNA 610 132 R2300</p>	 <p>spacing : 5.08 mm D 2,5/5-R121BL 110 V AC 1SNA 607 264 R1100</p>  <p>spacing : 11.5 mm RB 121 B 110 V AC 1SNA 630 004 R0300</p>	 <p>spacing : 5.08 mm D 2,5/5-R121BL 115 V AC 1SNA 607 264 R1100</p>  <p>spacing : 11.5 mm RB 121 B 115 V AC 1SNA 630 005 R0400</p>	 <p>spacing : 5.08 mm D 2,5/5-R121BL 230 V AC 1SNA 607 265 R1200</p>  <p>spacing : 11.5 mm RB 121 B 230 V AC 1SNA 630 006 R0500</p>  <p>spacing : 18 mm RB 121 A 230 V AC/DC 1SNA 610 132 R2300</p>
 <p>spacing : 18 mm RB 122 AV 48 V AC/DC 1SNA 610 122 R2100</p>	 <p>spacing : 23 mm RB 122 AR 110 V AC/DC 1SNA 610 011 R2500</p>	 <p>spacing : 15 mm RB 122 B 110 V AC 1SNA 630 021 R2300</p>	 <p>spacing : 15 mm RB 122 B 115 V AC 1SNA 630 022 R2400</p>	 <p>spacing : 23 mm RB 122 A 230 V AC/DC 1SNA 610 123 R2200</p>
		 <p>spacing : 23 mm RB 122 BR 110 V AC 1SNA 610 115 R2200</p>		 <p>spacing : 23 mm RB 122 BR 230 V AC 1SNA 610 089 R0400</p>

Relay Interfaces

R500 pluggable relay modules DIN 3

D 2,5/5-R121... - 2.5 mm² blocks - 5.08 mm .200" spacing

Characteristics

Relay characteristics	D 2,5/5-R121	D 2,5/5-R121L	D 2,5/5-R121AL			D 2,5/5-R121BL		
COIL								
Rated voltage +20%, -15%DC, ±15%AC	24 V DC	24 V DC	24 V AC	24 V DC	48 V AC	48 V DC	110 V AC	230 V AC
Frequency			50 / 60 Hz		50 / 60 Hz		50 / 60 Hz	50 / 60 Hz
Power	0.17 W	0.3 W	0.35 VA	0.35 W	0.44 VA	0.47 W	1.08 VA	2.13 VA
Rated current	7 mA	12 mA	12.4 mA	10 mA	7.6 mA	6.8 mA	8.4 mA	8 mA
Drop-out voltage at 20°C	2.4 V	2.4 V	4.8 V	4.8 V	10 V	10 V	25 V	45 V
Status device								green LED

CONTACT

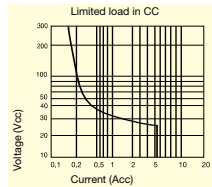
Type	1 SPDT							
Voltage switching range min./max.	12 V / 250 V AC							
Current switching range min./max.	10 mA / 6 A							
Load switching range								
AC1 min. / max.	0.6 VA / 1500 VA (ohmic load)							
DC1 min. / DC13 max.	0.6 W / 140 W							
Number of on-load operations	10 ⁵ in AC15							
Number of off-load operations	10 x 10 ⁵							
Pull-in time (delay time)	5 ms	5 ms	5 ms	5 ms	5 ms	5 ms	5 ms	5 ms
Drop-out time (delay time)	8 ms	8 ms	15 ms	15 ms	15 ms	15 ms	15 ms	15 ms
Bounce time	1.5 ms							
Insulation coil / contacts	4000 V RMS							
Breakdown voltage coil / contacts	4000 V RMS							
Insulation contacts/contacts	1000 V RMS							
Storage ambient temperature	- 40°C to + 80°C							
Operating ambient temperature	See derating curve							

Other characteristics

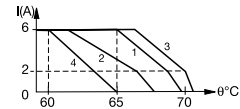
Body material	grey <input type="checkbox"/>	UL 94 V0
Wire	Solid wire	0.2-4 mm ² / 24-12 AWG
size	Stranded wire	0.22-2.5 mm ² / 24-12 AWG
Rated wire size		2.5 mm ² / 12 AWG
Wire stripping length		10 mm .394"
Recommended screwdriver		3.5 mm .137"
Protection		IP 20 NEMA 1
Recommended torque		0.4-0.6 Nm 3.5-5.3 lb.in
Approvals		

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.

Derating curves



	DC12	AC12	DC13	AC15
24 V	6 A	6 A	1 A	3 A
110/120 V	0,3 A	6 A	0,2 A	3 A
220/230 V	0,2 A	6 A	0,1 A	3 A



D 2,5/5-R121

D 2,5/5-R121...L

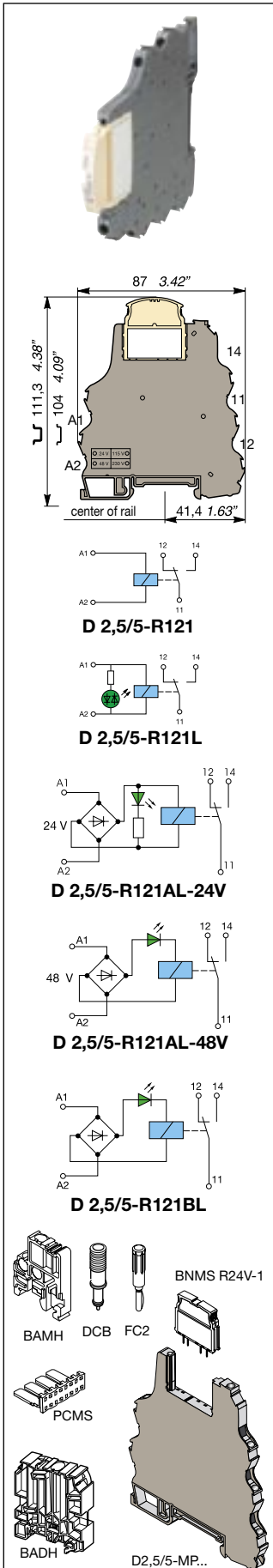
Order codes

Description	Type	Order P/N	Packaging	Weight kg
Relay module 24 V DC	D 2,5/5-R121-24VDC	1SNA 607 217 R0200	10	0.032
Relay module with LED 24 V DC	D 2,5/5-R121L-24VDC	1SNA 607 201 R1300	10	0.032
Relay module with LED 24 V AC/DC	D 2,5/5-R121AL-24VAC/DC	1SNA 607 231 R0000	10	0.04
Relay module with LED 48 V AC/DC	D 2,5/5-R121AL-48VAC/DC	1SNA 607 232 R0100	10	0.04
Relay module with LED 110 V AC	D 2,5/5-R121BL-110VAC	1SNA 607 264 R1100	10	0.04
Relay module with LED 230 V AC	D 2,5/5-R121BL-230VAC	1SNA 607 265 R1200	10	0.04

Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50	
	BAMH V0 9,1 mm	1SNA 194 836 R0100		
	BADH 12 mm	1SNA 116 900 R2700		
Comb type jumper bar 2 to 22 poles		consult us		
Jumper bar 10 poles grey <input type="checkbox"/>	PCMS V0	1SNA 205 523 R2200	8	
Relay / Opto base	D 2,5/5-MP	1SNA 607 224 R0100	10	0.028
Relay / Opto base with LED 24 VDC	D 2,5/5-MP-24VDC	1SNA 607 222 R0700	10	0.028
Relay / Opto base with LED 24 VAC/VDC	D 2,5/5-MP-24VAC/DC	1SNA 607 260 R2100	10	0.036
Relay / Opto base with LED 48 VAC/VDC	D 2,5/5-MP-48VAC/DC	1SNA 607 261 R1600	10	0.036
Relay / Opto base with LED 110 VAC	D 2,5/5-MP-110VAC	1SNA 607 266 R1300	10	0.036
Relay / Opto base with LED 230 VAC	D 2,5/5-MP-230VAC	1SNA 607 267 R1400	10	0.036
Plug	BNMS R24V-1	1SNA 031 820 R1400	4	
Test device	blue <input type="checkbox"/> DCB (1)	1SNA 105 028 R2100	10	
Test plug	DIA. 2 mm FC2	1SNA 007 865 R2600	10	
Marking method	RC55	see marking		

(1) Only on top decks.




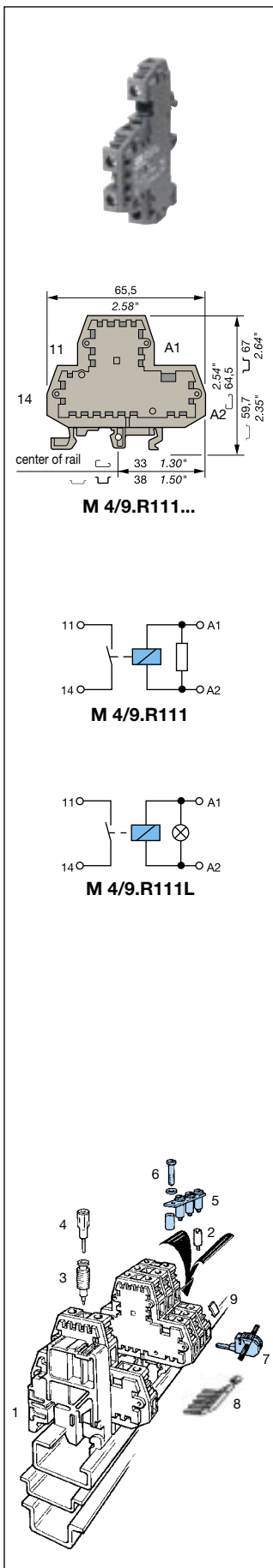
Relay Interfaces

R910 relay modules  DIN 1-3

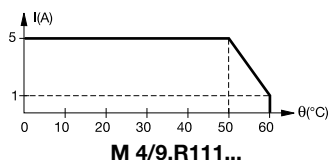
M 4/9.R111... - 2.5 mm² blocks - 9 mm .354" spacing

Characteristics

Relay characteristics	M 4/9.R111		M 4/9.R111L	
	COIL			
Rated voltage +20%, -20% on DC	12 V	24 V	12 V	24 V
Power	0.3 W	0.3 W	0.6 W	0.8 W
Rated current	24 mA	14 mA	52 mA	33 mA
Drop-out voltage at 20°C	1.2 V DC	2.4 V DC	1.2 V	2.4 V
Status device			lamp	
CONTACT				
Type	1 NO			
Voltage switching range min./max.	12 V / 150 V DC - 250 V AC			
Current switching range	10 mA / 5 A			
Load switching range				
AC1 min. / max.	0.6 VA / 1250 VA			
DC1 min. / max.	0.6 W / 150 W			
Number of on-load operations	1 x 10 ⁶			
Number of off-load operations	2 x 10 ⁷			
Pull-in time (delay time)	5 ms			
Drop-out time (delay time)	6 ms		7 ms	
Bounce time	4 ms			
Insulation coil / contacts	3000 V RMS			
Breakdown voltage with 1.2/50µ wave	4000 V RMS			
Insulation contacts/contacts	750 V RMS			
Storage ambient temperature	-40°C to +80°C			
Operating ambient temperature	See derating curve hereunder			
Other characteristics				
Body material	grey <input type="checkbox"/>	UL 94 V0		
Wire	Solid wire	0.2-4 mm ² / 22-12 AWG		
size	Stranded wire	0.22-2.5 mm ² / 22-12 AWG		
Rated wire size		2.5 mm ² / 12 AWG		
Wire stripping length		9 mm .354"		
Recommended screwdriver		3.5 mm .137"		
Protection		IP 20 NEMA 1		
Recommended torque		0.4-0.6 Nm 3.5-5.3 lb.in		
Approvals				
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.			



Derating curve



Order codes

Description	Type	Order P/N	Packaging	Weight kg
Relay module 12 V DC	M 4/9.R111-12VDC	1SNA 607 029 R0100	10	0.02
Relay module 24 V DC	M 4/9.R111-24VDC	1SNA 607 030 R0600	10	0.02
Relay module with lamp 12 V DC	M 4/9.R111L-12VDC	1SNA 607 001 R0600	10	0.02
Relay module with lamp 24 V DC	M 4/9.R111L-24VDC	1SNA 607 002 R0700	10	0.02

Accessories

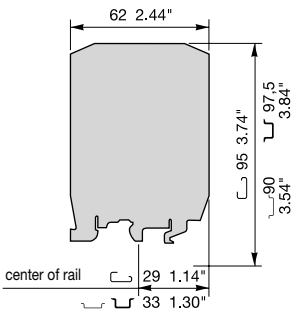
1 High end stop (all rails)	BAMH	9,1 mm	1SNA 114 836 R0000	50
2 Test socket	DIA. 2 mm	AL2 (1)	1SNA 163 070 R0000	50
	DIA. 3 mm	AL3 (1)	1SNA 163 261 R0000	50
3 Test device	grey <input type="checkbox"/>	DCG	1SNA 163 218 R0500	10
4 Test plug		FC2	1SNA 007 865 R2600	10
5 Jumper bar	8 poles	BJS9 (1)(2)	1SNA 177 583 R1200	
	16 poles	BJS9 (1)(2)	1SNA 177 584 R1300	
6 Sub-assembly for jumper bar (screw + jumper + post)		EV6D (1)(2)	1SNA 168 400 R1600	20
7 IDC jumper		AD2,5	1SNA 114 205 R2000	50
8 Comb type jumper bar		PC9	1SNA 210 160 R1200	10
9 Marking method		RC65 and RC610	see marking	

(1) These accessories can be used on the lower connection only.
 (2) Use of these accessories requires the user to cut out the pre-cut partition.

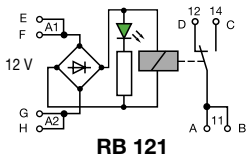
Relay Interfaces

Relay modules R900  DIN 1-3

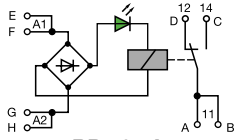
RB 121... - instant relay blocks - 11.5 mm .453" spacing



Relay blocks R900



RB 121



RB 121 A

Characteristics

Relay characteristics	RB 121 - 12 V			RB 121 A - 24 V	
COIL					
Rated voltage +20%, -15% on DC, ±15% on AC	12 V DC	24 V AC	24 V DC	48 V AC	48 V DC
Frequency		50 / 60 Hz		50 / 60 Hz	
Power	0.5 W	0.52 VA	0.44 W	0.62 VA	0.48 W
Rated current	42 mA	22 mA	18 mA	13 mA	10 mA
Drop-out voltage at 20°C	2.8 V	4.6 V	4.6 V	5.8 V	5.8 V
Permissible leakage current	3.5 mA	2.2 mA	1.8 mA	1 mA	1 mA

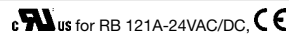
CONTACT

Type	1 SPDT				
Voltage switching range min./max.	5 V / 150 V DC - 250 V AC				
Current switching range min./max.	1 mA / 6 A				
Load switching range					
AC1 min. / max.	5 mVA / 1500 VA				
DC1 min. / max.	5 mW / 192 W				
Number of on-load operations	1 x 10 ⁶				
Number of off-load operations	5 x 10 ⁶				
Operating speed	5 ms				
Bounce	1 ms				
Insulation coil / contact	3500 V RMS				
Resistance to shock coil / contact	4000 V RMS				
Insulation contact / contact	1000 V RMS				
Ambient temperature operating	-40°C to +80°C				
	See derating curve				

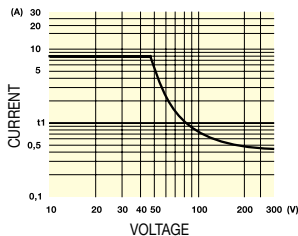
Other characteristics

Body material	grey <input type="checkbox"/>	UL 94 V0
Wire	Solid wire	0.5 - 4 mm ² / 20 - 12 AWG
Wire size	Stranded wire	0.5 - 2.5 mm ² / 20 - 12 AWG
Rated wire size		2.5 mm ² / 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

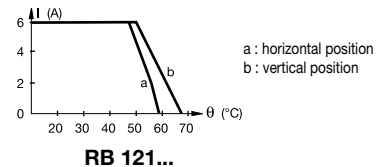
Approvals



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.



Derating curve

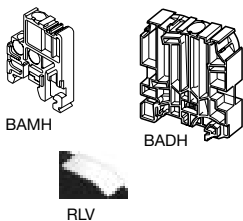


Order codes

Description	Type	Order P/N	Packaging	Weight kg
Relay module 12 V DC	RB 121-12VDC	1SNA 630 001 R0000	1	0.04
Relay module 24 V AC/DC	RB 121A-24VAC/DC	1SNA 630 002 R0100	1	0.04
Relay module 48 V AC/DC	RB 121A-48VAC/DC	1SNA 630 003 R0200	1	0.04

Accessories

High end section	BADH	1SNA 116 900 R2700	50
	BAMH	1SNA 114 836 R0000	50
	BAMH V0	1SNA 194 836 R0100	50
Lengthwise marker	RLV	1SNA 103 849 R0300	
Marking method	RC55	see marking	





Relay Interfaces

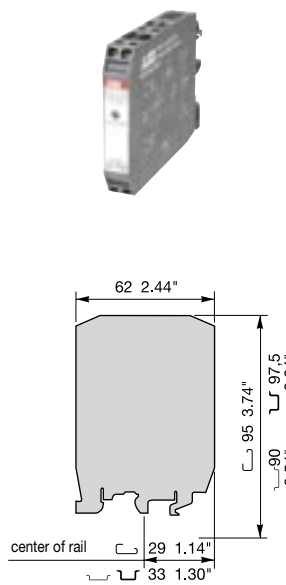
Relay modules R900  DIN 1-3

RB 121... - instant relay blocks - 11.5 mm .453" spacing

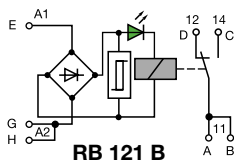
Characteristics

Relay characteristics	RB 121 B			RB 121 AI	
	COIL				
Rated voltage +20%, -15% on DC, ±15% on AC	110 V AC/50 Hz	115 V AC/60 Hz	230 V AC	24 V AC ±10%	24 V DC ±10%
Frequency			50 Hz	50 / 60 Hz	
Power	1.5 VA	1.6 VA	3.22 VA	0.53 VA	0.44 W
Rated current	14 mA	14 mA	14 mA	22 mA	18 mA
Drop-out voltage at 20°C	30 V AC	30 V AC	60 V AC	5.5 V	4.6 V
Permissible leakage current	2 mA max.	2 mA max.	3.6 mA max.	2.2 mA	1.8 mA
CONTACT	1 SPDT				
Type	5 V / 150 V DC - 250 V AC				
Voltage switching range min./max.	1 mA / 5 A				
Current switching range min./max.	1 mA / 6 A				
Load switching range	5 mA / 1500 VA				
AC1 min. / max.	5 mA / 1250 VA				
DC1 min. / max.	5 mW / 192 W				
Number of on-load operations	1 x 10 ⁵				
Number of off-load operations	5 x 10 ⁶				
Operating speed	5 ms				
Bounce	1 ms				
Insulation coil / contact	3000 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				
Other characteristics	UL 94 V0				
Body material	grey <input type="checkbox"/>				
Wire	Solid wire				
Wire size	0.5 - 4 mm ² / 20 - 12 AWG				
Stranded wire	0.5 - 2.5 mm ² / 20 - 12 AWG				
Rated wire size	2.5 mm ² / 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 121B-115VAC and RB 121AI-24VAC/DC, 				

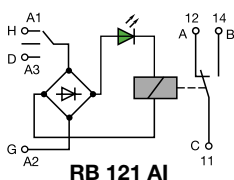
Reference standards CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.



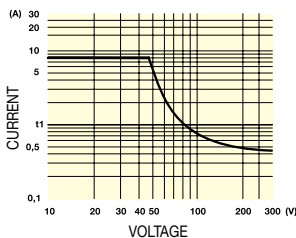
Relay blocks R900



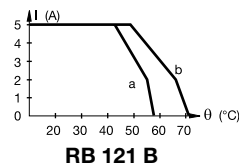
RB 121 B



RB 121 AI

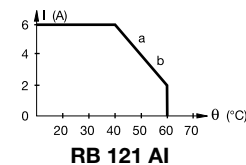


Derating curves



RB 121 B

a : horizontal position
b : vertical position



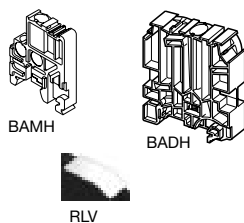
RB 121 AI

Order codes

Description	Type	Order P/N	Packaging	Weight
Relay module 110 V AC 50 Hz	RB 121B-110VAC	1SNA 630 004 R0300	1	0.05
Relay module 115 V AC 60 Hz	RB 121B-115VAC	1SNA 630 005 R0400	1	0.05
Relay module 230 V AC 50 Hz	RB 121B-230VAC	1SNA 630 006 R0500	1	0.05
Relay module 24 V AC/DC	RB 121AI-24VAC/DC	1SNA 630 007 R0600	1	0.05

Accessories

High end section	BADH	1SNA 116 900 R2700	50
	BAMH	1SNA 114 836 R0000	50
	BAMH V0	1SNA 194 836 R0100	50
Lengthwise marker	RLV	1SNA 103 849 R0300	
Marking method	RC55	see marking	





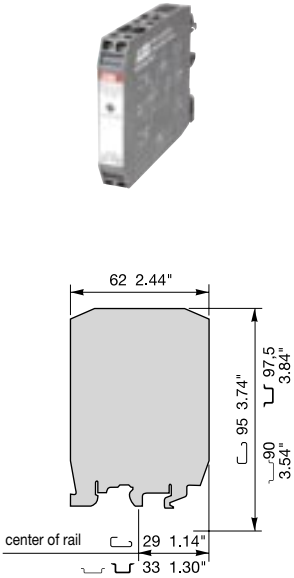
Relay Interfaces

Relay modules R900 DIN 1-3

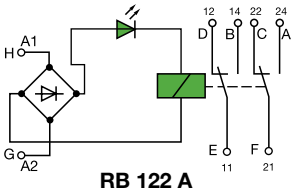
RB 122... - instant relay blocks - 11.5 mm .453" or 15 mm .591" spacing

Characteristics

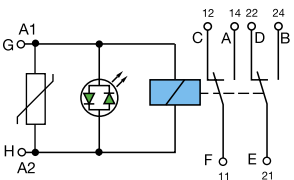
Relay characteristics	RB 122 A		RB 122	RB 122 B	
COIL					
Rated voltage +15%, -10% on DC ±15% on AC	24 V AC	24 V DC	24 V DC	110 V AC/50Hz	115 V AC/60Hz
Frequency	50 / 60 Hz				
Power	0.4 VA	0.35 W	0.48 W	3.6 VA	4 VA
Rated current	16.8 mA	14.4 mA	20 mA	33 mA	35 mA
Drop-out voltage at 20°C	9.2 V	6.5 V	2.4 V DC	11 V AC	11.5 V AC
Permissible leakage current	2 mA max.		1.5 mA	2 mA	2.6 mA
CONTACT					
Type	1 DPDT				
Voltage switching range min./max.	10 ⁻⁵ V / 250 V AC		12 V / 250 V		
Current switching range min./max.	10 ⁻⁵ A / 3 A		100 mA / 7 A	100 mA / 7 A	100 mA / 7 A
Load switching range			1.2 VA / 1750 VA	1.2 VA / 1750 VA	1.2 VA / 1750 VA
AC1 min. / max.	10 ⁻¹⁰ VA / 250 VA		1.2 W / see curve hereunder		
DC1 min. / max.	10 ⁻¹⁰ W / 90 W				
Number of on-load operations	1.8 x 10 ⁶ (2 A / 60 W)				
Number of off-load operations	10 ⁶		30 x 10 ⁶		
Operating speed F	6 ms		8 ms		6 ms
O	11 ms		15 ms		12 ms
Bounce	1 ms		2 ms		
Insulation coil / contact	1500 V RMS		2500 V RMS		
Resistance to shock coil / contact			4000 V RMS		
Insulation contact / contact			1000 V RMS		
Ambient temperature operating	-40°C to +80°C see derating curves				
Other characteristics					
Body material	grey <input type="checkbox"/>		UL 94 V0		
Wire	Solid wire		0.5 - 4 mm ² / 20 - 12 AWG		
size	Stranded wire		0.5 - 2.5 mm ² / 20 - 12 AWG		
Rated wire size			2.5 mm ² / 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 pending, 				
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.				



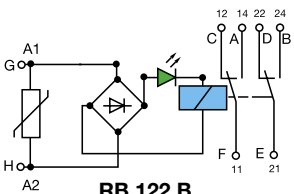
Relay blocks R900



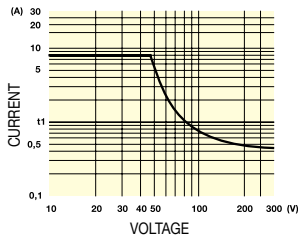
RB 122 A



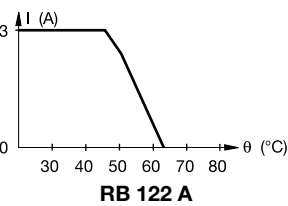
RB 122



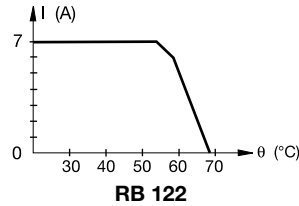
RB 122 B



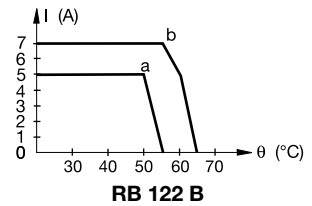
Derating curves



RB 122 A



RB 122



RB 122 B

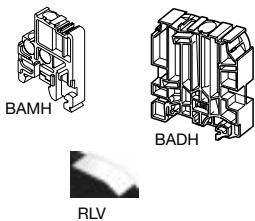
a : 110 V AC/50 Hz block
b : 115 V AC/60 Hz block

Order codes

Description	Type	Order P/N	Packaging	Weight kg
Relay block 24 V AC/ DC 11.5 mm spacing	RB 122A-24VAC/DC	1SNA 630 011 R2100	1	0.05
Relay block 24 VDC 15 mm spacing	RB 122-24VDC	1SNA 630 019 R0100	1	0.05
Relay block 110 V AC/50 Hz 15 mm spacing	RB 122B-110VAC/50Hz	1SNA 630 021 R2300	1	0.06
Relay block 115 V AC/60 Hz 15 mm spacing	RB 122B-115VAC/60Hz	1SNA 630 022 R2400	1	0.06

Accessories

High end section	BADH	1SNA 116 900 R2700	50
	BAMH	1SNA 114 836 R0000	50
	BAMH V0	1SNA 194 836 R0100	50
	Lengthwise marker	RLV	1SNA 103 849 R0300
Marking method	RC55	see marking	



Relay Interfaces

Relay modules R1800 ⇐ ⇐ DIN 1-3

RB 121... - instant relay blocks - 18 mm .709" spacing

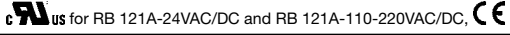
Characteristics

Relay characteristics	RB 121	RB 121 A	RB 121 AV	RB 121 A	
COIL					
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					

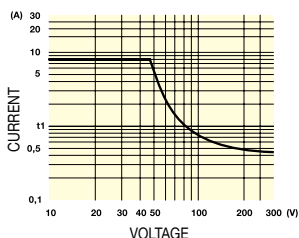
CONTACT

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	2×10^5
Number of off-load operations	2×10^7
Operating speed	
F	7 ms
O	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

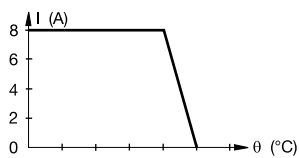
Other characteristics

Body material	grey <input type="checkbox"/>	UL 94 V0
Wire	Solid wire	0.2 - 4 mm ² / 22 - 12 AWG
size	Stranded wire	0.22 - 2.5 mm ² / 22 - 12 AWG
Rated wire size		2.5 mm ² / 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		

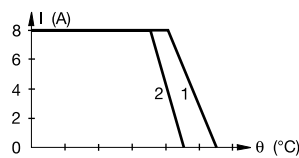
Reference standards CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.



Derating curves



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




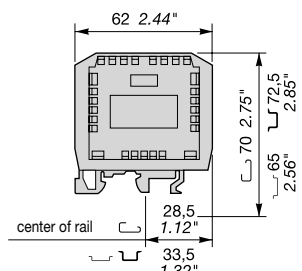
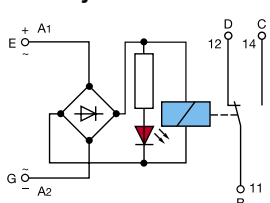
RB 121 A 110-220 VAC/DC
1 : 110 V AC/DC block
2 : 220 V AC block

Order codes

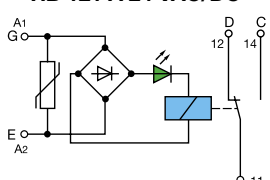
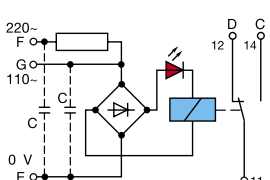

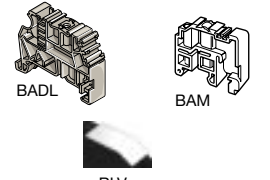
Description	Type	Order P/N	Packaging	Weight kg
Relay block 12 V DC	RB 121-12VDC	1SNA 610 125 R2400	1	0.05
Relay block 24 V AC/DC	RB 121A-24VAC/DC	1SNA 610 004 R0700	1	0.05
Relay block 48 VAC/DC	RB 121AV-48VAC/DC	1SNA 610 006 R0100	1	0.05
Relay block 110-220 V AC/DC	RB 121A-110-220VAC/DC	1SNA 610 132 R2300	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 blocks R1800

Relay Interfaces

Relay modules R1800 DIN 1-3

RB 122... - instant relay blocks - 18 mm .709" or 23 mm .906" spacing



Characteristics

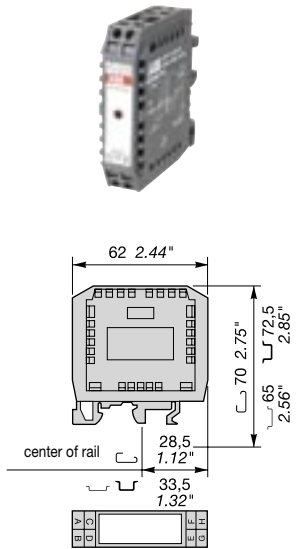
Relay characteristics	RB 122 AV	RB 122 AR	RB 122 A	RB 122	RB 122 BR
COIL					
Rated voltage +15%, -10% on DC 50 and 60 Hz ±15% on AC	24 VAC/DC	48 VAC/DC	110 VAC/DC	220 VAC/DC	24 V DC 48 V DC 110 V AC 220 V AC
Frequency					50 / 60 Hz 50 Hz
Power	0.7 W	0.7 W	0.7 W - 1.8 VA	1.2 W	0.31 W 0.48 W 4.8 VA 1.1 VA
Rated current	26 mA	14 mA	16 mA	5.5 mA	13 mA 10 mA 45 mA 5.1 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 4.8 V DC 11 V AC 22 V AC
Permissible leakage current			1.6 mA		3 mA

CONTACT

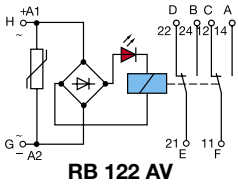
Type	1 DPDT				
Voltage switching range min./max.	12 V / 250 V	10 ⁻³ V / 250 V 12 V / 250 V		10 ⁻³ V / 250 V	
Current switching range min./max.		10 mA / 5 A		10 ⁻³ A / 5 A	
Load switching range					
AC1 min. / max.	0.6 VA / 1250 VA				10 ⁻¹⁰ VA / 1000 VA
DC1 min. / max.	0.6 W / see curve hereunder				10 ⁻¹⁰ W / see curve hereunder
Number of on-load operations	2 x 10 ⁶				5A/100W - 5A/1kVA : 10 ⁶
Number of off-load operations	2 x 10 ⁷				2 x 10 ⁸
Operating speed	F	7 ms			8 ms
	O	4 ms			3 ms
Bounce	3 ms				0.5 ms
Insulation coil / contact	2000 V RMS				1500 V RMS
Resistance to shock coil / contact	4000 V RMS				4000 V RMS
Insulation contact / contact	1500 V RMS				2000 V RMS
Ambient temperature	-40°C to +80°C see derating curves				

Other characteristics

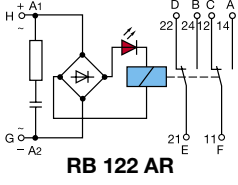
Body material	grey <input type="checkbox"/>	UL 94 V0
Wire	Solid wire	0.2 - 4 mm ² / 22 - 12 AWG
size	Stranded wire	0.22 - 2.5 mm ² / 22 - 12 AWG
Rated wire size		2.5 mm ² / 12 AWG
Wire stripping length		7 mm .276"
Recommended screwdriver		3.5 mm .137"
Protection		IP20 NEMA1
Recommended torque		0.4 - 0.6 Nm 3.5 - 5.3 lb.in
Approvals	 us for RB 122AR-110VAC/DC, RB 122-24VDC, RB 122BR-110VAC and RB122AV-24VAC/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.	



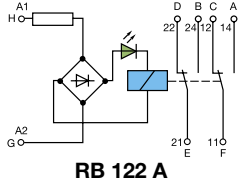
Relay blocks R1800



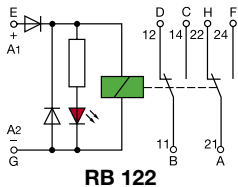
RB 122 AV



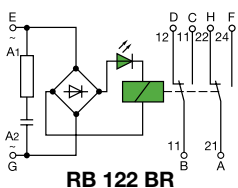
RB 122 AR



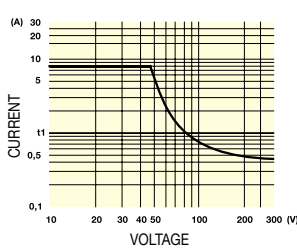
RB 122 A



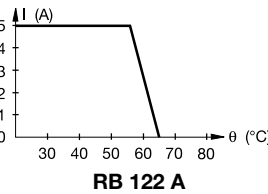
RB 122



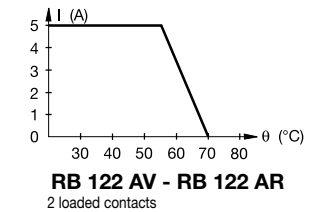
RB 122 BR



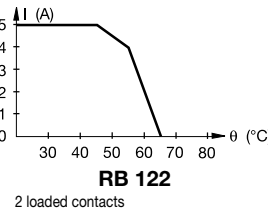
Derating curves



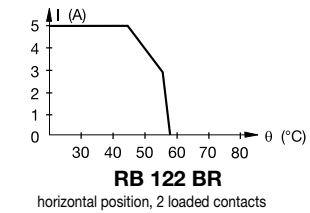
RB 122 A



RB 122 AV - RB 122 AR
2 loaded contacts



RB 122
2 loaded contacts



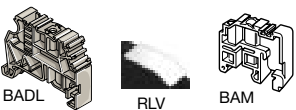
RB 122 BR
horizontal position, 2 loaded contacts

Order codes








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

Accessories






















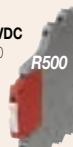
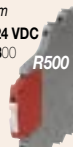
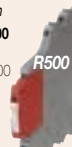











End section	BADL V0	1SNA 399 903 R0200	50
	BAM	1SNA 103 002 R2600	50
	BAM V0	1SNA 399 306 R0300	50
Lengthwise marker	RLV	1SNA 103 849 R0300	
Marking method	RC55	see marking	























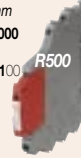
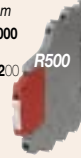






Cross reference

		Type	New part numbers	Old part numbers		
Relays	R500 	D 2,5/5 R121 24 VDC	1SNA 607 217 R0200	1SNA 007 217 R2400		
		D 2,5/5 R121L 24 VDC	1SNA 607 201 R1300	1SNA 007 201 R0500		
		D 2,5/5 R121AL 24 VAC/DC	1SNA 607 231 R0000			
		D 2,5/5 R121AL 48 VAC/DC	1SNA 607 232 R0100			
		D 2,5/5 R121BL 110 VAC	1SNA 607 264 R1100			
		D 2,5/5 R121BL 230 VAC	1SNA 607 265 R1200			
	R910 	M 4/9 R111 12 VDC	1SNA 607 029 R0100	1SNA 007 029 R2300		
		M 4/9 R111 24 VDC	1SNA 607 030 R0600	1SNA 007 030 R2000		
		M 4/9 R111L 12 VDC	1SNA 607 001 R0600	1SNA 007 001 R2000		
		M 4/9 R111L 24 VDC	1SNA 607 002 R0700	1SNA 007 002 R2100		
	R900 	RB121 12 VDC	1SNA 630 001 R0000	1SNA 030 001 R2200		
		RB121A 24 VAC/DC	1SNA 630 002 R0100	1SNA 030 002 R2300		
		RB121A 48 VAC/DC	1SNA 630 003 R0200	1SNA 030 003 R2400		
		RB121B 110 VAC 50 Hz	1SNA 630 004 R0300	1SNA 030 004 R2500		
		RB121B 115 VAC 60 Hz	1SNA 630 005 R0400	1SNA 030 005 R2600		
		RB121B 230 VAC	1SNA 630 006 R0500	1SNA 030 006 R2700		
		RB121Al 24 VAC/DC	1SNA 630 007 R0600	1SNA 030 007 R2000		
		RB122 24 VDC	1SNA 630 019 R0100	1SNA 030 019 R2300		
		RB122B 110 VAC 50 Hz	1SNA 630 021 R2300	1SNA 030 021 R1500		
		RB122B 115 VAC 60 Hz	1SNA 630 022 R2400	1SNA 030 022 R1600		
		RB122A 24 VAC/DC	1SNA 630 011 R2100	1SNA 030 011 R1300		
	R1800 	RB121A 12 VDC	1SNA 610 125 R2400	1SNA 010 125 R1600		
		RB121A 24 VAC/DC	1SNA 610 004 R0700	1SNA 010 004 R2100		
		RB121AV 48 VAC/DC	1SNA 610 006 R0100	1SNA 010 006 R2300		
		RB121A 110-230 VAC/DC	1SNA 610 132 R2300	1SNA 010 132 R1500		
		RB122AV 24 VAC/DC	1SNA 610 121 R2000	1SNA 010 121 R1200		
		RB122AV 48 VAC/DC	1SNA 610 122 R2100	1SNA 010 122 R1300		
		RB122AR 110 VAC/DC	1SNA 610 011 R2500	1SNA 010 011 R1700		
		RB122A 220 VAC/DC	1SNA 610 123 R2200	1SNA 010 123 R1400		
		RB122 24 VDC	1SNA 610 059 R1500	1SNA 010 059 R0700		
		RB122 48 VDC	1SNA 610 060 R2000	1SNA 010 060 R0400		
		RB122BR 110 VAC	1SNA 610 115 R2200	1SNA 010 115 R1400		
		RB122BR 220 VAC	1SNA 610 089 R0400	1SNA 010 089 R2600		
		Optocouplers				
		R500 	D 2,5/5-OBIC 0030 24 VDC	1SNA 607 210 R1700	1SNA 007 210 R0100	
D 2,5/5-OBIC 0030 48 VDC			1SNA 607 211 R0400	1SNA 007 211 R2600		
D 2,5/5-OBIA 0030 24 VAC	1SNA 607 212 R0500		1SNA 007 212 R2700			
D 2,5/5-OBIA 0030 48 VAC	1SNA 607 213 R0600		1SNA 007 213 R2000			
D 2,5/5-OBIA 0030 110 VAC	1SNA 607 214 R0700		1SNA 007 214 R2100			
D 2,5/5-OBIA 0030 230 VAC	1SNA 607 215 R0000		1SNA 007 215 R2200			
D 2,5/5-OBOC 0100 5 VDC	1SNA 607 203 R1500		1SNA 007 203 R0700			
D 2,5/5-OBOC 0100 24 VDC	1SNA 607 204 R1600		1SNA 007 204 R0000			
D 2,5/5-OBOC 0100 48 VDC	1SNA 607 205 R1700		1SNA 007 205 R0100			
D 2,5/5-OBOC 1000 5 VDC	1SNA 607 206 R1000		1SNA 007 206 R0200			
D 2,5/5-OBOC 1000 24 VDC	1SNA 607 207 R1100		1SNA 007 207 R0300			
D 2,5/5-OBOC 1000 24 VAC/DC	1SNA 607 250 R2700					
D 2,5/5-OBOC 1000 48 VAC/DC	1SNA 607 251 R1400					
D 2,5/5-OBOC 1000 110 VAC	1SNA 607 270 R2300					
D 2,5/5-OBOC 1000 230 VAC	1SNA 607 271 R1000					
D 2,5/5-OBOC 2000 5 VDC	1SNA 607 208 R2200		1SNA 007 208 R1400			
D 2,5/5-OBOC 2000 24 VDC	1SNA 607 209 R2300		1SNA 007 209 R1500			
D 2,5/5-OBOC 2000 24 VAC/DC	1SNA 607 255 R1000					
D 2,5/5-OBOC 2000 48 VAC/DC	1SNA 607 256 R1100					
D 2,5/5-OBOC 2000 110 VAC	1SNA 607 272 R1100					
D 2,5/5-OBOC 2000 230 VAC	1SNA 607 273 R1200					
D 2,5/5-OBOA 1000 24 VDC	1SNA 607 238 R1700					
D 2,5/5-OBOA 1000 24 VAC/DC	1SNA 607 240 R2500					
D 2,5/5-OBOA 1000 48 VAC/DC	1SNA 607 241 R1200					
D 2,5/5-OBOA 1000 110 VAC	1SNA 607 268 R2500					
D 2,5/5-OBOA 1000 230 VAC	1SNA 607 269 R2600					
R900 	OBC 0100 12 to 24 VDC		1SNA 608 017 R0600	1SNA 008 017 R2000		
	OBC 0100 48 VDC		1SNA 608 021 R0200	1SNA 008 021 R2400		
	OBC 0100 110 VAC		1SNA 608 024 R0500	1SNA 008 024 R2700		
	OBC 0100 230 VAC		1SNA 608 027 R2200	1SNA 008 027 R2200		
	OBC 1000 5 VDC		1SNA 608 014 R2200	1SNA 008 014 R2500		
	OBC 1000 12 to 24 VDC		1SNA 608 018 R1700	1SNA 008 018 R0100		
	OBC 1000 48 VDC		1SNA 608 022 R0300	1SNA 008 022 R2500		
	OBC 1000 110 VAC	1SNA 608 025 R0600	1SNA 008 025 R2000			
	OBC 1000 230 VAC	1SNA 608 028 R1100	1SNA 008 028 R0300			
	ORC 111 24 VDC	1SNA 608 068 R2100	1SNA 008 068 R1300			
	OBA 1000 5 VDC	1SNA 608 015 R0400	1SNA 008 015 R2600			
	OBA 0100 12 to 24 VDC	1SNA 608 019 R1000	1SNA 008 019 R2000			
	OBA 1000 48 VDC	1SNA 608 023 R0400	1SNA 008 023 R2600			
	OBA 1000 110 VAC	1SNA 608 026 R0700	1SNA 008 026 R2100			
	ORA 111 24 VDC	1SNA 608 069 R2200	1SNA 008 069 R1400			
	R1800 	EBO3DC 5 to 48 VDC	1SNA 610 230 R1100	1SNA 010 230 R0300		
		EBO1 24 VAC/DC	1SNA 610 022 R2000	1SNA 010 022 R1200		
		EBO1 127 VAC/DC	1SNA 610 108 R1400	1SNA 010 108 R0600		
EBO1 220 VAC/DC		1SNA 610 023 R2100	1SNA 010 023 R1300			

Selection guide Optocoupler modules

Output	Input	5 V DC	12 V DC	24 V DC	24 V AC 50 Hz	24 V AC/DC 50/60 Hz
< 50 mA / 10 to 58 V DC 		spacing : 5.08 mm D 2,5/5-OBIC 0030 5 VDC 1SNA 607 274 R1300 		spacing : 5.08 mm D 2,5/5-OBIC 0030 24 VDC 1SNA 607 210 R1700 	spacing : 5.08 mm D 2,5/5-OBIA 0030 24 VAC 1SNA 607 211 R0400 	
		 spacing : 18 mm EBO3DC 5 to 48 VDC 1SNA 610 230 R1100	 spacing : 18 mm EBO3DC 5 to 48 VDC 1SNA 610 230 R1100	 spacing : 18 mm EBO3DC 5 to 48 VDC 1SNA 610 230 R1100		
100 mA / 10 to 58 V DC 		spacing : 5.08 mm D 2,5/5-OBOC 0100 5 VDC 1SNA 607 203 R1500 		spacing : 5.08 mm D 2,5/5-OBOC 0100 24 VDC 1SNA 607 204 R1600 		 spacing : 18 mm EBO1 24 VAC/DC 1SNA 610 022 R2000
			 spacing : 9 mm OBC 0100 12 to 24 VDC 1SNA 608 017 R0600	 spacing : 9 mm OBC 0100 12 to 24 VDC 1SNA 608 017 R0600		
1 A / 10 to 58 V DC 		spacing : 5.08 mm D 2,5/5-OBOC 1000 5 VDC 1SNA 607 206 R1000 		spacing : 5.08 mm D 2,5/5-OBOC 1000 24 VDC 1SNA 607 207 R1100 		spacing : 5.08 mm D 2,5/5-OBOC 1000 24 VAC/DC 1SNA 607 250 R2700 
		 spacing : 9 mm OBC 1000 5 VDC 1SNA 608 014 R2200	 spacing : 9 mm OBC 1000 12 to 24 VDC 1SNA 608 018 R1700	 spacing : 9 mm OBC 1000 12 to 24 VDC 1SNA 608 018 R1700		
2 A / 10 to 30 V DC 		spacing : 5.08 mm D 2,5/5-OBOC 2000 5 VDC 1SNA 607 208 R2200 		spacing : 5.08 mm D 2,5/5-OBOC 2000 24 VDC 1SNA 607 209 R2300 		spacing : 5.08 mm D 2,5/5-OBOC 2000 24 VAC/DC 1SNA 607 255 R1000 
				 spacing : 9 mm ORC 111 24 VDC 1SNA 608 068 R2100		
5 A / 10 to 58 V DC 				 spacing : 9 mm ORC 111 24 VDC 1SNA 608 068 R2100		
1 A / 24 to 250 V AC 50/60 Hz 				spacing : 5.08 mm D 2,5/5-OB0A 1000 24 VDC 1SNA 607 238 R1700 		spacing : 5.08 mm D 2,5/5-OB0A 1000 24 VAC/DC 1SNA 607 240 R2500 
		 spacing : 9 mm OBA 1000 5 VDC 1SNA 608 015 R0400	 spacing : 9 mm OBA 1000 12 to 24 VDC 1SNA 608 019 R1000	 spacing : 9 mm OBA 1000 12 to 24 VDC 1SNA 608 019 R1000		
5 A / 20 to 135 V AC 				 spacing : 9 mm ORA 111 24 VDC 1SNA 608 069 R2200		

Selection guide Optocoupler modules

48 V DC	48 V AC 50 Hz	48 V AC/DC 50/60 Hz	110 V AC 50/60 Hz	127 VAC/125 VDC 50/60 Hz	230 V AC 50 Hz	230 V AC/DC 50/60 Hz
<p>spacing : 5.08 mm D 2,5/5-OBIC 0030 48 VDC 1SNA 607 212 R0500</p>  <p>R500</p> <p>spacing : 18 mm EBO3DC 5 to 48 VDC 1SNA 610 230 R1100</p>  <p>R1800</p>	<p>spacing : 5.08 mm D 2,5/5-OBIA 0030 48 VAC 1SNA 607 213 R0600</p>  <p>R500</p>		<p>spacing : 5.08 mm D 2,5/5-OBIA 0030 110 VAC 1SNA 607 214 R0700</p>  <p>R500</p>	<p>spacing : 5.08 mm D 2,5/5-OBIC 0030 125 VDC 1SNA 607 275 R1400</p>  <p>R500</p>	<p>spacing : 5.08 mm D 2,5/5-OBIA 0030 230 VAC 1SNA 607 215 R0000</p>  <p>R500</p>	
<p>spacing : 5.08 mm D 2,5/5-OBOC 0100 48 VDC 1SNA 607 205 R1700</p>  <p>R500</p> <p>spacing : 9 mm OBC 0100 48 VDC 1SNA 608 021 R0200</p>  <p>R900</p>			<p>spacing : 9 mm OBC 0100 110 VAC 1SNA 608 024 R0500</p>  <p>R900</p>	<p>spacing : 18 mm EBO1 127 VAC/DC 1SNA 610 108 R1400</p>  <p>R1800</p> <p>spacing : 9 mm OBC 0100 230 VAC 1SNA 608 027 R0000</p>  <p>R900</p>	<p>spacing : 18 mm EBO1 220 VAC/DC 1SNA 610 023 R2100</p>  <p>R1800</p>	
<p>spacing : 9 mm OBC 1000 48 VDC 1SNA 608 022 R0300</p>  <p>R900</p>		<p>spacing : 5.08 mm D 2,5/5-OBOC 1000 48 VAC/DC 1SNA 607 251 R1400</p>  <p>R500</p> <p>spacing : 9 mm OBC 1000 48 VDC 1SNA 608 022 R0300</p>  <p>R900</p>	<p>spacing : 5.08 mm D 2,5/5-OBOC 1000 110 VAC 1SNA 607 270 R2300</p>  <p>R500</p> <p>spacing : 9 mm OBC 1000 110 VAC 1SNA 608 025 R0600</p>  <p>R900</p>		<p>spacing : 5.08 mm D 2,5/5-OBOC 1000 230 VAC 1SNA 607 271 R1000</p>  <p>R500</p> <p>spacing : 9 mm OBC 1000 230 VAC 1SNA 608 028 R1100</p>  <p>R900</p>	
		<p>spacing : 5.08 mm D 2,5/5-OBOC 2000 48 VAC/DC 1SNA 607 256 R1100</p>  <p>R500</p>	<p>spacing : 5.08 mm D 2,5/5-OBOC 2000 110 VAC 1SNA 607 272 R1100</p>  <p>R500</p>		<p>spacing : 5.08 mm D 2,5/5-OBOC 2000 230 VAC 1SNA 607 273 R1200</p>  <p>R500</p>	
<p>spacing : 9 mm OBA 1000 48 VDC 1SNA 608 023 R0400</p>  <p>R900</p>		<p>spacing : 5.08 mm D 2,5/5-OB0A 1000 48 VAC/DC 1SNA 607 241 R1200</p>  <p>R500</p> <p>spacing : 9 mm OBA 1000 48 VDC 1SNA 608 023 R0400</p>  <p>R900</p>	<p>spacing : 5.08 mm D 2,5/5-OB0A 1000 110 VAC 1SNA 607 268 R2500</p>  <p>R500</p> <p>spacing : 9 mm OBA 1000 110 VAC 1SNA 608 026 R0700</p>  <p>R900</p>		<p>spacing : 5.08 mm D 2,5/5-OB0A 1000 230 VAC 1SNA 607 269 R2600</p>  <p>R500</p>	

Electronic Interfaces

R500 pluggable optocoupler modules

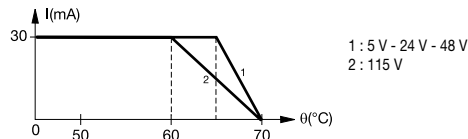
┌ DIN 3

D 2,5/5-OBIC-0030 - 2.5 mm² blocks - 5.08 mm .200" spacing

Characteristics

Opto. characteristics	D 2,5/5-OBIC-0030			
INPUT				
Input voltage	4.5 V to 5.5 VDC	19.2 V to 27.6 V DC	38.4 V to 55.2 V DC	93.5 V to 140 V DC
Frequency				
Input current	6 mA	5 mA	4.1 mA	3 mA
Pull-in voltage at I _s =100%	3.5 V	12 V	21 V	50 V
Switching time C / O	20 μs / 1.3 ms	20 μs / 1.3 ms	20 μs / 1.3 ms	20 μs / 1.3 ms
Operating frequency	400 Hz	400 Hz	400 Hz	400 Hz
Permissible leakage current		1 mA	0.8 mA	
OUTPUT				
Output voltage	4.5 V to 58 V DC			
Output current min.	0.5 mA			
Output current max.	30 mA			
Output leakage current at U _{max} .	< 50 μA			
Residual voltage at I _{max} and U _{rated}				
typical	2.3 V DC			
max.	2.7 VDC			
Frequency on inductive load				
Isolation Input / Output	2500 V RMS			
TEMPERATURE				
Ambient temperature	storage	- 40°C to + 80°C		
	operating	See derating curve		
Other characteristics				
Body material	grey	UL 94 V0		
Wire	Solid wire	0.2-4 mm ² / 24-12 AWG		
size	Stranded wire	0.22-2.5 mm ² / 24-12 AWG		
Rated wire size		2.5 mm ² / 12 AWG		
Wire stripping length		10 mm .394"		
Recommended screwdriver		3.5 .137"		
Protection		IP 20 NEMA 1		
Recommended torque		0.4-0.6 Nm 3.5-5.3 lb.in		
Approvals				
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.		

Derating curve



D 2,5/5-OBIC-0030

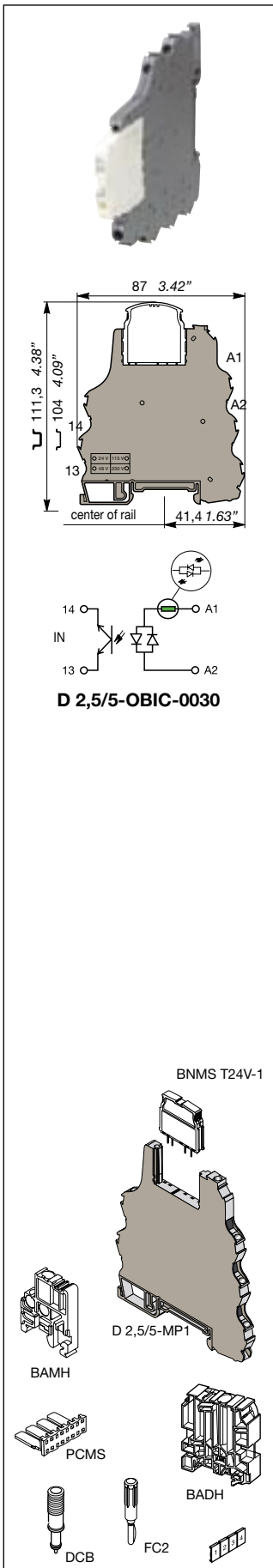
Order codes

Description	Type	Order P/N	Packaging	Weight kg
Optocoupler module 5 V DC	D 2,5/5-OBIC-0030-5VDC	1SNA 607 274 R1300	1	0.032
Optocoupler module 24 V DC	D 2,5/5-OBIC-0030-24VDC	1SNA 607 210 R1700	1	0.032
Optocoupler module 48 V DC	D 2,5/5-OBIC-0030-48VDC	1SNA 607 211 R0400	1	0.032
Optocoupler module 125 V DC	D 2,5/5-OBIC-0030-125VDC	1SNA 607 275 R1400	1	0.032

Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50	
	BAMH V0 9,1 mm	1SNA 194 836 R0100	50	
	BADH 12 mm	1SNA 116 900 R2700	50	
Comb type jumper bar 2 to 22 poles		consult us		
Jumper bar 10 poles grey	PCMS V0	1SNA 205 523 R2200	8	
Input opto base	D 2,5/5-MP1	1SNA 607 223 R0000	10	0.028
Plug OBIC 5 V	white	BNMS T5V-1	1SNA 031 831 R0300	4
Plug OBIC 24 V	white	BNMS T24V-1	1SNA 031 800 R2100	4
Plug OBIC 48 V	white	BNMS T48V-1	1SNA 031 801 R1600	4
Plug OBIC 125 V	white	BNMS T125V-1	1SNA 031 845 R1100	4
Test device	blue	DCB (1)	1SNA 105 028 R2100	10
Test plug	DIA. 2 mm	FC2	1SNA 007 865 R2600	10
Marking method	RC55	see marking		

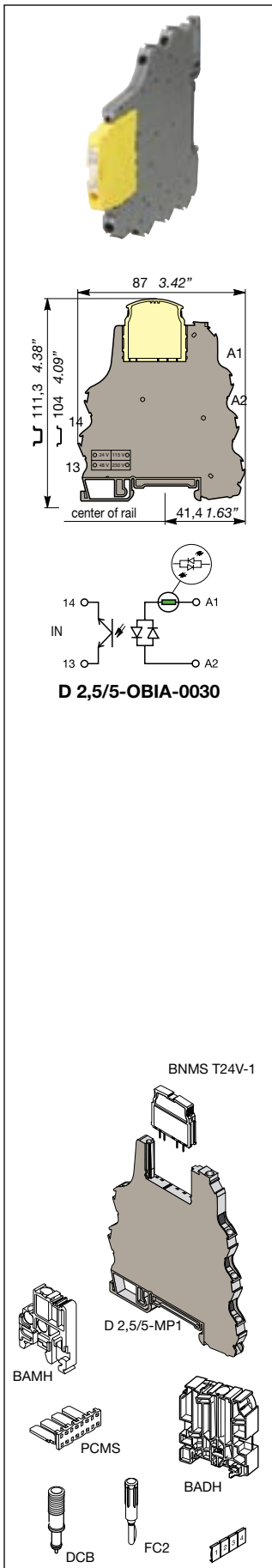
(1) Only on top decks.



Electronic Interfaces

R500 pluggable optocoupler modules

┌ DIN 3

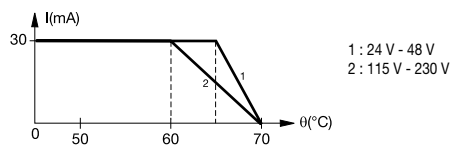


D 2,5/5-OBIA-0030 - 2.5 mm² blocks - 5.08 mm .200" spacing

Characteristics

Opto. characteristics	D 2,5/5-OBIA-0030			
	INPUT	20.4 V to 26.4 V AC	40.8 V to 52.8 V AC	98 V to 126.5 V AC
Input voltage	20.4 V to 26.4 V AC	40.8 V to 52.8 V AC	98 V to 126.5 V AC	195.5 V to 253 V AC
Frequency			50 / 60 Hz	50 Hz
Input current	8.5 mA	4.5 mA	8 mA	7 mA
Pull-in voltage at Is=100%	13 V	22 V	50 V	95 V
Switching time C / O	6 ms / 10 ms	6 ms / 10 ms	6 ms / 10 ms	6 ms / 10 ms
Operating frequency	30 Hz	30 Hz	30 Hz	30 Hz
Permissible leakage current	1 mA	1 mA	2 mA	2 mA
OUTPUT	4.5 V to 58 V DC			
Output voltage	4.5 V to 58 V DC			
Output current min.	0.5 mA			
Output current max.	30 mA			
Output leakage current at Umax.	< 50 µA			
Residual voltage at I max and U rated	typical 2.3 V DC max. 2.7 VDC			
Frequency on inductive load	2500 V RMS			
Isolation Input / Output				
TEMPERATURE	- 40°C to + 80°C			
Ambient temperature	See derating curve			
storage				
operating				
Other characteristics	UL 94 V0			
Body material	grey <input type="checkbox"/>			
Wire	Solid wire			
size	0.2-4 mm ² / 24-12 AWG			
Rated wire size	0.22-2.5 mm ² / 24-12 AWG			
Wire stripping length	2.5 mm ² / 12 AWG			
Recommended screwdriver	10 mm .394"			
Protection	3.5 .137"			
Recommended torque	IP 20 NEMA 1			
Approvals	0.4-0.6 Nm 3.5-5.3 lb.in			
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.			

Derating curve



D 2,5/5-OBIA-0030

Order codes

Description	Type	Order P/N	Packaging	Weight kg
Optocoupler module 24 V AC	D 2,5/5-OBIA-0030-24VAC	1SNA 607 212 R0500	1	0.032
Optocoupler module 48 V AC	D 2,5/5-OBIA-0030-48VAC	1SNA 607 213 R0600	1	0.032
Optocoupler module 115 V AC	D 2,5/5-OBIA-0030-115VAC	1SNA 607 214 R0700	1	0.032
Optocoupler module 230 V AC	D 2,5/5-OBIA-0030-230VAC	1SNA 607 215 R0000	1	0.032

Accessories

High end stop	BAMH	9,1 mm	1SNA 114 836 R0000	50	
	BAMH V0	9,1 mm	1SNA 194 836 R0100	50	
	BADH	12 mm	1SNA 116 900 R2700	50	
Comb type jumper bar 2 to 22 poles	consult us				
Jumper bar 10 poles	grey <input type="checkbox"/>	PCMS	V0	1SNA 205 523 R2200	8
Input opto base	D 2,5/5-MP1		1SNA 607 223 R0000	10	0.028
Plug OBIA 24 V	yellow <input type="checkbox"/>	BNMS T24V-1	1SNA 031 802 R1700	4	
Plug OBIA 48 V	yellow <input type="checkbox"/>	BNMS T48V-1	1SNA 031 803 R1000	4	
Plug OBIA 115 V	yellow <input type="checkbox"/>	BNMS T115V-1	1SNA 031 804 R1100	4	
Plug OBIA 230 V	yellow <input type="checkbox"/>	BNMS T230V-1	1SNA 031 805 R1200	4	
Test device	blue <input type="checkbox"/>	DCB (1)	1SNA 105 028 R2100	10	
Test plug	DIA. 2 mm	FC2	1SNA 007 865 R2600	10	
Marking method	RC55		see marking		

(1) Only on top decks.

Electronic Interfaces

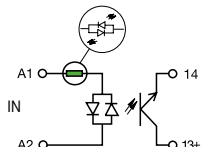
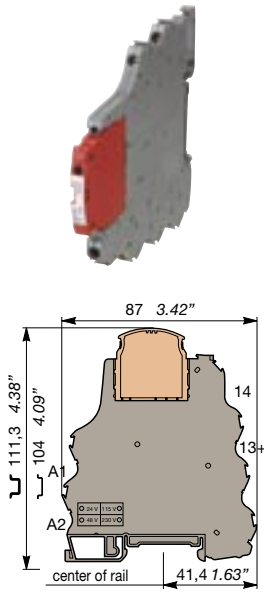
R500 pluggable optocoupler modules

┌ DIN 3

D 2,5/5-OBOC-0100 - 2.5 mm² blocks - 5.08 mm .200" spacing

Characteristics

Opto. characteristics INPUT	D 2,5/5-OBOC-0100 5 V DC / 24 V DC		D 2,5/5-OBOC-0100 48 V DC
	Input voltage	4.5 V to 5.5 V DC	20.4 V to 28.8 V DC
Frequency			
Input current	8.5 mA	4.8 mA	3.9 mA
Pull-in voltage at Is=100%	2.9 V DC	16 V DC	26 V DC
Switching time C / O	20 μs / 1.3 ms	20 μs / 1.3 ms	20 μs / 1.3 ms
Operating frequency	400 Hz	400 Hz	400 Hz
Permissible leakage current	1 mA	1 mA	1 mA
OUTPUT			
Output voltage	4.5 to 58 V DC		
Output current min.	1 mA		
Output current max.	100 mA		
Output leakage current at Umax.	< 50 μA		
Residual voltage at I max and U rated	1 V DC		
typical	1 V DC		
max.	1.3 V DC		
Frequency on inductive load	See Note 1		
Isolation Input / Output	2500 V RMS		
TEMPERATURE			
Ambient temperature storage	- 40°C to + 80°C		
operating	See derating curves		
Other characteristics			
Body material	grey	UL 94 V0	
Wire	Solid wire	0.2-4 mm ² / 24-12 AWG	
size	Stranded wire	0.22-2.5 mm ² / 24-12 AWG	
Rated wire size		2.5 mm ² / 12 AWG	
Wire stripping length		10 mm .394"	
Recommended screwdriver		3.5 mm .137"	
Protection		IP 20 NEMA 1	
Recommended torque		0.4-0.6 Nm 3.5-5.3 lb.in	
Approvals		UL pending, CE	
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.		



D 2,5/5-OBOC-0100

Note 1 :

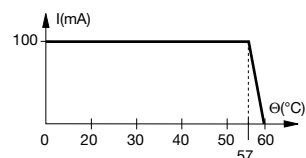
$$F_{max} = (1 - 0,007 \times U_s) / (L \times I_s^2)$$

or

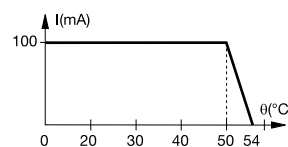
$$F_{max} = (1 - 0,007 \times U_s) / (P \times \frac{L}{R})$$

U_s = Output voltage
 I_s = Output current
 L = Inductance of load
 P = Power of load
 R = Resistance of load

Derating curves



D 2,5/5-OBOC-0100 5 V DC / 24 V DC



D 2,5/5-OBOC-0100 48 V DC

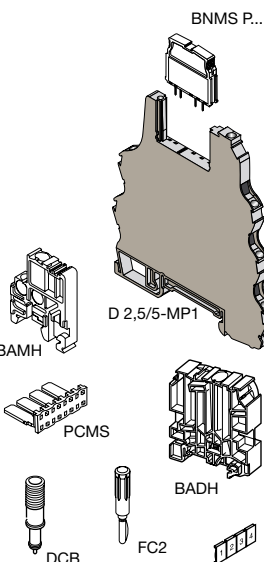
Order codes

Description	Type	Order P/N	Packaging Weight kg
Optocoupler module 5 V DC	D 2,5/5-OBOC-0100-5VDC	1SNA 607 203 R1500	1 0.032
Optocoupler module 24 V DC	D 2,5/5-OBOC-0100-24VDC	1SNA 607 204 R1600	1 0.032
Optocoupler module 48 V DC	D 2,5/5-OBOC-0100-48VDC	1SNA 607 205 R1700	1 0.032

Accessories

High end stop	BAMH	9,1 mm	1SNA 114 836 R0000	50	
	BAMH V0	9,1 mm	1SNA 194 836 R0100	50	
	BADH	12 mm	1SNA 116 900 R2700	50	
Comb type jumper bar 2 to 22 poles			consult us		
Jumper bar 10 poles	grey	PCMS	V0	1SNA 205 523 R2200	8
Relay / Opto base		D 2,5/5-MP		1SNA 607 224 R0100	10 0.028
Plug for OBOC 5 V DC	red	BNMS P5V-3		1SNA 031 809 R2600	4
Plug for OBOC 24 V DC	red	BNMS P24V-3		1SNA 031 810 R1200	4
Plug for OBOC 48 V DC	red	BNMS P48V-3		1SNA 031 811 R0700	4
Test device	blue	DCB (1)		1SNA 105 028 R2100	10
Test plug	DIA. 2 mm	FC2		1SNA 007 865 R2600	10
Marking method		RC55		see marking	

(1) Only on top decks.



Electronic Interfaces

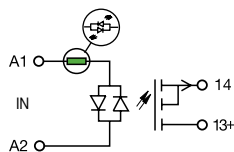
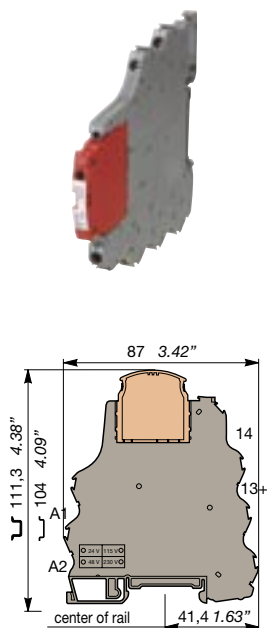
R500 pluggable optocoupler modules

┌ DIN 3

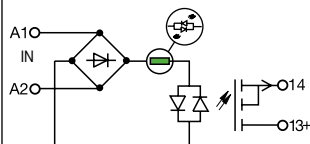
D 2,5/5-OBOC-1000 - 2,5 mm² blocks - 5.08 mm .200" spacing

Characteristics

Opto. characteristics	D 2,5/5-OBOC-1000 5/24 VDC		D 2,5/5-OBOC-1000 24/48 VAC/DC				D2,5/5-OBOC-1000-110/230VAC	
	5 VDC	24 VDC	24 VAC	24 VDC	48 VAC	48 VDC	110 VAC	230 VAC
INPUT								
Input voltage	4.5 to 5.5 VDC	20.4 to 28.8 VDC	24 ± 10%	20.4 to 28.8 VDC	48 ± 10%	40.8 to 57.6 VDC	110 ± 10%	230 ± 10%
Frequency			50 / 60 Hz		50 / 60 Hz		50 / 60 Hz	50 / 60 Hz
Input current	12.3 mA	6.7 mA	10.5 mA	8 mA	6.8 mA	5.8 mA	8.5 mA	7.5 mA
Pull-in voltage at Is=100%	3.5 V DC	10 V DC						
Switching time C / O	20/250 µs	50/350 µs	15/13 ms	5/13 ms	15/15 ms	6/25 ms	15/15 ms	15/15 ms
Operating frequency	2000 Hz	1500 Hz	20 Hz	20 Hz	20 Hz	20 Hz	20 Hz	20 Hz
Permissible leakage current								
OUTPUT								
Output voltage	4.5 to 58 VDC		4.5 to 58 VDC					
Output current min.	1 mA		1 mA					
Output current max.	1 A		1 A					
Output leakage current at Umax.	< 50 µA		< 50 µA					
Residual voltage at I max and U rated	typical 0.1 V		0.1 V					
	max. 0.5 V		0.5 V					
Frequency on inductive load			See Note 1					
Isolation Input / Output			2500 V RMS					
TEMPERATURE								
Ambient temperature storage	-40°C to +80°C							
operating	See derating curve							
Other characteristics								
Body material	grey		UL 94 V0					
Wire	Solid wire		0.2-4 mm ² / 24-12 AWG					
size	Stranded wire		0.22-2.5 mm ² / 24-12 AWG					
Rated wire size			2.5 mm ² / 12 AWG					
Wire stripping length			10 mm .394"					
Recommended screwdriver			3.5 mm .137"					
Protection			IP 20 NEMA 1					
Recommended torque			0.4-0.6 Nm 3.5-5.3 lb.in					
Approvals			cULus pending, CE					
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.							

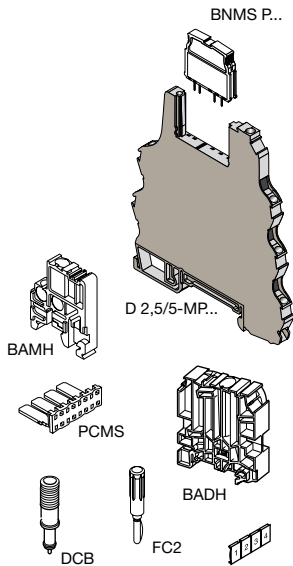


D 2,5/5-OBOC-1000 5/24 VDC



D 2,5/5-OBOC-1000 24/48 VAC/DC 110/230 VAC

BNMS P...



Note 1 :

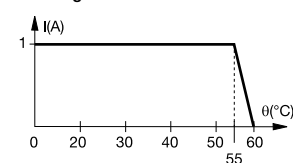
$$F_{max} = (1 - 0,007 \times U_s) / (L \times I_s^2)$$

or

$$F_{max} = (1 - 0,007 \times U_s) / (P \times \frac{L}{R})$$

Us = Output voltage
Is = Output current
L = Inductance of load
P = Power of load
R = Resistance of load

Derating curve



Order codes

Description	Type	Order P/N	Packaging	Weight
Optocoupler module 5 V DC	D 2,5/5-OBOC-1000-5VDC	1SNA 607 206 R1000	1	0.032
Optocoupler module 24 V DC	D 2,5/5-OBOC-1000-24VDC	1SNA 607 207 R1100	1	0.032
Optocoupler module 24 V AC/DC	D 2,5/5-OBOC-1000-24VAC/DC	1SNA 607 250 R2700	1	0.04
Optocoupler module 48 V AC/DC	D 2,5/5-OBOC-1000-48VAC/DC	1SNA 607 251 R1400	1	0.04
Optocoupler module 110 V AC	D 2,5/5-OBOC-1000-110VAC	1SNA 607 270 R2300	1	0.04
Optocoupler module 230 V AC	D 2,5/5-OBOC-1000-230VAC	1SNA 607 271 R1000	1	0.04

Accessories

High end stop	BAMH	9,1 mm	1SNA 114 836 R0000	50
	BAMH V0	9,1 mm	1SNA 194 836 R0100	50
	BADH	12 mm	1SNA 116 900 R2700	50
Comb type jumper bar 2 to 22 poles	consult us			
Jumper bar 10 poles	grey	PCMS V0	1SNA 205 523 R2200	8
Relay / Opto base		D 2,5/5-MP	1SNA 607 224 R0100	10 0.028
Relay / Opto base with LED 24 VAC/VDC		D 2,5/5-MP-24VAC/DC	1SNA 607 260 R2100	10 0.036
Relay / Opto base with LED 48 VAC/VDC		D 2,5/5-MP-48VAC/DC	1SNA 607 261 R1600	10 0.036
Relay / Opto base with LED 110 VAC		D 2,5/5-MP-110VAC	1SNA 607 266 R1300	10 0.036
Relay / Opto base with LED 230 VAC		D 2,5/5-MP-230VAC	1SNA 607 267 R1400	10 0.036
Plug (2)	red	BNMS P5V-2 5 V/1 A	1SNA 031 818 R1600	4
Plug (3)	red	BNMS P24V-2 24 V/1 A	1SNA 031 819 R1700	4
Test device	blue	DCB (1)	1SNA 105 028 R2100	10
Test plug	DIA. 2 mm	FC2	1SNA 007 865 R2600	10
Marking method		RC55	see marking	

(1) Only on top decks.

(2) For D 2,5/5-OBOC-2000 5 V DC only.

(3) For all D 2,5/5-OBOC-2000 except 5 V DC model.

Electronic Interfaces

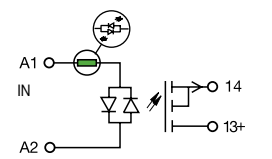
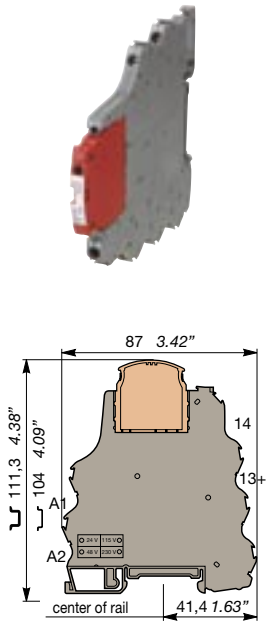
R500 pluggable optocoupler modules

↳ DIN 3

D 2,5/5-OBOC-2000 - 2.5 mm² blocks - 5.08 mm .200" spacing

Characteristics

Opto. characteristics	D 2,5/5-OBOC-2000 5/24 VDC		D 2,5/5-OBOC-2000 24/48 VAC/DC				D 2,5/5-OBOC-2000 110/230VAC	
	5 VDC	24 VDC	24 VAC	24 VDC	48 VAC	48 VDC	110 VAC	230 VAC
INPUT								
Input voltage	4.5 to 5.5 VDC	20.4 to 28.8 VDC	24 ±10%	20.4 to 28.8 VDC	48 ±10%	40.8 to 57.6 VDC	110 ±10%	230 ±10%
Frequency			50 / 60 Hz		50 / 60 Hz		50 / 60 Hz	50 / 60 Hz
Input current	12.3 mA	6.7 mA	10.5 mA	8 mA	6.8 mA	5.8 mA	8.5 mA	7.5 mA
Pull-in voltage at Is=100%	3.5 V DC	10 V DC						
Switching time C / O	20/250 µs	50/350 µs	15/13 ms	5/13 ms	15/15 ms	6/25 ms	15/15 ms	15/15 ms
Operating frequency	2000 Hz	1500 Hz	20 Hz	20 Hz	20 Hz	20 Hz	20 Hz	20 Hz
Permissible leakage current								
OUTPUT								
Output voltage	4.5 to 30 VDC		4.5 to 30 VDC					
Output current min.	1 mA		1 mA					
Output current max.	2 A		2 A					
Output leakage current at Umax.	< 50 µA		< 50 µA					
Residual voltage at I max and U rated	typical 0.1 V max. 0.5 V		0.1 V 0.5 V					
Frequency on inductive load	See Note 1							
Isolation Input / Output	2500 V RMS							
TEMPERATURE								
Ambient temperature storage	-40°C to +80°C							
operating	See derating curve							
Other characteristics								
Body material	UL 94 V0							
Wire	Solid wire							
size	0.2-4 mm ² / 24-12 AWG							
Stranded wire	0.22-2.5 mm ² / 24-12 AWG							
Rated wire size	2.5 mm ² / 12 AWG							
Wire stripping length	10 mm .394"							
Recommended screwdriver	3.5 mm .137"							
Protection	IP 20 NEMA 1							
Recommended torque	0.4-0.6 Nm 3.5-5.3 lb.in							
Approvals	UL pending, CE							
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.							

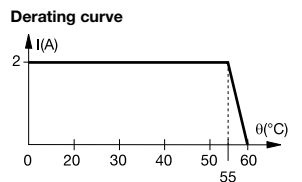


D 2,5/5-OBOC-2000

Note 1 :

$F_{max} = (1 - 0,012 \times U_s) / (L \times I_s^2)$
 or
 $F_{max} = (1 - 0,012 \times U_s) / (P \times \frac{L}{R})$

Us = Output voltage
 Is = Output current
 L = Inductance of load
 P = Power of load
 R = Resistance of load



Order codes

Description	Type	Order P/N	Packaging	Weight kg
Optocoupler module 5 V DC	D 2,5/5-OBOC-2000-5VDC	1SNA 607 208 R2200	1	0.032
Optocoupler module 24 V DC	D 2,5/5-OBOC-2000-24VDC	1SNA 607 209 R2300	1	0.032
Optocoupler module 24 V AC/DC	D 2,5/5-OBOC-2000-24VAC/DC	1SNA 607 255 R1000	1	0.04
Optocoupler module 48 V AC/DC	D 2,5/5-OBOC-2000-48VAC/DC	1SNA 607 256 R1100	1	0.04
Optocoupler module 110 V AC	D 2,5/5-OBOC-2000-110VAC	1SNA 607 272 R1100	1	0.04
Optocoupler module 230 V AC	D 2,5/5-OBOC-2000-230VAC	1SNA 607 273 R1200	1	0.04

Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50
	BAMH V0 9,1 mm	1SNA 194 836 R0100	50
	BADH 12 mm	1SNA 116 900 R2700	50
Comb type jumper bar 2 to 22 poles		consult us	
Jumper bar 10 poles grey	PCMS V0	1SNA 205 523 R2200	8
Relay / Opto base	D 2,5/5-MP	1SNA 607 224 R0100	10 0.028
Relay / Opto base with LED 24 VAC/VDC	D 2,5/5-MP-24VAC/DC	1SNA 607 260 R2100	10 0.036
Relay / Opto base with LED 48 VAC/VDC	D 2,5/5-MP-48VAC/DC	1SNA 607 261 R1600	10 0.036
Relay / Opto base with LED 110 VAC	D 2,5/5-MP-110VAC	1SNA 607 266 R1300	10 0.036
Relay / Opto base with LED 230 VAC	D 2,5/5-MP-230VAC	1SNA 607 267 R1400	10 0.036
Plug (2)	red ■ BNMS P5V-1 5 V/2 A	1SNA 031 814 R0200	4
Plug (3)	red ■ BNMS P24V-1 24 V/2 A	1SNA 031 815 R0300	4
Test device	blue ■ DCB (1)	1SNA 105 028 R2100	10
Test plug	DIA. 2 mm FC2	1SNA 007 865 R2600	10
Marking method	RC55	see marking	

(1) Only on top decks.
 (2) For D 2,5/5-OBOC-2000 5 V DC only.
 (3) For all D 2,5/5-OBOC-2000 except 5 V DC model.



Electronic Interfaces

R500 pluggable optocoupler modules

└─ DIN 3

D 2,5/5-OBOA-1000 - 2.5 mm² blocks - 5.08 mm .200" spacing

Characteristics

Opto. characteristics	D 2,5/5-... 24 VDC		D 2,5/5-OBOA-1000 24 VAC/DC-48 VAC/DC			D 2,5/5-OBOA-1000 110 VAC-230 VAC	
	24 VDC	24 VAC	24 VDC	48 VAC	48 VDC	110 VAC	230 VAC
INPUT	24 VDC	24 VAC	24 VDC	48 VAC	48 VDC	110 VAC	230 VAC
Input voltage	20.4 to 28.8 VDC	24 ±10%	20.6 to 28.8 VDC	48 ±10%	40.8 to 57.6 VDC	110 ±10%	230 ±10%
Frequency		50 / 60 Hz		50 / 60 Hz		50 / 60 Hz	50 / 60 Hz
Input current	4 mA	10 mA	7 mA	6 mA	5 mA	8 mA	7.5 mA
Pull-in voltage at Is=100%							
Switching time C / O	10/20 ms	20/20 ms	10/20 ms	20/20 ms	10/20 ms	20/20 ms	20/20 ms
Operating frequency	15 Hz	15 Hz	15 Hz	15 Hz	15 Hz	15 Hz	15 Hz
Permissible leakage current							

OUTPUT

Output voltage	24 to 253 VAC - 50 / 60 Hz
Output current min.	25 mA
Output current max.	1 A
Output leakage current at Umax.	< 0.5 mA
Residual voltage at I max and U rated	1 V
typical	
max.	1.6 V
Frequency on inductive load	See Note 1
Isolation Input / Output	2500 V RMS

TEMPERATURE

Ambient temperature	-40 to +80°C
storage	
operating	See derating curve

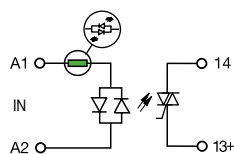
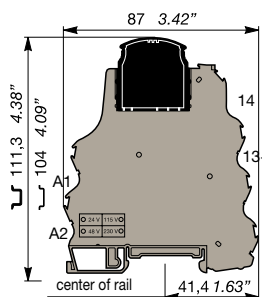
Other characteristics

Body material	grey <input type="checkbox"/>	UL 94 V0
Wire	Solid wire	0.2-4 mm ² / 24-12 AWG
size	Stranded wire	0.22-2.5 mm ² / 24-12 AWG
Rated wire size		2.5 mm ² / 12 AWG
Wire stripping length		10 mm .394"
Recommended screwdriver		3.5 mm .137"
Protection		IP 20 NEMA 1
Recommended torque		0.4-0.6 Nm 3.5-5.3 lb.in

Approvals

UL US pending, CE

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.



D 2,5/5-OBOA-1000

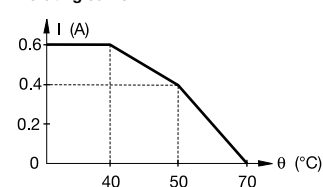
Note 1 :

$$F_{max} = (1 - 0,012 \times U_s) / (L \times I_s^2)$$

$$F_{max} = (1 - 0,012 \times U_s) / (P \times \frac{L}{R})$$

Us = Output voltage
 Is = Output current
 L = Inductance of load
 P = Power of load
 R = Resistance of load

Derating curve



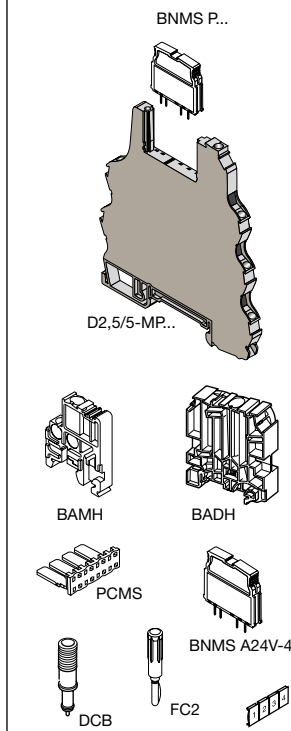
Order codes

Description	Type	Order P/N	Packaging	Weight
			kg	
Optocoupler module 24 V DC	D 2,5/5-OBOA-1000-24VDC	1SNA 607 238 R1700	1	0.032
Optocoupler module 24 V AC/DC	D 2,5/5-OBOA-1000-24VAC/DC	1SNA 607 240 R2500	1	0.04
Optocoupler module 48 V AC/DC	D 2,5/5-OBOA-1000-48VAC/DC	1SNA 607 241 R1200	1	0.04
Optocoupler module 110 V AC	D 2,5/5-OBOA-1000-110VAC	1SNA 607 268 R2500	1	0.04
Optocoupler module 230 V AC	D 2,5/5-OBOA-1000-230VAC	1SNA 607 269 R2600	1	0.04

Accessories

High end stop	BAMH	9,1 mm	1SNA 114 836 R0000	50
	BAMH V0	9,1 mm	1SNA 194 836 R0100	50
	BADH	12 mm	1SNA 116 900 R2700	50
Comb type jumper bar 2 to 22 poles			consult us	
Jumper bar 10 poles	grey <input type="checkbox"/>	PCMS V0	1SNA 205 523 R2200	8
Relay / Opto base	D 2,5/5-MP	1SNA 607 224 R0100	10	0.028
Relay / Opto base with LED 24 VAC/VDC	D 2,5/5-MP-24VAC/DC	1SNA 607 260 R2100	10	0.036
Relay / Opto base with LED 48 VAC/VDC	D 2,5/5-MP-48VAC/DC	1SNA 607 261 R1600	10	0.036
Relay / Opto base with LED 110 VAC	D 2,5/5-MP-110VAC	1SNA 607 266 R1300	10	0.036
Relay / Opto base with LED 230 VAC	D 2,5/5-MP-230VAC	1SNA 607 267 R1400	10	0.036
Plug	black <input type="checkbox"/>	BNMS A24V-4 250 V/1 A	1SNA 031 839 R1300	4
Test device	blue <input type="checkbox"/>	DCB (1)	1SNA 105 028 R2100	10
Test plug	DIA. 2 mm	FC2	1SNA 007 865 R2600	10
Marking method	RC55		see marking	

(1) Only on top decks.



Electronic Interfaces

R900 optocoupler modules DIN 3

OBC 0100 - 2.5 mm² blocks - 9 mm .354" spacing

Characteristics

Opto. characteristics	OBC 0100 - 24 V DC	OBC 0100 - 48 V DC	OBC 0100 - 110 V AC	OBC 0100 - 230 V AC
INPUT				
Input voltage	10.2 V to 28.8 V DC	40.8 V to 57.6 V DC	93.5 V AC to 152.4 V AC	230 V AC +15%, -20%
Frequency			50 / 60 Hz	50 Hz
Input current	7 mA to 12 V / 10 mA to 24 V	5 mA	8 mA	8 mA
Pull-in voltage at I _s =100%	10.2 V DC	40.8 V DC	93.5 V AC	184 V AC
Switching time C / O	20 μs / 50 μs	20 μs / 50 μs	5 ms/5 ms	5 ms/5 ms
Operating frequency	7000 Hz	7000 Hz	50 Hz	50 Hz
Permissible leakage current				



OUTPUT

Output voltage	4.5 to 60 V DC
Output current min.	1 mA
Output current max.	100 mA
Output leakage current at U _{max} .	< 50 μA
Residual voltage at I _{max} and U _{rated}	1 V
typical	
max.	1.3 V
Frequency on inductive load	
Isolation Input / Output	3000 V RMS

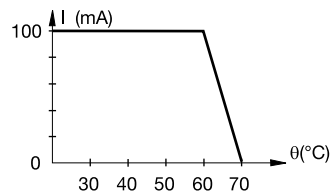
TEMPERATURE

Ambient temperature storage	- 40°C to + 80°C
operating	See derating curve

Other characteristics

Body material	grey <input type="checkbox"/>	UL 94 V0
Wire	Solid wire	0.5-4 mm ² / 20-12 AWG
size	Stranded wire	0.5-2.5 mm ² / 20-12 AWG
Rated wire size		2.5 mm ² / 12 AWG
Wire stripping length		7 mm .276"
Recommended screwdriver		3.5 .137"
Protection		IP 20 NEMA 1
Recommended torque		0.4-0.6 Nm 3.5-5.3 lb.in
Approvals		 us pending, 
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.	

Derating curve



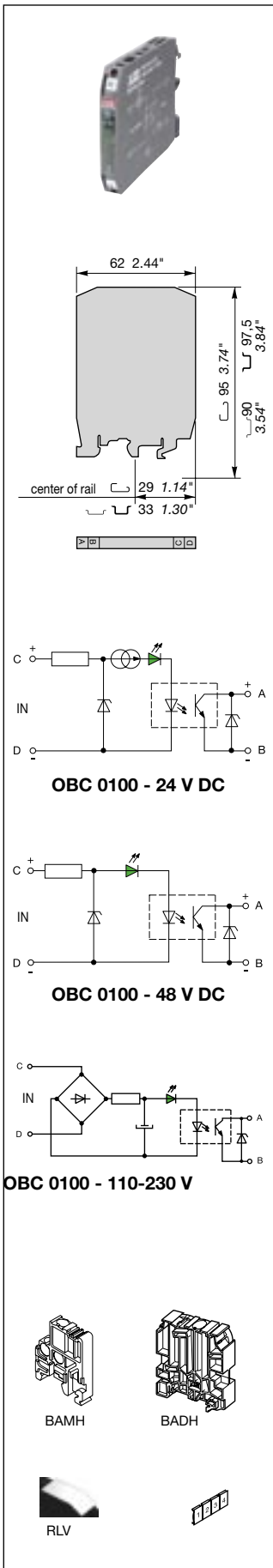
OBC 0100

Order codes

Description	Type	Order P/N	Packaging Weight kg
Optocoupler module 24 V DC	OBC 0100-24VDC	1SNA 608 017 R0600	1 0.04
Optocoupler module 48 V DC	OBC 0100-48VDC	1SNA 608 021 R0200	1 0.04
Optocoupler module 110 V AC	OBC 0100-110VAC	1SNA 608 024 R0500	1 0.04
Optocoupler module 230 V AC	OBC 0100-230VAC	1SNA 608 027 R0000	1 0.04

Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50
	BAMH V0 9,1 mm	1SNA 194 836 R0100	50
	BADH 12 mm	1SNA 116 900 R2700	50
Lengthwise marker	RLV	1SNA 103 849 R0300	
Marking method	RC55	see marking	



Electronic Interfaces

R900 optocoupler modules └ DIN 3

OBC 0100 - 2.5 mm² blocks - 9 mm .354" spacing

Characteristics

Opto. characteristics	OBC 1000 - 5 V DC	OBC 1000 - 24 V DC	OBC 1000 - 48 V DC	OBC 1000 - 110 V AC	OBC 1000 - 230 V AC
INPUT					
Input voltage	5 V DC +10%, -10%	10.2 V DC to 28.8 V DC	48 V DC +20%, -15%	93,5 V AC to 152,4 V AC	230 V AC +15%, -20%
Frequency				50 / 60 Hz	50 Hz
Input current	6.5 mA	6.5mA to 12V/9.5mA to 24V	4.5 mA	8 mA	7 mA
Pull-in voltage at Is=100%	4.5 V DC	10.2 V AC	40.8 V DC	93.5 V AC	184 V DC
Switching time C / O	20 μs / 50 μs	20 μs / 50 μs	20 μs / 50 μs	2 ms / 5 ms	1 ms / 5 ms
Operating frequency	7000 Hz	7000 Hz	7000 Hz	80 Hz	80 Hz
Permissible leakage current					

OUTPUT

Output voltage	4.5 to 60 V DC
Output current min.	1 mA
Output current max.	1 A
Output leakage current at Umax.	< 50 μA
Residual voltage at I max and U rated	typical max. 1 V 1.3 V
Frequency on inductive load	
Isolation Input / Output	3000 V RMS

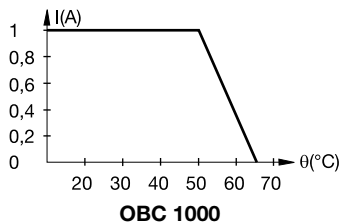
TEMPERATURE

Ambient temperature	storage operating	- 40°C to + 80°C See derating curve
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Other characteristics

Body material	grey <input type="checkbox"/>	UL 94 V0
Wire	Solid wire	0.5-4 mm ² / 20-12 AWG
size	Stranded wire	0.5-2.5 mm ² / 20-12 AWG
Rated wire size		2.5 mm ² / 12 AWG
Wire stripping length		7 mm .276"
Recommended screwdriver		3.5 .137"
Protection		IP 20 NEMA 1
Recommended torque		0.4-0.6 Nm 3.5-5.3 lb.in
Approvals		US pending, CE
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.	

Derating curve

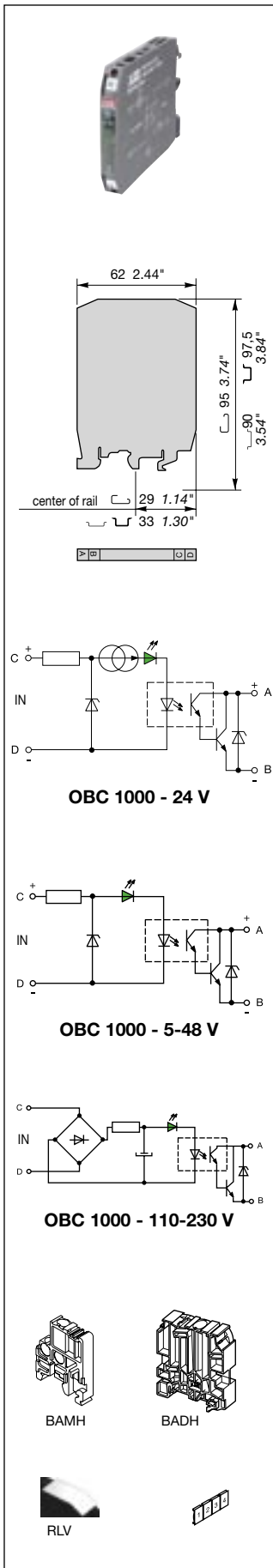


Order codes

Description	Type	Order P/N	Packaging	Weight
Optocoupler module 5 V DC	OBC 1000-5VDC	1SNA 608 014 F2200	1	0.04
Optocoupler module 24 V DC	OBC 1000-24VDC	1SNA 608 018 F1700	1	0.04
Optocoupler module 48 V DC	OBC 1000-48VDC	1SNA 608 022 F0300	1	0.04
Optocoupler module 110 V AC	OBC 1000-110VAC	1SNA 608 025 F0600	1	0.04
Optocoupler module 230 V AC	OBC 1000-230VAC	1SNA 608 028 F1100	1	0.04

Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 F0000	50
	BAMH V0 9,1 mm	1SNA 194 836 F0100	50
	BADH 12 mm	1SNA 116 900 F2700	50
Lengthwise marker	RLV	1SNA 103 849 F0300	
Marking method	RC55	see marking	



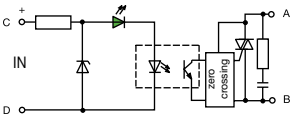
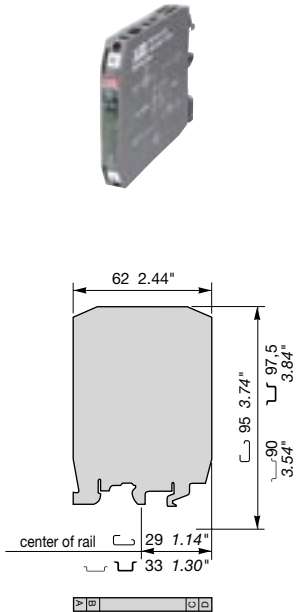
Electronic Interfaces

R900 optocoupler modules └─ DIN 3

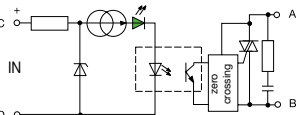
OBA 1000 - 2.5 mm² blocks - 9 mm .354" spacing

Characteristics

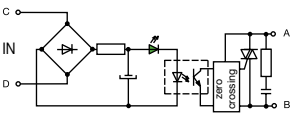
Opto. characteristics	OBA 1000 - 5 V DC	OBA 1000 - 24 V DC	OBA 1000 - 48 V DC	OBA 1000 - 110 V AC
INPUT				
Input voltage	5 V DC + 10%, - 10%	10.2 V DC to 28.8 V DC	48 V DC + 20%, - 15%	93.5 V AC to 152.4 V AC
Frequency				50 / 60 Hz
Input current	10 mA	8 mA to 12 mA	7 mA	7 mA to 10 mA
Pull-in voltage at I _S =100%	4.5 V DC	10.2 V DC	40.8 V DC	93.5 V AC
Switching time C / O	10 ms / 10 ms	10 ms / 10 ms	10 ms / 10 ms	10 ms / 10 ms
Operating frequency	25 Hz	25 Hz	25 Hz	25 Hz
Permissible leakage current				
OUTPUT				
Output voltage		24 to 253 V AC - 50 / 60 Hz		
Output current min.		25 mA		
Output current max.		1 A		
Output leakage current at U _{max} .		< 0.5 mA		
Residual voltage at I _{max} and U _{rated}		1 V		
typical		1 V		
max.		1.6 V		
Frequency on inductive load		3000 V RMS		
Isolation Input / Output		3000 V RMS		
TEMPERATURE				
Ambient temperature storage		- 40°C to + 80°C		
operating		See derating curves		
Other characteristics				
Body material	grey	UL 94 V0		
Wire	Solid wire	0.5-4 mm ² / 20-12 AWG		
size	Stranded wire	0.5-2.5 mm ² / 20-12 AWG		
Rated wire size		2.5 mm ² / 12 AWG		
Wire stripping length		7 mm .276"		
Recommended screwdriver		3.5 .137"		
Protection		IP 20 NEMA 1		
Recommended torque		0.4-0.6 Nm 3.5-5.3 lb.in		
Approvals				
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.		



OBA 1000 - 5 - 48 V DC

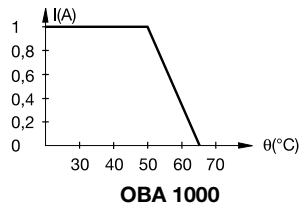


OBA 1000 - 24 V DC



OBA 1000 - 110 V AC

Derating curve

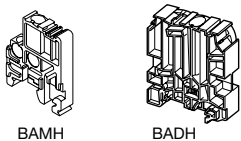


Order codes

Description	Type	Order P/N	Packaging	Weight
Optocoupler module 5 V DC	OBA 1000-5VDC	1SNA 608 015 R0400	1	0.05
Optocoupler module 24 V DC	OBA 1000-24VDC	1SNA 608 019 R1000	1	0.05
Optocoupler module 48 V DC	OBA 1000-48VDC	1SNA 608 023 R0400	1	0.05
Optocoupler module 110 V AC	OBA 1000-110VAC	1SNA 608 026 R0700	1	0.05

Accessories

High end stop	BAMH	9,1 mm	1SNA 114 836 R0000	50
	BAMH	9,1 mm	1SNA 194 836 R0100	
	BADH	12 mm	1SNA 116 900 R2700	
Lengthwise marker	RLV		1SNA 103 849 R0300	
Marking method	RC55		see marking	




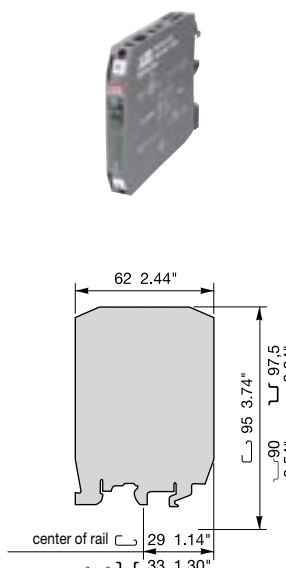
Relay Interfaces

"Long Life" relay modules R900  DIN 1-3

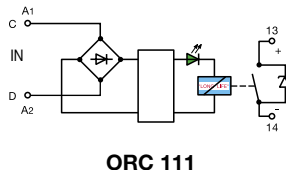
OR... 111 - relay blocks - 9 mm .354" spacing

Characteristics

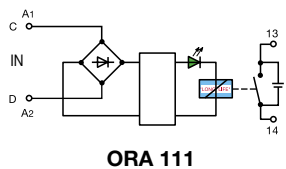
Relay characteristics	ORC 111 24 V DC	ORA 111 24 V DC
	INPUT	
Rated voltage $\pm 20\%$ on DC	24 V DC	24 V DC
Power	0.65 W	0.6 W
Rated current	26 mA	20 mA
Drop-out voltage at 20°C	4 V	5 V
Drop-in voltage at 20°C		
Permissible leakage current		
Status device	green LED	
OUTPUT		
Type	1 NO	
Voltage switching range min./max.	10 V DC / 57,6 V DC	20 V AC / 135 V AC
Current switching range min./max.	100 mA / 5 A	
Load switching range		
AC1 min. / max.	2 VA / 675 VA	
DC1 min. / max.	1 W / 280 W	
Number of on-load operations	20 x 10 ⁶ (see curves)	
Number of off-load operations	20 x 10 ⁶	
Operating speed	F 80 μ s	10 ms
	O 20 ms	30 ms
Bounce		
Insulation input / output	3000 V RMS	
Resistance to shock input / output	5000 V RMS	
Inductive load max.	see curves	
Ambient temperature storage	-40°C to +80°C	
operating	see derating curves	
Other characteristics		
Body material	grey <input type="checkbox"/>	UL 94 V0
Wire	Solid wire	0.5-4 mm ² / 20-12 AWG
size	Stranded wire	0.5-2.5 mm ² / 20-12 AWG
Rated wire size		2.5 mm ² / 12 AWG
Wire stripping length		7 mm / .276"
Recommended screwdriver		3.5 mm / .137"
Protection		IP 20 / NEMA 1
Recommended torque		0.4-0.6 Nm / 3.5-5.3 lb.in
Approvals		
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 R900

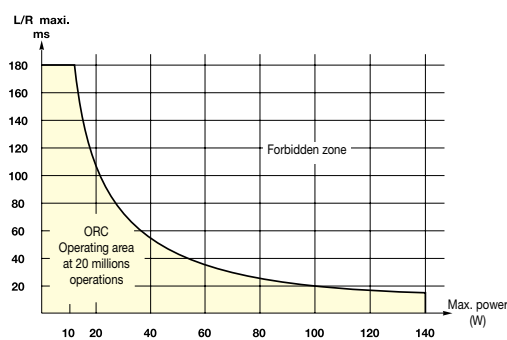


ORC 111

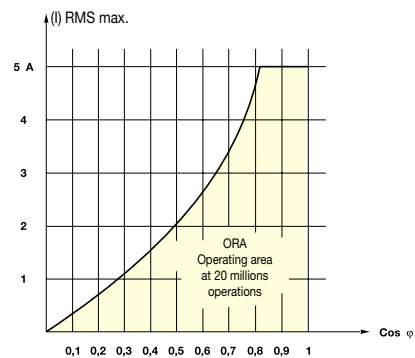


ORA 111

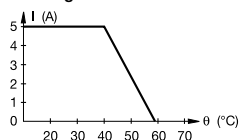
ORC type - Maximum switching power at 24V DC as per L/R



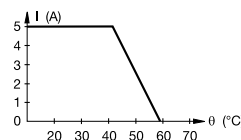
ORA type - Maximum switching current as per cos ϕ



Derating curves



ORC 111



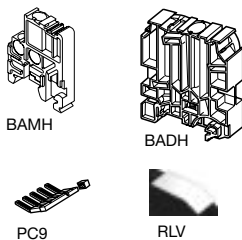
ORA 111

Order codes

Description	Type	Order P/N	Packaging	Weight kg
Long Life relay module 24 V DC	ORC 111-24VDC	1SNA 608 068 F2100	1	0.03
Long Life relay module 24 V DC	ORA 111-24VDC	1SNA 608 069 F2200	1	0.04

Accessories

High end section	BADH	1SNA 116 900 F2700	50
	BAMH	1SNA 114 836 F0000	50
	BAMH V0	1SNA 194 836 F0100	50
Comb-type jumper bar	PC9	1SNA 210 160 F1200	10
Lengthwise marker	RLV	1SNA 103 849 F0300	
Marking method	RC55	see marking	



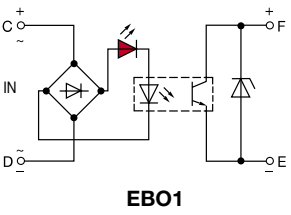
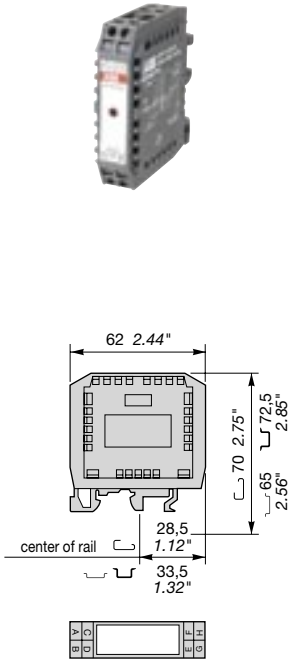
Electronic Interfaces

R1800 optocoupler modules ⌋ DIN 3

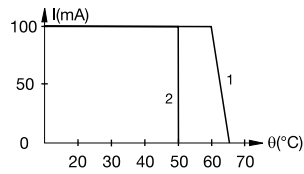
EBO... - 2.5 mm² blocks - 18 mm .709" spacing

Characteristics

Opto. characteristics	EBO1 - 24 V		EBO1 - 127-220 V		EBO3 DC				
	INPUT								
Input voltage	24 V AC	24 V DC	127 V AC/DC	220 V AC/DC	5 V DC	12 V DC	15 V DC	24 V DC	48 V DC
Frequency			50 / 60 Hz	50 / 60 Hz					
Input current	10 mA	8 mA	6 mA	5 mA			11 mA		
Pull-in voltage at I _S =100%	12 V AC	16 V DC	88 V AC	128 V AC	4 V	9.6 V	12 V	19.2 V	38.4 V
Switching time C / O	10 ms / 7 ms				20 μs / 80 μs				
Operating frequency	30 Hz				500 Hz				
Permissible leakage current									
OUTPUT									
Output voltage	4.5 to 58 V DC				4.5 to 53 V DC				
Output current min.	1 mA				0.5 mA				
Output current max.	100 mA				50 mA				
Output leakage current at U _{max} .	< 50 μA				< 50 μA				
Residual voltage at I _{max} and U _{rated} typical	1 V				1 V				
max.	1.3 V				1.3 V				
Frequency on inductive load	2500 V RMS				2500 V RMS				
Isolation Input / Output	2500 V RMS								
TEMPERATURE									
Ambient temperature storage	- 40°C to + 80°C								
operating	See derating curves								
Other characteristics									
Body material	grey □				UL 94 V0				
Wire	Solid wire				0.2-4 mm ² / 22-12 AWG				
size	Stranded wire				0.22-2.5 mm ² / 22-12 AWG				
Rated wire size					2.5 mm ² / 12 AWG				
Wire stripping length					7 mm .276"				
Recommended screwdriver					3.5 .137"				
Protection					IP 20 NEMA 1				
Recommended torque					0.4-0.6 Nm				
Approvals									
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.								

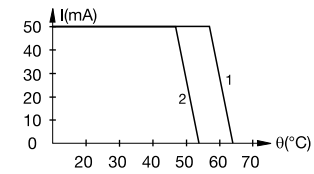


Derating curves



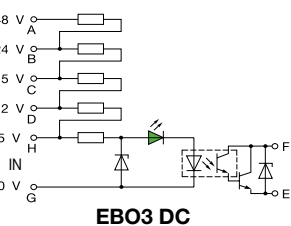
EBO1

- 1 : 24 V AC/DC model
- 2 : 127-230 V AC/DC model



EBO3 DC

- 1 : 5 to 24 V DC model
- 2 : 48 V DC model

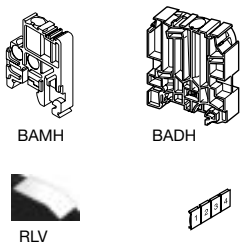


Order codes

Description	Type	Order P/N	Packaging	Weight
Optocoupler module 24 V AC/DC	EBO1-24VAC/DC	1SNA 610 022 R2000	1	0.03
Optocoupler module 127 V AC/DC	EBO1-127VAC/DC	1SNA 610 108 R1400	1	0.03
Optocoupler module 220 V AC/DC	EBO1-220VAC/DC	1SNA 610 023 R2100	1	0.03
Optocoupler module 5-12-15-24-48 V DC	EBO3 DC	1SNA 610 230 R1100	1	0.03

Accessories

High end stop	BAMH	9,1 mm	1SNA 114 836 R0000	50
	BAMH V0	9,1 mm	1SNA 194 836 R0100	50
	BADH	12 mm	1SNA 116 900 R2700	50
Lengthwise marker	RLV		1SNA 103 849 R0300	
Marking method	RC55		see marking	



Applications

R600

**NEW
RANGE**

In present automatic processes, the control device includes a computer or a PLC linked to the process with a lot of wires connecting to sensors or actuators.

These performing processors in their own activity are environmental interferences and overvoltages much sensitive.

Moreover, their action field is often limited in voltage and current of 24 V DC / 100 mA.

In order to fit voltage/current together with galvanic insulation, interface is necessary through devices providing these functions plus transmission of input/output logic signals.

The R600 range of relays and optocouplers makes it possible. These devices provide many voltage and current adjustments (5 to 400 V / 1 mA to 12 A) and input/output insulation from 2 to 4 kV.

The ABB solution

ABB uses Entelec's know-how for providing a full range of automatic process products.

The new R600 range of relays and optocouplers is the solution for all your applications. It provides a wide panel of relay and optocoupler products with many functions.

CE

Relay range

- Input voltage :
from 5 to 250 V AC/DC
- Voltage switching range :
from 5 to 250 V AC/DC
- Current switching range :
from 1 mA to 12 A
- Leakage current and overvoltage protection
- Relay coil forcing switch

Optocoupler range

- Input voltage :
from 5 to 250 V AC/DC
- Voltage switching range :
from 5 to 58 V DC,
from 20 to 400 V AC
- Current switching range :
from 1 mA to 5 A
- Overvoltage protection



EASY MARKING

Box function with markers type RC610
Wire connection with markers type RC65
Electrical schematic of the block on the side of the block

Type RC610



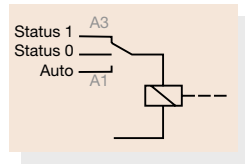
Type RC65

MANUAL OR AUTOMATIC FUNCTIONNING

Micro-Switch allowing forcing of the coil input to 0 or 1 for interventions in equipments.

Two possibilities:

- With a visible switch located on front side. (Fig. 1)
- With a secure switch (Fig. 2) after acces hatch opening (Fig. 3)



(Fig. 1)



(Fig. 3)

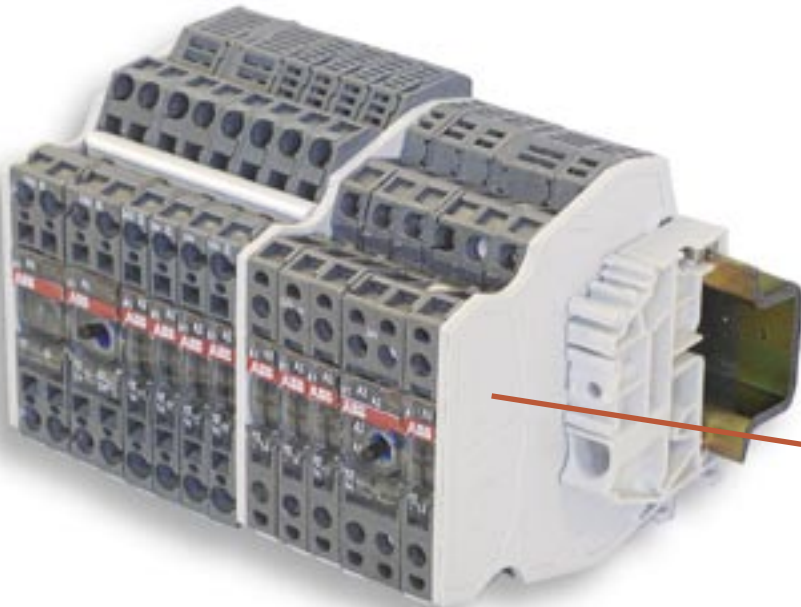


(Fig. 2)



FUNCTIONNING STATUS

Functionning display through a green Led.



JUMPER BAR

Same jumper bar for «Screw clamp» or «Spring clamp» technologies. Independent of wire clamp and snap on held in place. Use of end sections is required to preserve IP20 protection.



DISTRIBUTION BLOCK

«Screw clamp» or «Spring clamp» technologies. With protection connected to the rail.

For polarity distribution on demand : coils and/or contacts.



MESUREMENTS - TESTS

Holes for holding DIA. 2 mm test plugs of the measurement apparatus in position.



EASY WIRING

DIA. 3,5 mm screwdriver self-gripped into spring



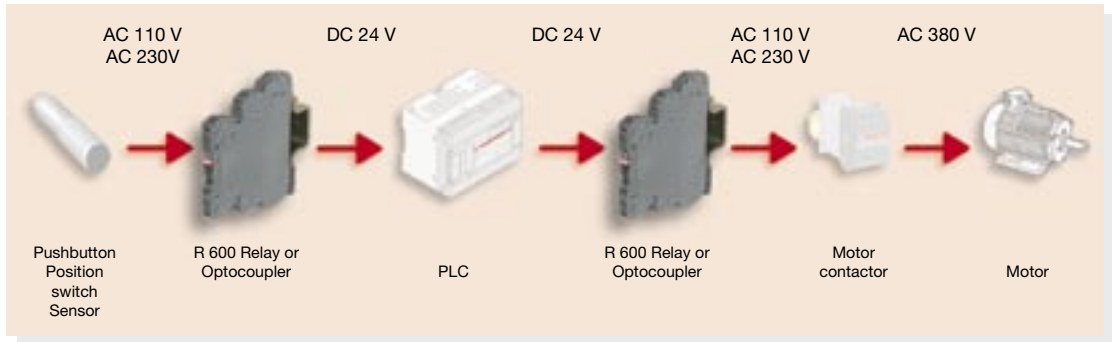
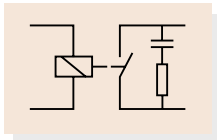


ABB PROVIDES A FULL SOLUTION FROM SENSOR TO MOTOR

SAVING

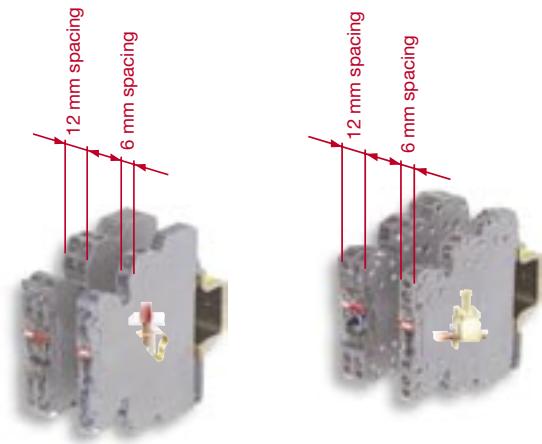
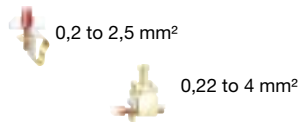
CONTACT LIFE INCREASED



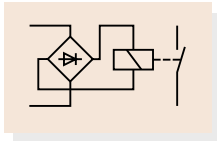
Contact protection through RC circuit

DIMENSIONS

Compact block in «spring clamp» or «screw clamp» versions with 6 mm and 12 mm spacings.



ONLY ONE PART NUMBER AC/



SAFETY

SEPARATION AND IDENTIFICATION OF SEVERAL VOLTAGES

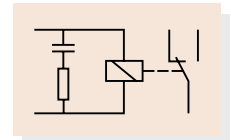
Separator end sections.

IP20 PROTECTION

NO DISTURBANCE PRODUCTION

Choice of high quality electronic components to reduce leakage currents (< 50 µA).

IMMUNITY

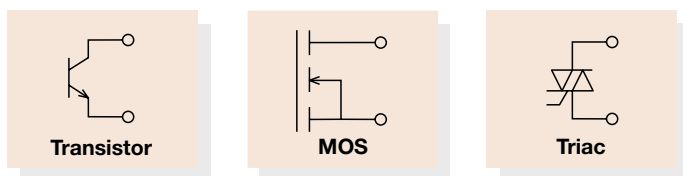
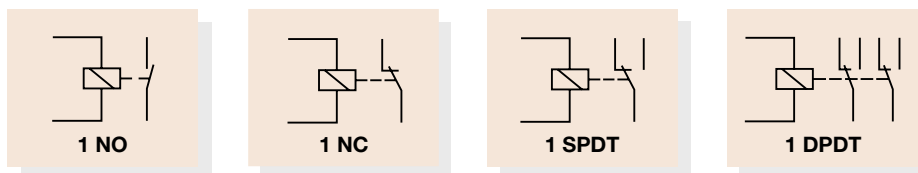


Leakage current protection

ACCORDANCE TO STANDARDS :



PERFORMANCES



ADAPTABILITY TO ANY APPLICATION TYPE

THE PLUS IN OUR PERFORMANCES

- Triac output 400 VAC (50 Hz / 60 Hz)
- Relay output 12 A in 12 mm spacing
- 100 part numbers
- Screw clamp or spring clamp connections

Selection guide R600 Relay modules



RB..... = screw clamp



RBR..... = spring clamp



Input / Output	5 V DC	12 V DC	24 VAC/DC 50 / 60 Hz	48-60 V AC/DC 50 / 60 Hz	115 V AC/DC 50 / 60 Hz	230 V AC/DC 50 / 60 Hz
10 mA / 6 A 			RB 111 A 24 V AC/DC 1SNA 645 014 R2700 spacing : 6 mm RBR 111 A 24 V AC/DC 1SNA 645 514 R2100 spacing : 6 mm	RB 111 A 48-60 V AC/DC 1SNA 645 015 R2000 spacing : 6 mm RBR 111 A 48-60 V AC/DC 1SNA 645 515 R2200 spacing : 6 mm	RB 111 A 115 V AC/DC 1SNA 645 016 R2100 spacing : 6 mm RBR 111 A 115 V AC/DC 1SNA 645 516 R2300 spacing : 6 mm	RB 111 A 230 V AC/DC 1SNA 645 017 R2200 spacing : 6 mm RBR 111 A 230 V AC/DC 1SNA 645 517 R2400 spacing : 6 mm
10 mA / 6 A 			RB 111 AI 24 V AC/DC 1SNA 645 063 R0000 spacing : 6 mm RBR 111 AI 24 V AC/DC 1SNA 645 563 R0200 spacing : 6 mm			
10 mA / 6 A 			RB 111 AR 24 V AC/DC 1SNA 645 018 R0300 spacing : 12 mm RBR 111 AR 24 V AC/DC 1SNA 645 518 R0500 spacing : 12 mm			
10 mA / 6 A 			RB 101 AR 24 V AC/DC 1SNA 645 019 R0400 spacing : 12 mm RBR 101 AR 24 V AC/DC 1SNA 645 519 R0600 spacing : 12 mm			
10 mA / 6 A 	RB 121 5 V DC 1SNA 645 034 R2300 spacing : 6 mm RBR 121 5 V DC 1SNA 645 534 R2500 spacing : 6 mm	RB 121 12 V DC 1SNA 645 035 R2400 spacing : 6 mm RBR 121 12 V DC 1SNA 645 535 R2600 spacing : 6 mm	RB 121 A 24 V AC/DC 1SNA 645 001 R0300 spacing : 6 mm RBR 121 A 24 V AC/DC 1SNA 645 501 R0500 spacing : 6 mm	RB 121 A 48-60 V AC/DC 1SNA 645 002 R0400 spacing : 6 mm RBR 121 A 48-60 V AC/DC 1SNA 645 502 R0600 spacing : 6 mm	RB 121 A 115 V AC/DC 1SNA 645 003 R0500 spacing : 6 mm RBR 121 A 115 V AC/DC 1SNA 645 503 R0700 spacing : 6 mm	RB 121 A 230 V AC/DC 1SNA 645 004 R0400 spacing : 6 mm RBR 121 A 230 V AC/DC 1SNA 645 504 R0000 spacing : 6 mm
1 mA / 6 A 	RB 121 5 V DC 1SNA 645 036 R2500 spacing : 6 mm RBR 121 5 V DC 1SNA 645 536 R2700 spacing : 6 mm	RB 121 12 V DC 1SNA 645 037 R2700 spacing : 6 mm RBR 121 12 V DC 1SNA 645 537 R2000 spacing : 6 mm	RB 121 A 24 V AC/DC 1SNA 645 005 R0700 spacing : 6 mm RBR 121 A 24 V AC/DC 1SNA 645 505 R0100 spacing : 6 mm	RB 121 A 48-60 V AC/DC 1SNA 645 006 R0000 spacing : 6 mm RBR 121 A 48-60 V AC/DC 1SNA 645 506 R0200 spacing : 6 mm	RB 121 A 115 V AC/DC 1SNA 645 007 R0100 spacing : 6 mm RBR 121 A 115 V AC/DC 1SNA 645 507 R0300 spacing : 6 mm	RB 121 A 230 V AC/DC 1SNA 645 008 R1200 spacing : 6 mm RBR 121 A 230 V AC/DC 1SNA 645 508 R1400 spacing : 6 mm
10 mA / 6 A 			RB 121 AI 24 V AC/DC 1SNA 645 032 R2100 spacing : 12 mm RBR 121 AI 24 V AC/DC 1SNA 645 532 R2300 spacing : 12 mm			
1 mA / 6 A 			RB 121 AI 24 V AC/DC 1SNA 645 033 R2200 spacing : 12 mm RBR 121 AI 24 V AC/DC 1SNA 645 533 R2400 spacing : 12 mm			
10 mA / 6 A 			RB 121 AI 24 V AC/DC 1SNA 645 009 R1300 spacing : 12 mm RBR 121 AI 24 V AC/DC 1SNA 645 509 R1500 spacing : 12 mm			
1 mA / 6 A 			RB 121 AI 24 V AC/DC 1SNA 645 010 R0700 spacing : 12 mm RBR 121 AI 24 V AC/DC 1SNA 645 510 R0100 spacing : 12 mm			
10 mA / 6 A 					RB 121 AR 115 V AC/DC 1SNA 645 046 R0700 spacing : 12 mm RBR 121 AR 115 V AC/DC 1SNA 645 546 R0100 spacing : 12 mm	RB 121 AR 230 V AC/DC 1SNA 645 011 R2500 spacing : 12 mm RBR 121 AR 230 V AC/DC 1SNA 645 511 R2600 spacing : 12 mm
1 mA / 8 A 			RB 122 A 24 V AC/DC 1SNA 645 012 R2500 spacing : 12 mm RBR 122 A 24 V AC/DC 1SNA 645 512 R2700 spacing : 12 mm	RB 122 A 48-60 V AC/DC 1SNA 645 040 R1500 spacing : 12 mm RBR 122 A 48-60 V AC/DC 1SNA 645 540 R1700 spacing : 12 mm	RB 122 A 115 V AC/DC 1SNA 645 041 R0200 spacing : 12 mm RBR 122 A 115 V AC/DC 1SNA 645 541 R0400 spacing : 12 mm	RB 122 A 230 V AC/DC 1SNA 645 013 R2600 spacing : 12 mm RBR 122 A 230 V AC/DC 1SNA 645 513 R2000 spacing : 12 mm

Relay Interfaces

Relay modules R600

DIN 3

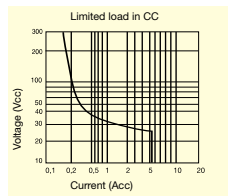


Relay : 1NO or 1NC level contact 10 mA upto 6 A - 6 mm .236" or 12 mm .472" spacing

Characteristics

Relay characteristics COIL	RB...111A					RB...111AI	RB...111AR	RB...101AR
	24 VAC/DC	48 VAC/DC	60 VAC/DC	115 VAC/DC	230 VAC/DC	24 VAC/DC	24 VAC/DC	24 VAC/DC
Rated voltage +20%, -15% on DC ; +10%, -10% on AC	24 VAC/DC	48 VAC/DC	60 VAC/DC	115 VAC/DC	±10% on AC +10% -15% on DC 230 VAC/DC	24 VAC/DC	24 VAC/DC	24 VAC/DC
Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Power	0,24 W	0,34 W	0,54 W	0,46 W	0,8 W	0,24 W	0,24 W	0,24 W
Rated current	10 mA	7 mA	9 mA	4 mA	3,5 mA	10 mA	10 mA	10 mA
Drop-out voltage at 20°C	4,5 V	8 V	8 V	17 V	27 V	4,5 V	4,5 V	4,5 V
Status device	green LED							
CONTACT								
Type	1 NO					1 NO + RC		1 NC + RC
Voltage switching range min./max.	12 V / 250 V AC							
Current switching range min./max.	10 mA / 6 A							
Load switching range	0,6 VA / 1500 VA (ohmic load) 0,6 W / 140 W							
Number of on-load operations	10 ⁵ on AC15							
Number of off-load operations	10 ⁷							
Operating speed	F 5 ms	5 ms	5 ms	6 ms	7 ms	5 ms	5 ms	5 ms
	O 8 ms	8 ms	8 ms	15 ms	15 ms	8 ms	8 ms	8 ms
Bounce	1,2 ms							
Insulation coil / contact	4000 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	-20°C to +70°C (1)							
Other characteristics								
Body material	grey <input type="checkbox"/>				Screw clamp UL 94 V0		Spring clamp UL 94 V0	
Wire	Solid wire				0,2 - 4 mm ² / 24 - 12 AWG		0,2 - 2,5 mm ² / 24 - 12 AWG	
size	Stranded wire				0,22 - 2,5 mm ² / 24 - 12 AWG		0,22 - 2,5 mm ² / 24 - 12 AWG	
Rated wire size					2,5 mm ² / 12 AWG		2,5 mm ² / 12 AWG	
Wire stripping length					9 mm .354"		9 mm .354"	
Recommended screwdriver					3,5 mm .137"		3,5 mm .137"	
Protection					IP20 NEMA1		IP20 NEMA1	
Recommended torque					0,4 - 0,6 Nm 3.5 - 5.3 lb.in		0,4 - 0,6 Nm 3.5 - 5.3 lb.in	
Approvals								

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.



(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

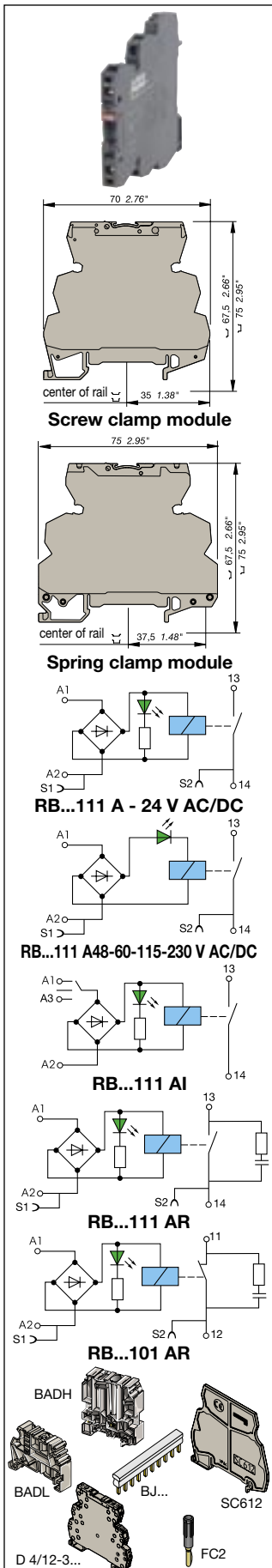
	DC12	AC12	DC13	AC15
24 V	6 A	6 A	1 A	3 A
110/120 V	0,3 A	6 A	0,2 A	3 A
220/230 V	0,2 A	6 A	0,1 A	3 A

Order codes

Description	Type	Order P/N	Packaging	Weight kg
Screw clamp relay module 6 mm spacing	RB 111 A-24VAC/DC	1SNA 645 014 R2700	10	0,02
Screw clamp relay module 6 mm spacing	RB 111 A-48-60VAC/DC	1SNA 645 015 R2000	10	0,02
Screw clamp relay module 6 mm spacing	RB 111 A-115VAC/DC	1SNA 645 016 R2100	10	0,02
Screw clamp relay module 6 mm spacing	RB 111 A-230VAC/DC	1SNA 645 017 R2200	10	0,02
Screw cl. relay mod. with safety switch 6 mm sp.	RB 111 AI-24VAC/DC	1SNA 645 063 F0000	10	0,02
Screw cl. relay mod. w/contact protection 12 mm sp.	RB 111 AR-24VAC/DC	1SNA 645 018 F0300	5	0,03
Screw cl. relay mod. w/contact protection 12 mm sp.	RB 101 AR-24VAC/DC	1SNA 645 019 F0400	5	0,03
Spring clamp relay module 6 mm spacing	RBR 111 A-24VAC/DC	1SNA 645 514 R2100	10	0,02
Spring clamp relay module 6 mm spacing	RBR 111 A-48-60VAC/DC	1SNA 645 515 R2200	10	0,02
Spring clamp relay module 6 mm spacing	RBR 111 A-115VAC/DC	1SNA 645 516 R2300	10	0,02
Spring clamp relay module 6 mm spacing	RBR 111 A-230VAC/DC	1SNA 645 517 R2400	10	0,02
Spring cl. relay mod. with safety switch 6 mm sp.	RBR 111 AI-24VAC/DC	1SNA 645 563 F0200	10	0,02
Spring cl. relay mod. w/contact protection 12 mm sp.	RBR 111 AR-24VAC/DC	1SNA 645 518 F0500	5	0,03
Spring cl. relay mod. w/contact protection 12 mm sp.	RBR 101 AR-24VAC/DC	1SNA 645 519 F0600	5	0,03

Accessories

End section	BADH V0	1SNA 116 900 F2700	50
	BADL V0	1SNA 399 903 F0200	50
	BAM2 V0	1SNA 399 967 F0100	50
Separator end section	SC 612	1SNA 290 474 F0200	10
Divisible shunt 10 poles	BJ 612-10	1SNA 290 488 F0100	10
Divisible shunt 70 poles	BJ 612-70	1SNA 290 489 F0200	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA 645 031 F2000	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA 645 531 F2200	5
Test plug DIA. 2 mm	FC2	1SNA 007 865 F2600	10
Marking method	RC65 RC610	see marking	



Relay Interfaces

Relay modules R600 ┌ DIN 3



Relay : 1 SPDT level contact 10 mA upto 6 A - 6 mm .236" spacing

Characteristics

Relay characteristics COIL	RB...121		RB...121A					±10% on AC +10% -15% on DC 230 V AC/DC
	5 V DC	12 V DC	24 VAC/DC	48 V AC/DC	60 V AC/DC	115 V AC/DC	50 / 60 Hz	
Rated voltage +20%, -15% on DC ; +10%, -10% on AC								
Frequency			50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Power	0,2 W	0,2 W	0,24 W	0,33 W	0,54 W	0,46 W	0,8 W	0,8 W
Rated current	40 mA	16 mA	10 mA	7 mA	9 mA	4 mA	3,5 mA	3,5 mA
Drop-out voltage at 20°C	1,2 V	2,2 V	4,5 V	8 V	8 V	17 V	27 V	27 V
Status device	green LED							

CONTACT

Type	1 SPDT							
Voltage switching range min./max.	12 V / 250 V AC							
Current switching range min./max.	10 mA / 6 A							
Load switching range	0,6 VA / 1500 VA (ohmic load)							
AC1 min. / max. DC1 min. / max.	0,6 W / 140 W							
Number of on-load operations	10 ⁵ on AC15							
Number of off-load operations	10 ⁷							
Operating speed	F	5 ms	5 ms	5 ms	5 ms	5 ms	6 ms	7 ms
	O	8 ms	8 ms	8 ms	8 ms	8 ms	15 ms	16 ms
Bounce	1,2 ms							
Insulation coil / contact	4000 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	-20°C to +70°C (1)							

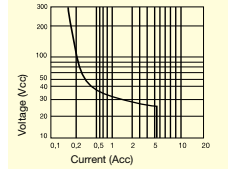
Other characteristics

	Screw clamp			Spring clamp				
Body material	grey <input type="checkbox"/>			UL 94 V0				
Wire	Solid wire			0,2 - 2,5 mm ² / 24 - 12 AWG				
size	Stranded wire			0,22 - 2,5 mm ² / 24 - 12 AWG				
Rated wire size				2,5 mm ² / 12 AWG				
Wire stripping length				9 mm .354"				
Recommended screwdriver				3,5 mm .137"				
Protection				IP20 <i>NEMA1</i>				
Recommended torque				0,4 - 0,6 Nm 3.5 - 5.3 lb.in				

Approvals

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.

(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.



	DC12	AC12	DC13	AC15
24 V	6 A	6 A	1 A	3 A
110/120 V	0,3 A	6 A	0,2 A	3 A
220/230 V	0,2 A	6 A	0,1 A	3 A

Order codes

Description	Type	Order P/N	Packaging	Weight
Screw clamp relay module	RB 121-5VDC	1SNA 645 034 R2300	10	0,02
Screw clamp relay module	RB 121-12VDC	1SNA 645 035 R2400	10	0,02
Screw clamp relay module	RB 121 A-24VAC/DC	1SNA 645 001 R0300	10	0,02
Screw clamp relay module	RB 121 A-48-60VAC/DC	1SNA 645 002 R0400	10	0,02
Screw clamp relay module	RB 121 A-115VAC/DC	1SNA 645 003 R0500	10	0,02
Screw clamp relay module	RB 121 A-230VAC/DC	1SNA 645 004 R0400	10	0,02
Spring clamp relay module	RBR 121-5VDC	1SNA 645 534 R2500	10	0,02
Spring clamp relay module	RBR 121-12VDC	1SNA 645 535 R2600	10	0,02
Spring clamp relay module	RBR 121 A-24VAC/DC	1SNA 645 501 R0500	10	0,02
Spring clamp relay module	RBR 121 A-48-60VAC/DC	1SNA 645 502 R0600	10	0,02
Spring clamp relay module	RBR 121 A-115VAC/DC	1SNA 645 503 R0700	10	0,02
Spring clamp relay module	RBR 121 A-230VAC/DC	1SNA 645 504 R0000	10	0,02

Accessories

End section	BADH V0	1SNA 116 900 R2700	50
	BADL V0	1SNA 399 903 R0200	50
	BAM2 V0	1SNA 399 967 R0100	50
Separator end section	SC 612	1SNA 290 474 R0200	10
Divisible shunt 10 poles	BJ 612-10	1SNA 290 488 R0100	10
	BJ 612-70	1SNA 290 489 R0200	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA 645 031 R2000	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA 645 531 R2200	5
Test plug DIA. 2 mm	FC2	1SNA 007 865 R2600	10
Marking method	RC65 RC610	see marking	



Relay Interfaces

Relay modules R600

DIN 3

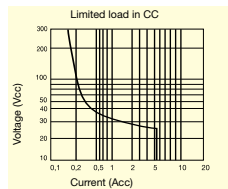


Relay : 1SPDT Low level contact 1 mA upto 6 A - 6 mm .236" spacing

Characteristics

Relay characteristics COIL	RB...121		RB...121A						
	5 V DC	12 V DC	24 VAC/DC	48 V AC/DC	60 V AC/DC	115 V AC/DC	230 V AC/DC	$\pm 10\%$ on AC $\pm 10\% - 15\%$ on DC	
Rated voltage +20%, -15% on DC ; +10%, -10% on AC			50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	
Frequency			0,24 W	0,33 W	0,54 W	0,46 W	0,8 W		
Power	0,2 W	0,2 W	10 mA	7 mA	9 mA	4 mA	3,5 mA		
Rated current	40 mA	16 mA	4,5 V	8 V	8 V	17 V	27 V		
Drop-out voltage at 20°C	1,2 V	2,2 V	green LED						
Status device									
CONTACT									
Type	1 SPDT								
Voltage switching range min./max.	5 V / 250 V AC								
Current switching range min./max.	1 mA / 6 A								
Load switching range	0,05 VA / 1500 VA (ohmic load) 0,05 W / 140 W								
Number of on-load operations	10 ⁵ on AC15								
Number of off-load operations	10 ⁷								
Operating speed	F 5 ms	5 ms	5 ms	5 ms	5 ms	6 ms	7 ms		
	O 8 ms	8 ms	8 ms	8 ms	8 ms	15 ms	16 ms		
Bounce	1,2 ms								
Insulation coil / contact	4000 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	-20°C to +70°C (1)								
Other characteristics									
Body material	grey <input type="checkbox"/>				Screw clamp UL 94 V0				Spring clamp UL 94 V0
Wire	Solid wire				0,2 - 4 mm ² / 24 - 12 AWG				0,2 - 2,5 mm ² / 24 - 12 AWG
Wire size	Stranded wire				0,22 - 2,5 mm ² / 24 - 12 AWG				0,22 - 2,5 mm ² / 24 - 12 AWG
Rated wire size					2,5 mm ² / 12 AWG				2,5 mm ² / 12 AWG
Wire stripping length					9 mm .354"				9 mm .354"
Recommended screwdriver					3,5 mm .137"				3,5 mm .137"
Protection					IP20 NEMA1				IP20 NEMA1
Recommended torque					0,4 - 0,6 Nm 3.5 - 5.3 lb.in				0,4 - 0,6 Nm 3.5 - 5.3 lb.in
Approvals	us pending,								
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.								

(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.



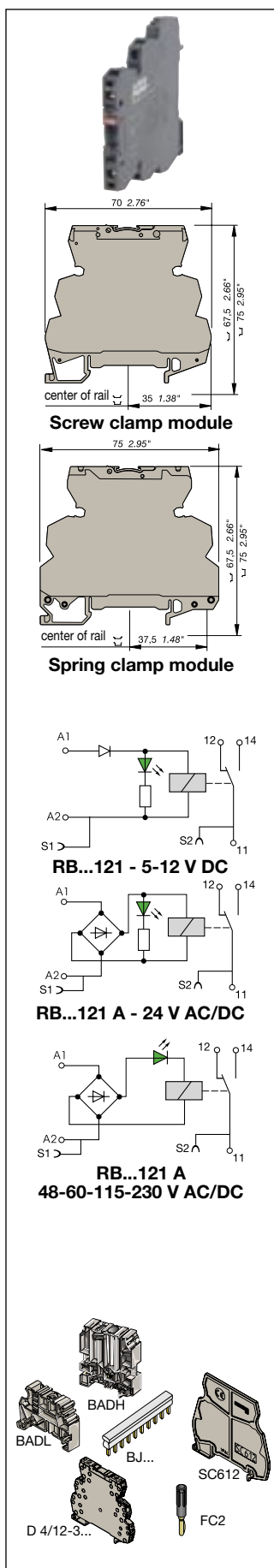
	DC12	AC12	DC13	AC15
24 V	6 A	6 A	1 A	3 A
110/120 V	0,3 A	6 A	0,2 A	3 A
220/230 V	0,2 A	6 A	0,1 A	3 A

Order codes

Description	Type	Order P/N	Packaging	Weight
Screw clamp relay module low level contact	RB 121-5VDC	1SNA 645 036 R2500	10	0,02
Screw clamp relay module low level contact	RB 121-12VDC	1SNA 645 037 R2600	10	0,02
Screw clamp relay module low level contact	RB 121 A-24VAC/DC	1SNA 645 005 R0700	10	0,02
Screw clamp relay module low level contact	RB 121 A-48-60VAC/DC	1SNA 645 006 F0000	10	0,02
Screw clamp relay module low level contact	RB 121 A-115VAC/DC	1SNA 645 007 R0100	10	0,02
Screw clamp relay module low level contact	RB 121 A-230VAC/DC	1SNA 645 008 R1200	10	0,02
Spring clamp relay module low level contact	RBR 121-5VDC	1SNA 645 536 F2700	10	0,02
Spring clamp relay module low level contact	RBR 121-12VDC	1SNA 645 537 F2000	10	0,02
Spring clamp relay module low level contact	RBR 121 A-24VAC/DC	1SNA 645 505 F0100	10	0,02
Spring clamp relay module low level contact	RBR 121 A-48-60VAC/DC	1SNA 645 506 F0200	10	0,02
Spring clamp relay module low level contact	RBR 121 A-115VAC/DC	1SNA 645 507 F0300	10	0,02
Spring clamp relay module low level contact	RBR 121 A-230VAC/DC	1SNA 645 508 R1400	10	0,02

Accessories

End section	BADH V0	1SNA 116 900 F2700	50
	BADL V0	1SNA 399 903 R0200	50
	BAM2 V0	1SNA 399 967 F0100	50
Separator end section	SC 612	1SNA 290 474 F0200	10
Divisible shunt 10 poles	BJ 612-10	1SNA 290 488 F0100	10
	BJ 612-70	1SNA 290 489 F0200	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA 645 031 F2000	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA 645 531 F2200	5
Test plug DIA. 2 mm	FC2	1SNA 007 865 F2600	10
Marking method	RC65 RC610	see marking	



Relay Interfaces

Relay modules R600 ┌ DIN 3



Relay : 1 SPDT with switch or with Leakage current protection - 12 mm .472" spacing

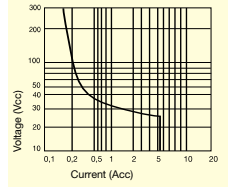
Characteristics

Relay characteristics	RB...121 AR			RB...121 AI		
	COIL					
Rated voltage +20%, -15% on DC ; +10%, -10% on AC	115 V AC/DC	±10% on AC +10% -15% on DC 230 V AC/DC	24 V AC/DC	24 V AC/DC	24 V AC/DC	24 V AC/DC
Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Power	2 W	2,8 W	0,24 W	0,24 W	0,24 W	0,24 W
Rated current	18 mA	12 mA	10 mA	10 mA	10 mA	10 mA
Drop-out voltage at 20°C	17 V	27 V	4,5 V	4,5 V	4,5 V	4,5 V
Status device	green LED			green LED		
CONTACT						
Type	1 SPDT			1 SPDT		
Voltage switching range min./max.	12 V / 250 V			5 V / 250 V		
Current switching range min./max.	10 mA / 6 A			1 mA / 6 A		
Load switching range	0,6 VA / 1500 VA (ohmic load) 0,6 W / 140 W			0,05 VA/1500 VA (ohmic load) 0,05 W / 140 W		
Number of on-load operations	10 ⁵ on AC15			10 ⁵ on AC15		
Number of off-load operations	10 ⁷			10 ⁷		
Operating speed	F 6 ms	7 ms	5 ms	5 ms	5 ms	5 ms
	O 15 ms	16 ms	8 ms	8 ms	8 ms	8 ms
Bounce						
Insulation coil / contact				4000 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				-20°C to +70°C (1)		
Other characteristics						
Body material	Screw clamp UL 94 V0			Spring clamp UL 94 V0		
Wire	Solid wire			Solid wire		
size	Stranded wire			Stranded wire		
Rated wire size	0,2 - 4 mm ² / 24 - 12 AWG			0,2 - 2,5 mm ² / 24 - 12 AWG		
Wire stripping length	0,22 - 2,5 mm ² / 24 - 12 AWG			0,22 - 2,5 mm ² / 24 - 12 AWG		
Recommended screwdriver	2,5 mm ² / 12 AWG			2,5 mm ² / 12 AWG		
Protection	9 mm .354"			9 mm .354"		
Recommended torque	3,5 mm .137"			3,5 mm .137"		
Approvals	IP20 NEMA1			IP20 NEMA1		
Reference standards	0,4 - 0,6 Nm 3.5 - 5.3 lb.in			0,4 - 0,6 Nm 3.5 - 5.3 lb.in		

Approvals **us pending, CE**

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.

(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.



	DC12	AC12	DC13	AC15
24 V	6 A	6 A	1 A	3 A
110/120 V	0,3 A	6 A	0,2 A	3 A
220/230 V	0,2 A	6 A	0,1 A	3 A

Order codes

Description	Type	Order P/N	Packaging	Weight
Screw cl. relay module w/leakage current protection	RB 121 AR-115VAC/DC	1SNA 645 046 R0700	5	0,03 kg
Screw cl. relay module w/leakage current protection	RB 121 AR-230VAC/DC	1SNA 645 011 R2400	5	0,03 kg
Screw clamp relay module with switch	RB 121 AI-24VAC/DC	1SNA 645 032 R2100	5	0,03 kg
Screw clamp relay module with safety switch	RB 121 AI-24VAC/DC	1SNA 645 009 R1300	5	0,03 kg
Screw clamp relay module low level w/switch	RB 121 AI-24VAC/DC	1SNA 645 033 R2200	5	0,03 kg
Screw clamp relay module low level w/safety switch	RB 121 AI-24VAC/DC	1SNA 645 010 R0700	5	0,03 kg
Spring cl. relay module w/leakage current protection	RBR 121 AR-115VAC/DC	1SNA 645 546 R0100	5	0,03 kg
Spring cl. relay module w/leakage current protection	RBR 121 AR-230VAC/DC	1SNA 645 511 R2600	5	0,03 kg
Spring clamp relay module with switch	RBR 121 AI-24VAC/DC	1SNA 645 532 R2300	5	0,03 kg
Spring clamp relay module with safety switch	RBR 121 AI-24VAC/DC	1SNA 645 509 R1500	5	0,03 kg
Spring clamp relay module low level w/switch	RBR 121 AI-24VAC/DC	1SNA 645 533 R2400	5	0,03 kg
Spring clamp relay module low level w/safety switch	RBR 121 AI-24VAC/DC	1SNA 645 510 R0100	5	0,03 kg

Accessories

End section	BADH V0	1SNA 116 900 R2700	50
	BADL V0	1SNA 399 903 R0200	50
	BAM2 V0	1SNA 399 967 R0100	50
Separator end section	SC 612	1SNA 290 474 R0200	10
Divisible shunt 10 poles	BJ 612-10	1SNA 290 488 R0100	10
Divisible shunt 70 poles	BJ 612-70	1SNA 290 489 R0200	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA 645 031 R2000	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA 645 531 R2200	5
Test plug DIA. 2 mm	FC2	1SNA 007 865 R2600	10
Marking method	RC65 RC610	see marking	

Relay Interfaces

Relay modules R600

DIN 3



Relay : 1DPDT Low level contact 1 mA upto 8 A - 12 mm .472" spacing

Characteristics

Relay characteristics		RB...122A				
COIL						
Rated voltage +20%, -15% on DC ; +10%, -10% on AC		24 V AC/DC	48 V AC/DC	60 V AC/DC	115 V AC/DC	±10% on AC +10% -15% on DC 230 V AC/DC
Frequency		50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Power		0,48 W	0,62 W	0,96 W	0,58 W	1,15 W
Rated current		20 mA	13 mA	16 mA	5 mA	5 mA
Drop-out voltage at 20°C		5,4 V	8,8 V	8,8 V	20 V	10 V
Status device		green LED				
CONTACT						
Type		1 DPDT				
Voltage switching range min./max.		5 V / 250 V DC - 250 V AC				
Current switching range min./max.		1 mA / 8 A				
Load switching range		5 mVA / 1500 VA				
AC1 min. / max.		5 mW / 192 W				
DC1 min. / max.						
Number of on-load operations		10 ⁵				
Number of off-load operations		2 x 10 ⁷				
Operating speed						
	F	6 ms	10 ms	10 ms	6 ms	6 ms
	O	10 ms	14 ms	14 ms	15 ms	15 ms
Bounce		1 ms				
Insulation coil / contact		4000 V RMS				
Resistance to shock coil / contact		4000 V RMS				
Insulation contact / contact		3500 V RMS				
Ambient temperature storage		-40°C to +80°C				
operating		-20°C to +70°C (1)				
Other characteristics		Screw clamp		Spring clamp		
Body material	grey <input type="checkbox"/>	UL 94 V0		UL 94 V0		
Wire	Solid wire	0,2 - 4 mm ² / 24 - 12 AWG		0,2 - 2,5 mm ² / 24 - 12 AWG		
size	Stranded wire	0,22 - 2,5 mm ² / 24 - 12 AWG		0,22 - 2,5 mm ² / 24 - 12 AWG		
Rated wire size		2,5 mm ² / 12 AWG		2,5 mm ² / 12 AWG		
Wire stripping length		9 mm .354"		9 mm .354"		
Recommended screwdriver		3,5 mm .137"		3,5 mm .137"		
Protection		IP20 NEMA1		IP20 NEMA1		
Recommended torque		0,4 - 0,6 Nm 3.5 - 5.3 lb.in		0,4 - 0,6 Nm 3.5 - 5.3 lb.in		
Approvals		cULus pending, CE				

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.
(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

Screw clamp module
70 2.76"
67.5 2.66"
75 2.95"
center of rail 35 1.38"

Spring clamp module
75 2.95"
67.5 2.66"
75 2.95"
center of rail 37.5 1.48"

RB...122 A
24-48-60 V AC/DC

RB...122 A
115-230 V AC/DC

Accessories: BADH, BADL, BJ..., SC612, D 4/12-3..., FC2

Order codes

Description	Type	Order P/N	Packaging	Weight
Screw clamp relay module	RB 122 A-24VAC/DC	1SNA 645 012 R2500	5	0,03
Screw clamp relay module	RB 122 A-48-60VAC/DC	1SNA 645 040 R1500	5	0,03
Screw clamp relay module	RB 122 A-115VAC/DC	1SNA 645 041 R0200	5	0,03
Screw clamp relay module	RB 122 A-230VAC/DC	1SNA 645 013 R2600	5	0,03
Spring clamp relay module	RBR 122 A-24VAC/DC	1SNA 645 512 R2700	5	0,03
Spring clamp relay module	RBR 122 A-48-60VAC/DC	1SNA 645 540 R1700	5	0,03
Spring clamp relay module	RBR 122 A-115VAC/DC	1SNA 645 541 R0400	5	0,03
Spring clamp relay module	RBR 122 A-230VAC/DC	1SNA 645 513 R2000	5	0,03

Accessories

End section	BADH V0	1SNA 116 900 R2700	50
	BADL V0	1SNA 399 903 R0200	50
	BAM2 V0	1SNA 399 967 R0100	50
Separator end section	SC 612	1SNA 290 474 R0200	10
Divisible shunt 10 poles	BJ 612-10	1SNA 290 488 R0100	10
	BJ 612-70	1SNA 290 489 R0200	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA 645 031 R2000	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA 645 531 R2200	5
Test plug DIA. 2 mm	FC2	1SNA 007 865 R2600	10
Marking method	RC65 RC610	see marking	

Selection guide R600 Optocoupler modules



OB..... = screw clamp



OBR..... = spring clamp



Output \ Input	5-12 V DC	24 V DC	24 VAC/DC 50 / 60 Hz	48-60 V AC/DC 50 / 60 Hz	115 V AC/DC 50 / 60 Hz	115-230 V AC/DC 50 / 60 Hz	230 V AC/DC 50 / 60 Hz
100 mA 4,5 to 58 V DC 	OBIC 0100 5-12 V DC 1SNA 645 047 R0000 spacing : 6 mm	OBIC 0100 24 V DC 1SNA 645 021 R2600 spacing : 6 mm		OBIC 0100 48-60 V AC/DC 1SNA 645 049 R1200 spacing : 6 mm		OBIC 0100 115-230 V AC/DC 1SNA 645 022 R2700 spacing : 6 mm	
	OBRIC 0100 5-12 V DC 1SNA 645 547 R0200 spacing : 6 mm	OBRIC 0100 24 V DC 1SNA 645 521 R2000 spacing : 6 mm		OBRIC 0100 48-60 V AC/DC 1SNA 645 549 R1400 spacing : 6 mm		OBRIC 0100 115-230 V AC/DC 1SNA 645 522 R2100 spacing : 6 mm	
2 A 4,5 to 58 V DC 	OBOC 1000 5-12 V DC 1SNA 645 050 R1700 spacing : 6 mm	OBOC 1000 24 V DC 1SNA 645 051 R0400 spacing : 6 mm	OBOC 1500 24 V AC/DC 1SNA 645 025 R2200 spacing : 6 mm	OBOC 1000 48-60 V AC/DC 1SNA 645 053 R0600 spacing : 6 mm	OBOC 1000 115 V AC/DC 1SNA 645 054 R0700 spacing : 6 mm		OBOC 1000 230 V AC/DC 1SNA 645 026 R2300 spacing : 6 mm
	OBROC 1000 5-12 V DC 1SNA 645 550 R1100 spacing : 6 mm	OBROC 1000 24 V DC 1SNA 645 551 R0600 spacing : 6 mm	OBROC 1500 24 V AC/DC 1SNA 645 525 R2400 spacing : 6 mm	OBROC 1000 48-60 V AC/DC 1SNA 645 553 R0000 spacing : 6 mm	OBROC 1000 115 V AC/DC 1SNA 645 554 R0100 spacing : 6 mm		OBROC 1000 230 V AC/DC 1SNA 645 526 R2500 spacing : 6 mm
5 A 4,5 to 58 V DC 		OBOC 5000 24 V DC 1SNA 645 024 R2100 spacing : 6 mm			OBOC 5000 115 V AC/DC 1SNA 645 058 R1300 spacing : 6 mm		OBOC 5000 230 V AC/DC 1SNA 645 059 R1400 spacing : 6 mm
		OBROC 5000 24 V DC 1SNA 645 524 R2300 spacing : 6 mm			OBROC 5000 115 V AC/DC 1SNA 645 558 R1500 spacing : 6 mm		OBROC 5000 230 V AC/DC 1SNA 645 559 R1600 spacing : 6 mm
1 A 24 to 400 V AC 50 / 60 Hz 		OBOA 1000 24 V DC 1SNA 645 027 R2400 spacing : 6 mm		OBOA 1000 48-60 V AC/DC 1SNA 645 061 R0600 spacing : 6 mm	OBOA 1000 115 V AC/DC 1SNA 645 062 R0700 spacing : 6 mm		OBOA 1000 230 V AC/DC 1SNA 645 028 R0500 spacing : 6 mm
		OBROA 1000 24 V DC 1SNA 645 527 R2600 spacing : 6 mm		OBROA 1000 48-60 V AC/DC 1SNA 645 561 R0000 spacing : 6 mm	OBROA 1000 115 V AC/DC 1SNA 645 562 R0100 spacing : 6 mm		OBROA 1000 230 V AC/DC 1SNA 645 528 R0700 spacing : 6 mm
2 A 10 to 230 VAC 50 / 60 Hz 			OBOA 2000 24 V AC/DC 1SNA 645 029 R0600 spacing : 6 mm				
			OBOA 2000 24 V AC/DC 1SNA 645 529 R0000 spacing : 6 mm				

Electronic Interfaces

R600 optocoupler modules



┌ DIN 3

Optocoupler : 5 upto 58 VDC output 100 mA - 6 mm .236" spacing

Characteristics

Opto. characteristics INPUT	OB...IC 0100							
	5 V DC - 12 V DC		24 V DC		48 V AC/DC	60 V AC/DC	115 V AC/DC	230 V AC/DC
Input voltage +20% -15% on DC, +10% -10% on AC	5 V DC - 12 V DC		24 V DC		48 V AC/DC	60 V AC/DC	115 V AC/DC	230 V AC/DC
Frequency	50 / 60 Hz				50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Input current	5 mA	9 mA	4 mA		4 mA	5 mA		
Pull-in voltage at Is=100%	4 V	4 V	15 V		25 V	25 V		
Switching time C / O	10 µs / 500 µs		10 µs / 500 µs		5 ms / 20 ms			
Operating frequency	1000 Hz		1000 Hz		20 Hz			
Permissible leakage current	0,9 mA		1 mA		0,9 mA			

OUTPUT

Output voltage	4,5 to 58 VDC
Output current min.	1 mA
Output current max.	100 mA
Output leakage current at Umax.	< 50 µA
Residual voltage at I max and U rated	1 V
	typical
	max.
Frequency on inductive load	20 Hz
Isolation Input / Output	2500 V RMS

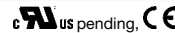
TEMPERATURE

Ambient temperature storage	-40°C to +80°C
operating	-20°C to +70°C (1)

Other characteristics

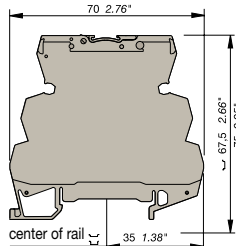
	Screw clamp	Spring clamp
Body material	grey <input type="checkbox"/> UL 94 V0	UL 94 V0
Wire size	Solid wire 0,2 - 4 mm ² / 24 - 12 AWG	0,2 - 2,5 mm ² / 24 - 12 AWG
Stranded wire	0,22 - 2,5 mm ² / 24 - 12 AWG	0,22 - 2,5 mm ² / 24 - 12 AWG
Rated wire size	2,5 mm ² / 12 AWG	2,5 mm ² / 12 AWG
Wire stripping length	9 mm .354"	9 mm .354"
Recommended screwdriver	3,5 mm .137"	3,5 mm .137"
Protection	IP20 NEMA1	IP20 NEMA1
Recommended torque	0,4 - 0,6 Nm 3.5 - 5.3 lb.in	0,4 - 0,6 Nm 3.5 - 5.3 lb.in

Approvals

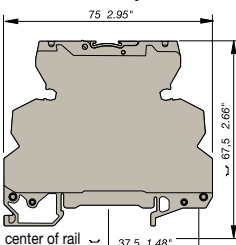


Reference standards CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.

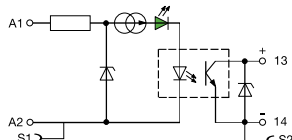
(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.



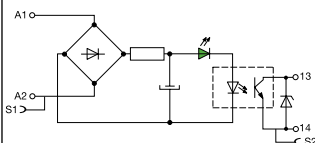
Screw clamp module



Spring clamp module



OB...IC 0100 - 5-12 V DC



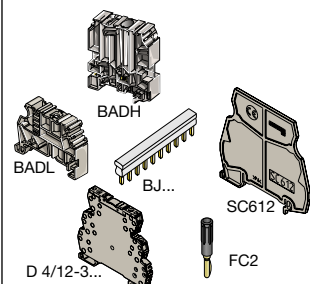
OB...IC 0100
24 V DC
24-48-60-115-230 V AC/DC

Order codes

Description	Type	Order P/N	Packaging	Weight
Screw clamp optocoupler module 100 mA/DC	OBIC 0100-5-12VDC	1SNA 645 047 R0000	10	0,02
Screw clamp optocoupler module 100 mA/DC	OBIC 0100-24VDC	1SNA 645 021 R2600	10	0,02
Screw clamp optocoupler module 100 mA/DC	OBIC 0100-48-60VAC/DC	1SNA 645 049 R1200	10	0,02
Screw clamp optocoupler module 100 mA/DC	OBIC 0100-115-230VAC/DC	1SNA 645 022 R2700	10	0,02
Spring clamp optocoupler module 100 mA/DC	OBRIC 0100-5-12VDC	1SNA 645 547 R0200	10	0,02
Spring clamp optocoupler module 100 mA/DC	OBRIC 0100-24VDC	1SNA 645 521 R2000	10	0,02
Spring clamp optocoupler module 100 mA/DC	OBRIC 0100-48-60VAC/DC	1SNA 645 549 R1400	10	0,02
Spring clamp optocoupler module 100 mA/DC	OBRIC 0100-115-230VAC/DC	1SNA 645 522 R2100	10	0,02

Accessories

End section	BADH V0	1SNA 116 900 R2700	50
	BADL V0	1SNA 399 903 R0200	50
	BAM2 V0	1SNA 399 967 R0100	50
Separator end section	SC 612	1SNA 290 474 R0200	10
Divisible shunt 10 poles	BJ 612-10	1SNA 290 488 R0100	10
	BJ 612-70	1SNA 290 489 R0200	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA 645 031 R2000	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA 645 531 R2200	5
Test plug DIA. 2 mm	FC2	1SNA 007 865 R2600	10
Marking method	RC65		
	RC610	see marking	



Electronic Interfaces

R600 optocoupler modules



Optocoupler : 5 upto 58 VDC Output 2 A - 6 mm .236" spacing

Characteristics

Opto. characteristics	OB...OC 1000		OB...OC 1500	OB...OC 1000				
	INPUT							
Input voltage +20% -15% on DC, +10% -10% on AC	5 V DC - 12 V DC		24 V DC	24 V AC/DC	48 V AC/DC	60 V AC/DC	115 V AC/DC	230 V AC/DC
Frequency	5 mA 9 mA		5,4 mA	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Input current	4 V		12 V	6,3 mA	4 mA	5,1 mA	4,2 mA	4 mA
Pull-in voltage at Is=100%	15 µs / 250 µs		30 µs/400 µs	1 ms/7 ms	5 ms/20 ms	5 ms/20 ms	500 µs/10 ms	1 ms / 15 ms
Switching time C / O	2000 Hz		1000 Hz	60 Hz	20 Hz	20 Hz	50 Hz	35 Hz
Operating frequency	1 mA		0,8 mA	0,9 mA	1 mA	1 mA	0,3 mA	0,3 mA
Permissible leakage current								

OUTPUT

Output voltage	4,5 to 58 VDC	
Output current min.	1 mA	
Output current max.	2 A	
Output leakage current at Umax.	< 50 µA	
Residual voltage at I max and U rated	typical	0,1 V
	max.	0,5 V
Frequency on inductive load		
Isolation Input / Output	2500 V RMS	

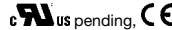
TEMPERATURE

Ambient temperature storage	-40°C to +80°C	
operating	-20°C to +70°C (1)	

Other characteristics

	Screw clamp	Spring clamp
Body material	grey <input type="checkbox"/> UL 94 V0	UL 94 V0
Wire size	Solid wire 0,2 - 4 mm ² / 24 - 12 AWG	0,2 - 2,5 mm ² / 24 - 12 AWG
Stranded wire	0,22 - 2,5 mm ² / 24 - 12 AWG	0,22 - 2,5 mm ² / 24 - 12 AWG
Rated wire size	2,5 mm ² / 12 AWG	2,5 mm ² / 12 AWG
Wire stripping length	9 mm .354"	9 mm .354"
Recommended screwdriver	3,5 mm .137"	3,5 mm .137"
Protection	IP20 NEMA1	IP20 NEMA1
Recommended torque	0,4 - 0,6 Nm 3.5 - 5.3 lb.in	0,4 - 0,6 Nm 3.5 - 5.3 lb.in

Approvals



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.

(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

Screw clamp module
70 2.76"
67,5 2.66"
35 1.38"
center of rail

Spring clamp module
75 2.95"
67,5 2.66"
37,5 1.48"
center of rail

OB...OC 1000 - 5-12-24 V DC

OB...OC 1500 - 24 V AC/DC
OB...OC 1000 - 48-60-115-230 V AC/DC

Order codes

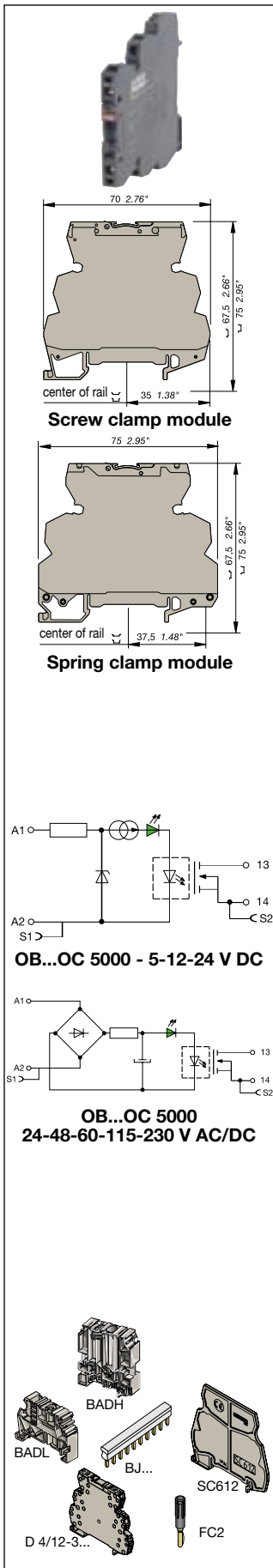
Description	Type	Order P/N	Packaging	Weight
Screw clamp optocoupler module 1 A/DC	OBOC 1000-5-12VDC	1SNA 645 050 R1700	10	0,02
Screw clamp optocoupler module 1 A/DC	OBOC 1000-24VDC	1SNA 645 051 R0400	10	0,02
Screw clamp optocoupler module 1,5 A/DC	OBOC 1500-24VAC/DC	1SNA 645 025 R2200	10	0,02
Screw clamp optocoupler module 1 A/DC	OBOC 1000-48-60VAC/DC	1SNA 645 053 R0600	10	0,02
Screw clamp optocoupler module 1 A/DC	OBOC 1000-115VAC/DC	1SNA 645 054 R0700	10	0,02
Screw clamp optocoupler module 1 A/DC	OBOC 1000-230VAC/DC	1SNA 645 026 R2300	10	0,02
Spring clamp optocoupler module 1 A/DC	OBROC 1000-5-12VDC	1SNA 645 550 R1100	10	0,02
Spring clamp optocoupler module 1 A/DC	OBROC 1000-24VDC	1SNA 645 551 R0600	10	0,02
Spring clamp optocoupler module 1,5 A/DC	OBROC 1500-24VAC/DC	1SNA 645 525 R2400	10	0,02
Spring clamp optocoupler module 1 A/DC	OBROC 1000-48-60VAC/DC	1SNA 645 553 R0000	10	0,02
Spring clamp optocoupler module 1 A/DC	OBROC 1000-115VAC/DC	1SNA 645 554 R0100	10	0,02
Spring clamp optocoupler module 1 A/DC	OBROC 1000-230VAC/DC	1SNA 645 526 R2500	10	0,02

Accessories

End section	BADH V0	1SNA 116 900 R2700	50
	BADL V0	1SNA 399 903 R0200	50
	BAM2 V0	1SNA 399 967 R0100	50
Separator end section	SC 612	1SNA 290 474 R0200	10
Divisible shunt 10 poles	BJ 612-10	1SNA 290 488 R0100	10
	BJ 612-70	1SNA 290 489 R0200	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA 645 031 R2000	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA 645 531 R2200	5
Test plug DIA. 2 mm	FC2	1SNA 007 865 R2600	10
Marking method	RC65 RC610	see marking	

Electronic Interfaces

R600 optocoupler modules



Optocoupler : 5 upto 58 VDC Output 5 A - 6 mm .236" spacing

Characteristics

Opto. characteristics	OB...OC 5000			
	24 V DC	115 V AC/DC	230 V AC/DC	
INPUT				
Input voltage +20% -15% on DC, +10% -10% on AC				
Frequency		50 / 60 Hz	50 / 60 Hz	
Input current	5,4 mA	4,2 mA	4 mA	
Pull-in voltage at Is=100%	12 V	50 V	80 V	
Switching time C / O	30 µs/400 µs	500 µs/10 ms	1 ms / 15 ms	
Operating frequency	1000 Hz	50 Hz	35 Hz	
Permissible leakage current	0,8 mA	0,3 mA	0,3 mA	

OUTPUT	
Output voltage	4,5 to 58 VDC
Output current min.	1 mA
Output current max.	5 A
Output leakage current at Umax.	< 50 µA
Residual voltage at I max and U rated	0,1 V
Frequency on inductive load	0,5 V
Isolation Input / Output	2500 V RMS

TEMPERATURE	
Ambient temperature storage	-40°C to +80°C
operating	-20°C to +70°C (1)

Other characteristics	Screw clamp	Spring clamp
Body material	grey <input type="checkbox"/> UL 94 V0	UL 94 V0
Wire size	Solid wire 0,2 - 4 mm ² / 24 - 12 AWG	0,2 - 2,5 mm ² / 24 - 12 AWG
Stranded wire	0,22 - 2,5 mm ² / 24 - 12 AWG	0,22 - 2,5 mm ² / 24 - 12 AWG
Rated wire size	2,5 mm ² / 12 AWG	2,5 mm ² / 12 AWG
Wire stripping length	9 mm .354"	9 mm .354"
Recommended screwdriver	3,5 mm .137"	3,5 mm .137"
Protection	IP20 NEMA1	IP20 NEMA1
Recommended torque	0,4 - 0,6 Nm 3.5 - 5.3 lb.in	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 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.

(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

Order codes

Description	Type	Order P/N	Packaging	Weight
			kg	kg
Screw clamp optocoupler module 5 A/DC	OBOC 5000-24VDC	1SNA 645 024 R2100	10	0,02
Screw clamp optocoupler module 5 A/DC	OBOC 5000-115VAC/DC	1SNA 645 058 R1300	10	0,02
Screw clamp optocoupler module 5 A/DC	OBOC 5000-230VAC/DC	1SNA 645 059 R1400	10	0,02
Spring clamp optocoupler module 5 A/DC	OBROC 5000-24VDC	1SNA 645 524 R2300	10	0,02
Spring clamp optocoupler module 5 A/DC	OBROC 5000-115VAC/DC	1SNA 645 558 R1500	10	0,02
Spring clamp optocoupler module 5 A/DC	OBROC 5000-230VAC/DC	1SNA 645 559 R1600	10	0,02

Accessories

End section	BADH V0	1SNA 116 900 R2700	50
	BADL V0	1SNA 399 903 R0200	50
	BAM2 V0	1SNA 399 967 R0100	50
Separator end section	SC 612	1SNA 290 474 R0200	10
Divisible shunt 10 poles	BJ 612-10	1SNA 290 488 R0100	10
	BJ 612-70	1SNA 290 489 R0200	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA 645 031 R2000	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA 645 531 R2200	5
Test plug DIA. 2 mm	FC2	1SNA 007 865 R2600	10
Marking method	RC65 RC610	see marking	

Electronic Interfaces

R600 optocoupler modules ⇩ DIN 3



Optocoupler : 24 upto 400 VAC Output 2 A max. - 6 or 12 mm spacing

Characteristics

Opto. characteristics	OB...OA 1000						OB...OA 2000
	24 V DC	48 V AC/DC 50 / 60 Hz	60 V AC/DC 50 / 60 Hz	115 V AC/DC 50 / 60 Hz	230 V AC/DC 50 / 60 Hz	24 V DC	
INPUT							
Input voltage +20% -15% on DC, +10% -10% on AC	24 V DC	48 V AC/DC	60 V AC/DC	115 V AC/DC	230 V AC/DC	24 V DC	
Frequency		50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz		
Input current	3,6 mA	4,3 mA	5,5 mA	4,15 mA	4,6 mA	3,6 mA	
Pull-in voltage at Is=100%	14 V	15 V	18 V	60 V	135 V	14 V	
Switching time C / O	150 µs/1ms	3 ms / 30 ms		2,2 ms/18 ms	2,5 ms/25 ms	150 µs/1 ms	
Operating frequency	500 Hz	20 Hz	25 Hz	20 Hz	20 Hz	500 Hz	
Permissible leakage current	1 mA	1 mA		1 mA	1 mA	1 mA	
OUTPUT							
Output voltage		24 to 400 V AC				10to230VAC	
Frequency		50 / 60 Hz				50 / 60 Hz	
Output current min.		25 mA				25 mA	
Output current max.		1 A				2 A	
Output leakage current at Umax.		< 0,5 mA					
Residual voltage at I max and U rated		typical 1 V				max. 1,6 V	
Frequency on inductive load		2500 V RMS					
Isolation Input / Output		2500 V RMS					
TEMPERATURE							
Ambient temperature storage		- 40°C to + 80°C					
operating		-20°C to +70°C (1)					
Other characteristics		Screw clamp		Spring clamp			
Body material	grey <input type="checkbox"/>	UL 94 V0		UL 94 V0			
Wire Solid wire		0,2 - 4 mm ² / 24 - 12 AWG		0,2 - 2,5 mm ² / 24 - 12 AWG			
size Stranded wire		0,22 - 2,5 mm ² / 24 - 12 AWG		0,22 - 2,5 mm ² / 24 - 12 AWG			
Rated wire size		2,5 mm ² / 12 AWG		2,5 mm ² / 12 AWG			
Wire stripping length		9 mm .354"		9 mm .354"			
Recommended screwdriver		3,5 mm .137"		3,5 mm .137"			
Protection		IP20 NEMA1		IP20 NEMA1			
Recommended torque		0,4 - 0,6 Nm 3.5 - 5.3 lb.in		0,4 - 0,6 Nm 3.5 - 5.3 lb.in			
Approvals		us pending, CE					
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.					

(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

Screw clamp module

Spring clamp module

OB...OA 1000 - 5-12-24 V DC

**OB...OA 1000
24-48-115-230 V AC/DC
OB...OA 2000 - 24 V AC/DC**

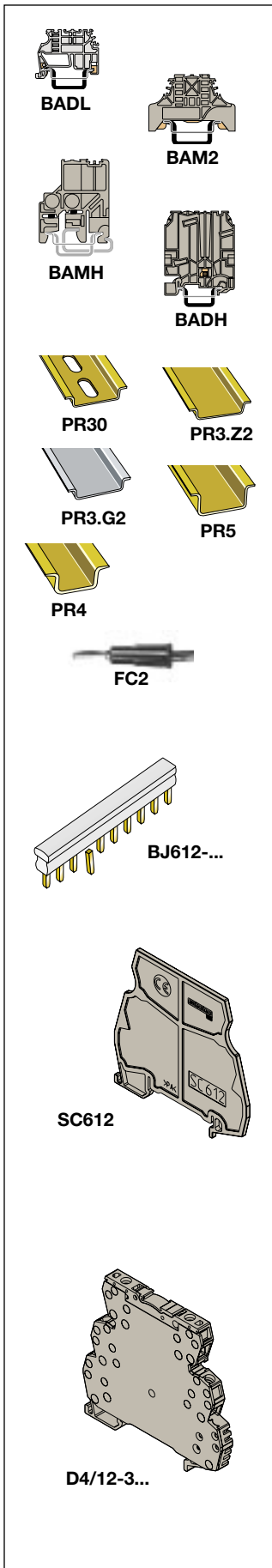
Order codes

Description	Type	Order P/N	Packaging	Weight kg
Screw opto. 1 A/AC	OBOA 1000-24VDC	1SNA 645 027 R2400	10	0,03
Screw opto. 1 A/AC	OBOA 1000-48-60VAC/DC	1SNA 645 061 R0600	10	0,03
Screw opto. 1 A/AC	OBOA 1000-115VAC/DC	1SNA 645 062 R0700	10	0,03
Screw opto. 1 A/AC	OBOA 1000-230VAC/DC	1SNA 645 028 R0500	10	0,03
Screw opto. 2 A/AC - 12 mm spacing	OBOA 2000-24VDC	1SNA 645 029 R0600	5	0,03
Spring opto. 1 A/AC	OBROA 1000-24VDC	1SNA 645 527 R2600	10	0,03
Spring opto. 1 A/AC	OBROA 1000-48-60VAC/DC	1SNA 645 561 R0000	10	0,03
Spring opto. 1 A/AC	OBROA 1000-115VAC/DC	1SNA 645 562 R0100	10	0,03
Spring opto. 1 A/AC	OBROA 1000-230VAC/DC	1SNA 645 528 R0700	10	0,03
Spring opto. 2 A/AC - 12 mm spacing	OBROA 2000-24VAC/DC	1SNA 645 529 R0000	5	0,03

Accessories

End section	BADH V0	1SNA 116 900 R2700	50
	BADL V0	1SNA 399 903 R0200	50
	BAM2 V0	1SNA 399 967 R0100	50
Separator end section	SC 612	1SNA 290 474 R0200	10
Divisible shunt 10 poles	BJ 612-10	1SNA 290 488 R0100	10
	BJ 612-70	1SNA 290 489 R0200	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA 645 031 R2000	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA 645 531 R2200	5
Test plug DIA. 2 mm	FC2	1SNA 007 865 R2600	10
Marking method	RC65 RC610	see marking	

Accessories



End stops

The end stops are mounted at the extremity of the terminal board assembly, giving additional support to the terminal blocks as markers. For various types of marking, refer to the marker section.

Description	Type	Order P/N	Packaging Weight kg
End stop DIN 3			
grey V0	BADL 9 mm	1SNA 399 903 R0200	50
End stop with screws DIN 3			
grey V0	BAM2 V0 10 mm	1SNA 399 967 R0100	50
grey V2	BAM2 10 mm	1SNA 206 351 R1600	50
beige V0	BAM2 V0 10 mm	1SNA 296 351 R0000	50
High end stop with screws DIN 1 and DIN 3			
grey	BAMH 9,1 mm	1SNA 114 836 R0000	50
beige V0	BAMH V0 9,1 mm	1SNA 194 836 R0100	50
High end stop with screws DIN 3			
grey	BADH 12 mm	1SNA 116 900 R2700	50

Mounting rails

Symmetrical zinc bichromate plated steel prepunched rail	PR30 2 m	1SNA 173 220 R0500	1
Symmetrical zinc bichromate plated steel rail	PR3.Z2 2 m	1SNA 174 300 R1700	1
White, symmetrical passivated galvanized steel rail	PR3.G2 2 m	1SNA 164 800 R0300	1
Symmetrical zinc bichromate plated steel rail	PR5 2 m	1SNA 168 700 R2200	1
Symmetrical zinc bichromate plated steel rail	PR4 2 m	1SNA 168 500 R1200	1

Test devices

Test plug DIA. 2 mm	FC2	1SNA 007 865 R2600	10
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Assembled jumper bar

This accessory permits electrical connection between 2 to 70 blocks with 6 mm spacing placed side by side. It can be used with screw clamp or spring clamp blocks with 6 mm or 12 mm spacing.

Interconnection of blocks not placed side by side is possible if teeth of the jumper bar have been cut in front of the blocks not to be connected. These teeth can be removed using pliers.

Use of separator end sections before and after the jumper bar is required to preserve IP20 protection of the assembly.

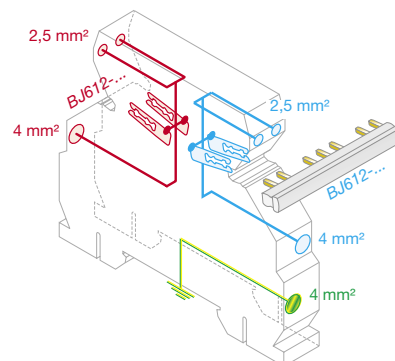
Assembled jumper bar 10 poles - 24 A	BJ612-10	1SNA 290 488 R0100	10
Assembled jumper bar 70 poles - 24 A	BJ612-70	1SNA 290 489 R0200	10

Separator end section

Directly mounted on the rail beside the block, it permits to identify and make electrical insulation of product groups using jumper bars. Dimensions are the same as screw clamp blocks : width 70 mm and height on rail 67,5 mm with 2 mm spacing.

Separator end section	SC612	1SNA 290 474 R0200	10
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Distribution block



This terminal block with BJ612-... jumper bars permits 2 polarities distribution (*PCL side and process side*) thanks to two separate circuits, each of them including :

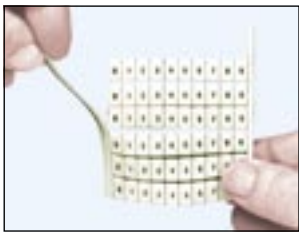
- one 4 mm² input,
- two 2,5 mm² outputs
- one double output for jumper bar BJ612-...

It permits also the connection of ground to the rail though a 4 mm² input.

Rated voltage : 250 VAC-DC
 Rated current : 32 A (4 mm²) - 16 A (2,5 mm²)
 Recommended torque : 0,4 - 0,6 Nm

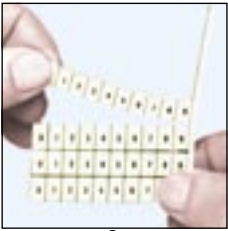
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA 645 031 R2000	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA 645 531 R2200	5

Marking



1

Remove one of the side bands of the



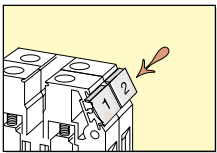
2

Separate the chosen strip from the rest of the card.

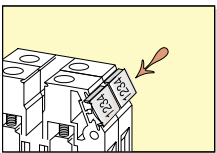


3

Press the first marker in place, hold it and slide your thumb on the rest of the strip.



Horizontal marking



Vertical marking



Refilable box of 100 cards of 18 RC markers

Marking for Interface Modules

Selection table

Markers for modules :	RC610	RC55	RC65
R500	⊘	●	⊘
R600	●	POSSIBLE	●
R900	⊘	●	⊘
R910	●	POSSIBLE	●
R1800	⊘	●	⊘

Possible mounting : **POSSIBLE**

Recommended mounting : ●

Impossible mounting : ⊘

Marking for terminal blocks

Standard RC marker cards

Marker sizes	(x) = Nb of cards in 5 mm spacing kit			(x) = Nb of cards in 6 mm spacing kit		
	RC55	RC65	RC610	RC55	RC65	RC610
Blank cards	1SNA 230 000 R1200	1SNA 232 000 R0000	1SNA 233 000 R0100			
Horizontal marking						
10 strips from 1 to 10	1SNA 230 002 R0000 (5)	1SNA 232 002 R2600 (5)	1SNA 233 002 R2700 (25)			
10 strips from 11 to 20	1SNA 230 003 R0100 (2)	1SNA 232 003 R2700 (2)	1SNA 233 003 R2000 (10)			
10 strips from 21 to 30	1SNA 230 004 R0200	1SNA 232 004 R2000	1SNA 233 004 R2100 (6)			
10 strips from 31 to 40	1SNA 230 005 R0300	1SNA 232 005 R2100	1SNA 233 005 R2200 (4)			
10 strips from 41 to 50	1SNA 230 006 R0400	1SNA 232 006 R2200	1SNA 233 006 R2300 (3)			
10 strips from 51 to 60	1SNA 230 007 R0500	1SNA 232 007 R2300	1SNA 233 007 R2400 (2)			
10 strips from 61 to 70	1SNA 230 008 R1600	1SNA 232 008 R0400	1SNA 233 008 R0500 (2)			
From 1 to 100	1SNA 230 030 R0700 (2)	1SNA 232 030 R2500 (2)	1SNA 233 030 R2600 (15)			
From 101 to 200	1SNA 230 031 R2400	1SNA 232 031 R1200	1SNA 233 031 R1300 (2)			
20 times L1-L2-L3-N-PE	1SNA 230 131 R2500	1SNA 232 131 R1300	1SNA 233 131 R1400 (2)			
Vertical marking						
10 strips from 1 to 10	1SNA 230 041 R0600	1SNA 232 041 R2400	1SNA 233 041 R2500 (5)			
10 strips from 11 to 20	1SNA 230 042 R0700	1SNA 232 042 R2500	1SNA 233 042 R2600 (3)			
10 strips from 21 to 30	1SNA 230 043 R0000	1SNA 232 043 R2600	1SNA 233 043 R2700 (2)			
10 strips from 31 to 40	1SNA 230 044 R0100	1SNA 232 044 R2700	1SNA 233 044 R2000 (2)			
From 1 to 100	1SNA 230 060 R1500	1SNA 232 060 R0300	1SNA 233 060 R0400 (8)			

Marking kit RC 5 mm spacing or 6 mm spacing

Box with 100 cards with 18 various part numbers (see table next page)

Description	Type	Order P/N	Packaging Weight kg
Box with 100 cards RC 5 mm spacing		1SNA 400 085 R2700	1
Refill for box RC 5 mm		1SNA 400 145 R0700	1
Box with 100 cards RC 6 mm spacing		1SNA 400 084 R2600	1
Refill for box RC 6 mm		1SNA 400 144 R0600	1

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1SNA 031 800 R2100	16	1SNA 233 031 R1300	42	1SNA 610 006 R0100	11	1SNA 645 503 R0700	32		
1SNA 031 801 R1600	16	1SNA 233 041 R2500	42	1SNA 610 011 R2500	12	1SNA 645 504 R0000	32		
1SNA 031 802 R1700	17	1SNA 233 042 R2600	42	1SNA 610 022 R2000	26	1SNA 645 505 R0100	33		
1SNA 031 803 R1000	17	1SNA 233 043 R2700	42	1SNA 610 023 R2100	26	1SNA 645 506 R0200	33		
1SNA 031 804 R1100	17	1SNA 233 044 R2000	42	1SNA 610 059 R1500	12	1SNA 645 507 R0300	33		
1SNA 031 805 R1200	17	1SNA 233 060 R0400	42	1SNA 610 060 R1200	12	1SNA 645 508 R1400	33		
1SNA 031 809 R2600	18	1SNA 233 131 R1400	42	1SNA 610 089 R0400	12	1SNA 645 509 R1500	34		
1SNA 031 810 R1200	18	1SNA 290 474 R0200	41	1SNA 610 108 R1400	26	1SNA 645 510 R0100	34		
1SNA 031 811 R0700	18	1SNA 290 488 R0100	41	1SNA 610 115 R2200	12	1SNA 645 511 R2600	34		
1SNA 031 814 R0200	20	1SNA 290 489 R0200	41	1SNA 610 121 R2000	12	1SNA 645 512 R2700	35		
1SNA 031 815 R0300	20	1SNA 296 351 R0000	41	1SNA 610 122 R2100	12	1SNA 645 513 R2000	35		
1SNA 031 818 R1600	19	1SNA 399 306 R0300	11	1SNA 610 123 R2200	12	1SNA 645 514 R2100	31		
1SNA 031 819 R1700	19	1SNA 399 903 R0200	41	1SNA 610 125 R2400	11	1SNA 645 515 R2200	31		
1SNA 031 820 R1400	6	1SNA 399 967 R0100	41	1SNA 610 132 R2300	11	1SNA 645 516 R2300	31		
1SNA 031 831 R0300	16	1SNA 400 084 R2600	42	1SNA 610 230 R1100	26	1SNA 645 517 R2400	31		
1SNA 031 839 R1300	21	1SNA 400 085 R2700	42	1SNA 630 001 R0000	8	1SNA 645 518 R0500	31		
1SNA 031 845 R1100	16	1SNA 400 144 R0600	42	1SNA 630 002 R0100	8	1SNA 645 519 R0600	31		
1SNA 103 002 R2600	11	1SNA 400 145 R0700	42	1SNA 630 003 R0200	8	1SNA 645 521 R2000	37		
1SNA 103 849 R0300	8	1SNA 607 001 R0600	7	1SNA 630 004 R0300	9	1SNA 645 522 R2100	37		
1SNA 105 028 R2100	6	1SNA 607 002 R0700	7	1SNA 630 005 R0400	9	1SNA 645 524 R2300	39		
1SNA 114 205 R2000	7	1SNA 607 029 R0100	7	1SNA 630 006 R0500	9	1SNA 645 525 R2400	38		
1SNA 114 836 R0000	41	1SNA 607 030 R0600	7	1SNA 630 007 R0600	9	1SNA 645 526 R2500	38		
1SNA 116 900 R2700	41	1SNA 607 201 R1300	6	1SNA 630 011 R2100	10	1SNA 645 527 R2600	40		
1SNA 163 070 R0000	7	1SNA 607 203 R1500	18	1SNA 630 019 R0100	10	1SNA 645 528 R0700	40		
1SNA 163 218 R0500	7	1SNA 607 204 R1600	18	1SNA 630 021 R2300	10	1SNA 645 529 R0000	40		
1SNA 163 261 R0000	7	1SNA 607 205 R1700	18	1SNA 630 022 R2400	10	1SNA 645 530 R0500	40		
1SNA 164 800 R0300	41	1SNA 607 206 R1000	19	1SNA 645 001 R0300	32	1SNA 645 531 R2200	41		
1SNA 168 400 R1600	7	1SNA 607 207 R1100	19	1SNA 645 002 R0400	32	1SNA 645 532 R2300	34		
1SNA 168 500 R1200	41	1SNA 607 208 R2200	20	1SNA 645 003 R0500	32	1SNA 645 533 R2400	34		
1SNA 168 700 R2200	41	1SNA 607 209 R2300	20	1SNA 645 004 R0400	32	1SNA 645 534 R2500	32		
1SNA 173 220 R0500	41	1SNA 607 210 R1700	16	1SNA 645 005 R0700	33	1SNA 645 535 R2600	32		
1SNA 174 300 R1700	41	1SNA 607 211 R0400	16	1SNA 645 006 R0000	33	1SNA 645 536 R2700	33		
1SNA 177 584 R1300	7	1SNA 607 212 R0500	17	1SNA 645 007 R0100	33	1SNA 645 537 R2000	33		
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1SNA 205 523 R2200	6	1SNA 607 214 R0700	17	1SNA 645 009 R1300	34	1SNA 645 541 R0400	35		
1SNA 206 351 R1600	41	1SNA 607 215 R0000	6	1SNA 645 010 R0700	34	1SNA 645 546 R0100	34		
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1SNA 230 000 R1200	42	1SNA 607 222 R0700	6	1SNA 645 012 R2500	35	1SNA 645 548 R1300	37		
1SNA 230 002 R0000	42	1SNA 607 223 R0000	16	1SNA 645 013 R2600	35	1SNA 645 549 R1400	37		
1SNA 230 003 R0100	42	1SNA 607 224 R0100	6	1SNA 645 014 R2700	31	1SNA 645 550 R1100	38		
1SNA 230 004 R0200	42	1SNA 607 231 R0000	6	1SNA 645 015 R2000	31	1SNA 645 551 R0600	38		
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1SNA 230 006 R0400	42	1SNA 607 238 R1700	21	1SNA 645 017 R2200	31	1SNA 645 554 R0100	38		
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1SNA 230 044 R0100	42	1SNA 607 261 R1600	6	1SNA 645 027 R2400	40				
1SNA 230 060 R1500	42	1SNA 607 264 R1100	6	1SNA 645 028 R0500	40				
1SNA 230 131 R2500	42	1SNA 607 265 R1200	6	1SNA 645 029 R0600	40				
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1SNA 232 004 R2000	42	1SNA 607 269 R2600	21	1SNA 645 034 R2300	32				
1SNA 232 005 R2100	42	1SNA 607 270 R2300	19	1SNA 645 035 R2400	32				
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1SNA 232 060 R0300	42	1SNA 608 019 R1000	24	1SNA 645 051 R0400	38				
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1SNA 233 007 R2400	42	1SNA 608 028 R1100	23	1SNA 645 062 R0700	40				
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D 2,5/5-MP-24VDC	6	OBOA 1000-230VAC/DC	40	RB 121B-230VAC	9				
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D 2,5/5-OBIC-0030-24VDC	16	OBOC 1000-5-12VDC	38	RB 122-24VDC	10				
D 2,5/5-OBIC-0030-48VDC	16	OBOC 1500-24VAC/DC	38	RB 122-48VDC	12				
D 2,5/5-OBIC-0030-5VDC	16	OBOC 5000-115VAC/DC	39	RB 122A-220VAC/DC	12				
D 2,5/5-OBIA-1000-110VAC	21	OBOC 5000-230VAC/DC	39	RB 122A-24VAC/DC	10				
D 2,5/5-OBIA-1000-230VAC	21	OBOC 5000-24VDC	39	RB 122AR-110VAC/DC	12				
D 2,5/5-OBIA-1000-24VAC/DC	21	OBRIC 0100-115-230VAC/DC	37	RB 122AV-24VAC/DC	12				
D 2,5/5-OBIA-1000-24VDC	21	OBRIC 0100-24VDC	37	RB 122AV-48VAC/DC	12				
D 2,5/5-OBIA-1000-48VAC/DC	21	OBRIC 0100-48-60VAC/DC	37	RB 122B-110VAC/50Hz	10				
D 2,5/5-OBIA-1000-48VDC	21	OBRIC 0100-5-12VDC	37	RB 122B-115VAC/60Hz	10				
D 2,5/5-OBIC-0100-24VDC	18	OBROA 1000-115VAC/DC	40	RB 122BR-110VAC	12				
D 2,5/5-OBIC-0100-48VDC	18	OBROA 1000-230VAC/DC	40	RB 122BR-220VAC	12				
D 2,5/5-OBIC-0100-5VDC	18	OBROA 1000-24VDC	40	RB 122 A-115VAC/DC	35				
D 2,5/5-OBIC-1000-110VAC	19	OBROA 1000-48-60VAC/DC	40	RB 122 A-230VAC/DC	35				
D 2,5/5-OBIC-1000-230VAC	19	OBROA 2000-24VAC/DC	40	RB 122 A-24VAC/DC	35				
D 2,5/5-OBIC-1000-24VAC/DC	19	OBROC 1000-115VAC/DC	38	RB 122 A-48-60VAC/DC	35				
D 2,5/5-OBIC-1000-24VDC	19	OBROC 1000-230VAC/DC	38	RC55	17				
D 2,5/5-OBIC-1000-48VAC/DC	19	OBROC 1000-24VDC	38						
D 2,5/5-OBIC-1000-5VDC	19	OBROC 1000-48-60VAC/DC	38						
D 2,5/5-OBIC-2000-110VAC	20	OBROC 1000-5-12VDC	38						
D 2,5/5-OBIC-2000-230VAC	20	OBROC 1500-24VAC/DC	38						
D 2,5/5-OBIC-2000-24VAC/DC	20	OBROC 5000-115VAC/DC	39						
D 2,5/5-OBIC-2000-24VDC	20	OBROC 5000-230VAC/DC	39						
D 2,5/5-OBIC-2000-48VAC/DC	20	OBROC 5000-24VDC	39						
D 2,5/5-OBIC-2000-5VDC	20	ORA 111-24VDC	25						
D 2,5/5-R121	6	ORC 111-24VDC	25						
D 2,5/5-R121-24VDC	6	P							
D 2,5/5-R121...L	6	PC9	7						
D 2,5/5-R121AL	6	PCMS	6						
D 2,5/5-R121AL-24V	6	PR3.G2	41						
D 2,5/5-R121AL-24VAC/DC	6	PR3.Z2	41						
D 2,5/5-R121AL-48V	6	PR30	41						
D 2,5/5-R121AL-48VAC/DC	6	PR4	41						
D 2,5/5-R121BL	6	PR5	41						
D 2,5/5-R121BL-110VAC	6	R							
D 2,5/5-R121BL-230VAC	6	RBR 101 AR-24VAC/DC	31						
D 2,5/5-R121L	6	RBR 111 A-115VAC/DC	31						
D 2,5/5-R121L-24VDC	6								



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