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Relay interfaces and optocoupler modules R500, R910, R900, R1800

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Relay interfaces and optocoupler modules R600

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Notes

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Relay interfaces Optocoupler modules

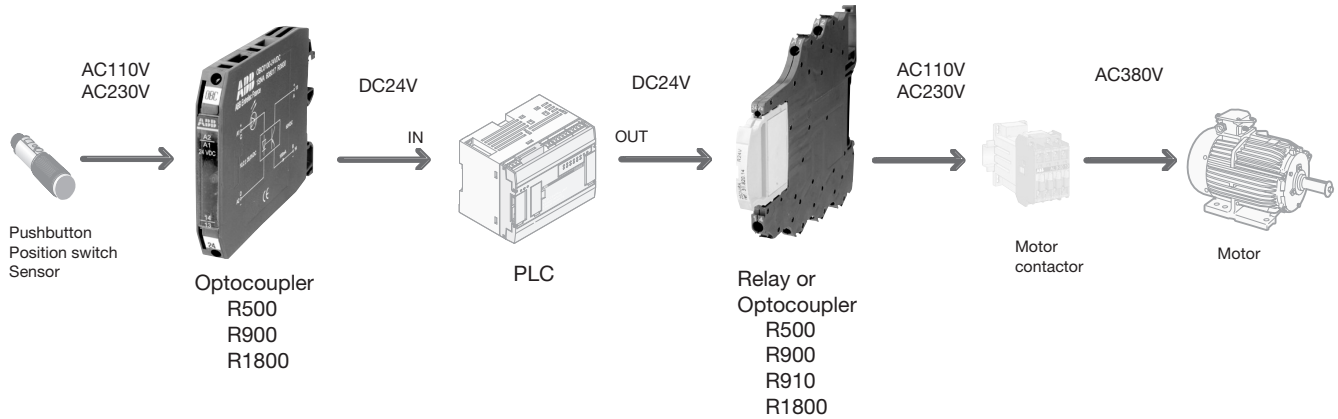
Applications - Technical data

Applications

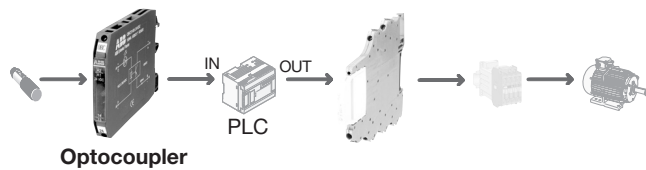
All the electrical signals from/to sensors/actuators must be adapted to the PLC's electrical level.

It is the first function of the relay or optocoupler interfaces.

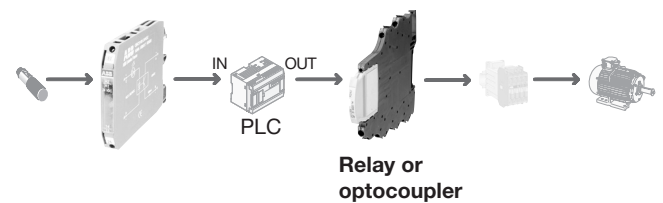
Second function of the relay and optocoupler interfaces is electrical isolation between sensors/actuators and the PLC.



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

Contact	Coil	12 V DC	24 V DC	24 V AC/DC	48 V DC
				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 : 18 mm RB 121 A 12 V DC 1SNA 610 125 R2400	 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 : 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	
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
 spacing : 5.08 mm D 2,5/5-R121AL 48 V AC/DC 1SNA 607 232 R0100  spacing : 11.5 mm RB 121 A 48 V AC/DC 1SNA 630 003 R0200  spacing : 18 mm RB 121 AV 48 V AC/DC 1SNA 610 006 R0100	 spacing : 18 mm RB 121 A 110 V AC/DC 1SNA 610 132 R2300	 spacing : 5.08 mm D 2,5/5-R121BL 110 V AC 1SNA 607 264 R1100  spacing : 11.5 mm RB 121 B 110 V AC 1SNA 630 004 R0300	 spacing : 5.08 mm D 2,5/5-R121BL 115 V AC 1SNA 607 264 R1100  spacing : 11.5 mm RB 121 B 115 V AC 1SNA 630 005 R0400	 spacing : 5.08 mm D 2,5/5-R121BL 230 V AC 1SNA 607 265 R1200  spacing : 11.5 mm RB 121 B 230 V AC 1SNA 630 006 R0500  spacing : 18 mm RB 121 A 230 V AC/DC 1SNA 610 132 R2300
 spacing : 18 mm RB 122 AV 48 V AC/DC 1SNA 610 122 R2100	 spacing : 23 mm RB 122 AR 110 V AC/DC 1SNA 610 011 R2500	 spacing : 15 mm RB 122 B 110 V AC 1SNA 630 021 R2300	 spacing : 15 mm RB 122 B 115 V AC 1SNA 630 022 R2400	 spacing : 23 mm RB 122 A 230 V AC/DC 1SNA 610 123 R2200
		 spacing : 23 mm RB 122 BR 110 V AC 1SNA 610 115 R2200		 spacing : 23 mm RB 122 BR 230 V AC 1SNA 610 089 R0400

Relay Interfaces

R500 pluggable relay modules

DIN 3

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

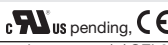
Characteristics

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			

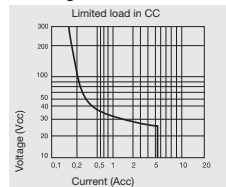
CONTACT

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 ⁶							
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							

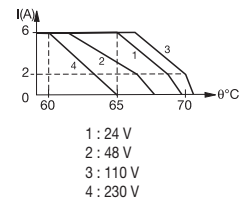
Other characteristics

Body material	grey ☐	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...L

D 2,5/5-R121

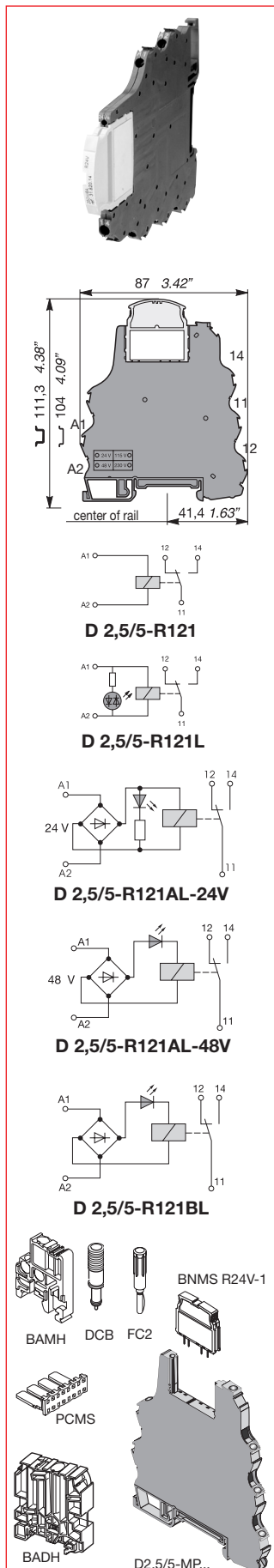
Order codes

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	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 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	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

COIL
Rated voltage +20%, -20% on DC
Power
Rated current
Drop-out voltage at 20°C
Status device

M 4/9.R111	M 4/9.R111L
12 V	24 V
0.3 W	0.3 W
24 mA	14 mA
1.2 V DC	2.4 V DC
	1.2 V
	2.4 V
	lamp

CONTACT

Type
Voltage switching range min./max.
Current switching range
Load switching range
AC1 min. / max.
DC1 min. / max.
Number of on-load operations
Number of off-load operations
Pull-in time (delay time)
Drop-out time (delay time)
Bounce time
Insulation coil / contacts
Breakdown voltage with 1.2/50μ wave
Insulation contacts/contacts
Storage ambient temperature
Operating ambient temperature

1 NO
12 V / 150 V DC - 250 V AC
10 mA / 5 A
0.6 VA / 1250 VA
0.6 W / 150 W
1 x 10 ⁶
2 x 10 ⁷
5 ms
6 ms
7 ms
4 ms
3000 V RMS
4000 V RMS
750 V RMS
-40°C to +80°C
See derating curve hereunder

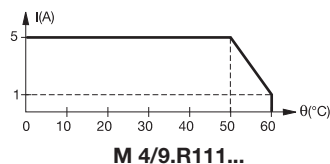
Other characteristics

Body material grey ☐
Wire Solid wire
size Stranded wire
Rated wire size
Wire stripping length
Recommended screwdriver
Protection
Recommended torque
Approvals

UL 94 V0
0.2-4 mm ² / 22-12 AWG
0.22-2.5 mm ² / 22-12 AWG
2.5 mm ² / 12 AWG
9 mm .354"
3.5 mm .137"
IP 20 NEMA 1
0.4-0.6 Nm 3.5-5.3 lb.in
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.

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

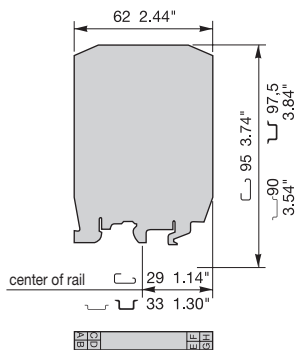
1 High end stop (all rails)	BAMH	9,1 mm	1SNA 114 836 R0000	50
2 Test socket	DIA. 2 mm	AL2 (1)	1SNA 163 070 R0000	50
	DIA. 3 mm	AL3 (1)	1SNA 163 261 R0000	50
3 Test device	grey ☐	DCG	1SNA 163 218 R0500	10
4 Test plug		FC2	1SNA 007 865 R2600	10
5 Jumper bar	8 poles	BJS9 (1)(2)	1SNA 177 583 R1200	
	16 poles	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.

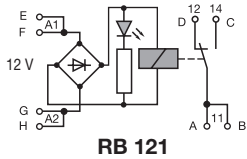
(2) Use of these accessories requires the user to cut out the pre-cut partition.

Relay Interfaces

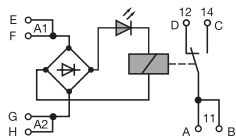
Relay modules R900 DIN 1-3



Relay blocks R900



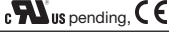
RB 121

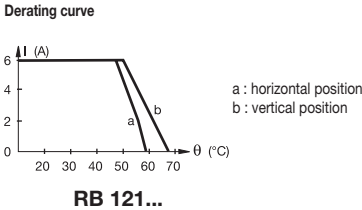
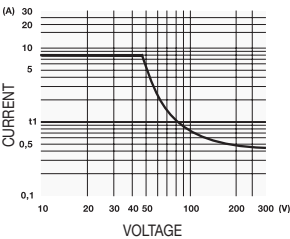


RB 121 A

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

Characteristics

Relay characteristics	RB 121 - 12 V	RB 121 A - 24 V		RB 121 A - 48 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 ⁵	
Number of off-load operations				5 x 10 ⁶	
Operating speed	F		5 ms		
	O	11 ms		12 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			-40°C to +80°C		
storage					
operating				See derating curve	
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 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.				

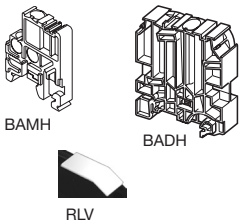


Order codes

Description	Type	Order P/N	Packaging	Weight kg
Relay module 12 V DC	RB 121-12VDC	1SNA 630 001 F0000	1	0.04
Relay module 24 V AC/DC	RB 121A-24VAC/DC	1SNA 630 002 F0100	1	0.04
Relay module 48 V AC/DC	RB 121A-48VAC/DC	1SNA 630 003 F0200	1	0.04

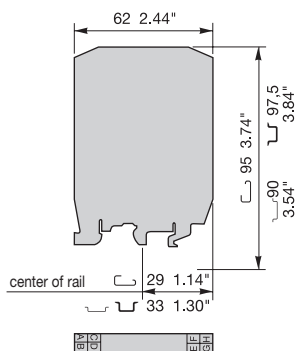
Accessories

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

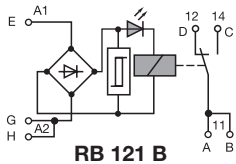


Relay Interfaces

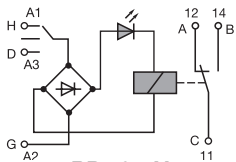
Relay modules R900 DIN 1-3



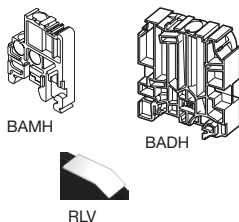
Relay blocks R900



RB 121 B



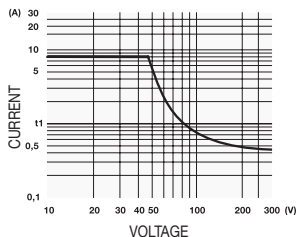
RB 121 AI



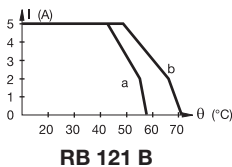
RB 121... - instant relay blocks - 11.5 mm .453" spacing

Characteristics

Relay characteristics	RB 121 B			RB 121 AI	
	110 V AC/50 Hz	115 V AC/60 Hz	230 V AC	24 V AC ±10%	24 V DC ±10%
COIL					
Rated voltage +20%, -15% on DC, ±15% on AC					
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					
Type				1 SPDT	
Voltage switching range min./max.				5 V / 150 V DC - 250 V AC	
Current switching range min./max.				1 mA / 5 A	1 mA / 6 A
Load switching range					
AC1 min. / max.		5 mVA / 1250 VA			5 mVA / 1500 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 ⁵		
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 operating			-40°C to +80°C		
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 mm .137"	
Protection				IP20 NEMA1	
Recommended torque				0.4 - 0.6 Nm 3.5 - 5.3 lb.in	
Approvals				UL, CE, and others	
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.				

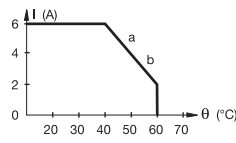


Derating curves



RB 121 B

a : horizontal position
b : vertical position



RB 121 AI

Order codes

Description	Type	Order P/N	Packaging Weight kg
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

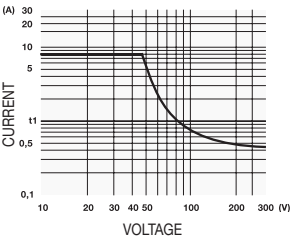
COIL	RB 122 A		RB 122	RB 122 B	
	24 V AC	24 V DC	24 V DC	110 V AC/50Hz	115 V AC/60Hz
Rated voltage +15%, -10% on DC ±15% on AC	24 V AC	24 V DC	24 V DC	110 V AC/50Hz	115 V AC/60Hz
Frequency	50 / 60 Hz				
Power	0.4 VA	0.35 W	0.48 W	3.6 VA	4 VA
Rated current	16.8 mA	14.4 mA	20 mA	33 mA	35 mA
Drop-out voltage 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.	2 mA max.	1.5 mA	2 mA	2.6 mA

CONTACT

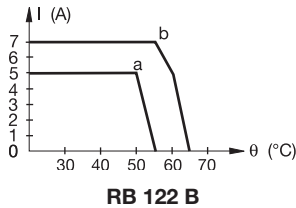
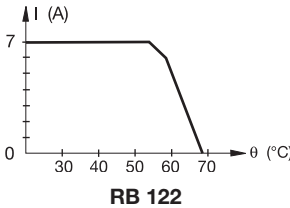
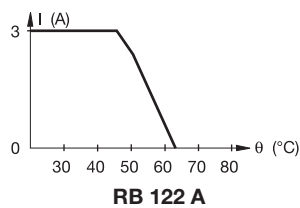
Type	1 DPDT				
Voltage switching range min./max.	10 ⁻⁵ V / 250 V AC		12 V / 250 V		
Current switching range min./max.	10 ⁻⁵ A / 3 A		100 mA / 7 A	100 mA / 7 A	100 mA / 7 A
Load switching range					
AC1 min. / max.	10 ⁻¹⁰ VA / 250 VA		1.2 VA / 1750 VA	1.2 VA / 1750 VA	1.2 VA / 1750 VA
DC1 min. / max.	10 ⁻¹⁰ W / 90 W		1.2 W / see curve hereunder		
Number of on-load operations	1.8 x 10 ⁶ (2 A / 60 W)				
Number of off-load operations	10 ⁸		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			-40°C to +80°C		
storage			see derating curves		
operating					

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 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.	



Derating curves



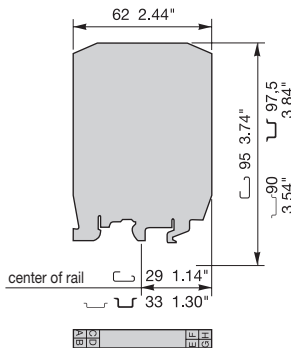
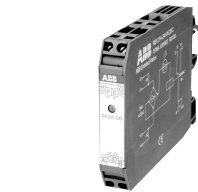
a : 110 V AC/50 Hz block
b : 115 V AC/60 Hz block

Order codes

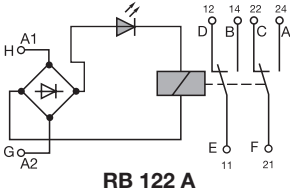
Description	Type	Order P/N	Packaging	Weight kg
Relay block 24 V AC/ DC 11.5 mm spacing	RB 122A-24VAC/DC	1SNA 630 011 R2100	1	0.05
Relay block 24 VDC 15 mm spacing	RB 122-24VDC	1SNA 630 019 R0100	1	0.05
Relay block 110 V AC/50 Hz 15 mm spacing	RB 122B-110VAC/50Hz	1SNA 630 021 R2300	1	0.06
Relay block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

Accessories

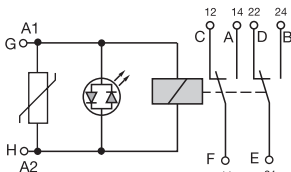
High end section	BADH	1SNA 116 900 R2700	50
	BAMH	1SNA 114 836 R0000	50
	BAMH V0	1SNA 194 836 R0100	50
Lengthwise marker	RLV	1SNA 103 849 R0300	
Marking method	RC55	see marking	



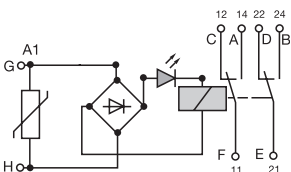
Relay blocks R900



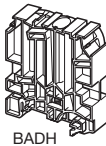
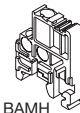
RB 122 A



RB 122



RB 122 B



Relay Interfaces

Relay modules R1800 DIN 1-3

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

Characteristics

Relay characteristics COIL

Rated voltage +15%, -10% on DC
±15% on AC
Frequency
Power
Rated current
Drop-out voltage at 20°C
Permissible leakage current

RB 121	RB 121 A	RB 121 AV	RB 121 A	
12 V DC	24 V AC/DC	48 V AC/DC	110 V AC/DC	220 V AC/DC
	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
0.5 W	0.7 W	0.96 W	0.5 W	1.1 VA
41 mA	29 mA	20 mA	4.3 mA	5 mA
3.2 V DC	5 V AC/DC	5.6 V AC/DC	14.5 V AC/DC	25.2 V AC

CONTACT

Type
Voltage switching range min./max.
Current switching range min./max.
Load switching range

1 SPDT
12 V / 380 V
10 mA / 8 A
0.6 VA / 2000 VA

AC1 min. / max.
DC1 min. / max.

2 x 10 ⁵
2 x 10 ⁷

Number of on-load operations
Number of off-load operations

7 ms
6 ms

Operating speed

2 ms
2500 V RMS

Bounce

4000 V RMS
1000 V RMS

Insulation coil / contact
Resistance to shock coil / contact

-40°C to +80°C
see derating curves

Insulation contact / contact

--

Ambient temperature storage
operating

--

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 mm .137"

Protection

IP20 NEMA1

Recommended torque

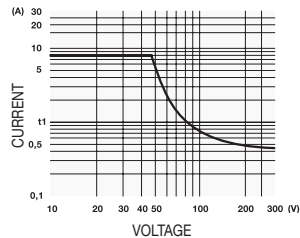
0.4 - 0.6 Nm 3.5 - 5.3 lb.in

Approvals

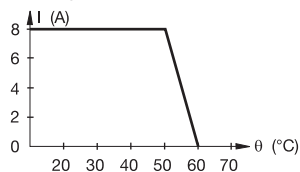
 

Reference standards

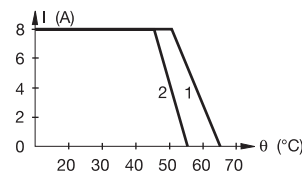
CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.
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Derating curves



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



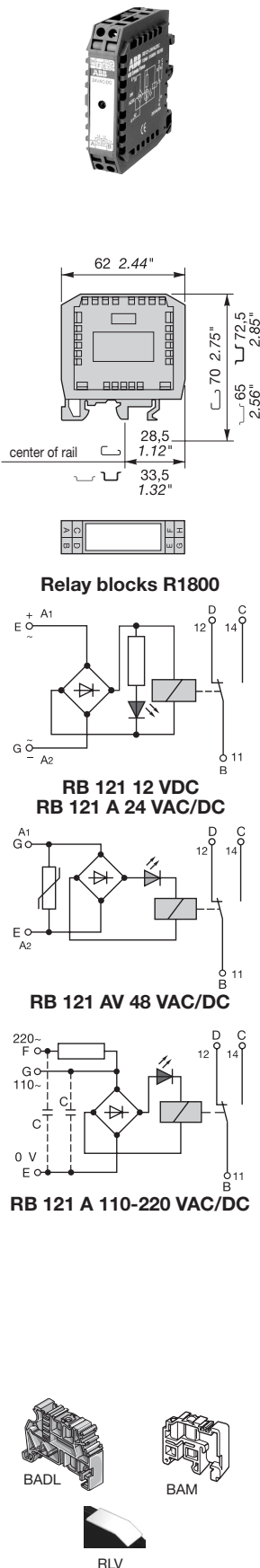
RB 121 A 110-220 VAC/DC
1 : 110 V AC/DC block
2 : 220 V AC block

Order codes

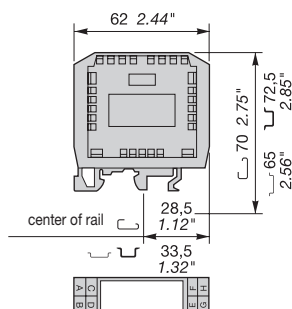
Description	Type	Order P/N	Packaging Weight kg
Relay block 12 V DC	RB 121-12VDC	1SNA 610 125 F2400	1 0.05
Relay block 24 V AC/DC	RB 121A-24VAC/DC	1SNA 610 004 F0700	1 0.05
Relay block 48 VAC/DC	RB 121AV-48VAC/DC	1SNA 610 006 F0100	1 0.05
Relay block 110-220 V AC/DC	RB 121A-110-220VAC/DC	1SNA 610 132 F2300	1 0.05

Accessories

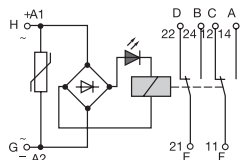
End section	BADL V0 BAM BAM V0	1SNA 399 903 F0200 1SNA 103 002 F2600 1SNA 399 306 F0300	50 50 50
Lengthwise marker	RLV	1SNA 103 849 F0300	
Marking method	RC55	see marking	



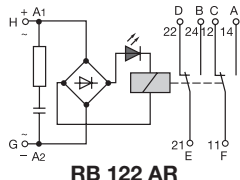
Relay modules R1800 DIN 1-3



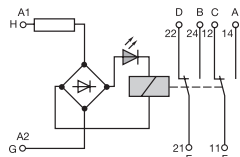
Relay blocks R1800



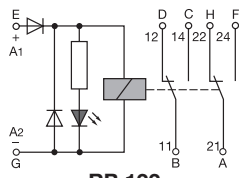
RB 122 AV



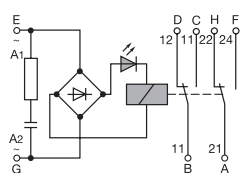
RB 122 AR



RB 122 A



BB 122



RB 122 BR



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								
Frequency	24 VAC/DC	48 VAC/DC	110 VAC/DC	220 VAC/DC	24 V DC	48 V DC	110 V AC 50 / 60 Hz	220 V AC 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	

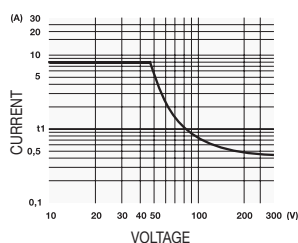
CONTACT

Type	1 DPDT	
Voltage switching range min./max.	12 V / 250 V	10 ⁻³ V / 250 V 12 V / 250 V
Current switching range min./max.		10 mA / 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 ⁵	5A/100W - 5A/1kVA : 10 ⁵
Number of off-load operations	2 x 10 ⁷	2 x 10 ⁸
Operating speed	F	7 ms
	O	8 ms
		4 ms
Bounce		3 ms
Insulation coil / contact	2000 V RMS	0.5 ms
Resistance to shock coil / contact	4000 V RMS	1500 V RMS
Insulation contact / contact	1500 V RMS	4000 V RMS
Ambient temperature		2000 V RMS
storage		
operating		

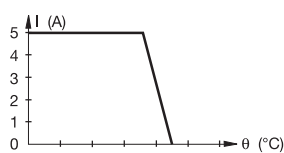
Other characteristics

Body material	grey ☐	UL 94 V0
Wire size	Solid wire	0.2 - 4 mm² / 22 - 12 AWG
	Stranded wire	0.22 - 2.5 mm² / 22 - 12 AWG
Rated wire size		2.5 mm² / 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

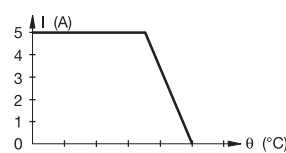
Reference standards	CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2. 3. 4. 5. 6.
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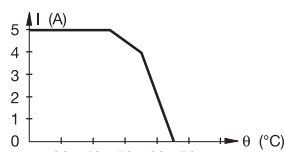
Derating curves



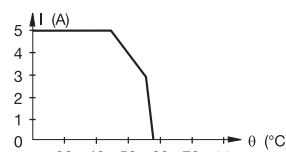
RB 122 A



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 kg
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

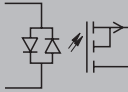
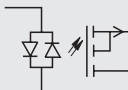
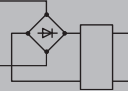
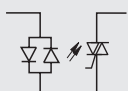
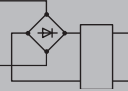
Accessories

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
		RB121AI 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-OB0C 0100 5 VDC	1SNA 607 203 R1500	1SNA 007 203 R0700
		D 2,5/5-OB0C 0100 24 VDC	1SNA 607 204 R1600	1SNA 007 204 R0000
		D 2,5/5-OB0C 0100 48 VDC	1SNA 607 205 R1700	1SNA 007 205 R0100
		D 2,5/5-OB0C 1000 5 VDC	1SNA 607 206 R1000	1SNA 007 206 R0200
		D 2,5/5-OB0C 1000 24 VDC	1SNA 607 207 R1100	1SNA 007 207 R0300
		D 2,5/5-OB0C 1000 24 VAC/DC	1SNA 607 250 R2700	
		D 2,5/5-OB0C 1000 48 VAC/DC	1SNA 607 251 R1400	
		D 2,5/5-OB0C 1000 110 VAC	1SNA 607 270 R2300	
		D 2,5/5-OB0C 1000 230 VAC	1SNA 607 271 R1000	
		D 2,5/5-OB0C 2000 5 VDC	1SNA 607 208 R2200	1SNA 007 208 R1400
		D 2,5/5-OB0C 2000 24 VDC	1SNA 607 209 R2300	1SNA 007 209 R1500
		D 2,5/5-OB0C 2000 24 VAC/DC	1SNA 607 255 R1000	
		D 2,5/5-OB0C 2000 48 VAC/DC	1SNA 607 256 R1100	
		D 2,5/5-OB0C 2000 110 VAC	1SNA 607 272 R1100	
		D 2,5/5-OB0C 2000 230 VAC	1SNA 607 273 R1200	
		D 2,5/5-OB0A 1000 24 VDC	1SNA 607 238 R1700	
		D 2,5/5-OB0A 1000 24 VAC/DC	1SNA 607 240 R2500	
		D 2,5/5-OB0A 1000 48 VAC/DC	1SNA 607 241 R1200	
		D 2,5/5-OB0A 1000 110 VAC	1SNA 607 268 R2500	
		D 2,5/5-OB0A 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
	R1800 	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 : 18 mm EBO3DC 5 to 48 VDC 1SNA 610 230 R1100 	spacing : 18 mm EBO3DC 5 to 48 VDC 1SNA 610 230 R1100 	spacing : 5,08 mm D 2,5/5-OBIC 0030 24 VDC 1SNA 607 210 R1700  spacing : 18 mm EBO3DC 5 to 48 VDC 1SNA 610 230 R1100 	spacing : 5,08 mm D 2,5/5-OBIA 0030 24 VAC 1SNA 607 211 R0400 	
100 mA / 10 to 58 V DC 	spacing : 5,08 mm D 2,5/5-OBOC 0100 5 VDC 1SNA 607 203 R1500 	spacing : 9 mm OBC 0100 12 to 24 VDC 1SNA 608 017 R0600 	spacing : 5,08 mm D 2,5/5-OBOC 0100 24 VDC 1SNA 607 204 R1600  spacing : 9 mm OBC 0100 12 to 24 VDC 1SNA 608 017 R0600 		spacing : 18 mm EBO1 24 VAC/DC 1SNA 610 022 R2000 
1 A / 10 to 58 V DC 	spacing : 5,08 mm D 2,5/5-OBOC 1000 5 VDC 1SNA 607 206 R1000  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 : 5,08 mm D 2,5/5-OBOC 1000 24 VDC 1SNA 607 207 R1100  spacing : 9 mm OBC 1000 12 to 24 VDC 1SNA 608 018 R1700 		spacing : 5,08 mm D 2,5/5-OBOC 1000 24 VAC/DC 1SNA 607 250 R2700 
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 
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 : 9 mm OBA 1000 5 VDC 1SNA 608 015 R0400 	spacing : 9 mm OBA 1000 12 to 24 VDC 1SNA 608 019 R1000 	spacing : 5,08 mm D 2,5/5-OB0A 1000 24 VDC 1SNA 607 238 R1700  spacing : 9 mm OBA 1000 12 to 24 VDC 1SNA 608 019 R1000 		spacing : 5,08 mm D 2,5/5-OB0A 1000 24 VAC/DC 1SNA 607 240 R2500 
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
spacing : 5.08 mm D 2,5/5-OBIC 0030 48 VDC 1SNA 607 212 R0500  spacing : 18 mm EBO3DC 5 to 48 VDC 1SNA 610 230 R1100 	spacing : 5.08 mm D 2,5/5-OBIA 0030 48 VAC 1SNA 607 213 R0600 		spacing : 5.08 mm D 2,5/5-OBIA 0030 110 VAC 1SNA 607 214 R0700 	spacing : 5.08 mm D 2,5/5-OBIC 0030 125 VDC 1SNA 607 275 R1400 	spacing : 5.08 mm D 2,5/5-OBIA 0030 230 VAC 1SNA 607 215 R0000 	
spacing : 5.08 mm D 2,5/5-OB0C 0100 48 VDC 1SNA 607 205 R1700  spacing : 9 mm OBC 0100 48 VDC 1SNA 608 021 R0200 				spacing : 18 mm EBO1 127 VAC/DC 1SNA 610 108 R1400  spacing : 9 mm OBC 0100 110 VAC 1SNA 608 024 R0500 		spacing : 18 mm EB01 220 VAC/DC 1SNA 610 023 R2100  spacing : 9 mm OBC 0100 230 VAC 1SNA 608 027 R0000 
		spacing : 5.08 mm D 2,5/5-OB0C 1000 48 VAC/DC 1SNA 607 251 R1400  spacing : 9 mm OBC 1000 48 VDC 1SNA 608 022 R0300 	spacing : 5.08 mm D 2,5/5-OB0C 1000 110 VAC 1SNA 607 270 R2300  spacing : 9 mm OBC 1000 110 VAC 1SNA 608 025 R0600 		spacing : 5.08 mm D 2,5/5-OB0C 1000 230 VAC 1SNA 607 271 R1000  spacing : 9 mm OBC 1000 230 VAC 1SNA 608 028 R1100 	
		spacing : 5.08 mm D 2,5/5-OB0C 2000 48 VAC/DC 1SNA 607 256 R1100 	spacing : 5.08 mm D 2,5/5-OB0C 2000 110 VAC 1SNA 607 272 R1100 		spacing : 5.08 mm D 2,5/5-OB0C 2000 230 VAC 1SNA 607 273 R1200 	
		spacing : 5.08 mm D 2,5/5-OB0A 1000 48 VAC/DC 1SNA 607 241 R1200  spacing : 9 mm OBA 1000 48 VDC 1SNA 608 023 R0400 	spacing : 5.08 mm D 2,5/5-OB0A 1000 110 VAC 1SNA 607 268 R2500  spacing : 9 mm OBA 1000 110 VAC 1SNA 608 026 R0700 		spacing : 5.08 mm D 2,5/5-OB0A 1000 230 VAC 1SNA 607 269 R2600 	

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 Is=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 Umax.	< 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

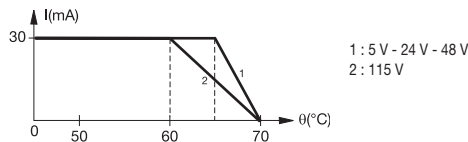
Ambient temperature	storage - 40°C to + 80°C operating See derating curve
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Other characteristics

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	CE, 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.

Derating curve



D 2,5/5-OBIC-0030

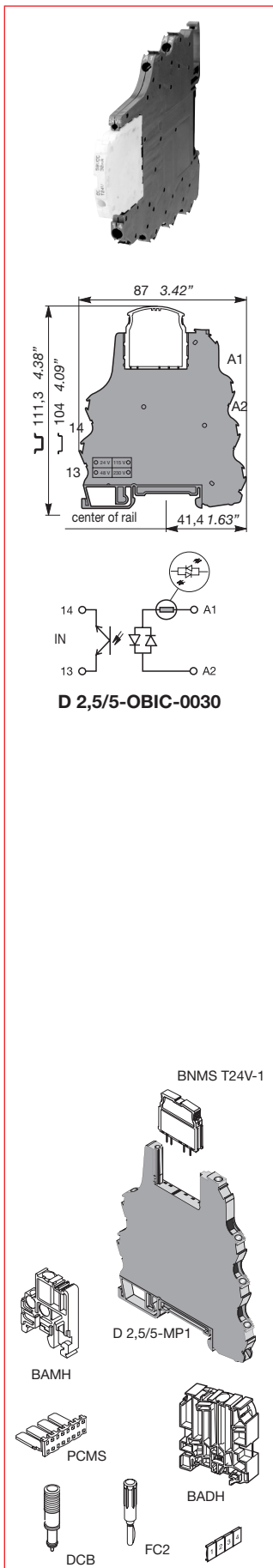
Order codes

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				
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

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

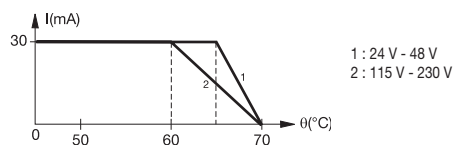
Ambient temperature	- 40°C to + 80°C
storage	See derating curve
operating	

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	  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



D 2,5/5-OBIA-0030

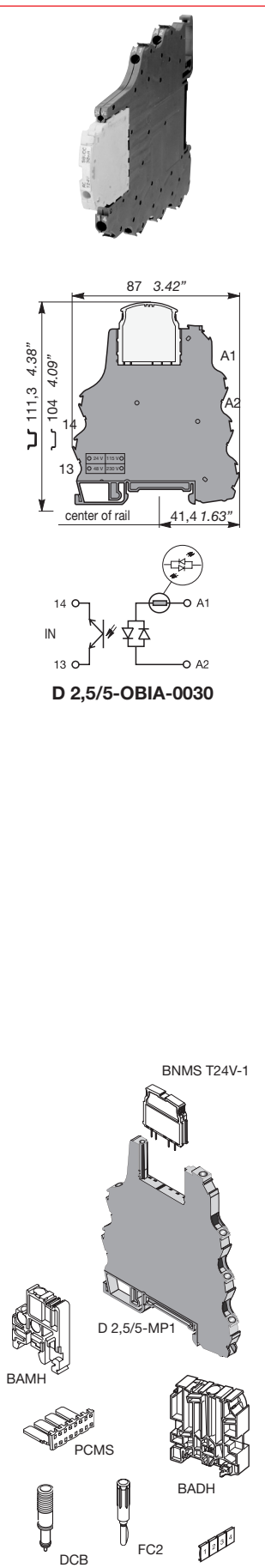
Order codes

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 ☐	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 BNMS T24V-1	1SNA 031 802 R1700	4	
Plug OBIA 48 V	yellow BNMS T48V-1	1SNA 031 803 R1000	4	
Plug OBIA 115 V	yellow BNMS T115V-1	1SNA 031 804 R1100	4	
Plug OBIA 230 V	yellow BNMS T230V-1	1SNA 031 805 R1200	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		

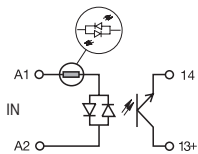
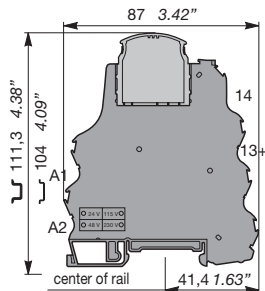
(1) Only on top decks.



Electronic Interfaces

R500 pluggable optocoupler modules

└─ DIN 3



D 2,5/5-OBOC-0100

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

Characteristics

Opto. characteristics	D 2,5/5-OBOC-0100 5 V DC / 24 V DC		D 2,5/5-OBOC-0100 48 V DC
INPUT			
Input voltage	4.5 V to 5.5 V DC	20.4 V to 28.8 V DC	40.8 V to 57.6 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	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 size	Solid wire	0.2-4 mm² / 24-12 AWG	
	Stranded wire	0.22-2.5 mm² / 24-12 AWG	
Rated wire size		2.5 mm² / 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		C 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.		

Note 1 :

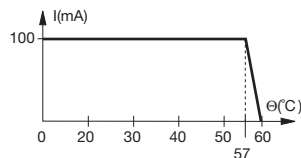
$$F_{max} = (1 - 0,007 \times U_s) / (L \times I_s^2)$$

or

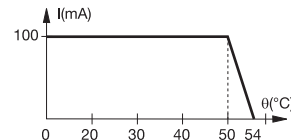
$$F_{max} = (1 - 0,007 \times U_s) / (P \times \frac{L}{R})$$

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

Derating 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 F0000	50	
	BAMH V0	9,1 mm	1SNA 194 836 R0100	50	
	BADH	12 mm	1SNA 116 900 F2700	50	
Comb type jumper bar 2 to 22 poles			consult us		
Jumper bar 10 poles	grey	PCMS	V0	1SNA 205 523 F2200	
Relay / Opto base	D 2,5/5-MP			1SNA 607 224 F0100	10 0.028
Plug for OBOC 5 V DC	red	BNMS P5V-3		1SNA 031 809 F2600	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 F0700	4
Test device	blue	DCB (1)		1SNA 105 028 F2100	10
Test plug	DIA. 2 mm	FC2		1SNA 007 865 F2600	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	
INPUT	5 VDC	24 VDC	24 VAC	24 VDC	48 VAC	48 VDC	110 VAC	230 VAC		
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 max. 0.5 V	typical 0.1 V max. 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

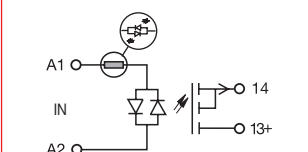
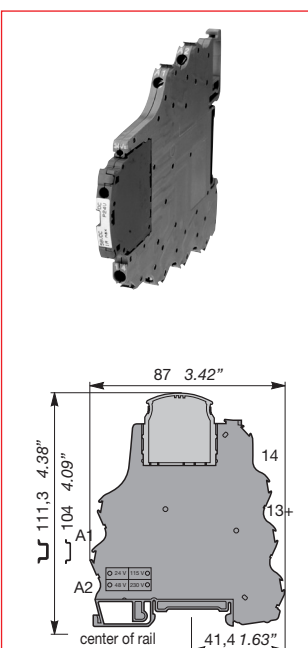
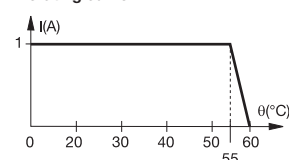
Other characteristics	
Body material	grey ☐
Wire	Solid wire
size	Stranded wire
Rated wire size	2.5 mm ² / 12 AWG
Wire stripping length	10 mm .394"
Recommended screwdriver	3.5 mm .137"
Protection	IP 20 NEMA 1
Recommended torque	0.4-0.6 Nm 3.5-5.3 lb.in
Approvals	UL 94 V0 UL pending, CE
Reference standards	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.

Note 1 :

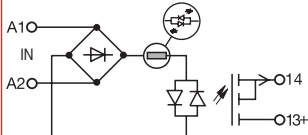
$$\begin{aligned} F_{max} &= (1 - 0,007 \times U_s) / (L \times I_s^2) \\ \text{or} \\ F_{max} &= (1 - 0,007 \times U_s) / (P \times \frac{L}{R}) \end{aligned}$$

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

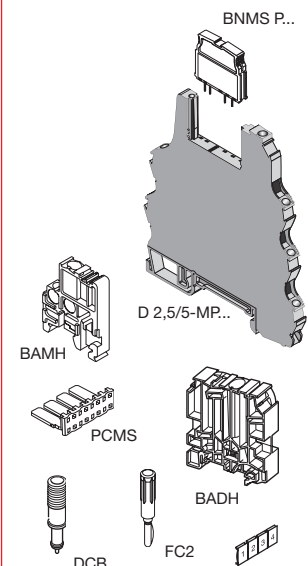
Derating curve



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



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



Order codes

Description	Type	Order P/N	Packaging	Weight kg
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	4	
Plug (3)	red	BNMS P24V-2 24 V/1 A	4	
Test device	blue	DCB (1)	10	
Test plug	DIA. 2 mm	FC2	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

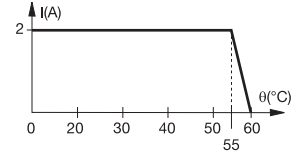
Opto. characteristics	D 2,5/5-OBOC-2000 5/24 VDC			D 2,5/5-OBOC-2000 24/48 VAC/DC			D 2,5/5-OBOC-2000 110/230VAC	
INPUT	5 VDC	24 VDC	24 VAC	24 VDC	48 VAC	48 VDC	110 VAC	230 VAC
Input voltage	4.5 to 5.5 VDC	20.4 to 28.8 VDC	24 ±10%	20.4 to 28.8 VDC	48 ±10%	40.8 to 57.6 VDC	110 ±10%	230 ±10%
Frequency			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				
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 mm² / 24-12 AWG					
Wire size	Stranded wire		0.22-2.5 mm² / 24-12 AWG					
Rated wire size			2.5 mm² / 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	c 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.							

Note 1 :

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

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 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

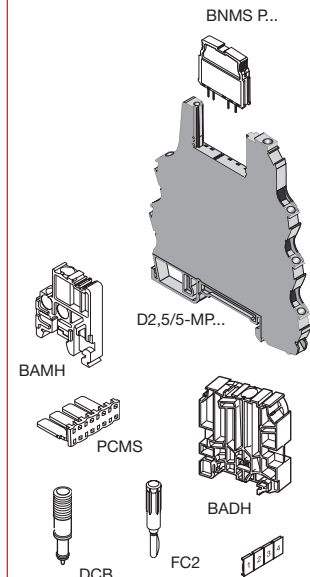
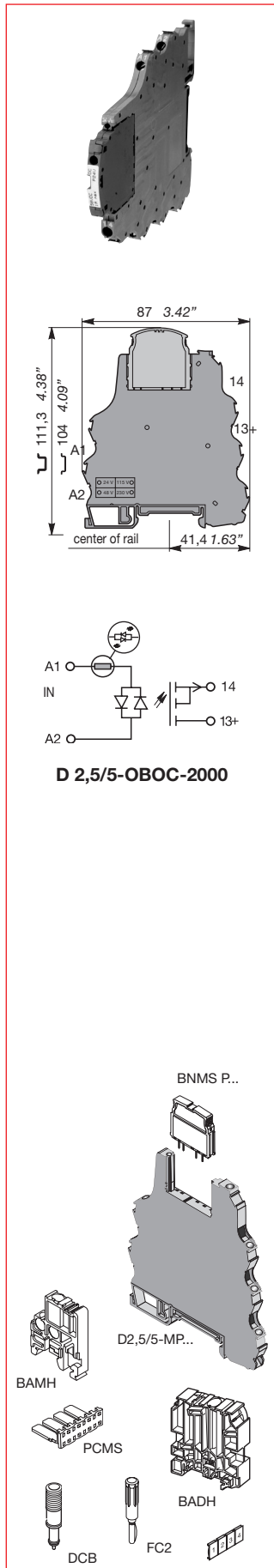
Accessories

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	4	
Plug (3)	red	BNMS P24V-1 24 V/2 A	4	
Test device	blue	DCB (1)	10	
Test plug	DIA. 2 mm	FC2	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-OBOA-1000 24 VAC/DC-48 VAC/DC					D 2,5/5-OBOA-1000 110 VAC-230 VAC	
INPUT	D 2,5/5-... 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	typical 1 V max. 1.6 V
Frequency on inductive load	See Note 1
Isolation Input / Output	2500 V RMS

TEMPERATURE

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

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.

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

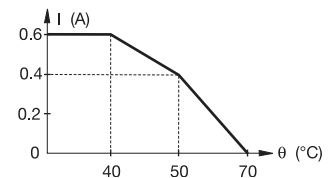
Is = Output current

L = Inductance of load

P = Power of load

R = Resistance of load

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 ☐	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 ☒	BNMS A24V-4	250 V/1 A	1SNA 031 839 R1300	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

R900 optocoupler modules DIN 3

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

Characteristics

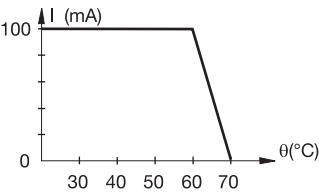
Opto. characteristics	OBC 0100 - 24 V DC	OBC 0100 - 48 V DC	OBC 0100 - 110 V AC	OBC 0100 - 230 V AC
INPUT				
Input voltage	10.2 V to 28.8 V DC	40.8 V to 57.6 V DC	93.5 V AC to 152.4 V AC	230 V AC +15%, -20%
Frequency			50 / 60 Hz	50 Hz
Input current	7 mA to 12 V / 10 mA to 24 V	5 mA	8 mA	8 mA
Pull-in voltage at Is=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 Umax.	< 50 µA			
Residual voltage at I max and U rated	typical 1 V			
	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 ☐
Wire	UL 94 V0
size	0.5-4 mm² / 20-12 AWG
Stranded wire	0.5-2.5 mm² / 20-12 AWG
Rated wire size	2.5 mm² / 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



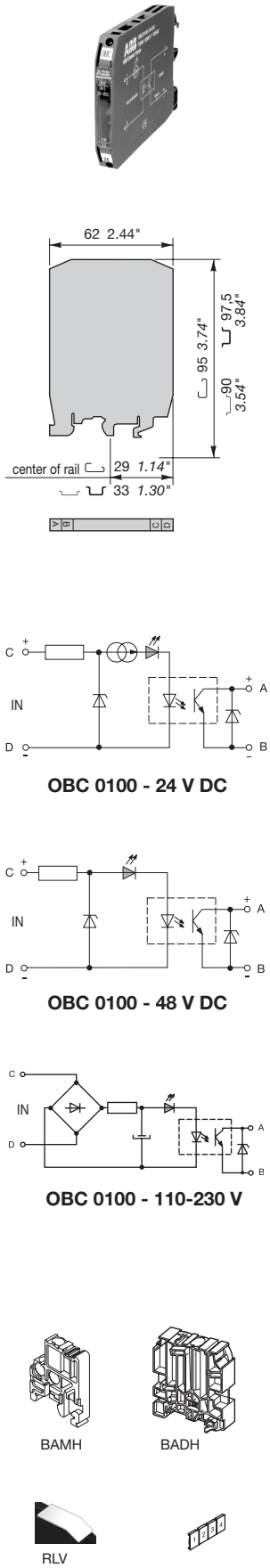
OBC 0100

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

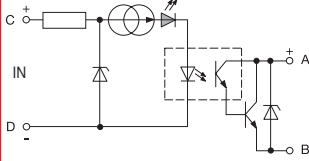
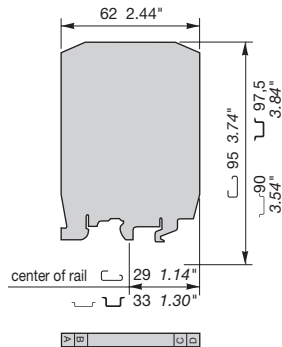
Accessories

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	

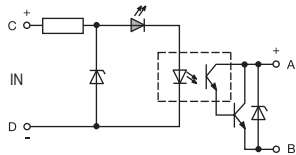


Electronic Interfaces

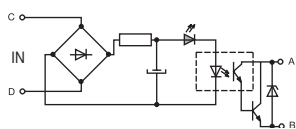
R900 optocoupler modules DIN 3



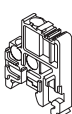
OBC 1000 - 24 V



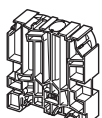
OBC 1000 - 5-48 V



OBC 1000 - 110-230 V



BAMH



BADH



RLV



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 1 V max. 1.3 V
Frequency on inductive load	
Isolation Input / Output	3000 V RMS

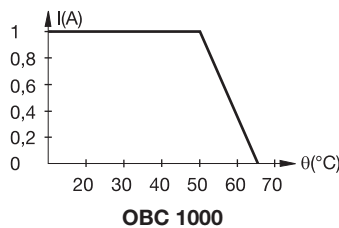
TEMPERATURE

Ambient temperature	storage - 40°C to + 80°C operating See derating curve
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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		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 kg
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 R1700	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 R1100	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 Is=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 Umax.	< 0.5 mA
Residual voltage at I max and U rated	typical 1 V
	max. 1.6 V
Frequency on inductive load	
Isolation Input / Output	3000 V RMS

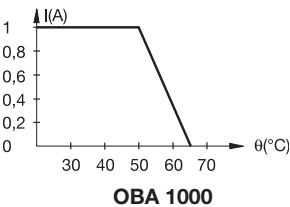
TEMPERATURE

Ambient temperature	- 40°C to + 80°C
storage	
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		CE, UL, etc.
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

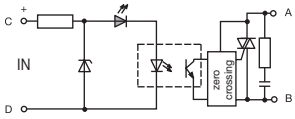
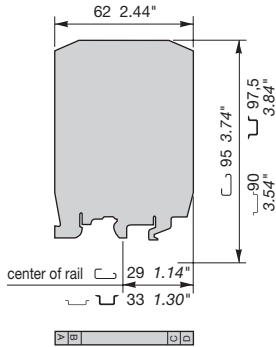


Order codes

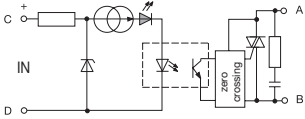
Description	Type	Order P/N	Packaging	Weight kg
Optocoupler module 5 V DC	OBA 1000-5VDC	1SNA 608 015 R0400	1	0.05
Optocoupler module 24 V DC	OBA 1000-24VDC	1SNA 608 019 R1000	1	0.05
Optocoupler module 48 V DC	OBA 1000-48VDC	1SNA 608 023 R0400	1	0.05
Optocoupler module 110 V AC	OBA 1000-110VAC	1SNA 608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

Accessories

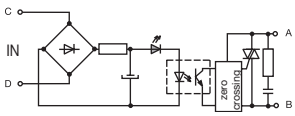
High end stop	BAMH	9,1 mm	1SNA 114 836 R0000	50
	BAMH	9,1 mm	1SNA 194 836 R0100	50
	BADH	12 mm	1SNA 116 900 R2700	50
Lengthwise marker	RLV		1SNA 103 849 R0300	
Marking method	RC55		see marking	



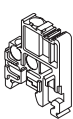
OBA 1000 - 5 - 48 V DC



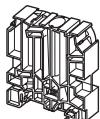
OBA 1000 - 24 V DC



OBA 1000 - 110 V AC



BAMH



BADH

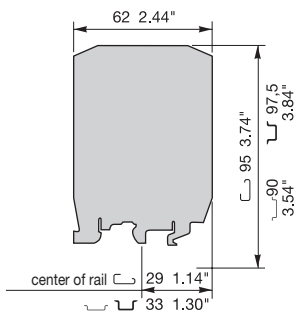


RLV

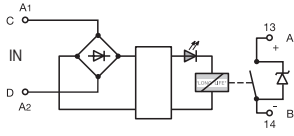


Relay Interfaces

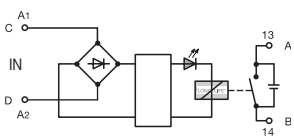
"Long Life" relay modules R900  DIN 1-3



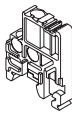
Relay blocks R900



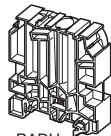
ORC 111



ORA 111



BAMH



BADH



PC9



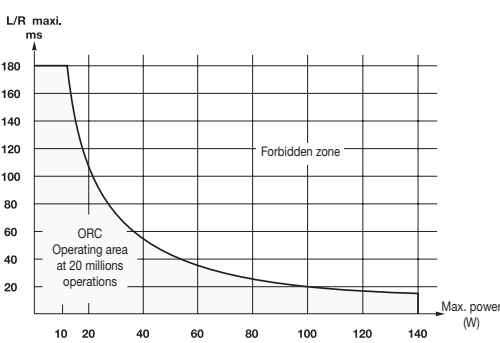
RLV

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

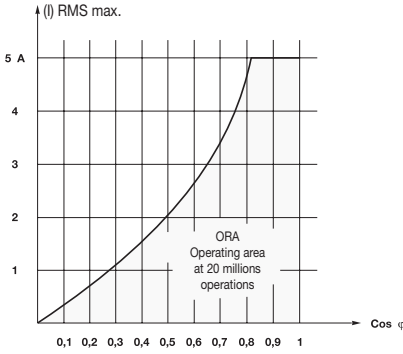
Characteristics

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.		
DC1 min. / max.	1 W / 280 W	2 VA / 675 VA
Number of on-load operations	20 x 10 ⁶ (see curves)	
Number of off-load operations	20 x 10 ⁶	
Operating speed	80 μ s	10 ms
Bounce	20 ms	30 ms
Insulation input / output	3000 V RMS	
Resistance to shock input / output	5000 V RMS	
Inductive load max.	see curves	
Ambient temperature	-40°C to +80°C	
storage	see derating curves	
operating		
Other characteristics		
Body material	grey 	
Wire	Solid 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	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.	

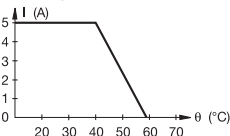
ORC type - Maximum switching power at 24V DC as per L/R



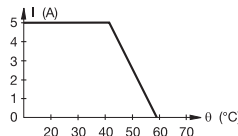
ORA type - Maximum switching current as per cos φ



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

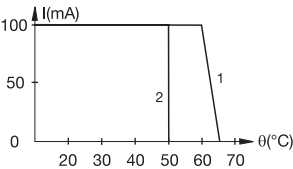
R1800 optocoupler modules DIN 3

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

Characteristics

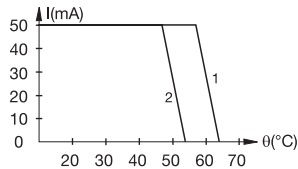
Opto. characteristics		EBO1 - 24 V		EBO1 - 127-220 V		EBO3 DC				
INPUT		24 V AC	24 V DC	127 V AC/DC 50 / 60 Hz	220 V AC/DC 50 / 60 Hz	5 V DC	12 V DC	15 V DC	24 V DC	48 V DC
Input voltage										
Frequency										
Input current		10 mA	8 mA	6 mA	5 mA			11 mA		
Pull-in voltage at Is=100%		12 V AC	16 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 Umax.		< 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										
Isolation Input / Output		2500 V RMS				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		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.								

Derating curves



EBO1

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



EBO3 DC

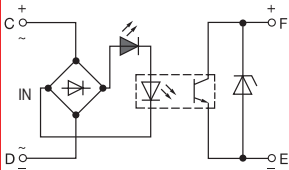
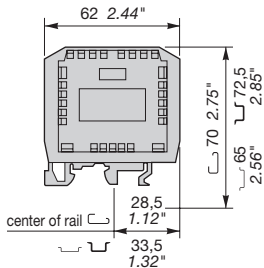
1 : 5 to 24 V DC model
2 : 48 V DC model

Order codes

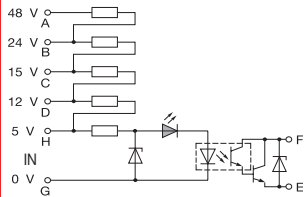
Description	Type	Order P/N	Packaging	Weight kg
Optocoupler module 24 V AC/DC	EBO1-24VAC/DC	1SNA 610 022 R2000	1	0.03
Optocoupler module 127 V AC/DC	EBO1-127VAC/DC	1SNA 610 108 R1400	1	0.03
Optocoupler module 220 V AC/DC	EBO1-220VAC/DC	1SNA 610 023 R2100	1	0.03
Optocoupler module 5-12-15-24-48 V DC	EBO3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

Accessories

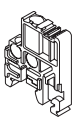
High end stop	BAMH 9,1 mm	1SNA 114 836 F0000	50
	BAMH V0 9,1 mm	1SNA 194 836 F0100	50
	BADH 12 mm	1SNA 116 900 F2700	50
Lengthwise marker	RLV	1SNA 103 849 F0300	
Marking method	RC55	see marking	



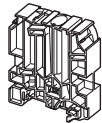
EBO1



EBO3 DC



BAMH



BADH



RLV



R600

NEW RANGE

Applications

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 Entrelec'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.

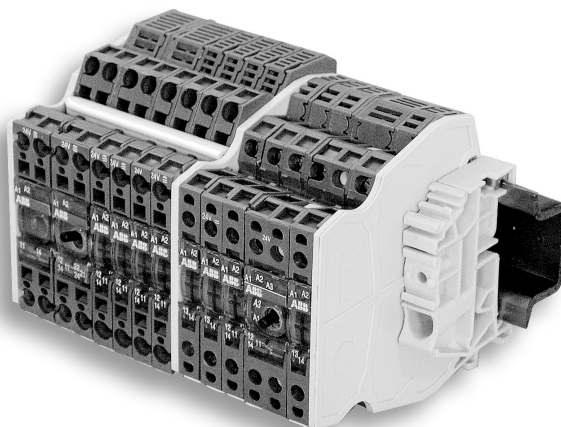
CE

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

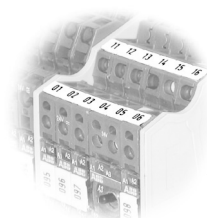
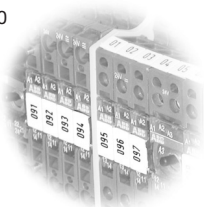
- Input voltage :
from 5 to 250 V AC/DC
- Voltage switching range :
from 5 to 58 V DC,
from 20 to 400 V AC
- Current switching range :
from 1 mA to 5 A
- Overvoltage protection



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

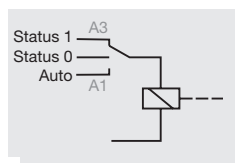
MANUAL OR AUTOMATIC FUNCTIONNING

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)



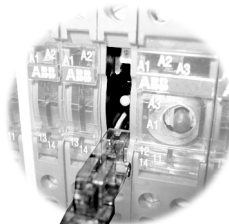
(Fig. 1)



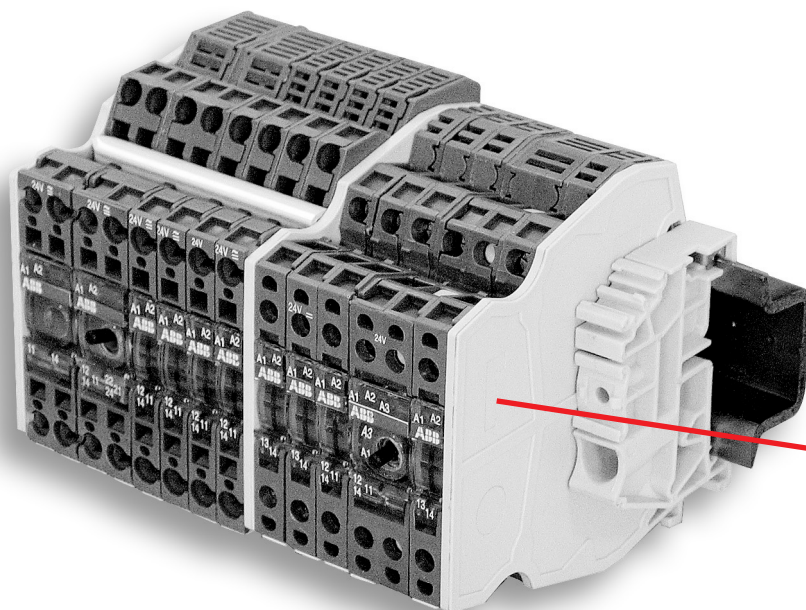
(Fig. 3)



(Fig. 2)

**FUNCTIONNING STATUS**

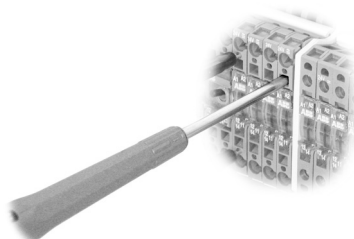
Functionning display through a green Led.

**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.

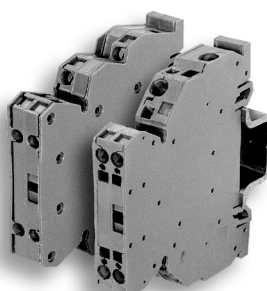
**EASY WIRING**

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

**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.



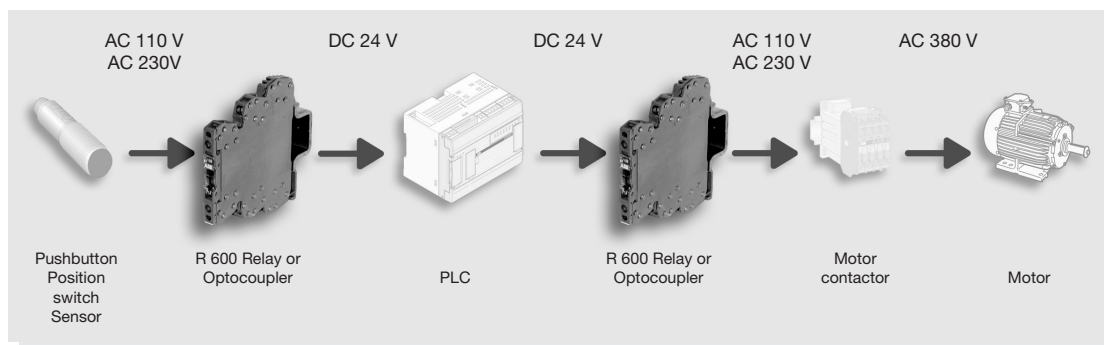
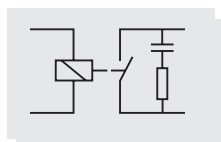


ABB PROVIDES A FULL SOLUTION FROM SENSOR TO MOTOR

SAVING

CONTACT LIFE INCREASED



Contact protection
through RC circuit

DIMENSIONS

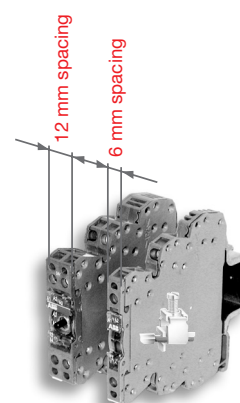
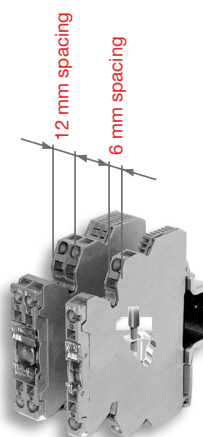
Compact block in «spring clamp» or «screw clamp» versions with 6 mm and 12 mm spacings.



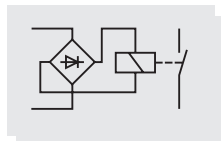
0,2 to 2,5 mm²



0,22 to 4 mm²



ONLY ONE PART NUMBER AC/DC



SAFETY

SEPARATION AND IDENTIFICATION OF SEVERAL VOLTAGES

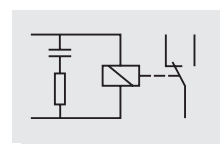
Separator end sections.

IP20 PROTECTION

NO DISTURBANCE PRODUCTION

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

IMMUNITY



Leakage current
protection

ACCORDANCE TO STANDARDS :



ME01

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

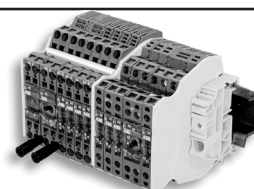
Selection guide R600 Relay modules



RB..... = screw clamp



RBR..... = spring clamp



Input Output	5 V DC	12 V DC	24 V AC/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 AI 24 V AC/DC 1SNA 645 019 R0400 spacing : 12 mm RBR 101 AI 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

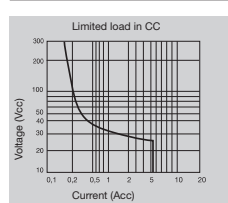
DIN 3



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

Characteristics

Relay characteristics	RB...111A					RB...111AI	RB...111AR	RB...101AR
COIL								
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							
AC1 min. / max.								
DC1 min. / max.								
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	-40°C to +80°C							
storage operating	-20°C to +70°C (1)							
Other characteristics								
Body material	grey							
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	9 mm .354"							
Recommended screwdriver	3,5 mm .137"							
Protection	IP20 NEMA1							
Recommended torque	0,4 - 0,6 Nm 3.5 - 5.3 lb.in							
Approvals	c 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.							



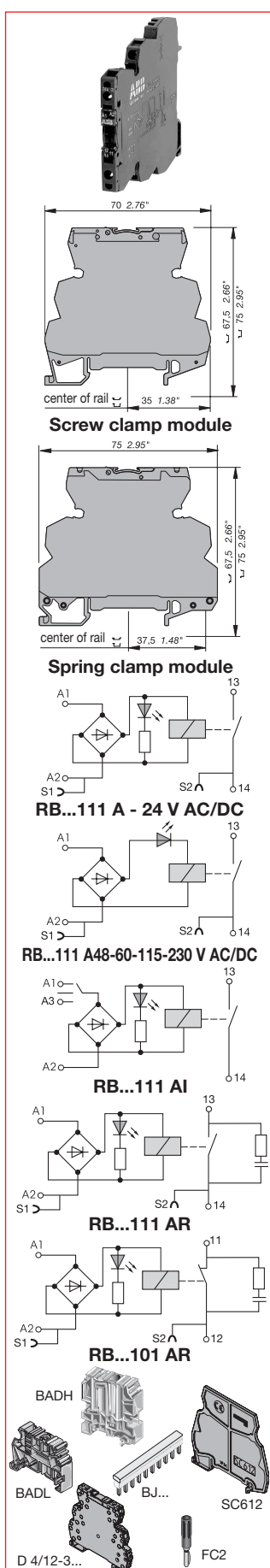
	DC12	AC12	DC13	AC15
24 V	6 A	6 A	1 A	3 A
110/120 V	0,3 A	6 A	0,2 A	3 A
220/230 V	0,2 A	6 A	0,1 A	3 A

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 R0000	10	0,02
Screw cl. relay mod. w/contact protection 12 mm sp.	RB 111 AR-24VAC/DC	1SNA 645 018 R0300	5	0,03
Screw cl. relay mod. w/contact protection 12 mm sp.	RB 101 AR-24VAC/DC	1SNA 645 019 R0400	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 R0200	10	0,02
Spring cl. relay mod. w/contact protection 12 mm sp.	RBR 111 AR-24VAC/DC	1SNA 645 518 R0500	5	0,03
Spring cl. relay mod. w/contact protection 12 mm sp.	RBR 101 AR-24VAC/DC	1SNA 645 519 R0600	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
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 : 1 SPDT level contact 10 mA upto 6 A - 6 mm .236" spacing

Characteristics

Relay characteristics

	RB...121		RB...121A					
COIL								
Rated voltage +20%, -15% on DC ; +10%, -10% on AC	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	±10% on AC +10% -15% on DC
Frequency			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	
Rated current	40 mA	16 mA	10 mA	7 mA	9 mA	4 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	
Status device	green LED							

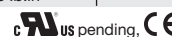
CONTACT

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

Other characteristics

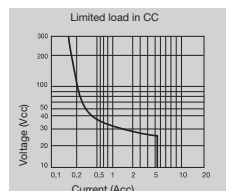
	Screw clamp		Spring clamp	
Body material	grey ☐ UL 94 V0		UL 94 V0	
Wire	Solid wire		Solid wire	
size	0,2 - 4 mm ² / 24 - 12 AWG		0,2 - 2,5 mm ² / 24 - 12 AWG	
Stranded wire	0,22 - 2,5 mm ² / 24 - 12 AWG		0,22 - 2,5 mm ² / 24 - 12 AWG	
Rated wire size	2,5 mm ² / 12 AWG		2,5 mm ² / 12 AWG	
Wire stripping 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.



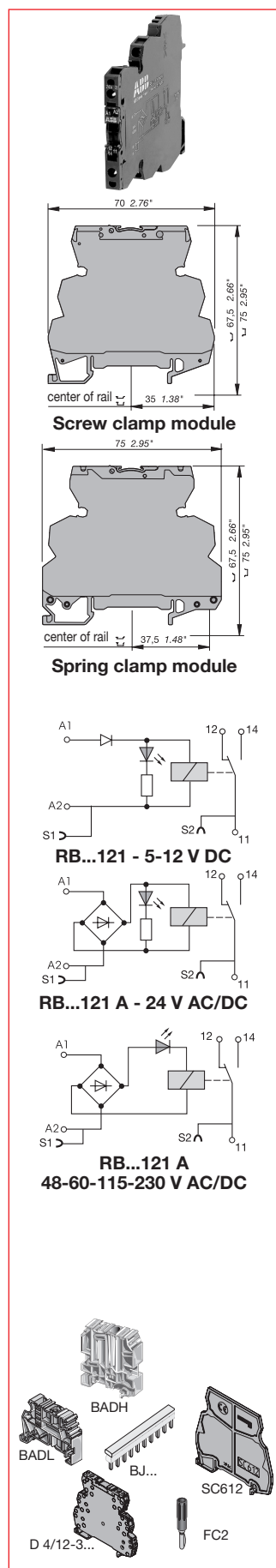
	DC12	AC12	DC13	AC15
24 V	6 A	6 A	1 A	3 A
110/120 V	0,3 A	6 A	0,2 A	3 A
220/230 V	0,2 A	6 A	0,1 A	3 A

Order codes

Description	Type	Order P/N	Packaging	Weight kg
Screw clamp relay module	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
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 : 1SPDT Low level contact 1 mA upto 6 A - 6 mm .236" spacing

Characteristics

Relay characteristics

COIL

Rated voltage +20%, -15%
on DC ; +10%, -10% on AC
Frequency
Power
Rated current
Drop-out voltage at 20°C
Status device

	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	±10% on AC +10% -15% on DC
Frequency			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	
Rated current	40 mA	16 mA	10 mA	7 mA	9 mA	4 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	
Status device	green LED							

CONTACT

Type
Voltage switching range min./max.
Current switching range min./max.
Load switching range

Type	1 SPDT
Voltage switching range min./max.	5 V / 250 V AC
Current switching range min./max.	1 mA / 6 A

AC1 min. / max.
DC1 min. / max.

AC1 min. / max.	0,05 VA / 1500 VA (ohmic load)
DC1 min. / max.	0,05 W / 140 W

Number of on-load operations

Number of on-load operations	10 ⁵ on AC15
------------------------------	-------------------------

Number of off-load operations

Number of off-load operations	10 ⁷
-------------------------------	-----------------

Operating speed

Operating speed	F 5 ms 5 ms 5 ms 5 ms 5 ms 6 ms 7 ms
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Bounce

Bounce	O 8 ms 8 ms 8 ms 8 ms 8 ms 15 ms 16 ms
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Insulation coil / contact

Insulation coil / contact	1,2 ms
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Resistance to shock coil / contact

Resistance to shock coil / contact	4000 V RMS
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Insulation contact / contact

Insulation contact / contact	4000 V RMS
------------------------------	------------

Ambient temperature

Ambient temperature	1000 V RMS
---------------------	------------

storage

storage	-40°C to +80°C
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operating

operating	-20°C to +70°C (1)
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Other characteristics

Body material

Body material	grey
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Wire

Wire	Screw clamp
------	-------------

size

size	UL 94 V0
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Rated wire size

Rated wire size	0,2 - 4 mm ² / 24 - 12 AWG
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Wire stripping length

Wire stripping length	0,22 - 2,5 mm ² / 24 - 12 AWG
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Recommended screwdriver

Recommended screwdriver	2,5 mm ² / 12 AWG
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Protection

Protection	9 mm .354"
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Recommended torque

Recommended torque	3,5 mm .137"
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Approvals

Approvals	IP20 NEMA1
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Reference standards

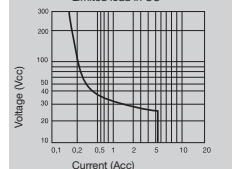
Reference standards	0,4 - 0,6 Nm 3.5 - 5.3 lb.in
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CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.

(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.

Limited load in CC



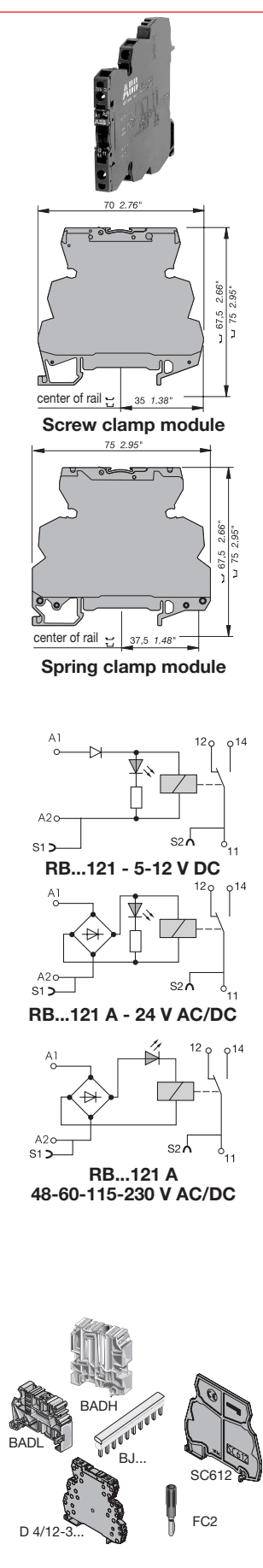
	DC12	AC12	DC13	AC15
24 V	6 A	6 A	1 A	3 A
110/120 V	0,3 A	6 A	0,2 A	3 A
220/230 V	0,2 A	6 A	0,1 A	3 A

Order codes

Description	Type	Order P/N	Packaging	Weight kg
Screw clamp relay module 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 R0000	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 R2700	10	0,02
Spring clamp relay module low level contact	RBR 121-12VDC	1SNA 645 537 R2000	10	0,02
Spring clamp relay module low level contact	RBR 121 A-24VAC/DC	1SNA 645 505 R0100	10	0,02
Spring clamp relay module low level contact	RBR 121 A-48-60VAC/DC	1SNA 645 506 R0200	10	0,02
Spring clamp relay module low level contact	RBR 121 A-115VAC/DC	1SNA 645 507 R0300	10	0,02
Spring clamp relay module low level contact	RBR 121 A-230VAC/DC	1SNA 645 508 R1400	10	0,02

Accessories

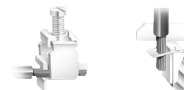
End section	BADH V0	1SNA 116 900 R2700	50
	BADL V0	1SNA 399 903 R0200	50
	BAM2 V0	1SNA 399 967 R0100	50
Separator end section	SC 612	1SNA 290 474 R0200	10
Divisible shunt 10 poles	BJ 612-10	1SNA 290 488 R0100	10
Divisible shunt 70 poles	BJ 612-70	1SNA 290 489 R0200	10
Screw clamp distribution block sp. 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 : 1 SPDT with switch or with Leakage current protection - 12 mm .472" spacing

Characteristics

Relay characteristics

COIL

Rated voltage +20%, -15%
on DC ; +10%, -10% on AC
Frequency
Power
Rated current
Drop-out voltage at 20°C
Status device

	RB...121 AR			RB...121 AI				
	115 V AC/DC	230 V AC/DC	24 VAC/DC	24 VAC/DC	24 VAC/DC	24 VAC/DC		
	±10% on AC +10% -15% on 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
Voltage switching range min./max.
Current switching range min./max.
Load switching range
AC1 min. / max.
DC1 min. / max.
Number of on-load operations
Number of off-load operations
Operating speed
F
O

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)			0,05 VA/1500 VA (ohmic load)				
AC1 min. / max.	0,6 W / 140 W			0,05 W / 140 W				
DC1 min. / max.								
Number of on-load operations	10 ⁵ on AC15			10 ⁵ on AC15				
Number of off-load operations	10 ⁷			10 ⁷				
Operating speed	6 ms	7 ms	5 ms	5 ms	5 ms	5 ms		
F	15 ms	16 ms	8 ms	8 ms	8 ms	8 ms		
O								

Bounce
Insulation coil / contact
Resistance to shock coil / contact
Insulation contact / contact
Ambient temperature
storage
operating

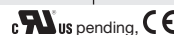
Bounce	4000 V RMS			4000 V RMS				
Insulation coil / contact	4000 V RMS			4000 V RMS				
Resistance to shock coil / contact	1000 V RMS			1000 V RMS				
Insulation contact / contact	-40°C to +80°C			-40°C to +80°C				
Ambient temperature	-20°C to +70°C (1)			-20°C to +70°C (1)				
storage								
operating								

Other characteristics

Body material
Wire
size
Stranded wire
Rated wire size
Wire stripping length
Recommended screwdriver
Protection
Recommended torque

Body material	grey			grey				
Wire	UL 94 V0			UL 94 V0				
size	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				

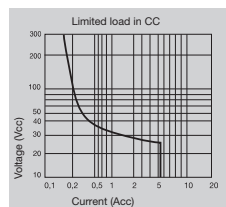
Approvals



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.



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

COIL

Rated voltage +20%, -15%
on DC ; +10%, -10% on AC
Frequency
Power
Rated current
Drop-out voltage at 20°C
Status device

RB...122A							
24 VAC/DC	48 V AC/DC	60 V AC/DC	115 V AC/DC	230 V AC/DC	±10% on AC +10% -15% on DC		
50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz		
0,48 W	0,62 W	0,96 W	0,58 W	1,15 W			
20 mA	13 mA	16 mA	5 mA	5 mA			
5,4 V	8,8 V	8,8 V	20 V	10 V			
green LED							

CONTACT

Type
Voltage switching range min./max.
Current switching range min./max.
Load switching range

1 DPDT							
5 V / 250 V DC - 250 V AC							
1 mA / 8 A							

AC1 min. / max.
DC1 min. / max.

5 mVA / 1500 VA							
5 mW / 192 W							

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

-40°C to +80°C							
----------------	--	--	--	--	--	--	--

storage

-20°C to +70°C (1)							
--------------------	--	--	--	--	--	--	--

Other characteristics

Body material

grey	Screw clamp UL 94 V0	Spring clamp UL 94 V0
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Wire

Solid wire	0,2 - 4 mm ² / 24 - 12 AWG	0,2 - 2,5 mm ² / 24 - 12 AWG
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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
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Approvals

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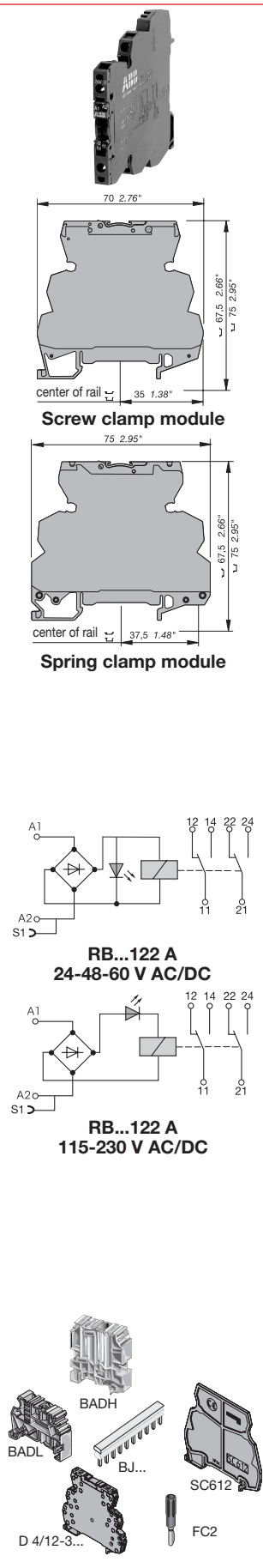
(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

Order codes

Description	Type	Order P/N	Packaging	Weight kg
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
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	



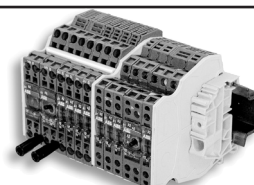
Selection guide R600 Optocoupler modules



OB..... = screw clamp



OBR..... = spring clamp



Input Output	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 OBRIC 0100 5-12 V DC 1SNA 645 547 R0200 spacing : 6 mm	OBIC 0100 24 V DC 1SNA 645 021 R2600 spacing : 6 mm OBRIC 0100 24 V DC 1SNA 645 521 R2000 spacing : 6 mm		OBIC 0100 48-60 V AC/DC 1SNA 645 049 R1200 spacing : 6 mm OBRIC 0100 48-60 V AC/DC 1SNA 645 549 R1400 spacing : 6 mm		OBIC 0100 115-230 V AC/DC 1SNA 645 022 R2700 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 OBROC 1000 5-12 V DC 1SNA 645 550 R1100 spacing : 6 mm	OBOC 1000 24 V DC 1SNA 645 051 R0400 spacing : 6 mm OBROC 1000 24 V DC 1SNA 645 551 R0600 spacing : 6 mm	OBOC 1500 24 V AC/DC 1SNA 645 025 R2200 spacing : 6 mm OBROC 1500 24 V AC/DC 1SNA 645 525 R2400 spacing : 6 mm	OBOC 1000 48-60 V AC/DC 1SNA 645 053 R0600 spacing : 6 mm OBROC 1000 48-60 V AC/DC 1SNA 645 553 R0000 spacing : 6 mm	OBOC 1000 115 V AC/DC 1SNA 645 054 R0700 spacing : 6 mm OBROC 1000 115 V AC/DC 1SNA 645 554 R0100 spacing : 6 mm		OBOC 1000 230 V AC/DC 1SNA 645 026 R2300 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 OBROC 5000 24 V DC 1SNA 645 524 R2300 spacing : 6 mm			OBOC 5000 115 V AC/DC 1SNA 645 058 R1300 spacing : 6 mm OBROC 5000 115 V AC/DC 1SNA 645 558 R1500 spacing : 6 mm		OBOC 5000 230 V AC/DC 1SNA 645 059 R1400 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 OBROA 1000 24 V DC 1SNA 645 527 R2600 spacing : 6 mm		OBOA 1000 48-60 V AC/DC 1SNA 645 061 R0600 spacing : 6 mm OBROA 1000 48-60 V AC/DC 1SNA 645 561 R0000 spacing : 6 mm	OBOA 1000 115 V AC/DC 1SNA 645 062 R0700 spacing : 6 mm OBROA 1000 115 V AC/DC 1SNA 645 562 R0100 spacing : 6 mm		OBOA 1000 230 V AC/DC 1SNA 645 028 R0500 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 OBROA 2000 24 V AC/DC 1SNA 645 529 R0000 spacing : 6 mm				

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 50 / 60 Hz	60 V AC/DC 50 / 60 Hz	115 V AC/DC 50 / 60 Hz
Input voltage +20% -15% on DC, +10% -10% on AC						
Frequency				4 mA	5 mA	
Input current	5 mA	9 mA	4 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
Frequency on inductive load	1,3 V
Isolation Input / Output	2500 V RMS

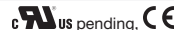
TEMPERATURE

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

Other characteristics

	Screw clamp	Spring clamp
Body material	grey ☐ UL 94 V0	UL 94 V0
Wire size	Solid wire 0,2 - 4 mm² / 24 - 12 AWG	0,2 - 2,5 mm² / 24 - 12 AWG
Stranded wire	0,22 - 2,5 mm² / 24 - 12 AWG	0,22 - 2,5 mm² / 24 - 12 AWG
Rated wire size	2,5 mm² / 12 AWG	2,5 mm² / 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.

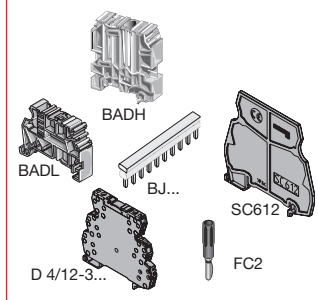
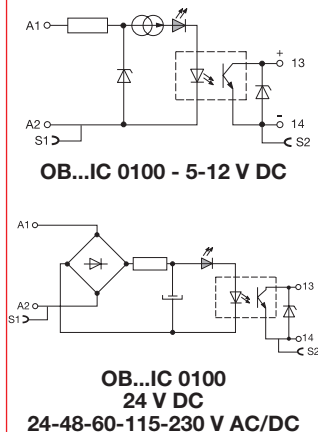
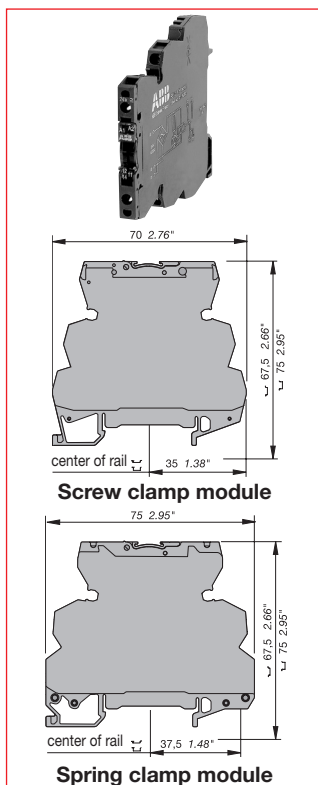
(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

Order codes

Description	Type	Order P/N	Packaging	Weight kg
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
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	



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

Characteristics

Opto. characteristics

INPUT

	OB...OC 1000		OB...OC 1500	OB...OC 1000			
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
Frequency	5 mA 9 mA		5,4 mA	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
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
Switching time C / O	2000 Hz		1000 Hz	60 Hz	20 Hz	20 Hz	50 Hz
Operating frequency	1 mA		0,8 mA	0,9 mA	1 mA	1 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	0,1 V						
Frequency on inductive load	0,5 V						
Isolation Input / Output	2500 V RMS						

TEMPERATURE

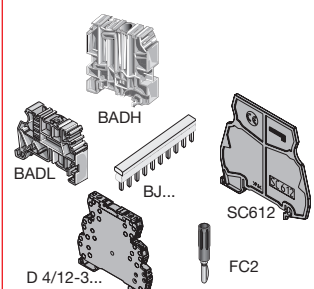
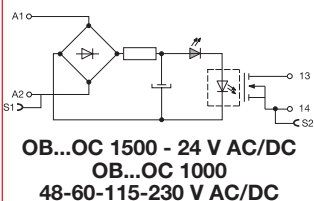
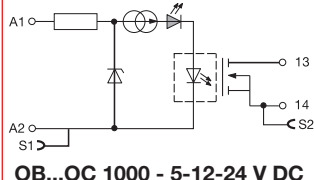
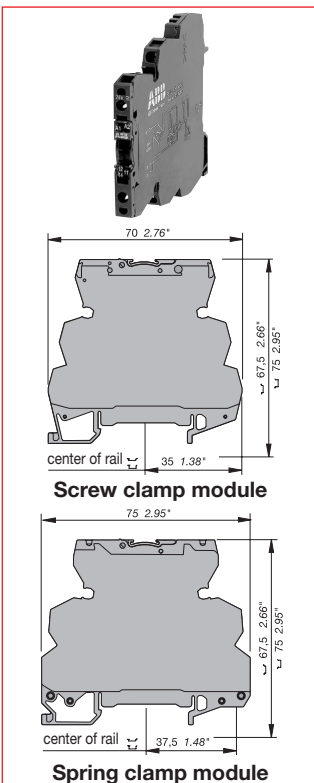
Ambient temperature storage	-40°C to +80°C						
operating	-20°C to +70°C (1)						

Other characteristics

Body material	grey	Screw clamp	UL 94 V0	Spring clamp	UL 94 V0
Wire size	Solid wire	0,2 - 4 mm² / 24 - 12 AWG		0,2 - 2,5 mm² / 24 - 12 AWG	
Rated wire size	Stranded wire	0,22 - 2,5 mm² / 24 - 12 AWG		0,22 - 2,5 mm² / 24 - 12 AWG	
Wire stripping length		2,5 mm² / 12 AWG		2,5 mm² / 12 AWG	
Recommended screwdriver		9 mm .354"		9 mm .354"	
Protection		3,5 mm .137"		3,5 mm .137"	
Recommended torque		IP20 NEMA1		IP20 NEMA1	
Approvals		0,4 - 0,6 Nm 3.5 - 5.3 lb.in		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.						
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(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
Screw clamp optocoupler module 2 A/DC	OB0C 1000-5-12VDC	1SNA 645 050 R1700	10	0,02
Screw clamp optocoupler module 2 A/DC	OB0C 1000-24VDC	1SNA 645 051 R0400	10	0,02
Screw clamp optocoupler module 2 A/DC	OB0C 1500-24VAC/DC	1SNA 645 025 R2200	10	0,02
Screw clamp optocoupler module 2 A/DC	OB0C 1000-48-60VAC/DC	1SNA 645 053 R0600	10	0,02
Screw clamp optocoupler module 2 A/DC	OB0C 1000-115VAC/DC	1SNA 645 054 R0700	10	0,02
Screw clamp optocoupler module 2 A/DC	OB0C 1000-230VAC/DC	1SNA 645 026 R2300	10	0,02
Spring clamp optocoupler module 2 A/DC	OB0C 1000-5-12VDC	1SNA 645 550 R1100	10	0,02
Spring clamp optocoupler module 2 A/DC	OB0C 1000-24VDC	1SNA 645 551 R0600	10	0,02
Spring clamp optocoupler module 2 A/DC	OB0C 1500-24VAC/DC	1SNA 645 525 R2400	10	0,02
Spring clamp optocoupler module 2 A/DC	OB0C 1000-48-60VAC/DC	1SNA 645 553 R0000	10	0,02
Spring clamp optocoupler module 2 A/DC	OB0C 1000-115VAC/DC	1SNA 645 554 R0100	10	0,02
Spring clamp optocoupler module 2 A/DC	OB0C 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
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	

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

Characteristics

Opto. characteristics

INPUT
Input voltage +20% -15% on DC, +10% -10% on AC
Frequency
Input current
Pull-in voltage at Is=100%
Switching time C / O
Operating frequency
Permissible leakage current

OB...OC 5000

	24 V DC			115 V AC/DC	230 V AC/DC
				50 / 60 Hz	50 / 60 Hz
	5,4 mA			4,2 mA	4 mA
	12 V			50 V	80 V
	30 µs/400 µs			500 µs/10 ms	1 ms / 15 ms
	1000 Hz			50 Hz	35 Hz
	0,8 mA			0,3 mA	0,3 mA

OUTPUT

Output voltage
Output current min.
Output current max.
Output leakage current at Umax.
Residual voltage at I max and U rated
Frequency on inductive load
Isolation Input / Output

4,5 to 58 VDC
1 mA
5 A
< 50 µA
0,1 V typical max.
0,5 V
2500 V RMS

TEMPERATURE

Ambient temperature storage
operating

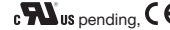
-40°C to +80°C
-20°C to +70°C (1)

Other characteristics

Body material grey □
Wire Solid wire
size Stranded wire
Rated wire size
Wire stripping length
Recommended screwdriver
Protection
Recommended torque

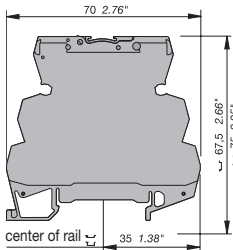
Screw clamp	Spring clamp
UL 94 V0	UL 94 V0
0,2 - 4 mm² / 24 - 12 AWG	0,2 - 2,5 mm² / 24 - 12 AWG
0,22 - 2,5 mm² / 24 - 12 AWG	0,22 - 2,5 mm² / 24 - 12 AWG
2,5 mm² / 12 AWG	2,5 mm² / 12 AWG
9 mm .354"	9 mm .354"
3,5 mm .137"	3,5 mm .137"
IP20 NEMA1	IP20 NEMA1
0,4 - 0,6 Nm 3.5 - 5.3 lb.in	0,4 - 0,6 Nm 3.5 - 5.3 lb.in

Approvals

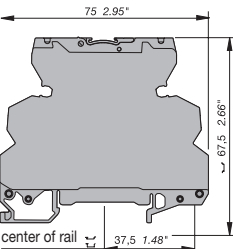


Reference standards CEI 947-7-1 / CEI 947-1 / CEI 1131-2 (in relevant parts) / CEI 60664-1 / CEM : IRC 1000-4-2, 3, 4, 5, 6.

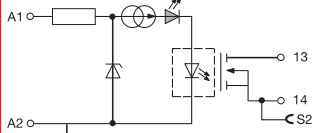
(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.



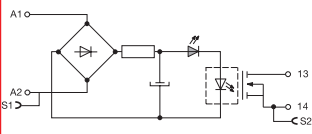
Screw clamp module



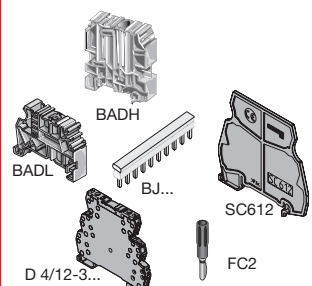
Spring clamp module



OB...OC 5000 - 5-12-24 V DC



OB...OC 5000
24-48-60-115-230 V AC/DC



Order codes

Description	Type	Order P/N	Packaging	Weight 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
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	



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

Characteristics

Opto. characteristics	OB...OA 1000						OB...OA 2000
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	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							
TEMPERATURE							
Ambient temperature storage	- 40°C to + 80°C						
operating	-20°C to +70°C (1)						
Other characteristics							
Body material	Screw clamp grey ☐ UL 94 V0			Spring clamp UL 94 V0			
Wire Solid wire	0,2 - 4 mm² / 24 - 12 AWG			0,2 - 2,5 mm² / 24 - 12 AWG			
size Stranded wire	0,22 - 2,5 mm² / 24 - 12 AWG			0,22 - 2,5 mm² / 24 - 12 AWG			
Rated wire size	2,5 mm² / 12 AWG			2,5 mm² / 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.						

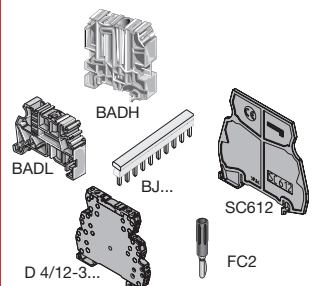
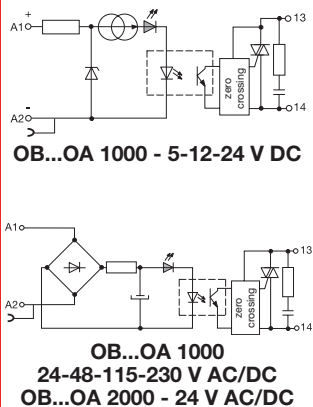
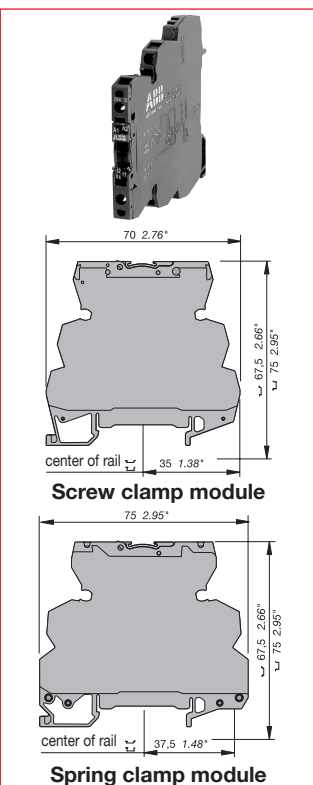
(1) Over 55°C, blocks have to be mounted on horizontal rail with 10 mm spacing between each block. For vertical rail mounting use temperature is 15°C less decreased.

Order codes

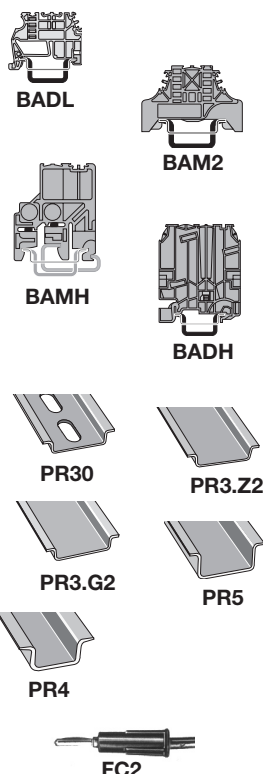
Description	Type	Order P/N	Packaging	Weight kg
Screw opto. 1 A/AC	OBOA 1000-24VDC	1SNA 645 027 R2400	10	0,03
Screw opto. 1 A/AC	OBOA 1000-48-60VAC/DC	1SNA 645 061 R0600	10	0,03
Screw opto. 1 A/AC	OBOA 1000-115VAC/DC	1SNA 645 062 R0700	10	0,03
Screw opto. 1 A/AC	OBOA 1000-230VAC/DC	1SNA 645 028 R0500	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
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	



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.

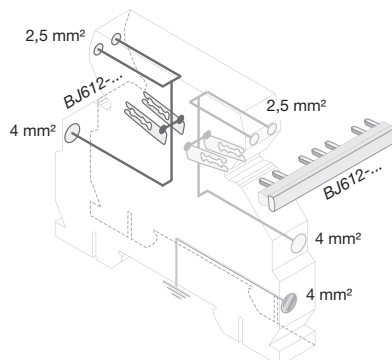
Separator end section	SC612	1SNA 290 474 R0200	10
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Distribution block

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

Marking for Interface Modules

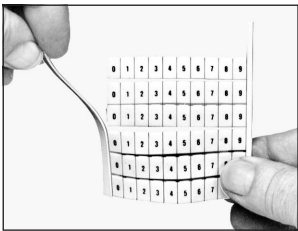
Selection table

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

Possible mounting :

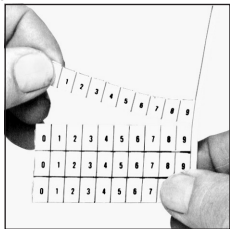
Recommended mounting :

Impossible mounting :



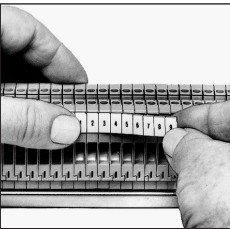
1

Remove one of the side bands of the card.



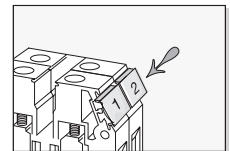
2

Separate the chosen strip from the rest of the card.

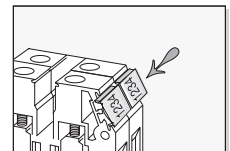


3

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



Horizontal marking



Vertical marking



Refillable box of 100 cards of 18 RC markers

Marking for for terminal blocks

Standard RC marker cards

		(x) = Nb of cards in 5 mm spacing kit	(x) = Nb of cards in 6 mm spacing kit	(x) = Nb of cards in 6 mm spacing kit
Marker sizes		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