Short Form Catalogue

Relays
Optocouplers



Relays and optocouplers





NEW
R600

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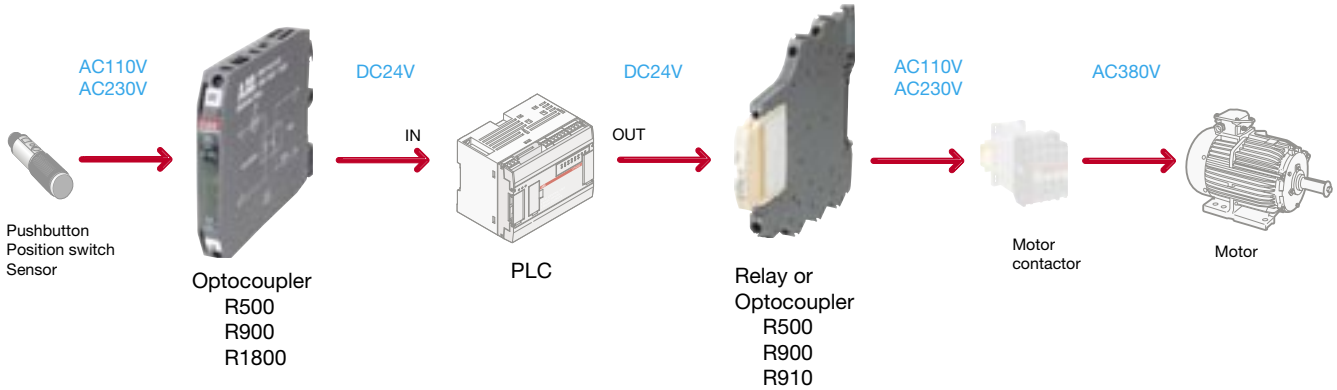
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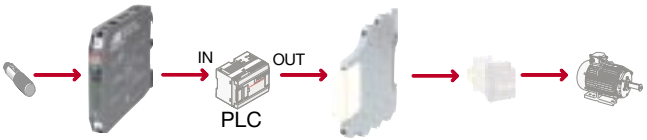
Relay interfaces
Optocoupler modules
Applications - Technical data

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

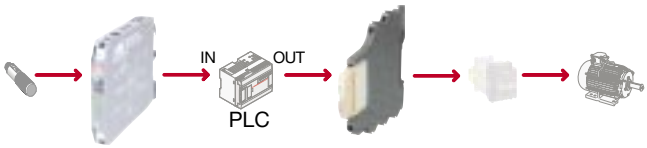


An **optocoupler** is used as input interface. It is a function of insulation and adaptation.



Optocoupler

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.



Relay or optocoupler

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

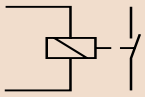
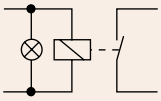
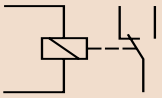
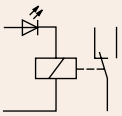
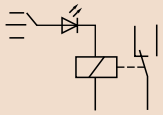
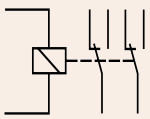
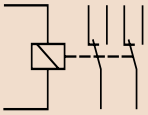
It is a compact enclosure (small height)

- 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 50/60 Hz	48 V DC
1 NO without LED 	 *spacing : 9 mm* **M 4/9.R111 12 V DC** 1SNA **607 029** R**01**00	 *spacing : 9 mm* **M 4/9.R111 24 V DC** 1SNA **607 030** R**06**00		
1 NO with lamp 	 *spacing : 9 mm* **M 4/9.R111L 12 V DC** 1SNA **607 001** R**06**00	 *spacing : 9 mm* **M 4/9.R111L 24 V DC** 1SNA **607 002** R**07**00		
1 SPDT without LED 		 *spacing : 5.08 mm* **D 2,5/5-R121 24 V DC** 1SNA **607 217** R**02**00		
1 SPDT with LED 	 *spacing : 11.5 mm* **RB 121 12 V DC** 1SNA **630 001** R**00**00 *spacing : 18 mm* **RB 121 A 12 V DC** 1SNA **610 125** R**24**00	 *spacing : 5.08 mm* **D 2,5/5-R121L 24 V DC** 1SNA **607 201** R**13**00	 *spacing : 5.08 mm* **D 2,5/5-R121AL 24 V AC/DC** 1SNA **607 231** R**00**00  *spacing : 11.5 mm* **RB 121 A 24 V AC/DC** 1SNA **630 002** R**01**00  *spacing : 18 mm* **RB 121 A 24 V AC/DC** 1SNA **610 004** R**07**00	
1 SPDT with LED + switch 			 *spacing : 11.5 mm* **RB 121 AI 24 V AC/DC** 1SNA **630 007** R**06**00	
1 DPDT with LED 		 *spacing : 15 mm* **RB 122 24 V DC** 1SNA **630 019** R**01**00	 *spacing : 18 mm* **RB 122 AV 24 V AC/DC** 1SNA **610 121** R**20**00	
1 DPDT with LED very low level 		 *spacing : 18 mm* **RB 122 24 V DC** 1SNA **610 059** R**15**00	 *spacing : 11,5 mm* **RB 122 A 24 V AC/DC** 1SNA **630 011** R**21**00	 *spacing : 18 mm* **RB 122 48 V DC** 1SNA **610 060** R**12**00

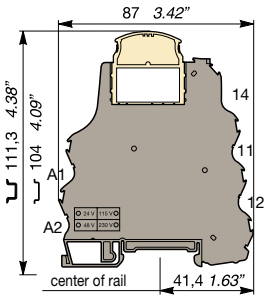
Selection guide
Relay modules

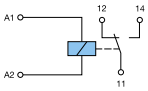
48 V AC/DC *50/60 Hz*	*110 V AC/DC* *50/60 Hz*	*110 V AC* *50 Hz*	*115 V AC* *60 Hz*	*230 V AC* *230 V AC/DC* *50/60 Hz*
 *spacing : 5.08 mm* **D 2,5/5-R121AL** **48 V AC/DC** 1SNA **607 232** R**01**00		 *spacing : 5.08 mm* **D 2,5/5-R121BL** **110 V AC** 1SNA **607 264** R**11**00	 *spacing : 5.08 mm* **D 2,5/5-R121BL** **115 V AC** 1SNA **607 264** R**11**00	 *spacing : 5.08 mm* **D 2,5/5-R121BL** **230 V AC** 1SNA **607 265** R**12**00
spacing : 11.5 mm **RB 121 A 48 V AC/DC** 1SNA **630 003** R**02**00 		*spacing : 11.5 mm* **RB 121 B 110 V AC** 1SNA **630 004** R**03**00 	*spacing : 11.5 mm* **RB 121 B 115 V AC** 1SNA **630 005** R**04**00 	*spacing : 11.5 mm* **RB 121 B 230 V AC** 1SNA **630 006** R**05**00 
 *spacing : 18 mm* **RB 121 AV 48 V AC/DC** 1SNA **610 006** R**01**00	 *spacing : 18 mm* **RB 121 A** **110 V AC/DC** 1SNA **610 132** R**23**00			 *spacing : 18 mm* **RB 121 A** **230 V AC/DC** 1SNA **610 132** R**23**00
		spacing : 15 mm **RB 122 B 110 V AC** 1SNA **630 021** R**23**00 	*spacing : 15 mm* **RB 122 B 115 V AC** 1SNA **630 022** R**24**00 	
 *spacing : 18 mm* **RB 122 AV 48 V AC/DC** 1SNA **610 122** R**21**00	 *spacing : 23 mm* **RB 122 AR** **110 V AC/DC** 1SNA **610 011** R**25**00			 *spacing : 23 mm* **RB 122 A** **230 V AC/DC** 1SNA **610 123** R**22**00
		 *spacing : 23 mm* **RB 122 BR 110 V AC** 1SNA **610 115** R**22**00		 *spacing : 23 mm* **RB 122 BR 230 V AC** 1SNA **610 089** R**04**00

Relay Interfaces

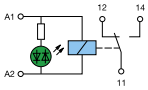
R500 pluggable relay modules ⊔ DIN 3



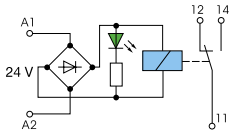




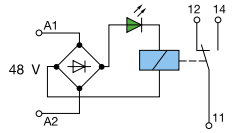
D 2,5/5-R121



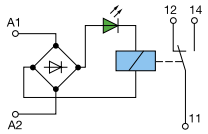
D 2,5/5-R121L



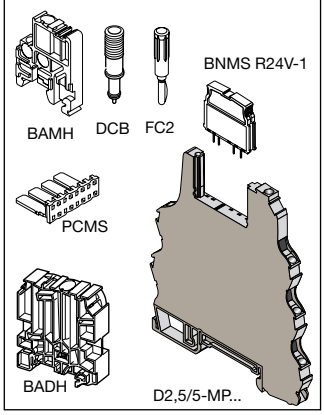
D 2,5/5-R121AL-24V



D 2,5/5-R121AL-48V



D 2,5/5-R121BL



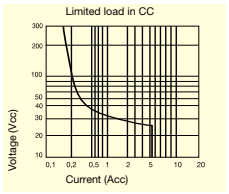
D 2,5/5-R121... - 2.5 mm² blocks - 5.08 mm *.200"* spacing

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	10×10^6							
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							

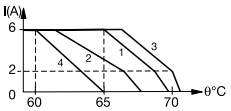
Other characteristics	
Body material grey □	UL 94 V0
Wire Solid wire	0.2-4 mm² / 24-12 AWG
size Stranded wire	0.22-2.5 mm² / 24-12 AWG
Rated wire size	2.5 mm² / 12 AWG
Wire stripping length	10 mm *.394"*
Recommended screwdriver	3.5 mm *.137"*
Protection	IP 20 *NEMA 1*
Recommended torque	0.4-0.6 Nm *3.5-5.3 lb.in*
Approvals	c 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 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** R**02**00	10	0.032
Relay module with LED 24 V DC	D 2,5/5-R121L-24VDC	1SNA **607 201** R**13**00	10	0.032
Relay module with LED 24 V AC/DC	D 2,5/5-R121AL-24VAC/DC	1SNA **607 231** R**00**00	10	0.04
Relay module with LED 48 V AC/DC	D 2,5/5-R121AL-48VAC/DC	1SNA **607 232** R**01**00	10	0.04
Relay module with LED 110 V AC	D 2,5/5-R121BL-110VAC	1SNA **607 264** R**11**00	10	0.04
Relay module with LED 230 V AC	D 2,5/5-R121BL-230VAC	1SNA **607 265** R**12**00	10	0.04

Accessories

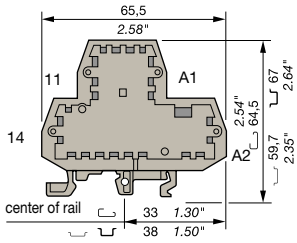
High end stop	BAMH 9,1 mm	1SNA **114 836** R**00**00	50	
	BAMH V0 9,1 mm	1SNA **194 836** R**01**00	50	
	BADH 12 mm	1SNA **116 900** R**27**00	50	
Comb type jumper bar 2 to 22 poles		consult us		
Jumper bar 10 poles grey □	PCMS V0	1SNA **205 523** R**22**00	8	
Relay / Opto base	D 2,5/5-MP	1SNA **607 224** R**01**00	10	0.028
Relay / Opto base with LED 24 VDC	D 2,5/5-MP-24VDC	1SNA **607 222** R**07**00	10	0.028
Relay / Opto base with LED 24 VAC/VDC	D 2,5/5-MP-24VAC/DC	1SNA **607 260** R**21**00	10	0.036
Relay / Opto base with LED 48 VAC/VDC	D 2,5/5-MP-48VAC/DC	1SNA **607 261** R**16**00	10	0.036
Relay / Opto base with LED 110 VAC	D 2,5/5-MP-110VAC	1SNA **607 266** R**13**00	10	0.036
Relay / Opto base with LED 230 VAC	D 2,5/5-MP-230VAC	1SNA **607 267** R**14**00	10	0.036
Plug	BNMS R24V-1	1SNA **031 820** R**14**00	4	
Test device blue □	DCB (1)	1SNA **105 028** R**21**00	10	
Test plug DIA. 2 mm	FC2	1SNA **007 865** R**26**00	10	
Marking method	RC55	see marking		

(1) Only on top decks.

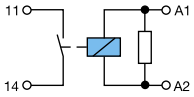
Relay Interfaces

R910 relay modules ⌴ ⌴ DIN 1-3

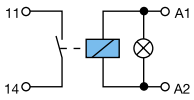




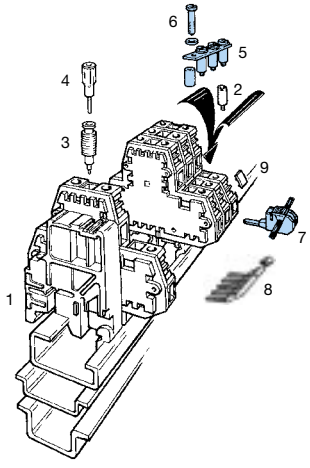
M 4/9.R111...



M 4/9.R111



M 4/9.R111L



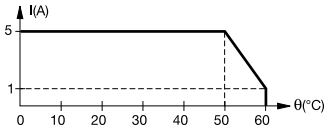
M 4/9.R111... - 2.5 mm² blocks - 9 mm *.354*" spacing

Characteristics

Relay characteristics	M 4/9.R111		M 4/9.R111L	
COIL				
Rated voltage +20%, -20% on DC	12 V	24 V	12 V	24 V
Power	0.3 W	0.3 W	0.6 W	0.8 W
Rated current	24 mA	14 mA	52 mA	33 mA
Drop-out voltage at 20°C	1.2 V DC	2.4 V DC	1.2 V	2.4 V
Status device			lamp	
CONTACT				
Type	1 NO			
Voltage switching range min./max.	12 V / 150 V DC - 250 V AC			
Current switching range	10 mA / 5 A			
Load switching range				
AC1 min. / max.	0.6 VA / 1250 VA			
DC1 min. / max.	0.6 W / 150 W			
Number of on-load operations	1×10^6			
Number of off-load operations	2×10^7			
Pull-in time (delay time)	5 ms			
Drop-out time (delay time)	6 ms		7 ms	
Bounce time	4 ms			
Insulation coil / contacts	3000 V RMS			
Breakdown voltage with 1.2/50µ wave	4000 V RMS			
Insulation contacts/contacts	750 V RMS			
Storage ambient temperature	-40°C to +80°C			
Operating ambient temperature	See derating curve hereunder			

Other characteristics		
Body material	grey ☐	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		9 mm *.354*"
Recommended screwdriver		3.5 mm *.137*"
Protection		IP 20 *NEMA 1*
Recommended torque		0.4-0.6 Nm *3.5-5.3 lb.in*
Approvals		cULus - 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



M 4/9.R111...

Order codes

Description	Type	Order P/N	Packaging	Weight kg
Relay module 12 V DC	M 4/9.R111-12VDC	1SNA **607 029** R**01**00	10	0.02
Relay module 24 V DC	M 4/9.R111-24VDC	1SNA **607 030** R**06**00	10	0.02
Relay module with lamp 12 V DC	M 4/9.R111L-12VDC	1SNA **607 001** R**06**00	10	0.02
Relay module with lamp 24 V DC	M 4/9.R111L-24VDC	1SNA **607 002** R**07**00	10	0.02

Accessories

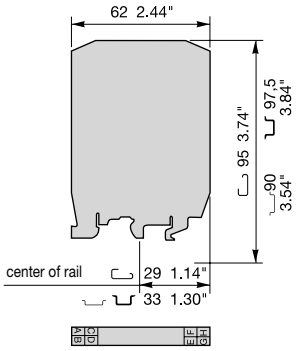
1	High end stop (all rails)		BAMH 9,1 mm	1SNA **114 836** R**00**00	50
2	Test socket	DIA. 2 mm	AL2 (1)	1SNA **163 070** R**00**00	50
		DIA. 3 mm	AL3 (1)	1SNA **163 261** R**00**00	50
3	Test device	grey ☐	DCG	1SNA **163 218** R**05**00	10
4	Test plug		FC2	1SNA **007 865** R**26**00	10
5	Jumper bar	8 poles	BJS9 (1)(2)	1SNA **177 583** R**12**00	
	not assembled	16 poles	BJS9 (1)(2)	1SNA **177 584** R**13**00	
6	Sub-assembly for jumper bar (screw + jumper + post)		EV6D (1)(2)	1SNA **168 400** R**16**00	20
7	IDC jumper		AD2,5	1SNA **114 205** R**20**00	50
8	Comb type jumper bar		PC9	1SNA **210 160** R**12**00	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 precut partition.

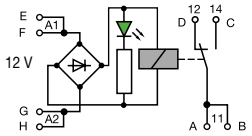
Relay Interfaces

Relay modules R900 ⌴ ⌴ DIN 1-3

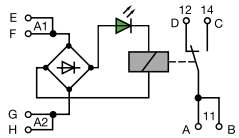




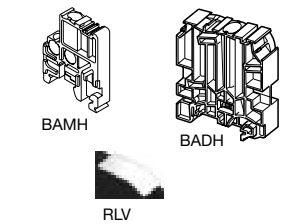
Relay blocks R900



RB 121



RB 121 A

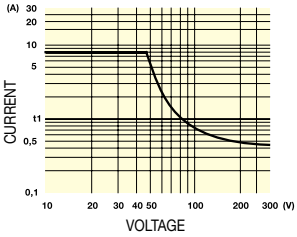


RB 121... - instant relay blocks - 11.5 mm *.453*" spacing

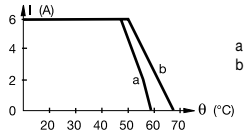
Characteristics

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	1×10^5				
Number of off-load operations	5×10^6				
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 storage	-40°C to +80°C				
operating	See derating curve				

Other characteristics	
Body material grey ☐	UL 94 V0
Wire Solid wire	0.5 - 4 mm² / 20 - 12 AWG
size 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 mm *.137*"
Protection	IP20 *NEMA1*
Recommended torque	0.4 - 0.6 Nm *3.5 - 5.3 lb.in*
Approvals	c UL us for RB 121A-24VAC/DC, 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



a : horizontal position
b : vertical position

RB 121...

Order codes

Description	Type	Order P/N	Packaging	Weight kg
Relay module 12 V DC	RB 121-12VDC	1SNA **630 001** R**00**00	1	0.04
Relay module 24 V AC/DC	RB 121A-24VAC/DC	1SNA **630 002** R**01**00	1	0.04
Relay module 48 V AC/DC	RB 121A-48VAC/DC	1SNA **630 003** R**02**00	1	0.04

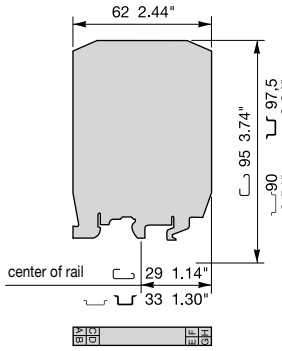
Accessories

High end section	BADH	1SNA **116 900** R**27**00	50
	BAMH	1SNA **114 836** R**00**00	50
	BAMH V0	1SNA **194 836** R**01**00	50
Lengthwise marker	RLV	1SNA **103 849** R**03**00	
Marking method	RC55	see marking	

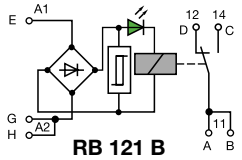
Relay Interfaces

Relay modules R900 ⌴⌴ DIN 1-3

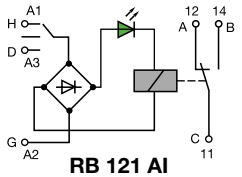




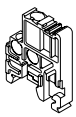
Relay blocks R900



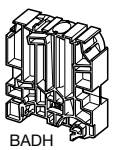
RB 121 B



RB 121 AI



BAMH



BADH

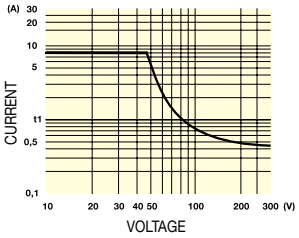


RLV

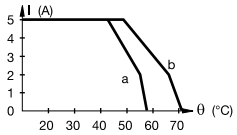
RB 121... - instant relay blocks - 11.5 mm *.453*" spacing

Characteristics

Relay characteristics	RB 121 B			RB 121 AI	
COIL					
Rated voltage +20%, -15% on DC, ±15% on AC	110 V AC/50 Hz	115 V AC/60 Hz	230 V AC	24 V AC ±10%	24 V DC ±10%
Frequency			50 Hz	50 / 60 Hz	
Power	1.5 VA	1.6 VA	3.22 VA	0.53 VA	0.44 W
Rated current	14 mA	14 mA	14 mA	22 mA	18 mA
Drop-out voltage at 20°C	30 V AC	30 V AC	60 V AC	5.5 V	4.6 V
Permissible leakage current	2 mA max.	2 mA max.	3.6 mA max.	2.2 mA	1.8 mA
CONTACT					
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	
Load switching range DC1 min. / max.	5 mW / 192 W				
Number of on-load operations	1×10^5				
Number of off-load operations	5×10^6				
Operating speed F	5 ms				
Operating speed O	10 ms			11 ms	
Bounce	1 ms				
Insulation coil / contact	3000 V RMS				
Resistance to shock coil / contact	4000 V RMS				
Insulation contact / contact	1000 V RMS				
Ambient temperature storage	-40°C to +80°C				
Ambient temperature operating	see derating curves				
Other characteristics					
Body material grey ☐	UL 94 V0				
Wire Solid wire	0.5 - 4 mm² / 20 - 12 AWG				
size 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 mm *.137*"				
Protection	IP20 *NEMA1*				
Recommended torque	0.4 - 0.6 Nm *3.5 - 5.3 lb.in*				
Approvals	c UL us for RB 121B-115VAC and RB 121AI-24VAC/DC, 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.				

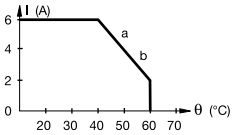


Derating curves



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** R**03**00	1	0.05
Relay module 115 V AC 60 Hz	RB 121B-115VAC	1SNA **630 005** R**04**00	1	0.05
Relay module 230 V AC 50 Hz	RB 121B-230VAC	1SNA **630 006** R**05**00	1	0.05
Relay module 24 V AC/DC	RB 121AI-24VAC/DC	1SNA **630 007** R**06**00	1	0.05

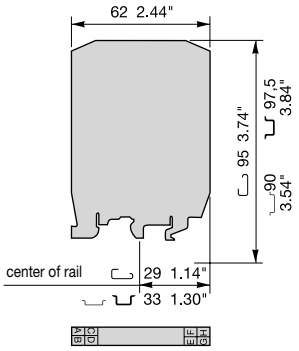
Accessories

High end section	BADH	1SNA **116 900** R**27**00	50
	BAMH	1SNA **114 836** R**00**00	50
	BAMH V0	1SNA **194 836** R**01**00	50
Lengthwise marker	RLV	1SNA **103 849** R**03**00	
Marking method	RC55	see marking	

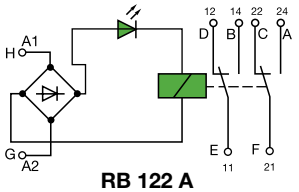
Relay Interfaces

Relay modules R900 ⊔ ⊔ DIN 1-3

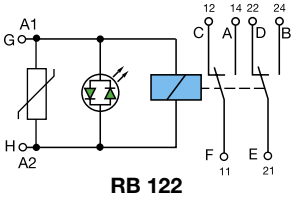




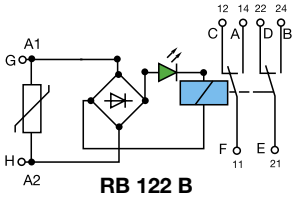
Relay blocks R900



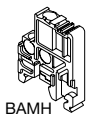
RB 122 A



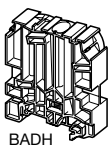
RB 122



RB 122 B



BAMH



BADH



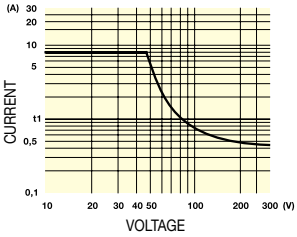
RLV

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

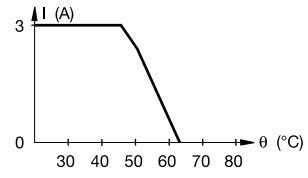
Characteristics

Relay characteristics	RB 122 A		RB 122	RB 122 B	
COIL					
Rated voltage +15%, -10% on DC ±15% on AC	24 V AC	24 V DC	24 V DC	110 V AC/50Hz	115 V AC/60Hz
Frequency	50 / 60 Hz				
Power	0.4 VA	0.35 W	0.48 W	3.6 VA	4 VA
Rated current	16.8 mA	14.4 mA	20 mA	33 mA	35 mA
Drop-out voltage at 20°C	9.2 V	6.5 V	2.4 V DC	11 V AC	11.5 V AC
Permissible leakage current	2 mA max.	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	1.8×10^6 (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 storage	-40°C to +80°C				
operating	see derating curves				

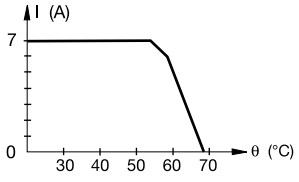
Other characteristics	
Body material grey ☐	UL 94 V0
Wire Solid wire	0.5 - 4 mm² / 20 - 12 AWG
size Stranded wire	0.5 - 2.5 mm² / 20 - 12 AWG
Rated wire size	2.5 mm² / 12 AWG
Wire stripping length	7 mm *.276*"
Recommended screwdriver	3.5 mm *.137*"
Protection	IP20 *NEMA1*
Recommended torque	0.4 - 0.6 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.



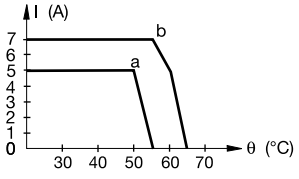
Derating curves



RB 122 A



RB 122



RB 122 B

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

Order codes

Description	Type	Order P/N	Packaging	Weight kg
Relay block 24 V AC/ DC 11.5 mm spacing	RB 122A-24VAC/DC	1SNA **630 011** R**21**00	1	0.05
Relay block 24 VDC 15 mm spacing	RB 122-24VDC	1SNA **630 019** R**01**00	1	0.05
Relay block 110 V AC/50 Hz 15 mm spacing	RB 122B-110VAC/50Hz	1SNA **630 021** R**23**00	1	0.06
Relay block 115 V AC/60 Hz 15 mm spacing	RB 122B-115VAC/60Hz	1SNA **630 022** R**24**00	1	0.06

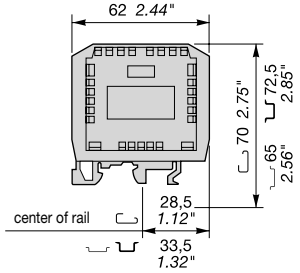
Accessories

High end section	BADH	1SNA **116 900** R**27**00	50
	BAMH	1SNA **114 836** R**00**00	50
	BAMH V0	1SNA **194 836** R**01**00	50
Lengthwise marker	RLV	1SNA **103 849** R**03**00	
Marking method	RC55	see marking	

Relay Interfaces

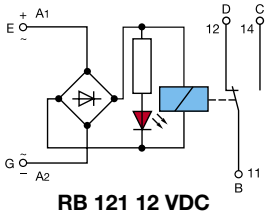
Relay modules R1800 ⌐ ⌐ DIN 1-3



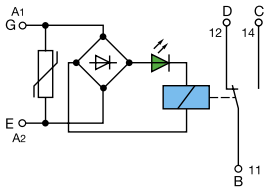




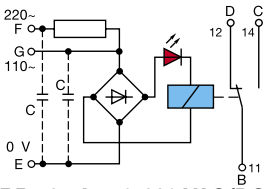
Relay blocks R1800



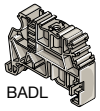
RB 121 12 VDC
RB 121 A 24 VAC/DC



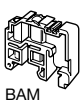
RB 121 AV 48 VAC/DC



RB 121 A 110-220 VAC/DC



BADL



BAM



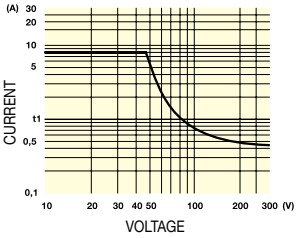
RLV

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

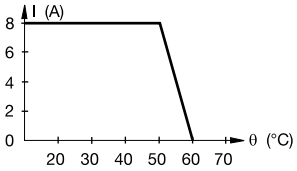
Characteristics

Relay characteristics	RB 121	RB 121 A	RB 121 AV	RB 121 A	
COIL					
Rated voltage +15%, -10% on DC ±15% on AC	12 V DC	24 V AC/DC	48 V AC/DC	110 V AC/DC	220 V AC/DC
Frequency		50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Power	0.5 W	0.7 W	0.96 W	0.5 W	1.1 VA
Rated current	41 mA	29 mA	20 mA	4.3 mA	5 mA
Drop-out voltage at 20°C	3.2 V DC	5 V AC/DC	5.6 V AC/DC	14.5 V AC/DC	25.2 V AC
Permissible leakage current					
CONTACT					
Type	1 SPDT				
Voltage switching range min./max.	12 V / 380 V				
Current switching range min./max.	10 mA / 8 A				
Load switching range AC1 min. / max. DC1 min. / max.	0.6 VA / 2000 VA 0.6 W / see curve below				
Number of on-load operations	2 x 10^5				
Number of off-load operations	2 x 10^7				
Operating speed F O	7 ms 6 ms				
Bounce	2 ms				
Insulation coil / contact	2500 V RMS				
Resistance to shock coil / contact	4000 V RMS				
Insulation contact / contact	1000 V RMS				
Ambient temperature storage operating	-40°C to +80°C see derating curves				

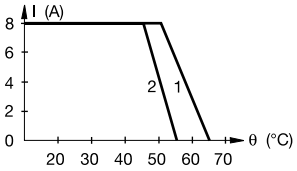
Other characteristics	
Body material grey ☐	UL 94 V0
Wire Solid wire	0.2 - 4 mm² / 22 - 12 AWG
size Stranded wire	0.22 - 2.5 mm² / 22 - 12 AWG
Rated wire size	2.5 mm² / 12 AWG
Wire stripping length	7 mm *.276*"
Recommended screwdriver	3.5 mm *.137*"
Protection	IP20 *NEMA1*
Recommended torque	0.4 - 0.6 Nm *3.5 - 5.3 lb.in*
Approvals	c UL us for RB 121A-24VAC/DC and RB 121A-110-220VAC/DC, 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



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** R**2400**	1	0.05
Relay block 24 V AC/DC	RB 121A-24VAC/DC	1SNA **610 004** R**0700**	1	0.05
Relay block 48 VAC/DC	RB 121AV-48VAC/DC	1SNA **610 006** R**0100**	1	0.05
Relay block 110-220 V AC/DC	RB 121A-110-220VAC/DC	1SNA **610 132** R**2300**	1	0.05

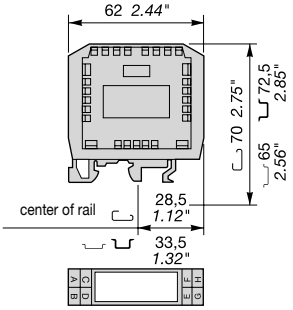
Accessories

End section	BADL V0	1SNA **399 903** R**0200**	50
	BAM	1SNA **103 002** R**2600**	50
	BAM V0	1SNA **399 306** R**0300**	50
Lengthwise marker	RLV	1SNA **103 849** R**0300**	
Marking method	RC55	see marking	

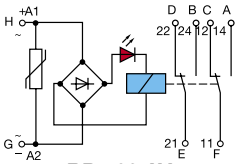
Relay Interfaces

Relay modules R1800 ⌴ ⌴ DIN 1-3

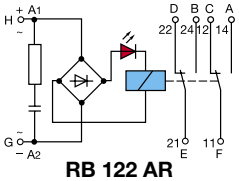




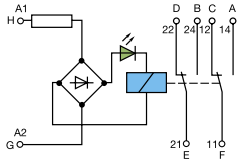
Relay blocks R1800



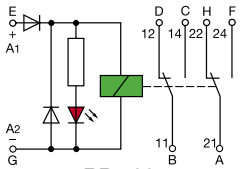
RB 122 AV



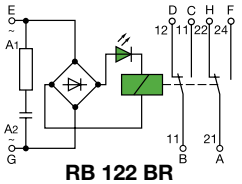
RB 122 AR



RB 122 A



RB 122



RB 122 BR

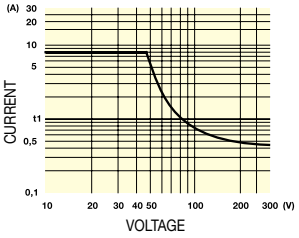


RB 122... - instant relay blocks - 18 mm *.709*" or 23 mm *.906*" spacing

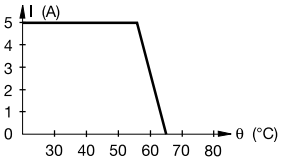
Characteristics

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	24 VAC/DC	48 VAC/DC	110 VAC/DC	220 VAC/DC	24 V DC	48 V DC	110 V AC	220 V AC
Frequency							50 / 60 Hz	50 Hz
Power	0.7 W	0.7 W	0.7 W - 1.8 VA	1.2 W	0.31 W	0.48 W	4.8 VA	1.1 VA
Rated current	26 mA	14 mA	16 mA	5.5 mA	13 mA	10 mA	45 mA	5.1 mA
Drop-out voltage at 20°C	2.4 V AC/DC	4.8 V AC/DC	11 V AC/DC	22 V AC/DC	2.4 V DC	4.8 V DC	11 V AC	22 V AC
Permissible leakage current			1.6 mA				3 mA	
CONTACT								
Type	1 DPDT							
Voltage switching range min./max.	12 V / 250 V		10^{-3} V / 250 V	12 V / 250 V	10^{-3} V / 250 V			
Current switching range min./max.	10 mA / 5 A				10^{-7} A / 5 A			
Load switching range								
AC1 min. / max.	0.6 VA / 1250 VA				10^{-10} VA / 1000 VA			
DC1 min. / max.	0.6 W / see curve hereunder				10^{-10} W / see curve hereunder			
Number of on-load operations	2×10^5				5A/100W - 5A/1kVA : 10^5			
Number of off-load operations	2×10^7				2×10^8			
Operating speed F	7 ms				8 ms			
O	4 ms				3 ms			
Bounce	3 ms				0.5 ms			
Insulation coil / contact	2000 V RMS				1500 V RMS			
Resistance to shock coil / contact	4000 V RMS				4000 V RMS			
Insulation contact / contact	1500 V RMS				2000 V RMS			
Ambient temperature storage	-40°C to +80°C							
operating	see derating curves							

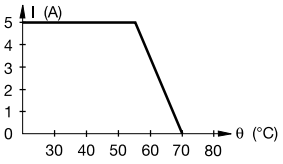
Other characteristics	
Body material grey ☐	UL 94 V0
Wire Solid wire	0.2 - 4 mm² / 22 - 12 AWG
size Stranded wire	0.22 - 2.5 mm² / 22 - 12 AWG
Rated wire size	2.5 mm² / 12 AWG
Wire stripping length	7 mm *.276*"
Recommended screwdriver	3.5 mm *.137*"
Protection	IP20 *NEMA1*
Recommended torque	0.4 - 0.6 Nm *3.5 - 5.3 lb.in*
Approvals	c UL us for RB 122AR-110VAC/DC , RB 122-24VDC , RB 122BR-110VAC and RB122AV-24VAC/DC, 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.



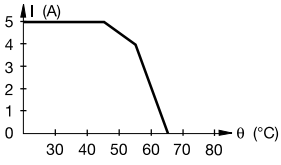
Derating curves



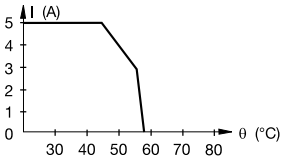
RB 122 A



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** R**20**00	1	0.05
Relay module 48 VAC/DC 18 mm spacing	RB 122AV-48VAC/DC	1SNA **610 122** R**21**00	1	0.05
Relay module 110 V AC/DC 23 mm spacing	RB 122AR-110VAC/DC	1SNA **610 011** R**25**00	1	0.05
Relay module 220 V AC/DC 23 mm spacing	RB 122A-220VAC/DC	1SNA **610 123** R**22**00	1	0.05
Relay module 24 V DC 18 mm spacing	RB 122-24VDC	1SNA **610 059** R**15**00	1	0.05
Relay module 48 V DC 18 mm spacing	RB 122-48VDC	1SNA **610 060** R**12**00	1	0.05
Relay module 110 V AC 23 mm spacing	RB 122BR-110VAC	1SNA **610 115** R**22**00	1	0.05
Relay module 220 V AC 23 mm spacing	RB 122BR-220VAC	1SNA **610 089** R**04**00	1	0.05

Accessories

End section	BADL V0	1SNA **399 903** R**02**00	50	
	BAM	1SNA **103 002** R**26**00	50	
	BAM V0	1SNA **399 306** R**03**00	50	
Lengthwise marker	RLV	1SNA **103 849** R**03**00		
Marking method	RC55	see marking		

Cross reference

Relays



R500



R910



R900



R1800

Type	New part numbers	Old part numbers
D 2,5/5 R121 24 VDC	1SNA **607 217** R**02**00	1SNA **007 217** R**24**00
D 2,5/5 R121L 24 VDC	1SNA **607 201** R**13**00	1SNA **007 201** R**05**00
D 2,5/5 R121AL 24 VAC/DC	1SNA **607 231** R**00**00	
D 2,5/5 R121AL 48 VAC/DC	1SNA **607 232** R**01**00	
D 2,5/5 R121BL 110 VAC	1SNA **607 264** R**11**00	
D 2,5/5 R121BL 230 VAC	1SNA **607 265** R**12**00	
M 4/9 R111 12 VDC	1SNA **607 029** R**01**00	1SNA **007 029** R**23**00
M 4/9 R111 24 VDC	1SNA **607 030** R**06**00	1SNA **007 030** R**20**00
M 4/9 R111L 12 VDC	1SNA **607 001** R**06**00	1SNA **007 001** R**20**00
M 4/9 R111L 24 VDC	1SNA **607 002** R**07**00	1SNA **007 002** R**21**00
RB121 12 VDC	1SNA **630 001** R**00**00	1SNA **030 001** R**22**00
RB121A 24 VAC/DC	1SNA **630 002** R**01**00	1SNA **030 002** R**23**00
RB121A 48 VAC/DC	1SNA **630 003** R**02**00	1SNA **030 003** R**24**00
RB121B 110 VAC 50 Hz	1SNA **630 004** R**03**00	1SNA **030 004** R**25**00
RB121B 115 VAC 60 Hz	1SNA **630 005** R**04**00	1SNA **030 005** R**26**00
RB121B 230 VAC	1SNA **630 006** R**05**00	1SNA **030 006** R**27**00
RB121AI 24 VAC/DC	1SNA **630 007** R**06**00	1SNA **030 007** R**20**00
RB122 24 VDC	1SNA **630 019** R**01**00	1SNA **030 019** R**23**00
RB122B 110 VAC 50 Hz	1SNA **630 021** R**23**00	1SNA **030 021** R**15**00
RB122B 115 VAC 60 Hz	1SNA **630 022** R**24**00	1SNA **030 022** R**16**00
RB122A 24 VAC/DC	1SNA **630 011** R**21**00	1SNA **030 011** R**13**00
RB121A 12 VDC	1SNA **610 125** R**24**00	1SNA **010 125** R**16**00
RB121A 24 VAC/DC	1SNA **610 004** R**07**00	1SNA **010 004** R**21**00
RB121AV 48 VAC/DC	1SNA **610 006** R**01**00	1SNA **010 006** R**23**00
RB121A 110-230 VAC/DC	1SNA **610 132** R**23**00	1SNA **010 132** R**15**00
RB122AV 24 VAC/DC	1SNA **610 121** R**20**00	1SNA **010 121** R**12**00
RB122AV 48 VAC/DC	1SNA **610 122** R**21**00	1SNA **010 122** R**13**00
RB122AR 110 VAC/DC	1SNA **610 011** R**25**00	1SNA **010 011** R**17**00
RB122A 220 VAC/DC	1SNA **610 123** R**22**00	1SNA **010 123** R**14**00
RB122 24 VDC	1SNA **610 059** R**15**00	1SNA **010 059** R**07**00
RB122 48 VDC	1SNA **610 060** R**20**00	1SNA **010 060** R**04**00
RB122BR 110 VAC	1SNA **610 115** R**22**00	1SNA **010 115** R**14**00
RB122BR 220 VAC	1SNA **610 089** R**04**00	1SNA **010 089** R**26**00

Optocouplers



R500







Type	New part numbers	Old part numbers
D 2,5/5-OBIC 0030 24 VDC	1SNA **607 210** R**17**00	1SNA **007 210** R**01**00
D 2,5/5-OBIC 0030 48 VDC	1SNA **607 211** R**04**00	1SNA **007 211** R**26**00
D 2,5/5-OBIA 0030 24 VAC	1SNA **607 212** R**05**00	1SNA **007 212** R**27**00
D 2,5/5-OBIA 0030 48 VAC	1SNA **607 213** R**06**00	1SNA **007 213** R**20**00
D 2,5/5-OBIA 0030 110 VAC	1SNA **607 214** R**07**00	1SNA **007 214** R**21**00
D 2,5/5-OBIA 0030 230 VAC	1SNA **607 215** R**00**00	1SNA **007 215** R**22**00
D 2,5/5-OBOC 0100 5 VDC	1SNA **607 203** R**15**00	1SNA **007 203** R**07**00
D 2,5/5-OBOC 0100 24 VDC	1SNA **607 204** R**16**00	1SNA **007 204** R**00**00
D 2,5/5-OBOC 0100 48 VDC	1SNA **607 205** R**17**00	1SNA **007 205** R**01**00
D 2,5/5-OBOC 1000 5 VDC	1SNA **607 206** R**10**00	1SNA **007 206** R**02**00
D 2,5/5-OBOC 1000 24 VDC	1SNA **607 207** R**11**00	1SNA **007 207** R**03**00
D 2,5/5-OBOC 1000 24 VAC/DC	1SNA **607 250** R**27**00	
D 2,5/5-OBOC 1000 48 VAC/DC	1SNA **607 251** R**14**00	
D 2,5/5-OBOC 1000 110 VAC	1SNA **607 270** R**23**00	
D 2,5/5-OBOC 1000 230 VAC	1SNA **607 271** R**10**00	
D 2,5/5-OBOC 2000 5 VDC	1SNA **607 208** R**22**00	1SNA **007 208** R**14**00
D 2,5/5-OBOC 2000 24 VDC	1SNA **607 209** R**23**00	1SNA **007 209** R**15**00
D 2,5/5-OBOC 2000 24 VAC/DC	1SNA **607 255** R**10**00	
D 2,5/5-OBOC 2000 48 VAC/DC	1SNA **607 256** R**11**00	
D 2,5/5-OBOC 2000 110 VAC	1SNA **607 272** R**11**00	
D 2,5/5-OBOC 2000 230 VAC	1SNA **607 273** R**12**00	
D 2,5/5-OBOA 1000 24 VDC	1SNA **607 238** R**17**00	
D 2,5/5-OBOA 1000 24 VAC/DC	1SNA **607 240** R**25**00	
D 2,5/5-OBOA 1000 48 VAC/DC	1SNA **607 241** R**12**00	
D 2,5/5-OBOA 1000 110 VAC	1SNA **607 268** R**25**00	
D 2,5/5-OBOA 1000 230 VAC	1SNA **607 269** R**26**00	



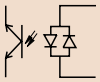
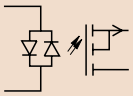
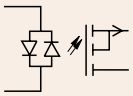
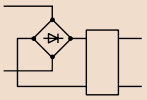
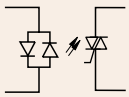
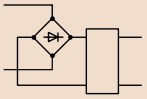
R900



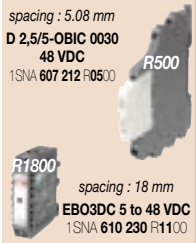
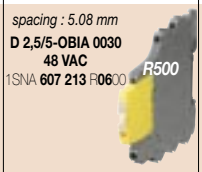
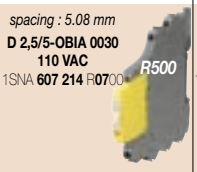
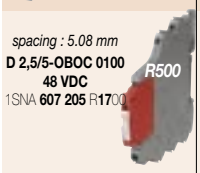
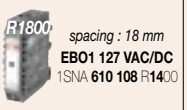
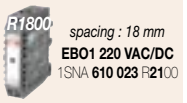
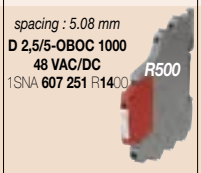
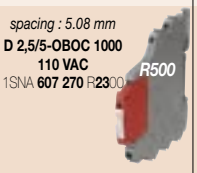
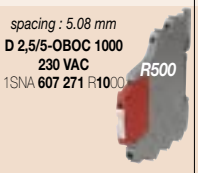
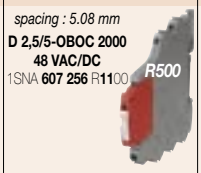
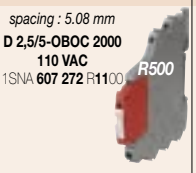
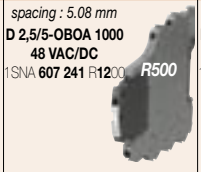
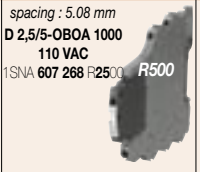
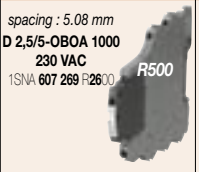
R1800

Type	New part numbers	Old part numbers
OBC 0100 12 to 24 VDC	1SNA **608 017** R**06**00	1SNA **008 017** R**20**00
OBC 0100 48 VDC	1SNA **608 021** R**02**00	1SNA **008 021** R**24**00
OBC 0100 110 VAC	1SNA **608 024** R**05**00	1SNA **008 024** R**27**00
OBC 0100 230 VAC	1SNA **608 027** R**22**00	1SNA **008 027** R**22**00
OBC 1000 5 VDC	1SNA **608 014** R**22**00	1SNA **008 014** R**25**00
OBC 1000 12 to 24 VDC	1SNA **608 018** R**17**00	1SNA **008 018** R**01**00
OBC 1000 48 VDC	1SNA **608 022** R**03**00	1SNA **008 022** R**25**00
OBC 1000 110 VAC	1SNA **608 025** R**06**00	1SNA **008 025** R**20**00
OBC 1000 230 VAC	1SNA **608 028** R**11**00	1SNA **008 028** R**03**00
ORC 111 24 VDC	1SNA **608 068** R**21**00	1SNA **008 068** R**13**00
OBA 1000 5 VDC	1SNA **608 015** R**04**00	1SNA **008 015** R**26**00
OBA 0100 12 to 24 VDC	1SNA **608 019** R**10**00	1SNA **008 019** R**20**00
OBA 1000 48 VDC	1SNA **608 023** R**04**00	1SNA **008 023** R**26**00
OBA 1000 110 VAC	1SNA **608 026** R**07**00	1SNA **008 026** R**21**00
ORA 111 24 VDC	1SNA **608 069** R**22**00	1SNA **008 069** R**14**00
EBO3DC 5 to 48 VDC	1SNA **610 230** R**11**00	1SNA **010 230** R**03**00
EBO1 24 VAC/DC	1SNA **610 022** R**20**00	1SNA **010 022** R**12**00
EBO1 127 VAC/DC	1SNA **610 108** R**14**00	1SNA **010 108** R**06**00
EBO1 220 VAC/DC	1SNA **610 023** R**21**00	1SNA **010 023** R**13**00

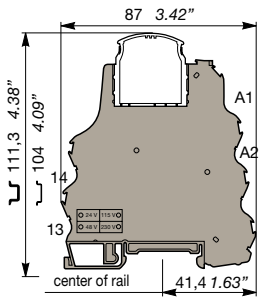
Selection guide
Optocoupler modules

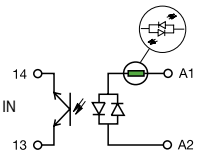
Output \ Input	5 V DC	12 V DC	24 V DC	24 V AC 50 Hz	24 V AC/DC 50/60 Hz
< 50 mA / 10 to 58 V DC 	spacing : 5.08 mm **D 2,5/5-OBIC 0030 5 VDC** 1SNA **607 274** R**13**00   spacing : 18 mm **EBO3DC 5 to 48 VDC** 1SNA **610 230** R**11**00	 spacing : 18 mm **EBO3DC 5 to 48 VDC** 1SNA **610 230** R**11**00	spacing : 5.08 mm **D 2,5/5-OBIC 0030 24 VDC** 1SNA **607 210** R**17**00   spacing : 18 mm **EBO3DC 5 to 48 VDC** 1SNA **610 230** R**11**00	spacing : 5.08 mm **D 2,5/5-OBIA 0030 24 VAC** 1SNA **607 211** R**04**00 	
100 mA / 10 to 58 V DC 	spacing : 5.08 mm **D 2,5/5-OBOC 0100 5 VDC** 1SNA **607 203** R**15**00 	 spacing : 9 mm **OBC 0100 12 to 24 VDC** 1SNA **608 017** R**06**00	spacing : 5.08 mm **D 2,5/5-OBOC 0100 24 VDC** 1SNA **607 204** R**16**00   spacing : 9 mm **OBC 0100 12 to 24 VDC** 1SNA **608 017** R**06**00		 spacing : 18 mm **EBO1 24 VAC/DC** 1SNA **610 022** R**20**00
1 A / 10 to 58 V DC 	spacing : 5.08 mm **D 2,5/5-OBOC 1000 5 VDC** 1SNA **607 206** R**10**00   spacing : 9 mm **OBC 1000 5 VDC** 1SNA **608 014** R**22**00	 spacing : 9 mm **OBC 1000 12 to 24 VDC** 1SNA **608 018** R**17**00	spacing : 5.08 mm **D 2,5/5-OBOC 1000 24 VDC** 1SNA **607 207** R**11**00   spacing : 9 mm **OBC 1000 12 to 24 VDC** 1SNA **608 018** R**17**00		spacing : 5.08 mm **D 2,5/5-OBOC 1000 24 VAC/DC** 1SNA **607 250** R**27**00 
2 A / 10 to 30 V DC 	spacing : 5.08 mm **D 2,5/5-OBOC 2000 5 VDC** 1SNA **607 208** R**22**00 		spacing : 5.08 mm **D 2,5/5-OBOC 2000 24 VDC** 1SNA **607 209** R**23**00 		spacing : 5.08 mm **D 2,5/5-OBOC 2000 24 VAC/DC** 1SNA **607 255** R**10**00 
5 A / 10 to 58 V DC 			 spacing : 9 mm **ORC 111 24 VDC** 1SNA **608 068** R**21**00		
1 A / 24 to 250 V AC *50/60 Hz* 	 spacing : 9 mm **OBA 1000 5 VDC** 1SNA **608 015** R**04**00	 spacing : 9 mm **OBA 1000 12 à 24 VDC** 1SNA **608 019** R**10**00	spacing : 5.08 mm **D 2,5/5-OBOA 1000 24 VDC** 1SNA **607 238** R**17**00   spacing : 9 mm **OBA 1000 12 à 24 VDC** 1SNA **608 019** R**10**00		spacing : 5.08 mm **D 2,5/5-OBOA 1000 24 VAC/DC** 1SNA **607 240** R**25**00 
5 A / 20 to 135 V AC 			 spacing : 9 mm **ORA 111 24 VDC** 1SNA **608 069** R**22**00		

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** R**05**00 spacing : 18 mm **EBO3DC 5 to 48 VDC** 1SNA **610 230** R**11**00	 spacing : 5.08 mm **D 2,5/5-OBIA 0030** **48 VAC** 1SNA **607 213** R**06**00		 spacing : 5.08 mm **D 2,5/5-OBIA 0030** **110 VAC** 1SNA **607 214** R**07**00	 spacing : 5.08 mm **D 2,5/5-OBIC 0030** **125 VDC** 1SNA **607 275** R**14**00	 spacing : 5.08 mm **D 2,5/5-OBIA 0030** **230 VAC** 1SNA **607 215** R**00**00	
 spacing : 5.08 mm **D 2,5/5-OBOC 0100** **48 VDC** 1SNA **607 205** R**17**00  spacing : 9 mm **OBC 0100 48 VDC** 1SNA **608 021** R**02**00			 spacing : 9 mm **OBC 0100 110 VAC** 1SNA **608 024** R**05**00	 spacing : 18 mm **EBO1 127 VAC/DC** 1SNA **610 108** R**14**00	 spacing : 9 mm **OBC 0100 230 VAC** 1SNA **608 027** R**00**00	 spacing : 18 mm **EBO1 220 VAC/DC** 1SNA **610 023** R**21**00
 spacing : 9 mm **OBC 1000 48 VDC** 1SNA **608 022** R**03**00		 spacing : 5.08 mm **D 2,5/5-OBOC 1000** **48 VAC/DC** 1SNA **607 251** R**14**00	 spacing : 5.08 mm **D 2,5/5-OBOC 1000** **110 VAC** 1SNA **607 270** R**23**00  spacing : 9 mm **OBC 1000 110 VAC** 1SNA **608 025** R**06**00		 spacing : 5.08 mm **D 2,5/5-OBOC 1000** **230 VAC** 1SNA **607 271** R**10**00  spacing : 9 mm **OBC 1000 230 VAC** 1SNA **608 028** R**11**00	
		 spacing : 5.08 mm **D 2,5/5-OBOC 2000** **48 VAC/DC** 1SNA **607 256** R**11**00	 spacing : 5.08 mm **D 2,5/5-OBOC 2000** **110 VAC** 1SNA **607 272** R**11**00		 spacing : 5.08 mm **D 2,5/5-OBOC 2000** **230 VAC** 1SNA **607 273** R**12**00	
 spacing : 9 mm **OBA 1000 48 VDC** 1SNA **608 023** R**04**00		 spacing : 5.08 mm **D 2,5/5-OBOA 1000** **48 VAC/DC** 1SNA **607 241** R**12**00	 spacing : 5.08 mm **D 2,5/5-OBOA 1000** **110 VAC** 1SNA **607 268** R**25**00  spacing : 9 mm **OBA 1000 110 VAC** 1SNA **608 026** R**07**00		 spacing : 5.08 mm **D 2,5/5-OBOA 1000** **230 VAC** 1SNA **607 269** R**26**00	

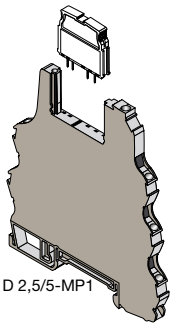




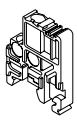


D 2,5/5-OBIC-0030

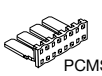
BNMS T24V-1



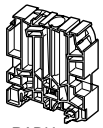
D 2,5/5-MP1



BAMH



PCMS



BADH



DCB



FC2



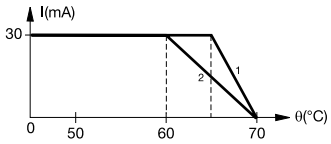
D 2,5/5-OBIC-0030 - 2.5 mm² blocks - 5.08 mm *.200*" spacing

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			

Other characteristics		
Body material	grey ☐	UL 94 V0
Wire	Solid wire	0.2-4 mm² / 24-12 AWG
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 *.137*"
Protection		IP 20 *NEMA 1*
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.

Derating curve



1 : 5 V - 24 V - 48 V
2 : 115 V

D 2,5/5-OBIC-0030

Order codes

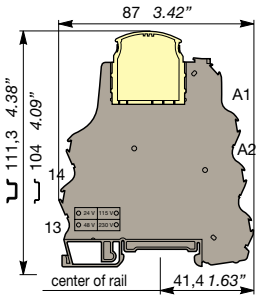
Description	Type	Order P/N	Packaging	Weight kg
Optocoupler module 5 V DC	D 2,5/5-OBIC-0030-5VDC	1SNA **607 274** R**13**00	1	0.032
Optocoupler module 24 V DC	D 2,5/5-OBIC-0030-24VDC	1SNA **607 210** R**17**00	1	0.032
Optocoupler module 48 V DC	D 2,5/5-OBIC-0030-48VDC	1SNA **607 211** R**04**00	1	0.032
Optocoupler module 125 V DC	D 2,5/5-OBIC-0030-125VDC	1SNA **607 275** R**14**00	1	0.032

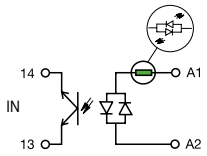
Accessories

High end stop	BAMH 9,1 mm	1SNA **114 836** R**00**00	50	
	BAMH V0 9,1 mm	1SNA **194 836** R**01**00	50	
	BADH 12 mm	1SNA **116 900** R**27**00	50	
Comb type jumper bar 2 to 22 poles		consult us		
Jumper bar 10 poles grey ☐	PCMS V0	1SNA **205 523** R**22**00	8	
Input opto base	D 2,5/5-MP1	1SNA **607 223** R**00**00	10	0.028
Plug OBIC 5 V white ☐	BNMS T5V-1	1SNA **031 831** R**03**00	4	
Plug OBIC 24 V white ☐	BNMS T24V-1	1SNA **031 800** R**21**00	4	
Plug OBIC 48 V white ☐	BNMS T48V-1	1SNA **031 801** R**16**00	4	
Plug OBIC 125 V white ☐	BNMS T125V-1	1SNA **031 845** R**11**00	4	
Test device blue ☐	DCB (1)	1SNA **105 028** R**21**00	10	
Test plug DIA. 2 mm	FC2	1SNA **007 865** R**26**00	10	
Marking method	RC55	see marking		

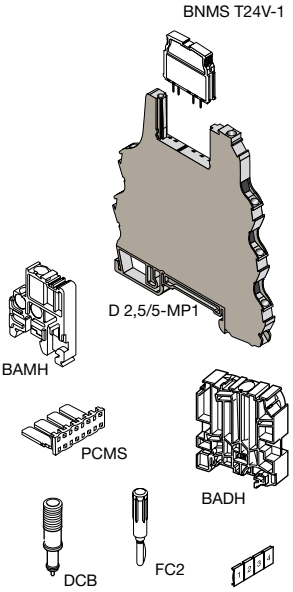
(1) Only on top decks.







D 2,5/5-OBIA-0030



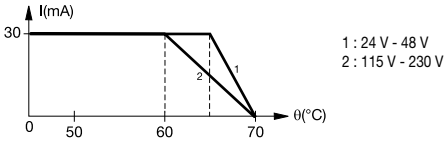
D 2,5/5-OBIA-0030 - 2.5 mm² blocks - 5.08 mm *.200*" spacing

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		4.5 V to 58 V DC			
Output voltage					
Output current min.		0.5 mA			
Output current max.		30 mA			
Output leakage current at Umax.		< 50 µA			
Residual voltage at I max and U rated	typical	2.3 V DC			
	max.	2.7 VDC			
Frequency on inductive load		2500 V RMS			
Isolation Input / Output					
TEMPERATURE		- 40°C to + 80°C			
Ambient temperature	storage	See derating curve			
	operating				

Other characteristics		
Body material	grey □	UL 94 V0
Wire	Solid wire	0.2-4 mm² / 24-12 AWG
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 *.137*"
Protection		IP 20 *NEMA 1*
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.

Derating curve



D 2,5/5-OBIA-0030

Order codes

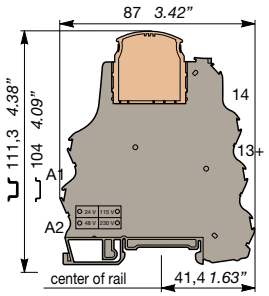
Description	Type	Order P/N	Packaging	Weight kg
Optocoupler module 24 V AC	D 2,5/5-OBIA-0030-24VAC	1SNA **607 212** R**05**00	1	0.032
Optocoupler module 48 V AC	D 2,5/5-OBIA-0030-48VAC	1SNA **607 213** R**06**00	1	0.032
Optocoupler module 115 V AC	D 2,5/5-OBIA-0030-115VAC	1SNA **607 214** R**07**00	1	0.032
Optocoupler module 230 V AC	D 2,5/5-OBIA-0030-230VAC	1SNA **607 215** R**00**00	1	0.032

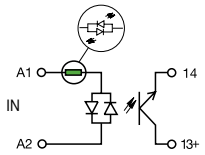
Accessories

High end stop	BAMH 9,1 mm	1SNA **114 836** R**00**00	50	
	BAMH V0 9,1 mm	1SNA **194 836** R**01**00	50	
	BADH 12 mm	1SNA **116 900** R**27**00	50	
Comb type jumper bar 2 to 22 poles		consult us		
Jumper bar 10 poles grey □	PCMS V0	1SNA **205 523** R**22**00	8	
Input opto base	D 2,5/5-MP1	1SNA **607 223** R**00**00	10	0.028
Plug OBIA 24 V yellow □	BNMS T24V-1	1SNA **031 802** R**17**00	4	
Plug OBIA 48 V yellow □	BNMS T48V-1	1SNA **031 803** R**10**00	4	
Plug OBIA 115 V yellow □	BNMS T115V-1	1SNA **031 804** R**11**00	4	
Plug OBIA 230 V yellow □	BNMS T230V-1	1SNA **031 805** R**12**00	4	
Test device blue □	DCB (1)	1SNA **105 028** R**21**00	10	
Test plug DIA. 2 mm	FC2	1SNA **007 865** R**26**00	10	
Marking method	RC55	see marking		

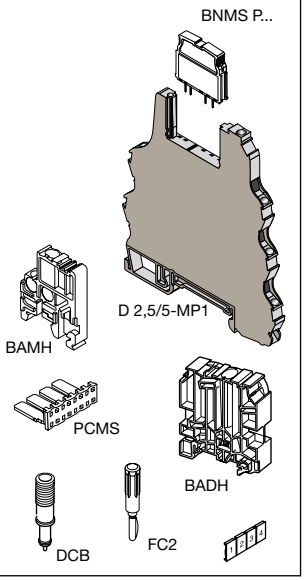
(1) Only on top decks.







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 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.

Note 1 :

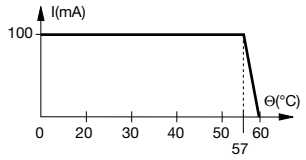
$F_{max} = (1\text{-}0{,}007 \times U_s) / (L \times I_s^2)$

or

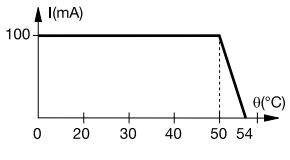
$F_{max} = (1\text{-}0{,}007 \times U_s) / (P \times \frac{L}{R})$

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

Derating curves



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



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

Order codes

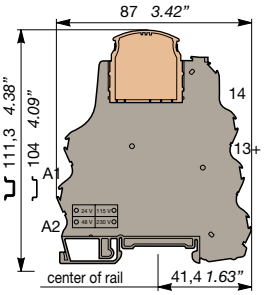
Description	Type	Order P/N	Packaging	Weight kg
Optocoupler module 5 V DC	D 2,5/5-OBOC-0100-5VDC	1SNA **607 203** R**15**00	1	0.032
Optocoupler module 24 V DC	D 2,5/5-OBOC-0100-24VDC	1SNA **607 204** R**16**00	1	0.032
Optocoupler module 48 V DC	D 2,5/5-OBOC-0100-48VDC	1SNA **607 205** R**17**00	1	0.032

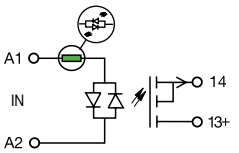
Accessories

High end stop		BAMH	9,1 mm	1SNA **114 836** R**00**00	50	
		BAMH V0	9,1 mm	1SNA **194 836** R**01**00	50	
		BADH	12 mm	1SNA **116 900** R**27**00	50	
Comb type jumper bar 2 to 22 poles				consult us		
Jumper bar 10 poles	grey □	PCMS	V0	1SNA **205 523** R**22**00	8	
Relay / Opto base		D 2,5/5-MP		1SNA **607 224** R**01**00	10	0.028
Plug for OBOC 5 V DC	red ■	BNMS P5V-3		1SNA **031 809** R**26**00	4	
Plug for OBOC 24 V DC	red ■	BNMS P24V-3		1SNA **031 810** R**12**00	4	
Plug for OBOC 48 V DC	red ■	BNMS P48V-3		1SNA **031 811** R**07**00	4	
Test device	blue □	DCB (1)		1SNA **105 028** R**21**00	10	
Test plug	DIA. 2 mm	FC2		1SNA **007 865** R**26**00	10	
Marking method		RC55		see marking		

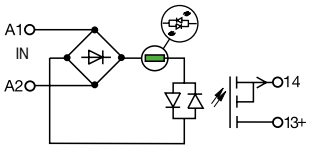
(1) Only on top decks.



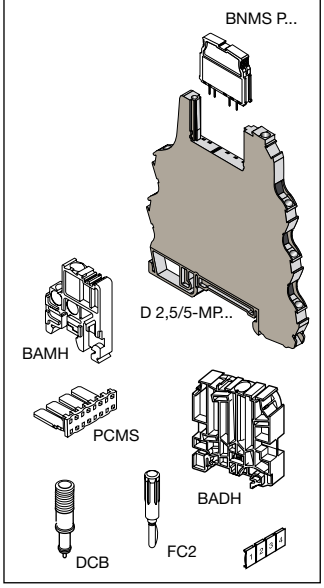




D 2,5/5-OBOC-1000 5/24 VDC



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



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		0.1 V					
max.	0.5 V		0.5 V					
Frequency on inductive load	See Note 1							
Isolation Input / Output	2500 V RMS							
TEMPERATURE								
Ambient temperature storage	-40°C to +80°C							
operating	See derating curve							

Other characteristics		
Body material	grey ☐	UL 94 V0
Wire 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 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.

Note 1 :

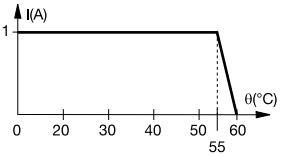
Fmax = (1-0,007 x Us) / (L x Is²)

or

Fmax = (1-0,007 x Us) / (P x $\frac{L}{R}$)

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 5 V DC	D 2,5/5-OBOC-1000-5VDC	1SNA **607 206** R**10**00	1	0.032
Optocoupler module 24 V DC	D 2,5/5-OBOC-1000-24VDC	1SNA **607 207** R**11**00	1	0.032
Optocoupler module 24 V AC/DC	D 2,5/5-OBOC-1000-24VAC/DC	1SNA **607 250** R**27**00	1	0.04
Optocoupler module 48 V AC/DC	D 2,5/5-OBOC-1000-48VAC/DC	1SNA **607 251** R**14**00	1	0.04
Optocoupler module 110 V AC	D 2,5/5-OBOC-1000-110VAC	1SNA **607 270** R**23**00	1	0.04
Optocoupler module 230 V AC	D 2,5/5-OBOC-1000-230VAC	1SNA **607 271** R**10**00	1	0.04

Accessories

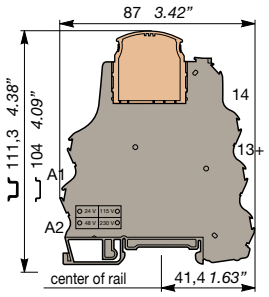
High end stop	BAMH 9,1 mm	1SNA **114 836** R**00**00	50	
	BAMH V0 9,1 mm	1SNA **194 836** R**01**00	50	
	BADH 12 mm	1SNA **116 900** R**27**00	50	
Comb type jumper bar 2 to 22 poles		consult us		
Jumper bar 10 poles grey ☐	PCMS V0	1SNA **205 523** R**22**00	8	
Relay / Opto base	D 2,5/5-MP	1SNA **607 224** R**01**00	10	0.028
Relay / Opto base with LED 24 VAC/VDC	D 2,5/5-MP-24VAC/DC	1SNA **607 260** R**21**00	10	0.036
Relay / Opto base with LED 48 VAC/VDC	D 2,5/5-MP-48VAC/DC	1SNA **607 261** R**16**00	10	0.036
Relay / Opto base with LED 110 VAC	D 2,5/5-MP-110VAC	1SNA **607 266** R**13**00	10	0.036
Relay / Opto base with LED 230 VAC	D 2,5/5-MP-230VAC	1SNA **607 267** R**14**00	10	0.036
Plug (2) red ■	BNMS P5V-2 5 V/1 A	1SNA **031 818** R**16**00	4	
Plug (3) red ■	BNMS P24V-2 24 V/1 A	1SNA **031 819** R**17**00	4	
Test device blue ☐	DCB (1)	1SNA **105 028** R**21**00	10	
Test plug DIA. 2 mm	FC2	1SNA **007 865** R**26**00	10	
Marking method	RC55	see marking		

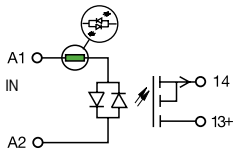
(1) Only on top decks.
(2) For D 2,5/5-OBOC-2000 5 V DC only.
(3) For all D 2,5/5-OBOC-2000 except 5 V DC model.

Electronic Interfaces

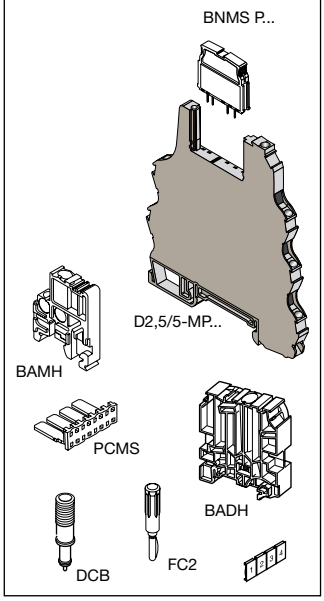
R500 pluggable optocoupler modules ⌴ DIN 3







D 2,5/5-OBOC-2000



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		0.1 V					
max.	0.5 V		0.5 V					
Frequency on inductive load	See Note 1							
Isolation Input / Output	2500 V RMS							
TEMPERATURE								
Ambient temperature storage	-40°C to +80°C							
operating	See derating curve							

Other characteristics	
Body material grey □	UL 94 V0
Wire Solid wire	0.2-4 mm² / 24-12 AWG
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 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.

Note 1 :

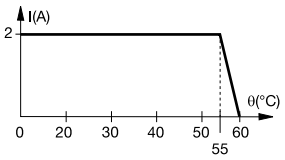
Fmax = (1-0,012 x Us) / (L x Is²)

or

Fmax = (1-0,012 x Us) / (P x L/R)

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

Derating curve



Order codes

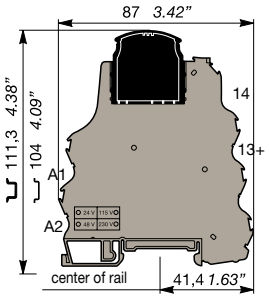
Description	Type	Order P/N	Packaging	Weight kg
Optocoupler module 5 V DC	D 2,5/5-OBOC-2000-5VDC	1SNA **607 208** R**22**00	1	0.032
Optocoupler module 24 V DC	D 2,5/5-OBOC-2000-24VDC	1SNA **607 209** R**23**00	1	0.032
Optocoupler module 24 V AC/DC	D 2,5/5-OBOC-2000-24VAC/DC	1SNA **607 255** R**10**00	1	0.04
Optocoupler module 48 V AC/DC	D 2,5/5-OBOC-2000-48VAC/DC	1SNA **607 256** R**11**00	1	0.04
Optocoupler module 110 V AC	D 2,5/5-OBOC-2000-110VAC	1SNA **607 272** R**11**00	1	0.04
Optocoupler module 230 V AC	D 2,5/5-OBOC-2000-230VAC	1SNA **607 273** R**12**00	1	0.04

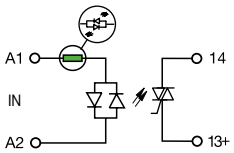
Accessories

High end stop	BAMH 9,1 mm	1SNA **114 836** R**00**00	50	
	BAMH V0 9,1 mm	1SNA **194 836** R**01**00	50	
	BADH 12 mm	1SNA **116 900** R**27**00	50	
Comb type jumper bar 2 to 22 poles		consult us		
Jumper bar 10 poles grey □	PCMS V0	1SNA **205 523** R**22**00	8	
Relay / Opto base	D 2,5/5-MP	1SNA **607 224** R**01**00	10	0.028
Relay / Opto base with LED 24 VAC/VDC	D 2,5/5-MP-24VAC/DC	1SNA **607 260** R**21**00	10	0.036
Relay / Opto base with LED 48 VAC/VDC	D 2,5/5-MP-48VAC/DC	1SNA **607 261** R**16**00	10	0.036
Relay / Opto base with LED 110 VAC	D 2,5/5-MP-110VAC	1SNA **607 266** R**13**00	10	0.036
Relay / Opto base with LED 230 VAC	D 2,5/5-MP-230VAC	1SNA **607 267** R**14**00	10	0.036
Plug (2) red ■	BNMS P5V-1 5 V/2 A	1SNA **031 814** R**02**00	4	
Plug (3) red ■	BNMS P24V-1 24 V/2 A	1SNA **031 815** R**03**00	4	
Test device blue □	DCB (1)	1SNA **105 028** R**21**00	10	
Test plug DIA. 2 mm	FC2	1SNA **007 865** R**26**00	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.

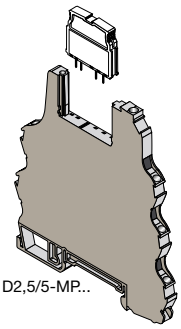




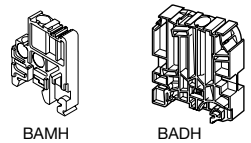


D 2,5/5-OBOA-1000

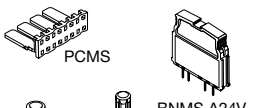
BNMS P...



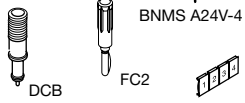
D2,5/5-MP..



BAMH BADH



PCMS BNMS A24V-4



DCB FC2

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

Characteristics

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

OUTPUT		
Output voltage		24 to 253 VAC - 50 / 60 Hz
Output current min.		25 mA
Output current max.		1 A
Output leakage current at Umax.		< 0.5 mA
Residual voltage at I max and U rated	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

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 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.

Note 1 :

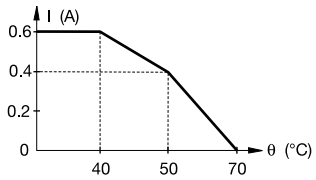
Fmax = (1-0,012 x Us) / (L x Is²)

or

Fmax = (1-0,012 x Us) / (P x $\frac{L}{R}$)

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

Derating curve



Order codes

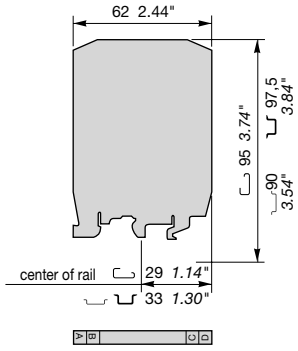
Description	Type	Order P/N	Packaging	Weight kg
Optocoupler module 24 V DC	D 2,5/5-OBOA-1000-24VDC	1SNA **607 238** R**17**00	1	0.032
Optocoupler module 24 V AC/DC	D 2,5/5-OBOA-1000-24VAC/DC	1SNA **607 240** R**25**00	1	0.04
Optocoupler module 48 V AC/DC	D 2,5/5-OBOA-1000-48VAC/DC	1SNA **607 241** R**12**00	1	0.04
Optocoupler module 110 V AC	D 2,5/5-OBOA-1000-110VAC	1SNA **607 268** R**25**00	1	0.04
Optocoupler module 230 V AC	D 2,5/5-OBOA-1000-230VAC	1SNA **607 269** R**26**00	1	0.04

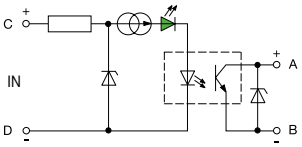
Accessories

High end stop	BAMH 9,1 mm	1SNA **114 836** R**00**00	50	
	BAMH V0 9,1 mm	1SNA **194 836** R**01**00	50	
	BADH 12 mm	1SNA **116 900** R**27**00	50	
Comb type jumper bar 2 to 22 poles		consult us		
Jumper bar 10 poles grey ☐	PCMS V0	1SNA **205 523** R**22**00	8	
Relay / Opto base	D 2,5/5-MP	1SNA **607 224** R**01**00	10	0.028
Relay / Opto base with LED 24 VAC/VDC	D 2,5/5-MP-24VAC/DC	1SNA **607 260** R**21**00	10	0.036
Relay / Opto base with LED 48 VAC/VDC	D 2,5/5-MP-48VAC/DC	1SNA **607 261** R**16**00	10	0.036
Relay / Opto base with LED 110 VAC	D 2,5/5-MP-110VAC	1SNA **607 266** R**13**00	10	0.036
Relay / Opto base with LED 230 VAC	D 2,5/5-MP-230VAC	1SNA **607 267** R**14**00	10	0.036
Plug black ■	BNMS A24V-4 250 V/1 A	1SNA **031 839** R**13**00	4	
Test device blue ☐	DCB (1)	1SNA **105 028** R**21**00	10	
Test plug DIA. 2 mm	FC2	1SNA **007 865** R**26**00	10	
Marking method	RC55	see marking		

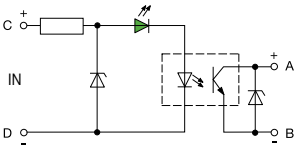
(1) Only on top decks.



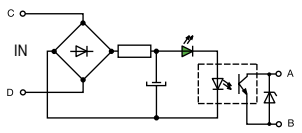




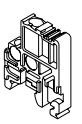
OBC 0100 - 24 V DC



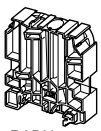
OBC 0100 - 48 V DC



OBC 0100 - 110-230 V



BAMH



BADH



RLV



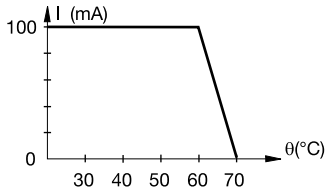
OBC 0100 - 2.5 mm² blocks - 9 mm *.354*" spacing

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 ☐	UL 94 V0
Wire size	Solid wire	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		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.

Derating curve



OBC 0100

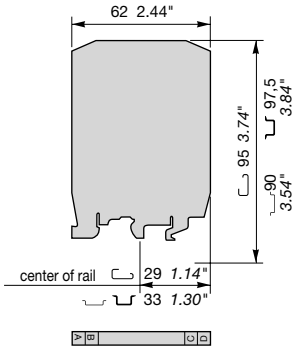
Order codes

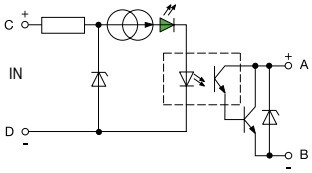
Description	Type	Order P/N	Packaging	Weight kg
Optocoupler module 24 V DC	OBC 0100-24VDC	1SNA **608 017** R**06**00	1	0.04
Optocoupler module 48 V DC	OBC 0100-48VDC	1SNA **608 021** R**02**00	1	0.04
Optocoupler module 110 V AC	OBC 0100-110VAC	1SNA **608 024** R**05**00	1	0.04
Optocoupler module 230 V AC	OBC 0100-230VAC	1SNA **608 027** R**00**00	1	0.04

Accessories

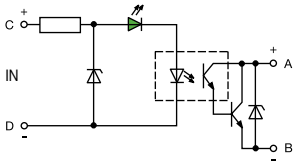
High end stop	BAMH	9,1 mm	1SNA **114 836** R**00**00	50
	BAMH V0	9,1 mm	1SNA **194 836** R**01**00	50
	BADH	12 mm	1SNA **116 900** R**27**00	50
Lengthwise marker	RLV		1SNA **103 849** R**03**00	
Marking method	RC55		see marking	



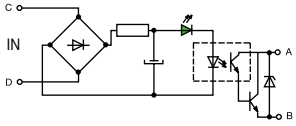




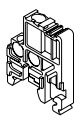
OBC 1000 - 24 V



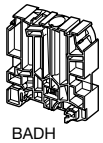
OBC 1000 - 5-48 V



OBC 1000 - 110-230 V



BAMH



BADH



RLV



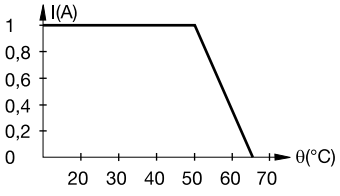
OBC 0100 - 2.5 mm² blocks - 9 mm *.354*" spacing

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				

Other characteristics		
Body material	grey ☐	UL 94 V0
Wire size	Solid wire	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		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.

Derating curve



OBC 1000

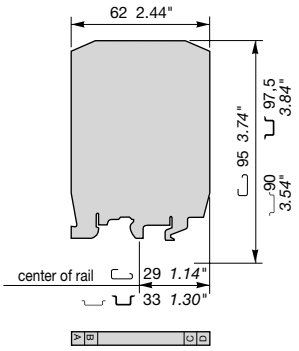
Order codes

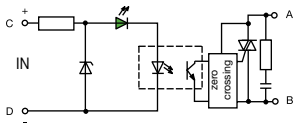
Description	Type	Order P/N	Packaging	Weight kg
Optocoupler module 5 V DC	OBC 1000-5VDC	1SNA **608 014** R**22**00	1	0.04
Optocoupler module 24 V DC	OBC 1000-24VDC	1SNA **608 018** R**17**00	1	0.04
Optocoupler module 48 V DC	OBC 1000-48VDC	1SNA **608 022** R**03**00	1	0.04
Optocoupler module 110 V AC	OBC 1000-110VAC	1SNA **608 025** R**06**00	1	0.04
Optocoupler module 230 V AC	OBC 1000-230VAC	1SNA **608 028** R**11**00	1	0.04

Accessories

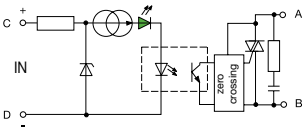
High end stop	BAMH	9,1 mm	1SNA **114 836** R**00**00	50
	BAMH V0	9,1 mm	1SNA **194 836** R**01**00	50
	BADH	12 mm	1SNA **116 900** R**27**00	50
Lengthwise marker	RLV		1SNA **103 849** R**03**00	
Marking method	RC55		see marking	



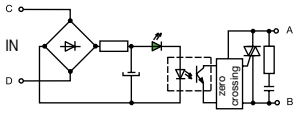




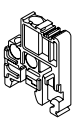
OBA 1000 - 5 - 48 V DC



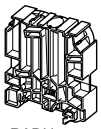
OBA 1000 - 24 V DC



OBA 1000 - 110 V AC



BAMH



BADH



RLV

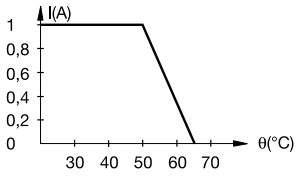


OBA 1000 - 2.5 mm² blocks - 9 mm *.354*" spacing

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	storage	- 40°C to + 80°C			
	operating	See derating curves			
Other characteristics					
Body material	grey ☐	UL 94 V0			
Wire	Solid wire	0.5-4 mm² / 20-12 AWG			
size	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		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.			

Derating curve



OBA 1000

Order codes

Description	Type	Order P/N	Packaging	Weight kg
Optocoupler module 5 V DC	OBA 1000-5VDC	1SNA **608 015** R**04**00	1	0.05
Optocoupler module 24 V DC	OBA 1000-24VDC	1SNA **608 019** R**10**00	1	0.05
Optocoupler module 48 V DC	OBA 1000-48VDC	1SNA **608 023** R**04**00	1	0.05
Optocoupler module 110 V AC	OBA 1000-110VAC	1SNA **608 026** R**07**00	1	0.05

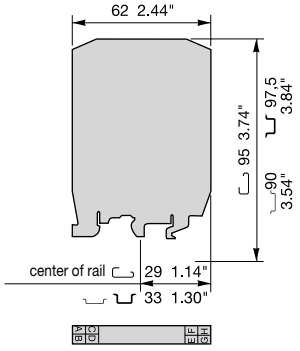
Accessories

High end stop	BAMH	9,1 mm	1SNA **114 836** R**00**00	50
	BAMH	9,1 mm	1SNA **194 836** R**01**00	50
	BADH	12 mm	1SNA **116 900** R**27**00	50
Lengthwise marker	RLV		1SNA **103 849** R**03**00	
Marking method	RC55		see marking	

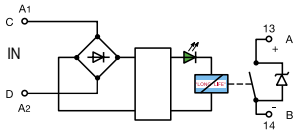
Relay Interfaces

"Long Life" relay modules R900 ⌙⌡ DIN 1-3

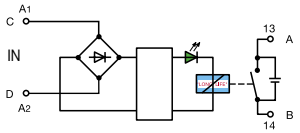




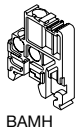
Relay blocks R900



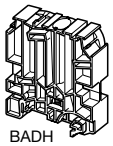
ORC 111



ORA 111



BAMH



BADH



PC9



RLV

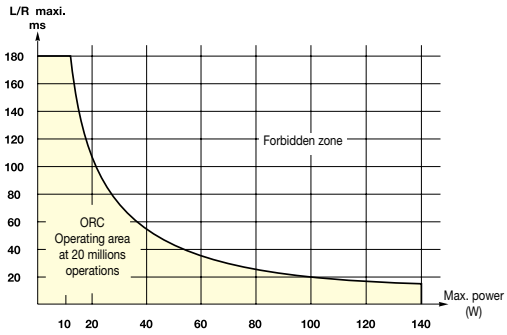
OR... 111 - relay blocks - 9 mm *.354*" spacing

Characteristics

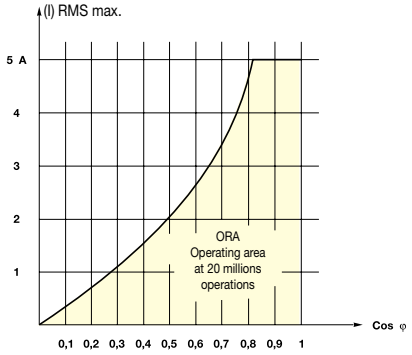
Relay characteristics	ORC 111 24 V DC	ORA 111 24 V DC
INPUT		
Rated voltage ±20% on DC	24 V DC	24 V DC
Power	0.65 W	0.6 W
Rated current	26 mA	20 mA
Drop-out voltage at 20°C	4 V	5 V
Drop-in voltage at 20°C		
Permissible leakage current		
Status device	green LED	
OUTPUT		
Type	1 NO	
Voltage switching range min./max.	10 V DC / 57,6 V DC	20 V AC / 135 V AC
Current switching range min./max.	100 mA / 5 A	
Load switching range		
AC1 min. / max.		2 VA / 675 VA
DC1 min. / max.	1 W / 280 W	
Number of on-load operations	20 x 10^6 (see curves)	
Number of off-load operations	20 x 10^6	
Operating speed F	80 µs	10 ms
O	20 ms	30 ms
Bounce		
Insulation input / output	3000 V RMS	
Resistance to shock input / output	5000 V RMS	
Inductive load max.	see curves	
Ambient temperature storage	-40°C to +80°C	
operating	see derating curves	

Other characteristics	
Body material grey ☐	UL 94 V0
Wire Solid wire	0.5-4 mm² / *20-12 AWG*
size 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 mm / *.137*"
Protection	IP 20 / *NEMA 1*
Recommended torque	0.4-0.6 Nm / *3.5-5.3 lb.in*
Approvals	c UL us - 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.

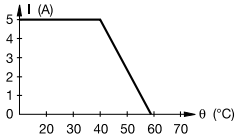
ORC type - Maximum switching power at 24V DC as per L/R



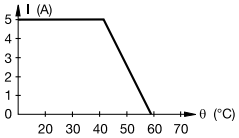
ORA type - Maximum switching current as per cos ϕ



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** R**21**00	1	0.03
Long Life relay module 24 V DC	ORA 111-24VDC	1SNA **608 069** R**22**00	1	0.04

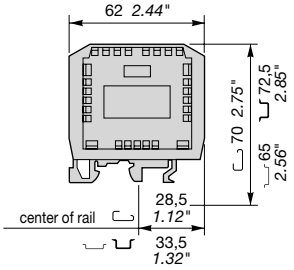
Accessories

High end section	BADH	1SNA **116 900** R**27**00	50
	BAMH	1SNA **114 836** R**00**00	50
	BAMH V0	1SNA **194 836** R**01**00	50
Comb-type jumper bar	PC9	1SNA **210 160** R**12**00	10
Lengthwise marker	RLV	1SNA **103 849** R**03**00	
Marking method	RC55	see marking	

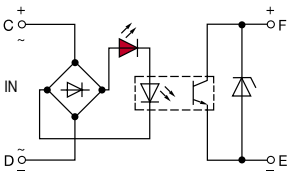
Electronic Interfaces

R1800 optocoupler modules ⌴ DIN 3

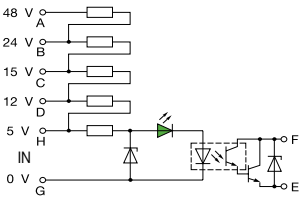




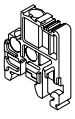




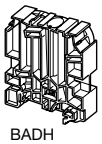
EBO1



EBO3 DC



BAMH



BADH



RLV



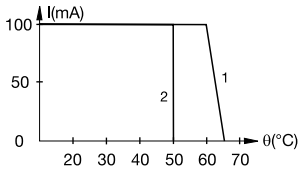
EBO... - 2.5 mm² blocks - 18 mm *.709*" spacing

Characteristics

Opto. characteristics		EBO1 - 24 V		EBO1 - 127-220 V		EBO3 DC				
INPUT										
Input voltage		24 V AC	24 V DC	127 V AC/DC	220 V AC/DC	5 V DC	12 V DC	15 V DC	24 V DC	48 V DC
Frequency				50 / 60 Hz	50 / 60 Hz					
Input current		10 mA	8 mA	6 mA	5 mA			11 mA		
Pull-in voltage at 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								

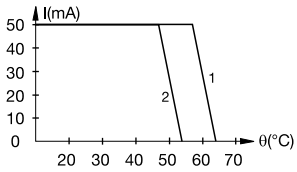
Other characteristics		
Body material	grey ☐	UL 94 V0
Wire	Solid wire	0.2-4 mm² / 22-12 AWG
size	Stranded wire	0.22-2.5 mm² / 22-12 AWG
Rated wire size		2.5 mm² / 12 AWG
Wire stripping length		7 mm *.276*"
Recommended screwdriver		3.5 *.137*"
Protection		IP 20 *NEMA 1*
Recommended torque		0.4-0.6 Nm
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.

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** R**2**000	1	0.03
Optocoupler module 127 V AC/DC	EBO1-127VAC/DC	1SNA **610 108** R**1**400	1	0.03
Optocoupler module 220 V AC/DC	EBO1-220VAC/DC	1SNA **610 023** R**2**100	1	0.03
Optocoupler module 5-12-15-24-48 V DC	EBO3 DC	1SNA **610 230** R**1**100	1	0.03

Accessories

High end stop	BAMH	9,1 mm	1SNA **114 836** R**0**000	50
	BAMH V0	9,1 mm	1SNA **194 836** R**0**100	50
	BADH	12 mm	1SNA **116 900** R**2**700	50
Lengthwise marker	RLV		1SNA **103 849** R**0**300	
Marking method	RC55		see marking	

Applications

R600

NEW RANGE

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

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

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

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

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

The ABB solution

ABB uses 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

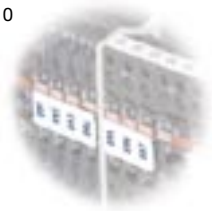
- Input voltage : from 5 to 250 V AC/DC
- Voltage switching range : from 5 to 58 V DC, from 20 to 400 V AC
- Current switching range : from 1 mA to 5 A
- Overvoltage protection



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

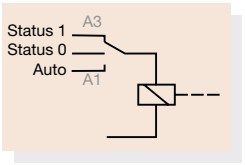
Manual or automatic functionning

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)



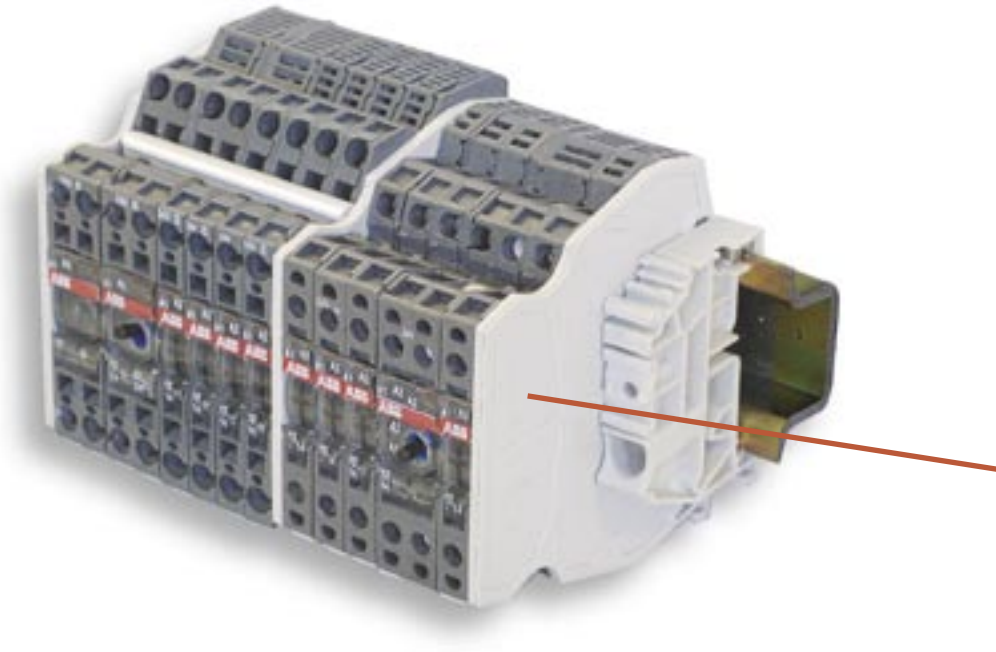
(Fig. 2)



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.



Distribution block

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

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



Mesurements - Tests

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



Easy wiring

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



SYNERGY

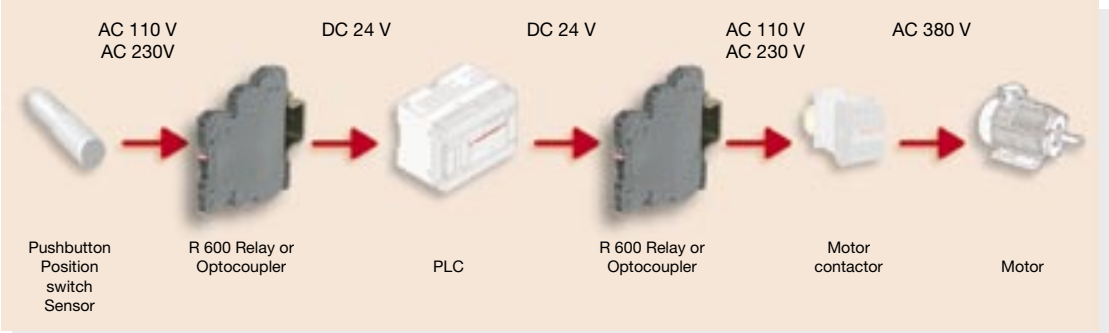
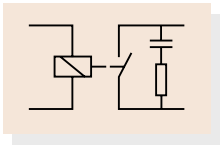


ABB PROVIDES A FULL SOLUTION FROM SENSOR TO MOTOR

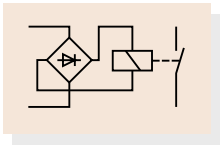
SAVING

CONTACT LIFE INCREASED



Contact protection
through RC circuit

ONLY ONE PART NUMBER AC/



DIMENSIONS

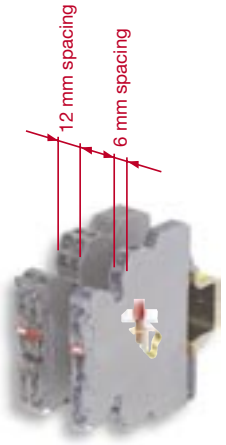
Compact block in «spring clamp» or «screw clamp» versions with 6 mm and 12 mm spacings.

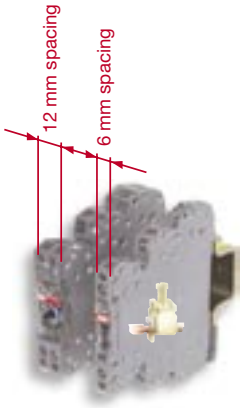


0,2 to 2,5 mm²



0,22 to 4 mm²





SAFETY

SEPARATION AND IDENTIFICATION OF SEVERAL VOLTAGES

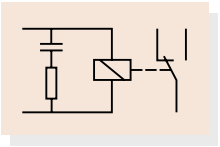
Separator end sections.

IP20 PROTECTION

NO DISTURBANCE PRODUCTION

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

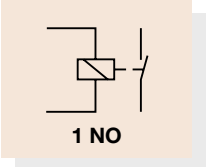
IMMUNITY

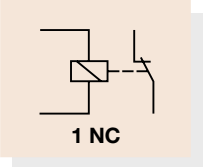


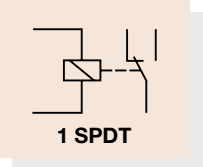
Leakage current
protection

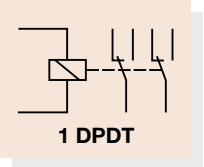
ACCORDANCE TO STANDARDS :

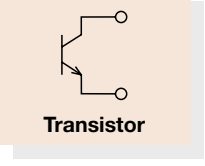
PERFORMANCES

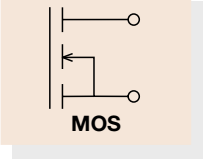


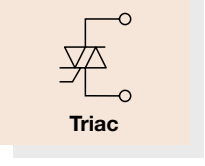










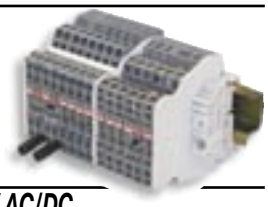


ADAPTABILITY TO ANY APPLICATION TYPE

THE PLUS IN OUR PERFORMANCES

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

Selection guide
R600 Relay modules



RB..... = screw clamp RBR..... = spring clamp

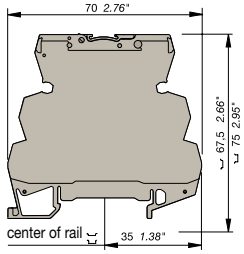
Output \ Input	5 V DC	12 V DC	24 VAC/DC 50 / 60 Hz	48-60 V AC/DC 50 / 60 Hz	115 V AC/DC 50 / 60 Hz	230 V AC/DC 50 / 60 Hz
10 mA / 6 A			RB 111 A 24 V AC/DC 1SNA 645 014 R2700 spacing : 6 mm RBR 111 A 24 V AC/DC 1SNA 645 514 R2100 spacing : 6 mm	RB 111 A 48-60 V AC/DC 1SNA 645 015 R2000 spacing : 6 mm RBR 111 A 48-60 V AC/DC 1SNA 645 515 R2200 spacing : 6 mm	RB 111 A 115 V AC/DC 1SNA 645 016 R2100 spacing : 6 mm RBR 111 A 115 V AC/DC 1SNA 645 516 R2300 spacing : 6 mm	RB 111 A 230 V AC/DC 1SNA 645 017 R2200 spacing : 6 mm RBR 111 A 230 V AC/DC 1SNA 645 517 R2400 spacing : 6 mm
10 mA / 6 A Safety switch			RB 111 AI 24 V AC/DC 1SNA 645 063 R0000 spacing : 6 mm RBR 111 AI 24 V AC/DC 1SNA 645 563 R0200 spacing : 6 mm			
10 mA / 6 A			RB 111 AR 24 V AC/DC 1SNA 645 018 R0300 spacing : 12 mm RBR 111 AR 24 V AC/DC 1SNA 645 518 R0500 spacing : 12 mm			
10 mA / 6 A			RB 101 AR 24 V AC/DC 1SNA 645 019 R0400 spacing : 12 mm RBR 101 AR 24 V AC/DC 1SNA 645 519 R0600 spacing : 12 mm			
10 mA / 6 A	RB 121 5 V DC 1SNA 645 034 R2300 spacing : 6 mm RBR 121 5 V DC 1SNA 645 534 R2500 spacing : 6 mm	RB 121 12 V DC 1SNA 645 035 R2400 spacing : 6 mm RBR 121 12 V DC 1SNA 645 535 R2600 spacing : 6 mm	RB 121 A 24 V AC/DC 1SNA 645 001 R0300 spacing : 6 mm RBR 121 A 24 V AC/DC 1SNA 645 501 R0500 spacing : 6 mm	RB 121 A 48-60 V AC/DC 1SNA 645 002 R0400 spacing : 6 mm RBR 121 A 48-60 V AC/DC 1SNA 645 502 R0600 spacing : 6 mm	RB 121 A 115 V AC/DC 1SNA 645 003 R0500 spacing : 6 mm RBR 121 A 115 V AC/DC 1SNA 645 503 R0700 spacing : 6 mm	RB 121 A 230 V AC/DC 1SNA 645 004 R0400 spacing : 6 mm RBR 121 A 230 V AC/DC 1SNA 645 504 R0000 spacing : 6 mm
1 mA / 6 A	RB 121 5 V DC 1SNA 645 036 R2500 spacing : 6 mm RBR 121 5 V DC 1SNA 645 536 R2700 spacing : 6 mm	RB 121 12 V DC 1SNA 645 037 R2700 spacing : 6 mm RBR 121 12 V DC 1SNA 645 537 R2000 spacing : 6 mm	RB 121 A 24 V AC/DC 1SNA 645 005 R0700 spacing : 6 mm RBR 121 A 24 V AC/DC 1SNA 645 505 R0100 spacing : 6 mm	RB 121 A 48-60 V AC/DC 1SNA 645 006 R0000 spacing : 6 mm RBR 121 A 48-60 V AC/DC 1SNA 645 506 R0200 spacing : 6 mm	RB 121 A 115 V AC/DC 1SNA 645 007 R0100 spacing : 6 mm RBR 121 A 115 V AC/DC 1SNA 645 507 R0300 spacing : 6 mm	RB 121 A 230 V AC/DC 1SNA 645 008 R1200 spacing : 6 mm RBR 121 A 230 V AC/DC 1SNA 645 508 R1400 spacing : 6 mm
10 mA / 6 A Manual switch			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 Manual switch			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 Manual switch			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 Manual switch			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

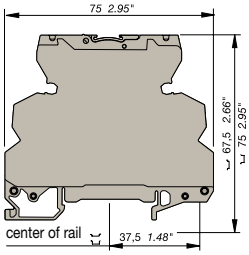
Relay modules R600 ⌴ DIN 3



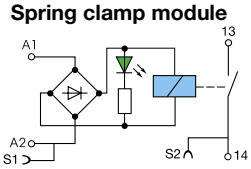




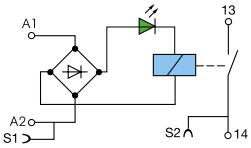
Screw clamp module



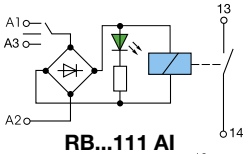
Spring clamp module



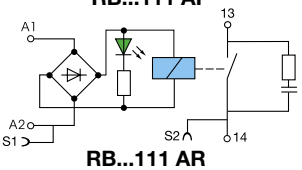
RB...111 A - 24 V AC/DC



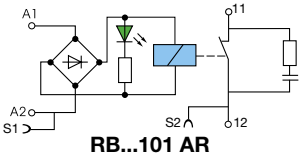
RB...111 A48-60-115-230 V AC/DC



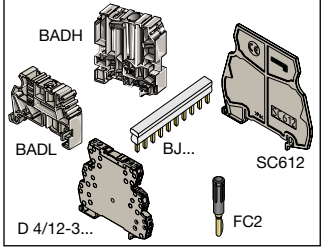
RB...111 AI



RB...111 AR



RB...101 AR

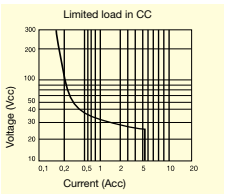


Relay : 1NO or 1NC level contact 10 mA upto 6 A - 6 mm *.236*" or 12 mm *.472*" spacing

Characteristics

Relay characteristics	RB...111A					RB...111AI	RB...111AR	RB...101AR
COIL					±10% on AC +10% -15% on DC			
Rated voltage +20%, -15% on DC ; +10%, -10% on AC	24 VAC/DC	48 VAC/DC	60 VAC/DC	115 VAC/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 AC1 min. / max.	0,6 VA / 1500 VA (ohmic load)							
Load switching range DC1 min. / max.	0,6 W / 140 W							
Number of on-load operations	10^5 on AC15							
Number of off-load operations	10^7							
Operating speed F	5 ms	5 ms	5 ms	6 ms	7 ms	5 ms	5 ms	5 ms
Operating speed O	8 ms	8 ms	8 ms	15 ms	15 ms	8 ms	8 ms	8 ms
Bounce	1,2 ms							
Insulation coil / contact	4000 V RMS							
Resistance to shock coil / contact	4000 V RMS							
Insulation contact / contact	1000 V RMS							
Ambient temperature storage	-40°C to +80°C							
Ambient temperature operating	-20°C to +70°C (1)							

Other characteristics	Screw clamp	Spring clamp
Body material grey ☐	UL 94 V0	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	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.	



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

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

Order codes

Description	Type	Order P/N	Packaging	Weight kg
Screw clamp relay module 6 mm spacing	RB 111 A-24VAC/DC	1SNA **645 014** R**2700**	10	0,02
Screw clamp relay module 6 mm spacing	RB 111 A-48-60VAC/DC	1SNA **645 015** R**2000**	10	0,02
Screw clamp relay module 6 mm spacing	RB 111 A-115VAC/DC	1SNA **645 016** R**2100**	10	0,02
Screw clamp relay module 6 mm spacing	RB 111 A-230VAC/DC	1SNA **645 017** R**2200**	10	0,02
Screw cl. relay mod. with safety switch 6 mm sp.	RB 111 AI-24VAC/DC	1SNA **645 063** R**0000**	10	0,02
Screw cl. relay mod. w/contact protection 12 mm sp.	RB 111 AR-24VAC/DC	1SNA **645 018** R**0300**	5	0,03
Screw cl. relay mod. w/contact protection 12 mm sp.	RB 101 AR-24VAC/DC	1SNA **645 019** R**0400**	5	0,03
Spring clamp relay module 6 mm spacing	RBR 111 A-24VAC/DC	1SNA **645 514** R**2100**	10	0,02
Spring clamp relay module 6 mm spacing	RBR 111 A-48-60VAC/DC	1SNA **645 515** R**2200**	10	0,02
Spring clamp relay module 6 mm spacing	RBR 111 A-115VAC/DC	1SNA **645 516** R**2300**	10	0,02
Spring clamp relay module 6 mm spacing	RBR 111 A-230VAC/DC	1SNA **645 517** R**2400**	10	0,02
Spring cl. relay mod. with safety switch 6 mm sp.	RBR 111 AI-24VAC/DC	1SNA **645 563** R**0200**	10	0,02
Spring cl. relay mod. w/contact protection 12 mm sp.	RBR 111 AR-24VAC/DC	1SNA **645 518** R**0500**	5	0,03
Spring cl. relay mod. w/contact protection 12 mm sp.	RBR 101 AR-24VAC/DC	1SNA **645 519** R**0600**	5	0,03

Accessories

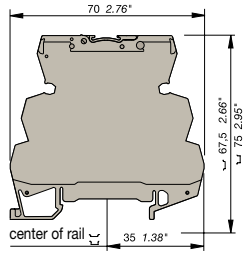
End section	BADH V0	1SNA **116 900** R**2700**	50	
	BADL V0	1SNA **399 903** R**0200**	50	
	BAM2 V0	1SNA **399 967** R**0100**	50	
Separator end section	SC 612	1SNA **290 474** R**0200**	10	
Divisible shunt 10 poles	BJ 612-10	1SNA **290 488** R**0100**	10	
Divisible shunt 70 poles	BJ 612-70	1SNA **290 489** R**0200**	10	
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA **645 031** R**2000**	5	
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA **645 531** R**2200**	5	
Test plug DIA. 2 mm	FC2	1SNA **007 865** R**2600**	10	
Marking method	RC65 RC610	see marking		

Relay Interfaces

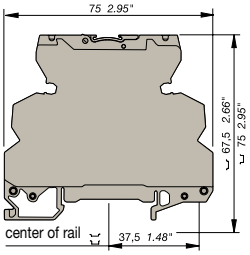
Relay modules R600 ⊔ DIN 3



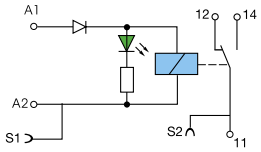




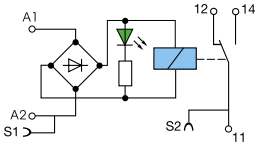
Screw clamp module



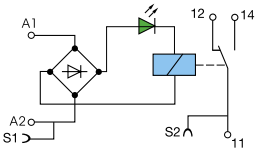
Spring clamp module



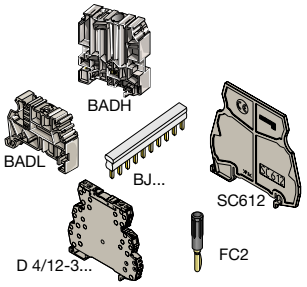
RB...121 - 5-12 V DC



RB...121 A - 24 V AC/DC



RB...121 A
48-60-115-230 V AC/DC

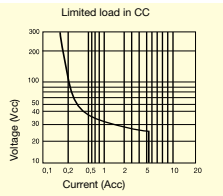


Relay : 1 SPDT level contact 10 mA upto 6 A - 6 mm *.236*" spacing

Characteristics

Relay characteristics	RB...121		RB...121A				
COIL							±10% on AC +10% -15% on DC
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
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 AC1 min. / max.	0,6 VA / 1500 VA (ohmic load)						
Load switching range DC1 min. / max.	0,6 W / 140 W						
Number of on-load operations	10^5 on AC15						
Number of off-load operations	10^7						
Operating speed F	5 ms	5 ms	5 ms	5 ms	5 ms	6 ms	7 ms
Operating speed O	8 ms	8 ms	8 ms	8 ms	8 ms	15 ms	16 ms
Bounce	1,2 ms						
Insulation coil / contact	4000 V RMS						
Resistance to shock coil / contact	4000 V RMS						
Insulation contact / contact	1000 V RMS						
Ambient temperature storage	-40°C to +80°C						
Ambient temperature operating	-20°C to +70°C (1)						

Other characteristics	Screw clamp	Spring clamp
Body material grey ☐	UL 94 V0	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	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.	



(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** R**2300**	10	0,02
Screw clamp relay module	RB 121-12VDC	1SNA **645 035** R**2400**	10	0,02
Screw clamp relay module	RB 121 A-24VAC/DC	1SNA **645 001** R**0300**	10	0,02
Screw clamp relay module	RB 121 A-48-60VAC/DC	1SNA **645 002** R**0400**	10	0,02
Screw clamp relay module	RB 121 A-115VAC/DC	1SNA **645 003** R**0500**	10	0,02
Screw clamp relay module	RB 121 A-230VAC/DC	1SNA **645 004** R**0400**	10	0,02
Spring clamp relay module	RBR 121-5VDC	1SNA **645 534** R**2500**	10	0,02
Spring clamp relay module	RBR 121-12VDC	1SNA **645 535** R**2600**	10	0,02
Spring clamp relay module	RBR 121 A-24VAC/DC	1SNA **645 501** R**0500**	10	0,02
Spring clamp relay module	RBR 121 A-48-60VAC/DC	1SNA **645 502** R**0600**	10	0,02
Spring clamp relay module	RBR 121 A-115VAC/DC	1SNA **645 503** R**0700**	10	0,02
Spring clamp relay module	RBR 121 A-230VAC/DC	1SNA **645 504** R**0000**	10	0,02

Accessories

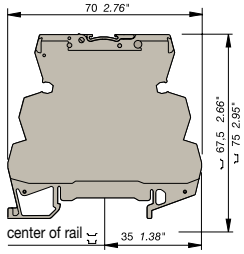
End section	BADH V0	1SNA **116 900** R**2700**	50
	BADL V0	1SNA **399 903** R**0200**	50
	BAM2 V0	1SNA **399 967** R**0100**	50
Separator end section	SC 612	1SNA **290 474** R**0200**	10
Divisible shunt 10 poles	BJ 612-10	1SNA **290 488** R**0100**	10
Divisible shunt 70 poles	BJ 612-70	1SNA **290 489** R**0200**	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA **645 031** R**2000**	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA **645 531** R**2200**	5
Test plug DIA. 2 mm	FC2	1SNA **007 865** R**2600**	10
Marking method	RC65 RC610	see marking	

Relay Interfaces

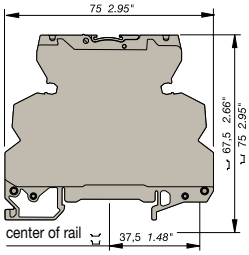
Relay modules R600 ⊔ DIN 3



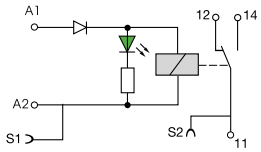




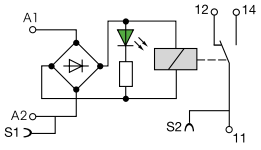
Screw clamp module



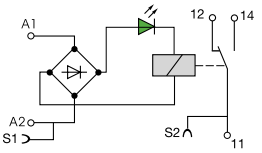
Spring clamp module



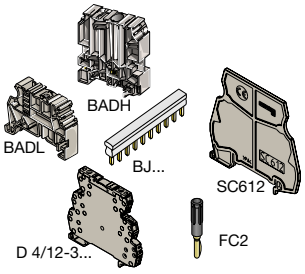
RB...121 - 5-12 V DC



RB...121 A - 24 V AC/DC



RB...121 A
48-60-115-230 V AC/DC



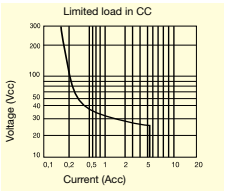
Relay : 1SPDT Low level contact 1 mA upto 6 A - 6 mm *.236*" spacing

Characteristics

Relay characteristics	RB...121		RB...121A				
COIL							±10% on AC +10% -15% on DC
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
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.	5 V / 250 V AC						
Current switching range min./max.	1 mA / 6 A						
Load switching range AC1 min. / max.	0,05 VA / 1500 VA (ohmic load)						
Load switching range DC1 min. / max.	0,05 W / 140 W						
Number of on-load operations	10^5 on AC15						
Number of off-load operations	10^7						
Operating speed F	5 ms	5 ms	5 ms	5 ms	5 ms	6 ms	7 ms
Operating speed O	8 ms	8 ms	8 ms	8 ms	8 ms	15 ms	16 ms
Bounce	1,2 ms						
Insulation coil / contact	4000 V RMS						
Resistance to shock coil / contact	4000 V RMS						
Insulation contact / contact	1000 V RMS						
Ambient temperature storage	-40°C to +80°C						
Ambient temperature operating	-20°C to +70°C (1)						

Other characteristics	Screw clamp	Spring clamp
Body material grey □	UL 94 V0	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	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.	

(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 low level contact	RB 121-5VDC	1SNA **645 036** R**2500**	10	0,02
Screw clamp relay module low level contact	RB 121-12VDC	1SNA **645 037** R**2600**	10	0,02
Screw clamp relay module low level contact	RB 121 A-24VAC/DC	1SNA **645 005** R**0700**	10	0,02
Screw clamp relay module low level contact	RB 121 A-48-60VAC/DC	1SNA **645 006** R**0000**	10	0,02
Screw clamp relay module low level contact	RB 121 A-115VAC/DC	1SNA **645 007** R**0100**	10	0,02
Screw clamp relay module low level contact	RB 121 A-230VAC/DC	1SNA **645 008** R**1200**	10	0,02
Spring clamp relay module low level contact	RBR 121-5VDC	1SNA **645 536** R**2700**	10	0,02
Spring clamp relay module low level contact	RBR 121-12VDC	1SNA **645 537** R**2000**	10	0,02
Spring clamp relay module low level contact	RBR 121 A-24VAC/DC	1SNA **645 505** R**0100**	10	0,02
Spring clamp relay module low level contact	RBR 121 A-48-60VAC/DC	1SNA **645 506** R**0200**	10	0,02
Spring clamp relay module low level contact	RBR 121 A-115VAC/DC	1SNA **645 507** R**0300**	10	0,02
Spring clamp relay module low level contact	RBR 121 A-230VAC/DC	1SNA **645 508** R**1400**	10	0,02

Accessories

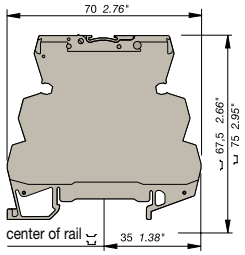
End section	BADH V0	1SNA **116 900** R**2700**	50
	BADL V0	1SNA **399 903** R**0200**	50
	BAM2 V0	1SNA **399 967** R**0100**	50
Separator end section	SC 612	1SNA **290 474** R**0200**	10
Divisible shunt 10 poles	BJ 612-10	1SNA **290 488** R**0100**	10
Divisible shunt 70 poles	BJ 612-70	1SNA **290 489** R**0200**	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA **645 031** R**2000**	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA **645 531** R**2200**	5
Test plug DIA. 2 mm	FC2	1SNA **007 865** R**2600**	10
Marking method	RC65 RC610	see marking	

Relay Interfaces

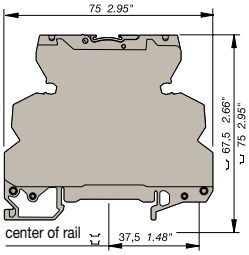
Relay modules R600 ⌴ DIN 3



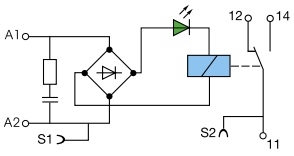




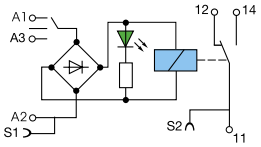
Screw clamp module



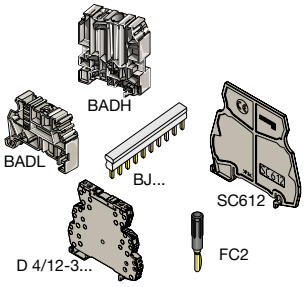
Spring clamp module



RB...121 AR



RB...121 AI



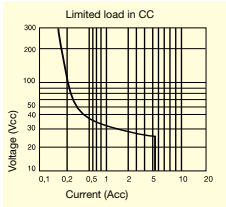
Relay : 1 SPDT with switch or with Leakage current protection - 12 mm .472" spacing

Characteristics

Relay characteristics	RB...121 AR		RB...121 AI					
COIL								
Rated voltage +20%, -15% on DC ; +10%, -10% on AC	115 V AC/DC	±10% on AC +10% -15% on DC 230 V AC/DC	24 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		
Power	2 W	2,8 W	0,24 W	0,24 W	0,24 W	0,24 W		
Rated current	18 mA	12 mA	10 mA	10 mA	10 mA	10 mA		
Drop-out voltage at 20°C	17 V	27 V	4,5 V	4,5 V	4,5 V	4,5 V		
Status device	green LED				green LED			
CONTACT								
Type	1 SPDT				1 SPDT			
Voltage switching range min./max.	12 V / 250 V				5 V / 250 V			
Current switching range min./max.	10 mA / 6 A				1 mA / 6 A			
Load switching range AC1 min. / max. DC1 min. / max.	0,6 VA / 1500 VA (ohmic load) 0,6 W / 140 W				0,05 VA/1500 VA (ohmic load) 0,05 W / 140 W			
Number of on-load operations	10^5 on AC15				10^5 on AC15			
Number of off-load operations	10^7				10^7			
Operating speed F	6 ms	7 ms	5 ms	5 ms	5 ms	5 ms		
O	15 ms	16 ms	8 ms	8 ms	8 ms	8 ms		
Bounce								
Insulation coil / contact	4000 V RMS							
Resistance to shock coil / contact	4000 V RMS							
Insulation contact / contact	1000 V RMS							
Ambient temperature storage	-40°C to +80°C							
operating	-20°C to +70°C (1)							

Other characteristics		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		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.	

(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** R**07**00	5	0,03
Screw cl. relay module w/leakage current protection	RB 121 AR-230VAC/DC	1SNA **645 011** R**24**00	5	0,03
Screw clamp relay module with switch	RB 121 AI-24VAC/DC	1SNA **645 032** R**21**00	5	0,03
Screw clamp relay module with safety switch	RB 121 AI-24VAC/DC	1SNA **645 009** R**13**00	5	0,03
Screw clamp relay module low level w/switch	RB 121 AI-24VAC/DC	1SNA **645 033** R**22**00	5	0,03
Screw clamp relay module low level w/safety switch	RB 121 AI-24VAC/DC	1SNA **645 010** R**07**00	5	0,03
Spring cl. relay module w/leakage current protection	RBR 121 AR-115VAC/DC	1SNA **645 546** R**01**00	5	0,03
Spring cl. relay module w/leakage current protection	RBR 121 AR-230VAC/DC	1SNA **645 511** R**26**00	5	0,03
Spring clamp relay module with switch	RBR 121 AI-24VAC/DC	1SNA **645 532** R**23**00	5	0,03
Spring clamp relay module with safety switch	RBR 121 AI-24VAC/DC	1SNA **645 509** R**15**00	5	0,03
Spring clamp relay module low level w/switch	RBR 121 AI-24VAC/DC	1SNA **645 533** R**24**00	5	0,03
Spring clamp relay module low level w/safety switch	RBR 121 AI-24VAC/DC	1SNA **645 510** R**01**00	5	0,03

Accessories

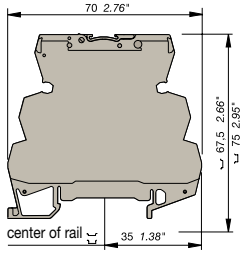
End section	BADH V0	1SNA **116 900** R**27**00	50
	BADL V0	1SNA **399 903** R**02**00	50
	BAM2 V0	1SNA **399 967** R**01**00	50
Separator end section	SC 612	1SNA **290 474** R**02**00	10
Divisible shunt 10 poles	BJ 612-10	1SNA **290 488** R**01**00	10
Divisible shunt 70 poles	BJ 612-70	1SNA **290 489** R**02**00	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA **645 031** R**20**00	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA **645 531** R**22**00	5
Test plug DIA. 2 mm	FC2	1SNA **007 865** R**26**00	10
Marking method	RC65 RC610	see marking	

Relay Interfaces

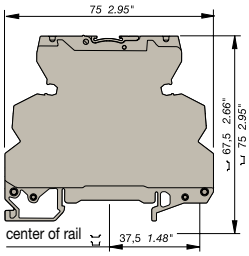
Relay modules R600 ⊔ DIN 3



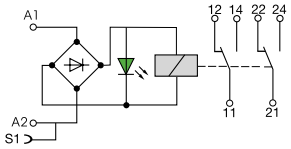




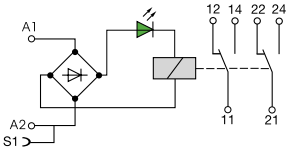
Screw clamp module



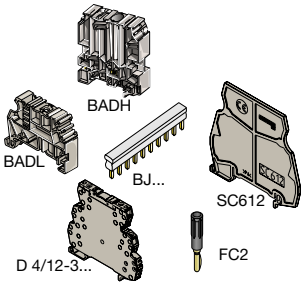
Spring clamp module



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



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



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

Characteristics

Relay characteristics		RB...122A							
COIL									
Rated voltage +20%, -15% on DC ; +10%, -10% on AC		24 VAC/DC	48 V AC/DC	60 V AC/DC	115 V AC/DC	±10% on AC +10% -15% on DC 230 V AC/DC			
Frequency		50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz			
Power		0,48 W	0,62 W	0,96 W	0,58 W	1,15 W			
Rated current		20 mA	13 mA	16 mA	5 mA	5 mA			
Drop-out voltage at 20°C		5,4 V	8,8 V	8,8 V	20 V	10 V			
Status device		green LED							
CONTACT									
Type		1 DPDT							
Voltage switching range min./max.		5 V / 250 V DC - 250 V AC							
Current switching range min./max.		1 mA / 8 A							
Load switching range									
AC1 min. / max.		5 mVA / 1500 VA							
DC1 min. / max.		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	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		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.	

(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

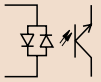
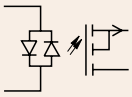
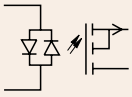
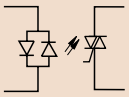
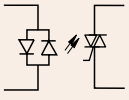
Accessories

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



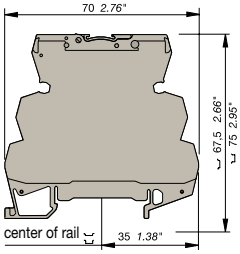
OB..... = screw clamp OBR..... = spring clamp

Output \ Input	5-12 V DC	24 V DC	24 VAC/DC 50 / 60 Hz	48-60 V AC/DC 50 / 60 Hz	115 V AC/DC 50 / 60 Hz	115-230 V AC/DC 50 / 60 Hz	230 V AC/DC 50 / 60 Hz
100 mA 4,5 to 58 V DC 	**OBIC 0100 5-12 V DC** 1SNA **645 047** R**00**00 *spacing : 6 mm* **OBRIC 0100 5-12 V DC** 1SNA **645 547** R**02**00 *spacing : 6 mm*	**OBIC 0100 24 V DC** 1SNA **645 021** R**26**00 *spacing : 6 mm* **OBRIC 0100 24 V DC** 1SNA **645 521** R**20**00 *spacing : 6 mm*		**OBIC 0100 48-60 V AC/DC** 1SNA **645 049** R**12**00 *spacing : 6 mm* **OBRIC 0100 48-60 V AC/DC** 1SNA **645 549** R**14**00 *spacing : 6 mm*		**OBIC 0100 115-230 V AC/DC** 1SNA **645 022** R**27**00 *spacing : 6 mm* **OBRIC 0100 115-230 V AC/DC** 1SNA **645 522** R**21**00 *spacing : 6 mm*	
2 A 4,5 to 58 V DC 	**OBOC 1000 5-12 V DC** 1SNA **645 050** R**17**00 *spacing : 6 mm* **OBROC 1000 5-12 V DC** 1SNA **645 550** R**11**00 *spacing : 6 mm*	**OBOC 1000 24 V DC** 1SNA **645 051** R**04**00 *spacing : 6 mm* **OBROC 1000 24 V DC** 1SNA **645 551** R**06**00 *spacing : 6 mm*	**OBOC 1500 24 V AC/DC** 1SNA **645 025** R**22**00 *spacing : 6 mm* **OBROC 1500 24 V AC/DC** 1SNA **645 525** R**24**00 *spacing : 6 mm*	**OBOC 1000 48-60 V AC/DC** 1SNA **645 053** R**06**00 *spacing : 6 mm* **OBROC 1000 48-60 V AC/DC** 1SNA **645 553** R**00**00 *spacing : 6 mm*	**OBOC 1000 115 V AC/DC** 1SNA **645 054** R**07**00 *spacing : 6 mm* **OBROC 1000 115 V AC/DC** 1SNA **645 554** R**01**00 *spacing : 6 mm*		**OBOC 1000 230 V AC/DC** 1SNA **645 026** R**23**00 *spacing : 6 mm* **OBROC 1000 230 V AC/DC** 1SNA **645 526** R**25**00 *spacing : 6 mm*
5 A 4,5 to 58 V DC 		**OBOC 5000 24 V DC** 1SNA **645 024** R**21**00 *spacing : 6 mm* **OBROC 5000 24 V DC** 1SNA **645 524** R**23**00 *spacing : 6 mm*			**OBOC 5000 115 V AC/DC** 1SNA **645 058** R**13**00 *spacing : 6 mm* **OBROC 5000 115 V AC/DC** 1SNA **645 558** R**15**00 *spacing : 6 mm*		**OBOC 5000 230 V AC/DC** 1SNA **645 059** R**14**00 *spacing : 6 mm* **OBROC 5000 230 V AC/DC** 1SNA **645 559** R**16**00 *spacing : 6 mm*
1 A 24 to 400 V AC 50 / 60 Hz 		**OBOA 1000 24 V DC** 1SNA **645 027** R**24**00 *spacing : 6 mm* **OBROA 1000 24 V DC** 1SNA **645 527** R**26**00 *spacing : 6 mm*		**OBOA 1000 48-60 V AC/DC** 1SNA **645 061** R**06**00 *spacing : 6 mm* **OBROA 1000 48-60 V AC/DC** 1SNA **645 561** R**00**00 *spacing : 6 mm*	**OBOA 1000 115 V AC/DC** 1SNA **645 062** R**07**00 *spacing : 6 mm* **OBROA 1000 115 V AC/DC** 1SNA **645 562** R**01**00 *spacing : 6 mm*		**OBOA 1000 230 V AC/DC** 1SNA **645 028** R**05**00 *spacing : 6 mm* **OBROA 1000 230 V AC/DC** 1SNA **645 528** R**07**00 *spacing : 6 mm*
2 A 10 to 230 VAC 50 / 60 Hz 			**OBOA 2000 24 V AC/DC** 1SNA **645 029** R**06**00 *spacing : 6 mm* **OBOA 2000 24 V AC/DC** 1SNA **645 529** R**00**00 *spacing : 6 mm*				

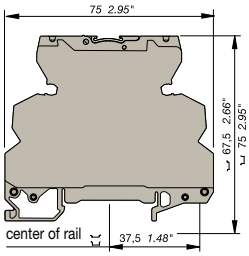


Optocoupler : 5 upto 58 VDC output 100 mA - 6 mm *.236*" spacing





Screw clamp module



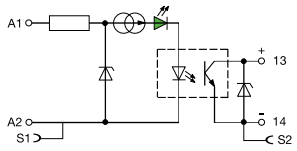
Spring clamp module

Characteristics

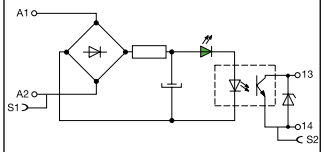
Opto. characteristics		OB...IC 0100						
INPUT								
Input voltage +20% -15% on DC, +10% -10% on AC		5 V DC - 12 V DC		24 V DC	48 V AC/DC	60 V AC/DC	115 V AC/DC	230 V AC/DC
Frequency					50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Input current		5 mA	9 mA	4 mA	4 mA	5 mA		
Pull-in voltage at Is=100%		4 V	4 V	15 V	25 V	25 V		
Switching time C / O		10 µs / 500 µs		10 µs / 500 µs	5 ms / 20 ms			
Operating frequency		1000 Hz		1000 Hz	20 Hz			
Permissible leakage current		0,9 mA		1 mA	0,9 mA			
OUTPUT								
Output voltage		4,5 to 58 VDC						
Output current min.		1 mA						
Output current max.		100 mA						
Output leakage current at Umax.		< 50 µA						
Residual voltage at I max and U rated	typical	1 V						
	max.	1,3 V						
Frequency on inductive load								
Isolation Input / Output		2500 V RMS						
TEMPERATURE								
Ambient temperature	storage	-40°C to +80°C						
	operating	-20°C to +70°C (1)						

Other characteristics		Screw clamp	Spring clamp
Body material	grey ☐	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		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.	

(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.



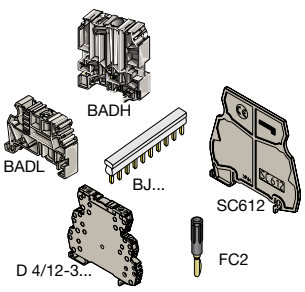
OB...IC 0100 - 5-12 V DC



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

Order codes

Description	Type	Order P/N	Packaging	Weight kg
Screw clamp optocoupler module 100 mA/DC	OBIC 0100-5-12VDC	1SNA **645 047** R**00**00	10	0,02
Screw clamp optocoupler module 100 mA/DC	OBIC 0100-24VDC	1SNA **645 021** R**26**00	10	0,02
Screw clamp optocoupler module 100 mA/DC	OBIC 0100-48-60VAC/DC	1SNA **645 049** R**12**00	10	0,02
Screw clamp optocoupler module 100 mA/DC	OBIC 0100-115-230VAC/DC	1SNA **645 022** R**27**00	10	0,02
Spring clamp optocoupler module 100 mA/DC	OBRIC 0100-5-12VDC	1SNA **645 547** R**02**00	10	0,02
Spring clamp optocoupler module 100 mA/DC	OBRIC 0100-24VDC	1SNA **645 521** R**20**00	10	0,02
Spring clamp optocoupler module 100 mA/DC	OBRIC 0100-48-60VAC/DC	1SNA **645 549** R**14**00	10	0,02
Spring clamp optocoupler module 100 mA/DC	OBRIC 0100-115-230VAC/DC	1SNA **645 522** R**21**00	10	0,02



Accessories

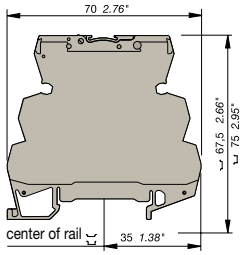
End section	BADH V0	1SNA **116 900** R**27**00	50
	BADL V0	1SNA **399 903** R**02**00	50
	BAM2 V0	1SNA **399 967** R**01**00	50
Separator end section	SC 612	1SNA **290 474** R**02**00	10
Divisible shunt 10 poles	BJ 612-10	1SNA **290 488** R**01**00	10
Divisible shunt 70 poles	BJ 612-70	1SNA **290 489** R**02**00	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA **645 031** R**20**00	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA **645 531** R**22**00	5
Test plug DIA. 2 mm	FC2	1SNA **007 865** R**26**00	10
Marking method	RC65 RC610	see marking	

Electronic Interfaces

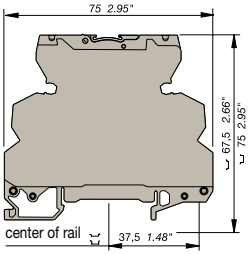
R600 optocoupler modules

⌴ DIN 3

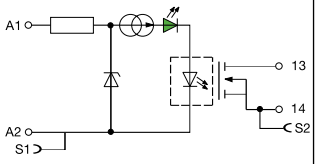




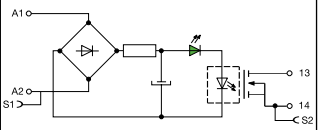
Screw clamp module



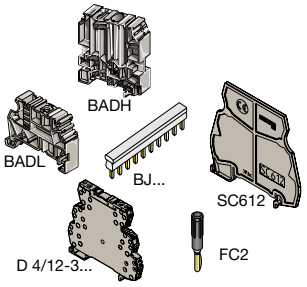
Spring clamp module



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



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



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

Characteristics

Opto. characteristics		**OB...OC 1000**		**OB...OC 1500**	**OB...OC 1000**			
INPUT								
Input voltage +20% -15% on DC, +10% -10% on AC		5 V DC - 12 V DC	24 V DC	24 V AC/DC	48 V AC/DC	60 V AC/DC	115 V AC/DC	230 V AC/DC
Frequency				50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Input current		5 mA | 9 mA	5,4 mA	6,3 mA	4 mA	5,1 mA	4,2 mA	4 mA
Pull-in voltage at Is=100%		4 V	12 V	15 V	27 V	27 V	50 V	80 V
Switching time C / O		15 µs / 250 µs	30 µs/400 µs	1 ms/7 ms	5 ms/20 ms	5 ms/20 ms	500 µs/10 ms	1 ms / 15 ms
Operating frequency		2000 Hz	1000 Hz	60 Hz	20 Hz	20 Hz	50 Hz	35 Hz
Permissible leakage current		1 mA	0,8 mA	0,9 mA	1 mA	1 mA	0,3 mA	0,3 mA
OUTPUT								
Output voltage		4,5 to 58 VDC						
Output current min.		1 mA						
Output current max.		2 A						
Output leakage current at Umax.		< 50 µA						
Residual voltage at I max and U rated	typical	0,1 V						
	max.	0,5 V						
Frequency on inductive load								
Isolation Input / Output		2500 V RMS						
TEMPERATURE								
Ambient temperature	storage	-40°C to +80°C						
	operating	-20°C to +70°C (1)						

Other characteristics		Screw clamp	Spring clamp
Body material	grey □	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		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.	

(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

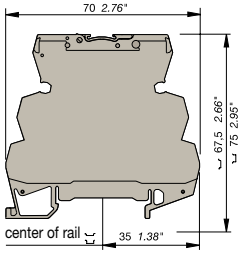
Description	**Type**	**Order P/N**	**Packaging**	**Weight kg**
Screw clamp optocoupler module 1 A/DC	OBOC 1000-5-12VDC	1SNA **645 050** R**17**00	10	0,02
Screw clamp optocoupler module 1 A/DC	OBOC 1000-24VDC	1SNA **645 051** R**04**00	10	0,02
Screw clamp optocoupler module 1,5 A/DC	OBOC 1500-24VAC/DC	1SNA **645 025** R**22**00	10	0,02
Screw clamp optocoupler module 1 A/DC	OBOC 1000-48-60VAC/DC	1SNA **645 053** R**06**00	10	0,02
Screw clamp optocoupler module 1 A/DC	OBOC 1000-115VAC/DC	1SNA **645 054** R**07**00	10	0,02
Screw clamp optocoupler module 1 A/DC	OBOC 1000-230VAC/DC	1SNA **645 026** R**23**00	10	0,02
Spring clamp optocoupler module 1 A/DC	OBROC 1000-5-12VDC	1SNA **645 550** R**11**00	10	0,02
Spring clamp optocoupler module 1 A/DC	OBROC 1000-24VDC	1SNA **645 551** R**06**00	10	0,02
Spring clamp optocoupler module 1,5 A/DC	OBROC 1500-24VAC/DC	1SNA **645 525** R**24**00	10	0,02
Spring clamp optocoupler module 1 A/DC	OBROC 1000-48-60VAC/DC	1SNA **645 553** R**00**00	10	0,02
Spring clamp optocoupler module 1 A/DC	OBROC 1000-115VAC/DC	1SNA **645 554** R**01**00	10	0,02
Spring clamp optocoupler module 1 A/DC	OBROC 1000-230VAC/DC	1SNA **645 526** R**25**00	10	0,02

Accessories

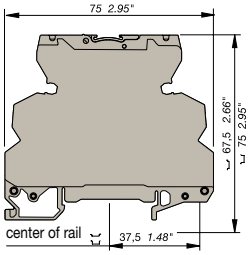
End section	BADH V0	1SNA **116 900** R**27**00	50
	BADL V0	1SNA **399 903** R**02**00	50
	BAM2 V0	1SNA **399 967** R**01**00	50
Separator end section	SC 612	1SNA **290 474** R**02**00	10
Divisible shunt 10 poles	BJ 612-10	1SNA **290 488** R**01**00	10
Divisible shunt 70 poles	BJ 612-70	1SNA **290 489** R**02**00	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA **645 031** R**20**00	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA **645 531** R**22**00	5
Test plug DIA. 2 mm	FC2	1SNA **007 865** R**26**00	10
Marking method	RC65 RC610	see marking	



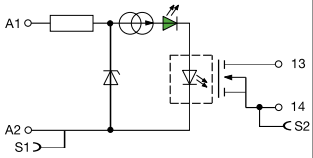




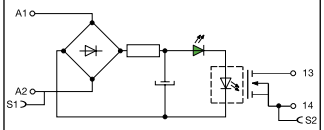
Screw clamp module



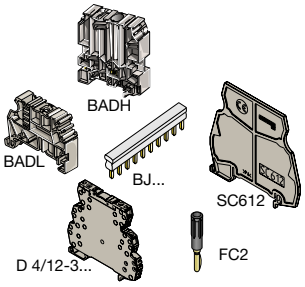
Spring clamp module



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



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



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

Characteristics

Opto. characteristics		OB...OC 5000					
INPUT							
Input voltage +20% -15% on DC, +10% -10% on AC		24 V DC				115 V AC/DC	230 V AC/DC
Frequency						50 / 60 Hz	50 / 60 Hz
Input current		5,4 mA				4,2 mA	4 mA
Pull-in voltage at Is=100%		12 V				50 V	80 V
Switching time C / O		30 µs/400 µs				500 µs/10 ms	1 ms / 15 ms
Operating frequency		1000 Hz				50 Hz	35 Hz
Permissible leakage current		0,8 mA				0,3 mA	0,3 mA
OUTPUT							
Output voltage		4,5 to 58 VDC					
Output current min.		1 mA					
Output current max.		5 A					
Output leakage current at Umax.		< 50 µA					
Residual voltage at I max and U rated	typical	0,1 V					
	max.	0,5 V					
Frequency on inductive load							
Isolation Input / Output		2500 V RMS					
TEMPERATURE							
Ambient temperature	storage	-40°C to +80°C					
	operating	-20°C to +70°C (1)					

Other characteristics		Screw clamp	Spring clamp
Body material	grey □	UL 94 V0	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		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.	

(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 5 A/DC	OBOC 5000-24VDC	1SNA **645 024** R**21**00	10	0,02
Screw clamp optocoupler module 5 A/DC	OBOC 5000-115VAC/DC	1SNA **645 058** R**13**00	10	0,02
Screw clamp optocoupler module 5 A/DC	OBOC 5000-230VAC/DC	1SNA **645 059** R**14**00	10	0,02
Spring clamp optocoupler module 5 A/DC	OBROC 5000-24VDC	1SNA **645 524** R**23**00	10	0,02
Spring clamp optocoupler module 5 A/DC	OBROC 5000-115VAC/DC	1SNA **645 558** R**15**00	10	0,02
Spring clamp optocoupler module 5 A/DC	OBROC 5000-230VAC/DC	1SNA **645 559** R**16**00	10	0,02

Accessories

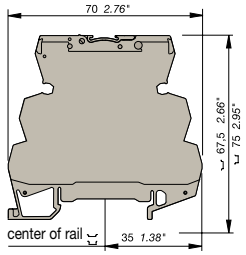
End section	BADH V0	1SNA **116 900** R**27**00	50
	BADL V0	1SNA **399 903** R**02**00	50
	BAM2 V0	1SNA **399 967** R**01**00	50
Separator end section	SC 612	1SNA **290 474** R**02**00	10
Divisible shunt 10 poles	BJ 612-10	1SNA **290 488** R**01**00	10
Divisible shunt 70 poles	BJ 612-70	1SNA **290 489** R**02**00	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA **645 031** R**20**00	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA **645 531** R**22**00	5
Test plug DIA. 2 mm	FC2	1SNA **007 865** R**26**00	10
Marking method	RC65 RC610	see marking	

Electronic Interfaces

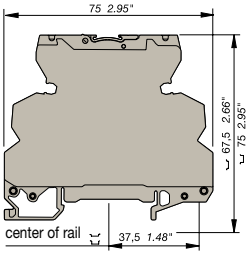
R600 optocoupler modules ⊔ DIN 3



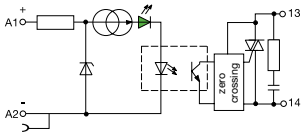




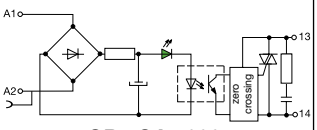
Screw clamp module



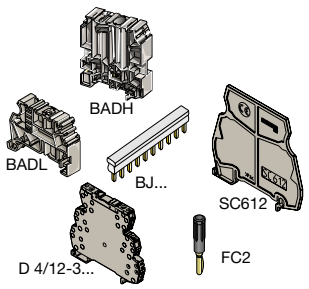
Spring clamp module



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



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



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							
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	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		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.	

(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** R**24**00	10	0,03
Screw opto. 1 A/AC	OBOA 1000-48-60VAC/DC	1SNA **645 061** R**06**00	10	0,03
Screw opto. 1 A/AC	OBOA 1000-115VAC/DC	1SNA **645 062** R**07**00	10	0,03
Screw opto. 1 A/AC	OBOA 1000-230VAC/DC	1SNA **645 028** R**05**00	10	0,03
Screw opto. 2 A/AC - 12 mm spacing	OBOA 2000-24VDC	1SNA **645 029** R**06**00	5	0,03
Spring opto. 1 A/AC	OBROA 1000-24VDC	1SNA **645 527** R**26**00	10	0,03
Spring opto. 1 A/AC	OBROA 1000-48-60VAC/DC	1SNA **645 561** R**00**00	10	0,03
Spring opto. 1 A/AC	OBROA 1000-115VAC/DC	1SNA **645 562** R**01**00	10	0,03
Spring opto. 1 A/AC	OBROA 1000-230VAC/DC	1SNA **645 528** R**07**00	10	0,03
Spring opto. 2 A/AC - 12 mm spacing	OBROA 2000-24VAC/DC	1SNA **645 529** R**00**00	5	0,03

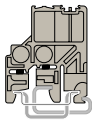
Accessories

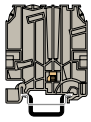
End section	BADH V0	1SNA **116 900** R**27**00	50
	BADL V0	1SNA **399 903** R**02**00	50
	BAM2 V0	1SNA **399 967** R**01**00	50
Separator end section	SC 612	1SNA **290 474** R**02**00	10
Divisible shunt 10 poles	BJ 612-10	1SNA **290 488** R**01**00	10
Divisible shunt 70 poles	BJ 612-70	1SNA **290 489** R**02**00	10
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA **645 031** R**20**00	5
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA **645 531** R**22**00	5
Test plug DIA. 2 mm	FC2	1SNA **007 865** R**26**00	10
Marking method	RC65 RC610	see marking	

Accessories

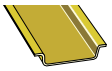

BADL

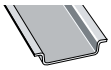

BAM2

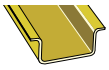

BAMH


BADH


PR30

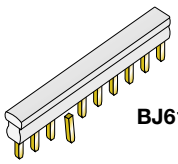

PR3.Z2

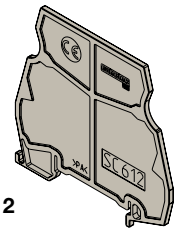

PR3.G2

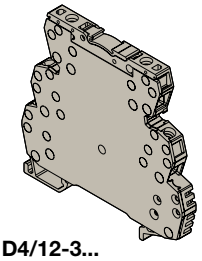

PR5


PR4


FC2


BJ612-...


SC612


D4/12-3...

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** R**02**00	50	
End stop with screws DIN 3						
grey V0	□	BAM2 V0	10 mm	1SNA **399 967** R**01**00	50	
grey V2	□	BAM2	10 mm	1SNA **206 351** R**16**00	50	
beige V0	□	BAM2 V0	10 mm	1SNA **296 351** R**00**00	50	
High end stop with screws DIN 1 and DIN 3 grey	□	BAMH	9,1 mm	1SNA **114 836** R**00**00	50	
beige V0	□	BAMH V0	9,1 mm	1SNA **194 836** R**01**00	50	
High end stop with screws DIN 3						
grey	□	BADH	12 mm	1SNA **116 900** R**27**00	50	

Mounting rails

Symmetrical zinc bichromate plated steel prepunched rail	PR30	2 m	1SNA **173 220** R**05**00	1	
Symmetrical zinc bichromate plated steel rail	PR3.Z2	2 m	1SNA **174 300** R**17**00	1	
White, symmetrical passivated galvanized steel rail	PR3.G2	2 m	1SNA **164 800** R**03**00	1	
Symmetrical zinc bichromate plated steel rail	PR5	2 m	1SNA **168 700** R**22**00	1	
Symmetrical zinc bichromate plated steel rail	PR4	2 m	1SNA **168 500** R**12**00	1	

Test devices

Test plug DIA. 2 mm	FC2	1SNA **007 865** R**26**00	10	

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.

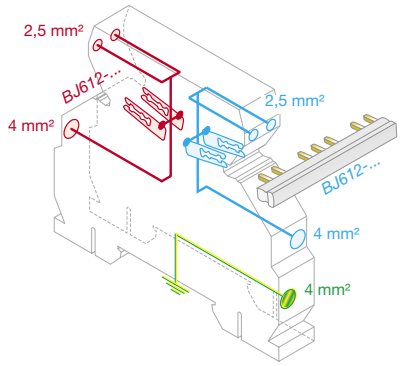
Assembled jumper bar 10 poles - 24 A	BJ612-10	1SNA **290 488** R**01**00	10	
Assembled jumper bar 70 poles - 24 A	BJ612-70	1SNA **290 489** R**02**00	10	

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** R**02**00	10	

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 :

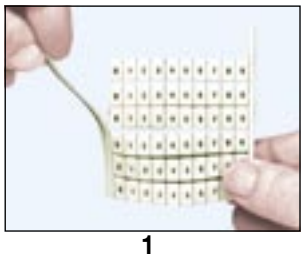
- one 4 mm² input,
- two 2,5 mm² outputs
- one double output for jumper bar BJ612-...

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

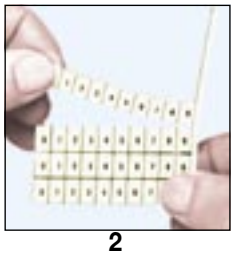
Screw clamp distribution block sp. 12 mm	D4/12-3A-3A	1SNA **645 031** R**20**00	5	
Spring clamp distribution block sp. 12 mm	D4/12-3L-3L	1SNA **645 531** R**22**00	5	

Marking



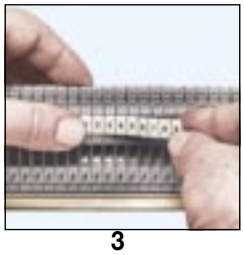
1

Remove one of the side bands of the



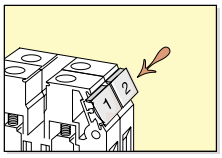
2

Separate the chosen strip from the rest of the card.

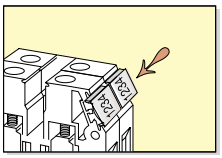


3

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



Horizontal marking



Vertical marking



Refillable box of 100 cards of 18 RC markers

Marking for Interface Modules

Selection table

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

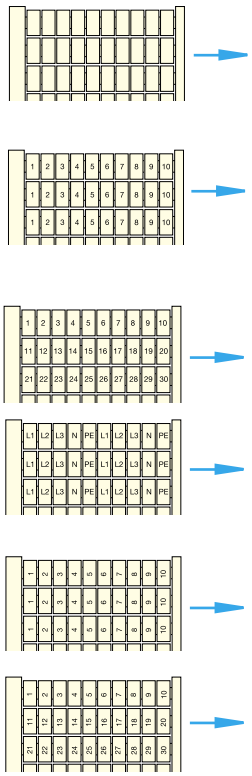
Possible mounting : POSSIBLE

Recommended mounting : 🟢

Impossible mounting : ⛔

Marking for for terminal blocks

Standard RC marker cards



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

Marking kit RC 5 mm spacing or 6 mm spacing

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

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

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1SNA 031 800 R2100	16	1SNA 233 031 R1300	42	1SNA 610 006 R0100	11	1SNA 645 503 R0700	32		
1SNA 031 801 R1600	16	1SNA 233 041 R2500	42	1SNA 610 011 R2500	12	1SNA 645 504 R0000	32		
1SNA 031 802 R1700	17	1SNA 233 042 R2600	42	1SNA 610 022 R2000	26	1SNA 645 505 R0100	33		
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