

Relays Optocouplers



Relay interfaces Optocoupler modules

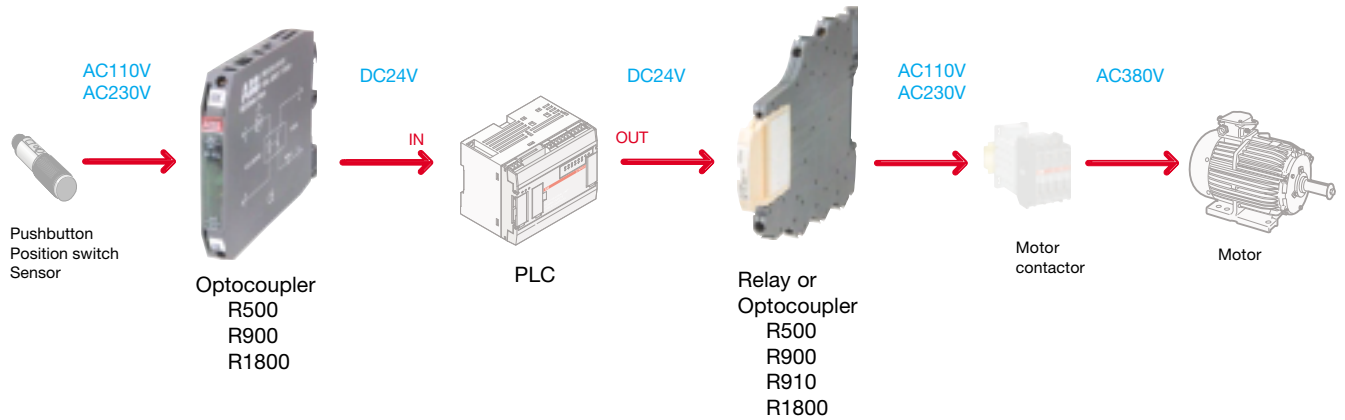
Applications - Technical data

Applications

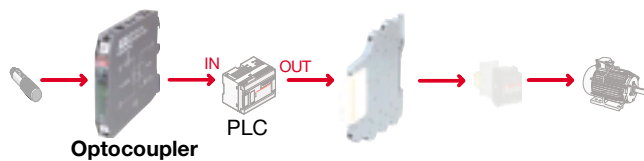
All the electrical signals from/to sensors/actuators must be adapted to the PLC's electrical level.

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

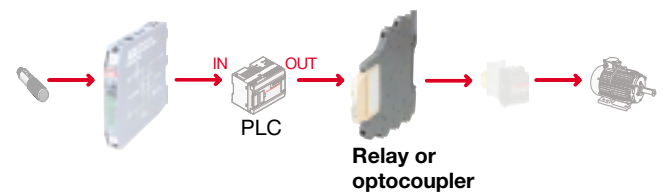
Second function of the relay and optocoupler interfaces is electrical isolation between sensors/actuators and the PLC.



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



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



Technical data

R910 series

It is a terminal block !

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



R500 series

The relay is pluggable

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



R900 series

It is the standard enclosure

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



R1800 series

It is a compact enclosure (small height)

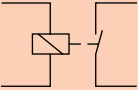
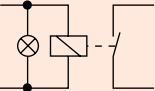
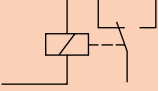
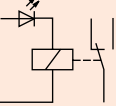
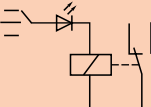
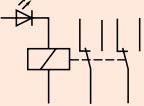
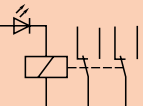
- Spacing : 18 to 23 mm
- Wire size : 2.5 mm² (4 mm² solid)
- 1 or 2 SPDT contacts 10⁻⁷ A to 6 A / 250 V
- Transistor : 100 mA



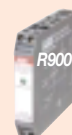
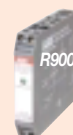
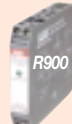
See cross reference table old part numbers / new part numbers at the end of the relay section.

Selection guide

Relay modules

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

Selection guide Relay modules

48 V AC/DC	110 V AC/DC	110 V AC 50 Hz	115 V AC 60 Hz	230 V AC 230 V AC/DC
 spacing : 5,08 mm D 2,5/5-R121AL 48 V AC/DC 1SNA 607 232 R0100  spacing : 11,5 mm RB 121 A 48 V AC/DC 1SNA 630 003 R0200  spacing : 18 mm RB 121 AV 48 V AC/DC 1SNA 610 006 R0100  spacing : 18 mm RB 121 A 110 V AC/DC 1SNA 610 132 R2300		 spacing : 5,08 mm D 2,5/5-R121BL 110 V AC 1SNA 607 264 R1100  spacing : 11,5 mm RB 121 B 110 V AC 1SNA 630 004 R0300	 spacing : 5,08 mm D 2,5/5-R121BL 115 V AC 1SNA 607 264 R1100  spacing : 11,5 mm RB 121 B 115 V AC 1SNA 630 005 R0400	 spacing : 5,08 mm D 2,5/5-R121BL 230 V AC 1SNA 607 265 R1200  spacing : 11,5 mm RB 121 B 230 V AC 1SNA 630 006 R0500  spacing : 18 mm RB 121 A 230 V AC/DC 1SNA 610 132 R2300
		 spacing : 15 mm RB 122 B 110 V AC 1SNA 630 021 R2300	 spacing : 15 mm RB 122 B 115 V AC 1SNA 630 022 R2400	
 spacing : 18 mm RB 122 AV 48 V AC/DC 1SNA 610 122 R2100	 spacing : 23 mm RB 122 AR 110 V AC/DC 1SNA 610 011 R2500			 spacing : 23 mm RB 122 A 230 V AC/DC 1SNA 610 123 R2200
		 spacing : 23 mm RB 122 BR 110 V AC 1SNA 610 115 R2200		 spacing : 23 mm RB 122 BR 230 V AC 1SNA 610 089 R0400

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%	24 V DC	24 V DC	24 V AC	24 V DC	48 V AC	48 V DC	110 V AC	230 V AC
Power	0.17 W	0.3 W	0.35 W	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	2.4 V	2.4 V	4.8 V	4.8 V	10 V	10 V	25 V	45 V
Status device	green LED							

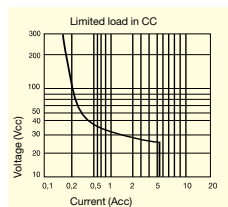
CONTACT

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

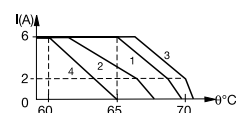
Other characteristics

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

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

1 : 24 V
2 : 48 V
3 : 110 V
4 : 230 V

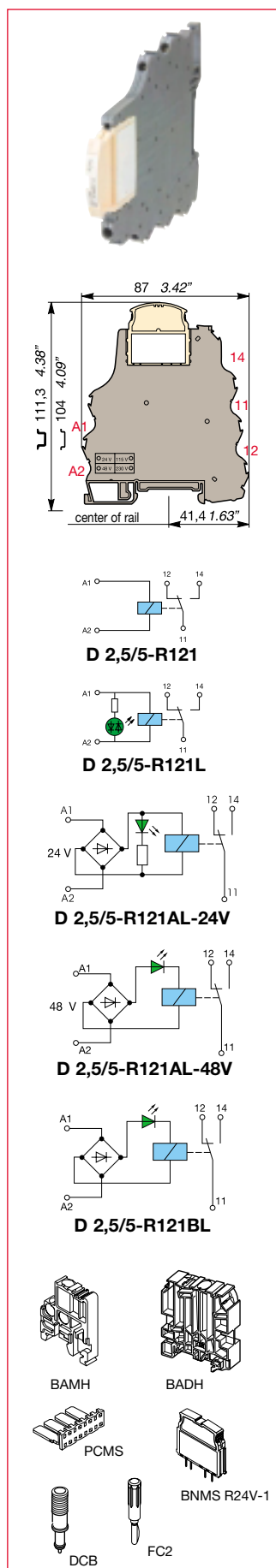
Order codes

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

Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50
	BAMH V0 9,1 mm	1SNA 194 836 R0100	50
	BADH 12 mm	1SNA 116 900 R2700	50
Comb type jumper bar 2 to 22 poles	PCMS V0	see accessories	
Plug	BNMS R24V-1	1SNA 031 820 R1400	4
Test device	blue DCB (1)	1SNA 105 028 R2100	10
Test plug	DIA. 2 mm FC2	1SNA 007 865 R2600	10
Marking method	⑩ RC55	see markers	

(1) Only on top decks.



Relay Interfaces

R910 relay modules DIN 1-3

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

Characteristics

Relay characteristics

	M 4/9.R111		M 4/9.R111L	
COIL				
Rated voltage +20%, -20% on DC	12 V	24 V	12 V	24 V
Power	0.3 W	0.3 W	0.6 W	0.8 W
Rated current	24 mA	14 mA	52 mA	33 mA
Drop-out voltage	1.2 V DC	2.4 V DC	1.2 V	2.4 V
Status device			lamp	

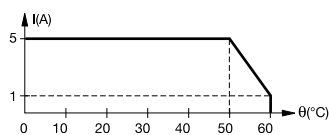
CONTACT

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	0.6 VA / 1250 VA			
AC1 min. / max.	0.6 W / 150 W			
DC1 min. / max.	1 x 10 ⁶			
Number of on-load operations	2 x 10 ⁷			
Number of off-load operations	5 ms			
Pull-in time (delay time)	6 ms			
Drop-out time (delay time)	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	Solid wire	0.2-4 mm ² / 22-12 AWG
size	Stranded wire	0.22-2.5 mm ² / 22-12 AWG
Rated wire size		2.5 mm ² / 12 AWG
Wire stripping length		9 mm .354"
Recommended screwdriver		3.5 mm .137"
Protection		IP 20 NEMA 1
Recommended torque		0.4-0.6 Nm 3.5-5.3 lb.in
Approvals		

Derating curve



Order codes

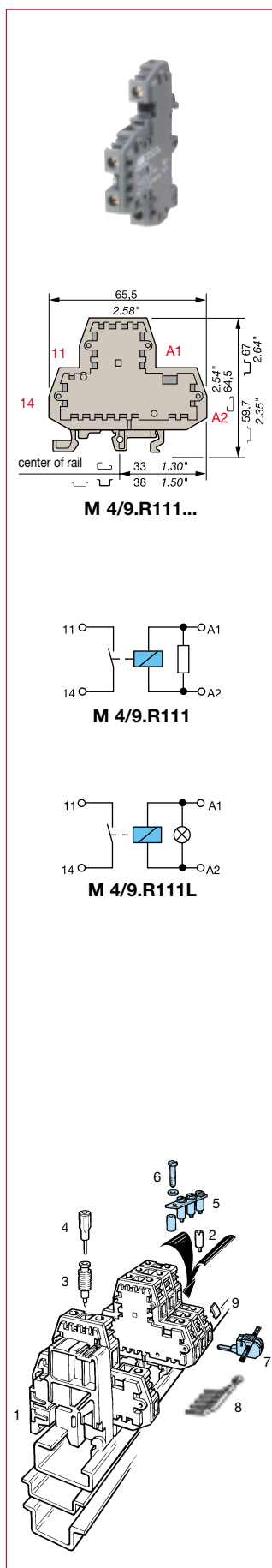
Description	Type	Order P/N	Packaging	Weight kg
Relay module 12 V DC	M 4/9.R111 12 V DC	1SNA 607 029 R0100	10	0.02
Relay module 24 V DC	M 4/9.R111 24 V DC	1SNA 607 030 R0600	10	0.02
Relay module with lamp 12 V DC	M 4/9.R111L 12 V DC	1SNA 607 001 R0600	10	0.02
Relay module with lamp 24 V DC	M 4/9.R111L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

Accessories

1 High end stop (all rails)	BAMH	9,1 mm	1SNA 114 836 R0000	50
2 Test socket	DIA. 2 mm	AL2 (1)	1SNA 163 070 R0000	50
	DIA. 3 mm	AL3 (1)	1SNA 163 261 R0000	50
3 Test device	grey ☐	DCG	1SNA 163 218 R0500	10
4 Test plug		FC2	1SNA 007 865 R2600	10
5 Jumper bar	8 poles	BJS9 (1)(2)	1SNA 177 583 R1200	
not assembled	16 poles	BJS9 (1)(2)	1SNA 177 584 R1300	
6 Sub-assembly for jumper bar (screw + jumper + post)		EV6D (1)(2)	1SNA 168 400 R1600	20
7 IDC jumper		AD2,5	1SNA 114 205 R2000	50
8 Comb type jumper bar		PC9	1SNA 210 160 R1200	10
9 Marking method	(1)	RC65 and RC610	see markers	

(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.



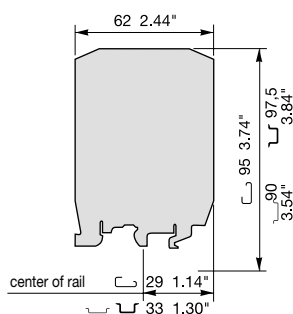


Relay Interfaces

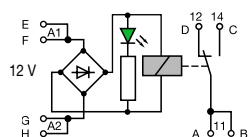
Relay modules R900



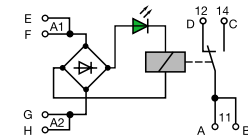
DIN 1-3



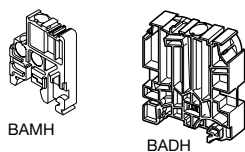
Relay blocks R900



RB 121



RB 121 A



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

Characteristics

Relay characteristics

COIL

Rated voltage +20%,
-15% on DC, $\pm 15\%$ on AC
Power
Rated current
Drop-out voltage at 20°C
Drop-in voltage at 20°C
Permissible leakage current

RB 121 - 12 V	RB 121 A - 24 V		RB 121 A - 48 V	
12 V DC	24 V AC	24 V DC	48 V AC	48 V DC
0.5 W	0.52 VA	0.44 W	0.62 VA	0.48 W
42 mA	22 mA	18 mA	13 mA	10 mA
2.8 V	4.6 V	4.6 V	5.8 V	5.8 V
7.5 V	12 V AC	14 V DC	26 V AC	30 V DC
3.5 mA	2.2 mA	1.8 mA	1 mA	1 mA

CONTACT

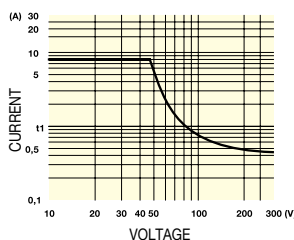
Type
Voltage switching range min./max.
Current switching range min./max.
Load switching range
AC1 min. / max.
DC1 min. / max.
Number of on-load operations
Number of off-load operations
Operating speed
Bounce
Insulation coil / contact
Resistance to shock coil / contact
Insulation contact / contact
Ambient temperature storage
operating

1 SPDT		
5 V / 150 V DC - 250 V AC		
1 mA / 6 A		
5 mVA / 1500 VA		
5 mW / 192 W		
1 x 10 ⁵		
5 x 10 ⁶		
5 ms		
11 ms		12 ms
1 ms		
3500 V RMS		
4000 V RMS		
1000 V RMS		
-40°C to +80°C		
See derating curve		

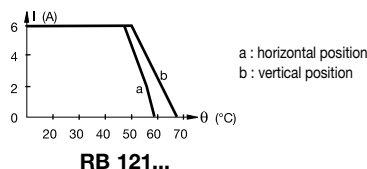
Other characteristics

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

grey	UL 94 V0
Solid wire	0.5 - 4 mm ² / 20 - 12 AWG
Stranded wire	0.5 - 2.5 mm ² / 20 - 12 AWG
	2.5 mm ² / 12 AWG
	7 mm .276"
	3.5 mm .137"
	IP20 NEMA1
	0.4 - 0.6 Nm 3.5 - 5.3 lb.in



Derating curve

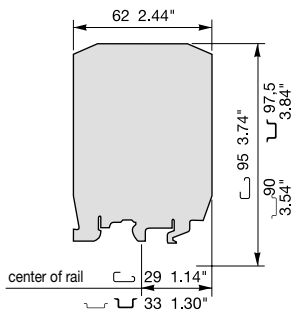


Order codes

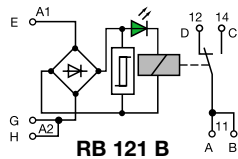
Description	Type	Order P/N	Packaging	Weight kg
Relay module 12 V DC	RB 121	12 V DC 1SNA 630 001 R0000	1	0.04
Relay module 24 V AC/DC	RB 121 A	24 V AC/DC 1SNA 630 002 R0100	1	0.04
Relay module 48 V AC/DC	RB 121 A	48 V AC/DC 1SNA 630 003 R0200	1	0.04

Accessories

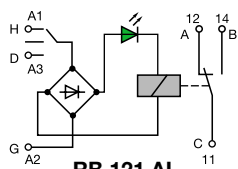
High end section	BADH BAMH BAMH V0	1SNA 116 900 R2700 1SNA 114 836 R0000 1SNA 194 836 R0100	50 50 50
Lengthwise marker	RLV	1SNA 103 849 R0300	
Marking method	RC55	see markers	



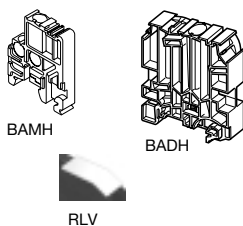
Relay blocks R900



RB 121 B



RB 121 AI



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

Characteristics

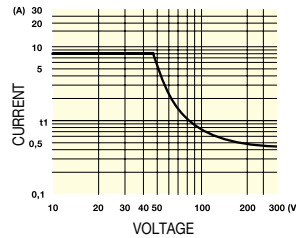
Relay characteristics	RB 121 B			RB 121 AI	
COIL					
Rated voltage +20%, -15% on DC, ±15% on AC	110 V AC/50 Hz	115 V AC/60 Hz	230 V AC	24 V AC ±10%	24 V DC ±10%
Power	1.5 VA	1.6 VA	3.22 VA	0.53 VA	0.44 W
Rated current	14 mA	14 mA	14 mA	22 mA	18 mA
Drop-out voltage at 20°C	30 V AC	30 V AC	60 V AC	5.5 V	4.6 V
Drop-in voltage at 20°C	60 V AC	60 V AC	120 V AC	12.5 V AC	14.5 V DC
Permissible leakage current	2 mA max.	2 mA max.	3.6 mA max.	2.2 mA	1.8 mA

CONTACT

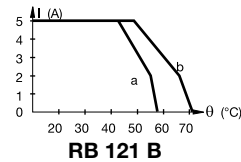
Type	1 SPDT				
Voltage switching range min./max.	5 V / 150 V DC - 250 V AC				
Current switching range min./max.	1 mA / 5 A			1 mA / 6 A	
Load switching range	5 mVA / 1250 VA			5 mVA / 1500 VA	
AC1 min. / max.					
DC1 min. / max.					
Number of on-load operations	1 x 10 ⁵				
Number of off-load operations	5 x 10 ⁶				
Operating speed	5 ms			11 ms	
Bounce	10 ms				
Insulation coil / contact	3000 V RMS				
Resistance to shock coil / contact	4000 V RMS				
Insulation contact / contact	1000 V RMS				
Ambient temperature storage	-40°C to +80°C				
operating	see derating curves				

Other characteristics

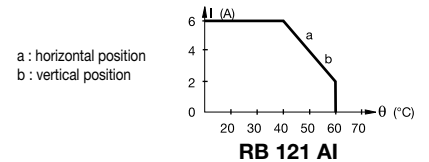
Body material	grey	UL 94 V0
Wire	Solid wire	0.5 - 4 mm ² / 20 - 12 AWG
size	Stranded wire	0.5 - 2.5 mm ² / 20 - 12 AWG
Rated wire size		2.5 mm ² / 12 AWG
Wire stripping length		7 mm .276"
Recommended screwdriver		3.5 mm .137"
Protection		IP20 NEMA1
Recommended torque		0.4 - 0.6 Nm 3.5 - 5.3 lb.in
Approvals		



Derating curves



RB 121 B



RB 121 AI

Order codes

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

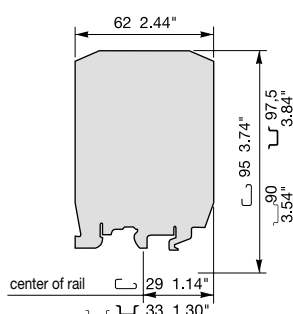
Accessories

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

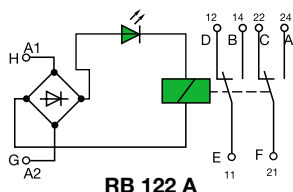


Relay Interfaces

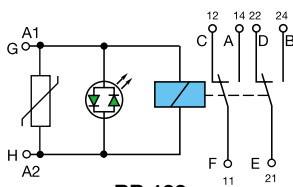
Relay modules R900  DIN 1-3



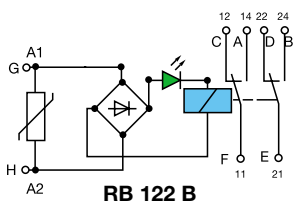
Relay blocks R900



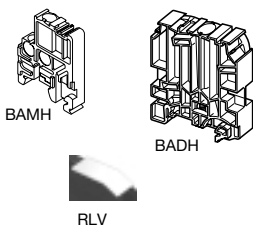
RB 122 A



RB 122



RB 122 B



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

Characteristics

Relay characteristics

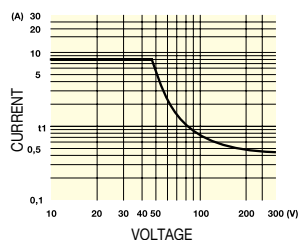
	RB 122 A	RB 122	RB 122 B
COIL			
Rated voltage +15%, -10% on DC ±15% on AC	24 V AC	24 V DC	24 V DC
Power	0.4 VA	0.35 W	0.48 W
Rated current	16.8 mA	14.4 mA	20 mA
Drop-out voltage at 20°C	9.2 V	6.5 V	2.4 V DC
Drop-in voltage at 20°C			11 V AC
Permissible leakage current	2 mA max.	2 mA max.	1.5 mA

CONTACT

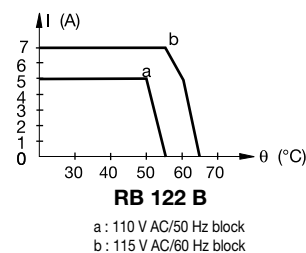
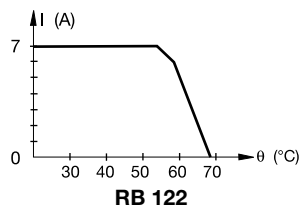
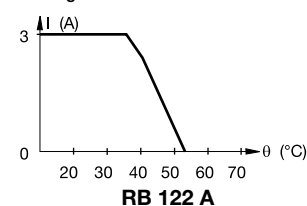
Type	1 DPDT			
Voltage switching range min./max.	10 ⁻⁵ V / 250 V AC		12 V / 250 V	
Current switching range min./max.	10 ⁻⁵ A / 3 A	100 mA / 7 A	100 mA / 7 A	100 mA / 7 A
Load switching range		1.2 VA / 1750 VA	1.2 VA / 1750 VA	1.2 VA / 1750 VA
AC1 min. / max.	10 ⁻¹⁰ VA / 250 VA			
DC1 min. / max.	10 ⁻¹⁰ W / 90 W			
Number of on-load operations	1.8 x 10 ⁶ (2 A / 60 W)			
Number of off-load operations	10 ⁸			
Operating speed	6 ms	8 ms	30 x 10 ⁶	6 ms
Bounce	1 ms	15 ms		12 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 mm ² / 20 - 12 AWG
size	Stranded wire	0.5 - 2.5 mm ² / 20 - 12 AWG
Rated wire size		2.5 mm ² / 12 AWG
Wire stripping length		7 mm .276"
Recommended screwdriver		3.5 mm .137"
Protection		IP20 NEMA1
Recommended torque		0.4 - 0.6 Nm 3.5 - 5.3 lb.in
Approvals		



Derating curves

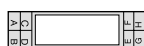
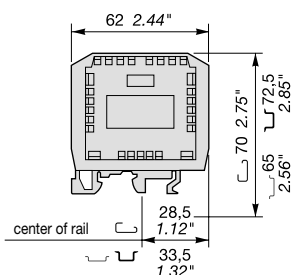


Order codes

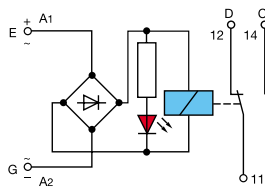
Description	Type	Order P/N	Packaging Weight kg
Relay block 24 V AC/ DC 11.5 mm spacing	RB 122 A	24 V AC/DC 1SNA 630 011 R2100	1 0.05
Relay block 24 VDC 15 mm spacing	RB 122	24 V DC 1SNA 630 019 R0100	1 0.05
Relay block 110 V AC/50 Hz 15 mm spacing	RB 122 B	110 VAC/50Hz 1SNA 630 021 R2300	1 0.06
Relay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

Accessories

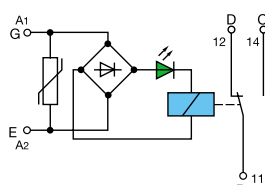
High end section	BADH	1SNA 116 900 R2700	50
	BAMH	1SNA 114 836 R0000	50
	BAMH V0	1SNA 194 836 R0100	50
Lengthwise marker	RLV	1SNA 103 849 R0300	
Marking method	RC55	see markers	



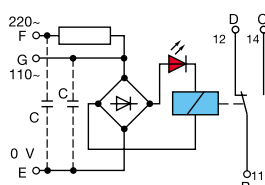
Relay blocks R1800



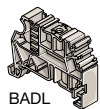
RB 121 12 VDC
RB 121 A 24 VAC/DC



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

COIL

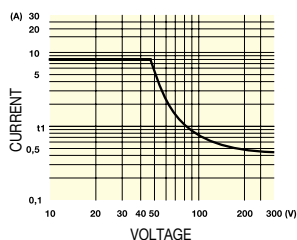
Rated voltage +15%, -10% on DC ±15% on AC	12 V DC	24 V AC/DC	48 V AC/DC	110 V AC/DC	220 V AC/DC
Power	0.5 W	0.7 W	0.96 W	0.5 W	1.1 VA
Rated current	41 mA	29 mA	20 mA	4.3 mA	5 mA
Drop-out voltage at 20°C	3.2 V DC	5 V AC/DC	5.6 V AC/DC	14.5 V AC/DC	25.2 V AC
Drop-in voltage at 20°C					
Permissible leakage current					

CONTACT

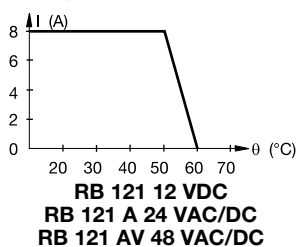
Type	1 SPDT				
Voltage switching range min./max.	12 V / 380 V				
Current switching range min./max.	10 mA / 8 A				
Load switching range	0.6 VA / 2000 VA				
AC1 min. / max.	1.2 W / see curve below				
DC1 min. / max.	2 x 10 ⁵				
Number of on-load operations	2 x 10 ⁷				
Number of off-load operations	7 ms				
Operating speed	6 ms				
Bounce	2 ms				
Insulation coil / contact	2500 V RMS				
Resistance to shock coil / contact	4000 V RMS				
Insulation contact / contact	1000 V RMS				
Ambient temperature storage	-40°C to +80°C				
operating	see derating curves				

Other characteristics

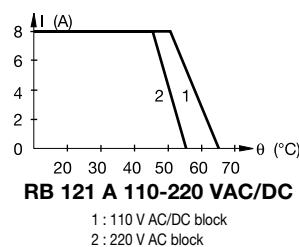
Body material	grey	UL 94 V0
Wire	Solid wire	0.2 - 4 mm ² / 22 - 12 AWG
size	Stranded wire	0.22 - 2.5 mm ² / 22 - 12 AWG
Rated wire size		2.5 mm ² / 12 AWG
Wire stripping length		7 mm .276"
Recommended screwdriver		3.5 mm .137"
Protection		IP20 NEMA1
Recommended torque		0.4 - 0.6 Nm 3.5 - 5.3 lb.in
Approvals		



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 12 V DC	0610 125.24	1	0.05
Relay block 24 V AC/DC	RB 121 A 24 V AC/DC	0610 004.07	1	0.05
Relay block 48 VAC/DC	RB 121 AV 48 V AC/DC	0610 006.01	1	0.05
Relay block 110-220 V AC/DC	RB 121 A 110-220 V AC/DC	0610 132.23	1	0.05

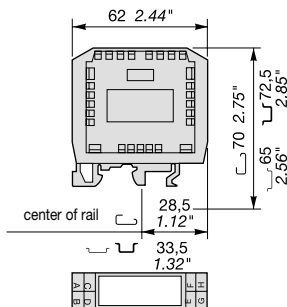
Accessories

End section	BADL V0	0399 903.02	50
	BAM	0103 002.26	50
	BAM V0	0399 306.03	50
Lengthwise marker	RLV	0103 849.03	
Marking method	⑤ RC55	see markers	

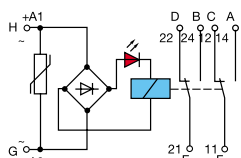


Relay Interfaces

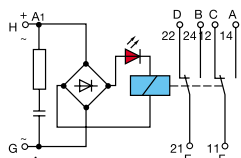
Relay modules R1800 DIN 1-3



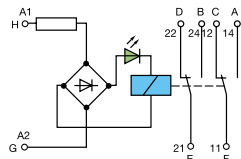
Relay blocks R1800



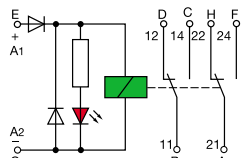
RB 122 AV



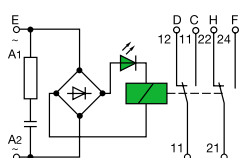
RB 122 AR



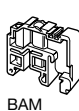
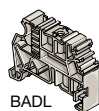
RB 122 A



RB 122



RB 122 BR



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

Characteristics

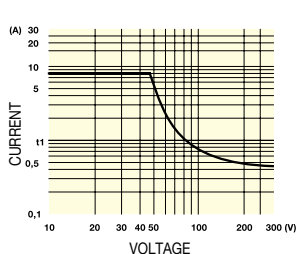
Relay characteristics	RB 122 AV		RB 122 AR	RB 122 A	RB 122		RB 122 BR	
COIL								
Rated voltage +15%, -10% on DC ±15% on AC	24 VAC/DC	48 VAC/DC	110 VAC/DC	220 VAC/DC	24 V DC	48 V DC	110 V AC	220 V AC
Power	0.7 W	0.7 W	0.7 W - 1.8 VA	1.2 W	0.31 W	0.48 W	4.8 VA	1.1 VA
Rated current	26 mA	14 mA	16 mA	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
Drop-in voltage at 20°C								
Permissible leakage current			1.6 mA				3 mA	

CONTACT

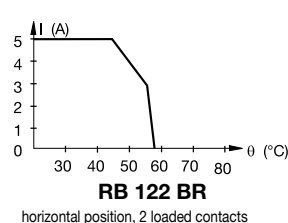
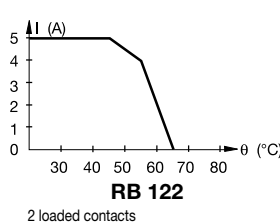
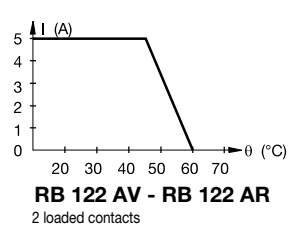
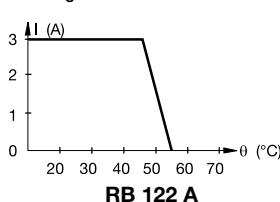
Type	1 DPDT			
Voltage switching range min./max.	12 V / 250 V	10 ⁻³ V / 250 V	12 V / 250 V	10 ⁻³ V / 250 V
Current switching range min./max.	10 mA / 5 A		10 ⁻⁷ A / 5 A	
Load switching range				
AC1 min. / max.	0.6 VA / 1250 VA		10 ⁻¹⁰ VA / 1000 VA	
DC1 min. / max.	0.6 W / see curve hereunder		10 ⁻¹⁰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

Other characteristics

Body material	grey	UL 94 V0
Wire	Solid wire	0.2 - 4 mm ² / 22 - 12 AWG
size	Stranded wire	0.22 - 2.5 mm ² / 22 - 12 AWG
Rated wire size		2.5 mm ² / 12 AWG
Wire stripping length		7 mm .276"
Recommended screwdriver		3.5 mm .137"
Protection		IP20 NEMA1
Recommended torque		0.4 - 0.6 Nm 3.5 - 5.3 lb.in
Approvals		



Derating curves



Order codes

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

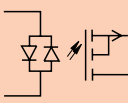
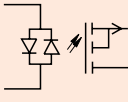
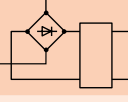
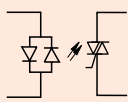
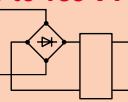
Accessories

End section	BADL V0	1SNA 399 903 R0200	50
	BAM	1SNA 103 002 R2600	50
	BAM V0	1SNA 399 306 R0300	50
Lengthwise marker	RLV	1SNA 103 849 R0300	
Marking method	⑤	RC55	see markers

Cross reference

		Type	New part numbers	Old part numbers
Relays				
R500		D 2,5/5 R121 24 VDC	1SNA 607 217 R0200	1SNA 007 217 R2400
		D 2,5/5 R121L 24 VDC	1SNA 607 201 R1300	1SNA 007 201 R0500
		D 2,5/5 R121AL 24 VAC/DC	1SNA 607 231 R0000	
		D 2,5/5 R121AL 48 VAC/DC	1SNA 607 232 R0100	
		D 2,5/5 R121BL 110 VAC	1SNA 607 264 R1100	
		D 2,5/5 R121BL 230 VAC	1SNA 607 265 R1200	
R910		M 4/9 R111 12 VDC	1SNA 607 029 R0100	1SNA 007 029 R2300
		M 4/9 R111 24 VDC	1SNA 607 030 R0600	1SNA 007 030 R2000
		M 4/9 R111L 12 VDC	1SNA 607 001 R0600	1SNA 007 001 R2000
		M 4/9 R111L 24 VDC	1SNA 607 002 R0700	1SNA 007 002 R2100
R900		RB121 12 VDC	1SNA 630 001 R0000	1SNA 030 001 R2200
		RB121A 24 VAC/DC	1SNA 630 002 R0100	1SNA 030 002 R2300
		RB121A 48 VAC/DC	1SNA 630 003 R0200	1SNA 030 003 R2400
		RB121B 110 VAC 50 Hz	1SNA 630 004 R0300	1SNA 030 004 R2500
		RB121B 115 VAC 60 Hz	1SNA 630 005 R0400	1SNA 030 005 R2600
		RB121B 230 VAC	1SNA 630 006 R0500	1SNA 030 006 R2700
		RB121AI 24 VAC/DC	1SNA 630 007 R0600	1SNA 030 007 R2000
		RB122A 24 VAC/DC	1SNA 630 019 R0100	1SNA 030 019 R2300
		RB122B 110 VAC 50 Hz	1SNA 630 021 R2300	1SNA 030 021 R1500
		RB122B 115 VAC 60 Hz	1SNA 630 022 R2400	1SNA 030 022 R1600
		RB122A 24 VAC/DC	1SNA 630 011 R2100	1SNA 030 011 R1300
R1800		RB121A 12 VDC	1SNA 610 125 R2400	1SNA 010 125 R1600
		RB121A 24 VAC/DC	1SNA 610 004 R0700	1SNA 010 004 R2100
		RB121AV 48 VAC/DC	1SNA 610 006 R0100	1SNA 010 006 R2300
		RB121A 110-230 VAC/DC	1SNA 610 132 R2300	1SNA 010 132 R1500
		RB122AV 24 VAC/DC	1SNA 610 121 R2000	1SNA 010 121 R1200
		RB122AV 48 VAC/DC	1SNA 610 122 R2100	1SNA 010 122 R1300
		RB122AR 110 VAC/DC	1SNA 610 011 R2500	1SNA 010 011 R1700
		RB122A 220 VAC	1SNA 610 123 R2200	1SNA 010 123 R1400
		RB122 24 VDC	1SNA 610 059 R1500	1SNA 010 059 R0700
		RB122 48 VDC	1SNA 610 060 R2000	1SNA 010 060 R0400
		RB122BR 110 VAC	1SNA 610 115 R2200	1SNA 010 115 R1400
		RB122BR 220 VAC	1SNA 610 089 R0400	1SNA 010 089 R2600
		Optocouplers		
R500		D 2,5/5-OBIC 0030 24 VDC	1SNA 607 210 R1700	1SNA 007 210 R0100
		D 2,5/5-OBIA 0030 24 VAC	1SNA 607 211 R0400	1SNA 007 211 R2600
		D 2,5/5-OBIC 0030 48 VDC	1SNA 607 212 R0500	1SNA 007 212 R2700
		D 2,5/5-OBIA 0030 48 VAC	1SNA 607 213 R0600	1SNA 007 213 R2000
		D 2,5/5-OBIA 0030 110 VAC	1SNA 607 214 R0700	1SNA 007 214 R2100
		D 2,5/5-OBIA 0030 230 VAC	1SNA 607 215 R0000	1SNA 007 215 R2200
		D 2,5/5-OB0C 0100 5 VDC	1SNA 607 203 R1500	1SNA 007 203 R0700
		D 2,5/5-OB0C 0100 24 VDC	1SNA 607 204 R1600	1SNA 007 204 R0000
		D 2,5/5-OB0C 0100 48 VDC	1SNA 607 205 R1700	1SNA 007 205 R0100
		D 2,5/5-OB0C 1000 5 VDC	1SNA 607 206 R1000	1SNA 007 206 R0200
		D 2,5/5-OB0C 1000 24 VDC	1SNA 607 207 R1100	1SNA 007 207 R0300
		D 2,5/5-OB0C 1000 24 VAC/DC	1SNA 607 250 R2700	
		D 2,5/5-OB0C 1000 48 VAC/DC	1SNA 607 251 R1400	
		D 2,5/5-OB0C 1000 110 VAC	1SNA 607 270 R2300	
		D 2,5/5-OB0C 1000 230 VAC	1SNA 607 271 R1000	
		D 2,5/5-OB0C 2000 5 VDC	1SNA 607 208 R2200	1SNA 007 208 R1400
		D 2,5/5-OB0C 2000 24 VDC	1SNA 607 209 R2300	1SNA 007 209 R1500
		D 2,5/5-OB0C 2000 24 VAC/DC	1SNA 607 255 R1000	
		D 2,5/5-OB0C 2000 48 VAC/DC	1SNA 607 256 R1100	
		D 2,5/5-OB0C 2000 110 VAC	1SNA 607 272 R1100	
		D 2,5/5-OB0C 2000 230 VAC	1SNA 607 273 R1200	
		D 2,5/5-OB0A 1000 24 VDC	1SNA 607 238 R1700	
		D 2,5/5-OB0A 1000 24 VAC/DC	1SNA 607 240 R2500	
		D 2,5/5-OB0A 1000 48 VAC/DC	1SNA 607 241 R1200	
		D 2,5/5-OB0A 1000 110 VAC	1SNA 607 268 R2500	
		D 2,5/5-OB0A 1000 230 VAC	1SNA 607 269 R2600	
R900		OBC 0100 12 to 24 VDC	1SNA 608 017 R0600	1SNA 008 017 R2000
		OBC 0100 48 VDC	1SNA 608 021 R0200	1SNA 008 021 R2400
		OBC 0100 110 VAC	1SNA 608 024 R0500	1SNA 008 024 R2700
		OBC 0100 230 VAC	1SNA 608 027 R2200	1SNA 008 027 R2200
		OBC 1000 5 VDC	1SNA 608 014 R2200	1SNA 008 014 R2500
		OBC 1000 12 to 24 VDC	1SNA 608 018 R1700	1SNA 008 018 R0100
		OBC 1000 48 VDC	1SNA 608 022 R0300	1SNA 008 022 R2500
		OBC 1000 110 VAC	1SNA 608 025 R0600	1SNA 008 025 R2000
		OBC 1000 230 VAC	1SNA 608 028 R1100	1SNA 008 028 R0300
		ORC 111 24 VDC	1SNA 608 068 R2100	1SNA 008 068 R1300
		OBA 1000 5 VDC	1SNA 608 015 R0400	1SNA 008 015 R2600
		OBA 0100 12 to 24 VDC	1SNA 608 019 R1000	1SNA 008 019 R2000
		OBA 1000 48 VDC	1SNA 608 023 R0400	1SNA 008 023 R2600
		OBA 1000 110 VAC	1SNA 608 026 R0700	1SNA 008 026 R2100
		ORA 111 24 VDC	1SNA 608 069 R2200	1SNA 008 069 R1400
R1800		EBO3DC 5 to 48 VDC	1SNA 610 230 R1100	1SNA 010 230 R0300
		EBO1 24 VAC/DC	1SNA 610 022 R2000	1SNA 010 022 R1200
		EBO1 127 VAC/DC	1SNA 610 108 R1400	1SNA 010 108 R0600
		EBO1 230 VAC/DC	1SNA 610 023 R2100	1SNA 010 023 R1300

Selection guide Optocoupler modules

Output \ Input	5 V DC	12 V DC	24 V DC	24 V AC	24 V AC/DC
< 50 mA / 10 to 58 V DC 	 spacing : 18 mm EBO3DC 5 to 48 VDC 1SNA 610 230 R1100	 spacing : 18 mm EBO3DC 5 to 48 VDC 1SNA 610 230 R1100	spacing : 5.08 mm D 2,5/5-OBIC 0030 24 VDC 1SNA 607 210 R1700  spacing : 18 mm EBO3DC 5 to 48 VDC 1SNA 610 230 R1100	spacing : 5.08 mm D 2,5/5-OBIA 0030 24 VAC 1SNA 607 211 R0400 	
100 mA / 10 to 58 V DC 	spacing : 5.08 mm D 2,5/5-OB0C 0100 5 VDC 1SNA 607 203 R1500 	 spacing : 9 mm OBC 0100 12 to 24 VDC 1SNA 608 017 R0600	spacing : 5.08 mm D 2,5/5-OB0C 0100 24 VDC 1SNA 607 204 R1600   spacing : 9 mm OBC 0100 12 to 24 VDC 1SNA 608 017 R0600		 spacing : 18 mm EBO1 24 VAC/DC 1SNA 610 022 R2000
1 A / 10 to 58 V DC 	spacing : 5.08 mm D 2,5/5-OB0C 1000 5 VDC 1SNA 607 206 R1000   spacing : 9 mm OBC 1000 5 VDC 1SNA 608 014 R2200	 spacing : 9 mm OBC 1000 12 to 24 VDC 1SNA 608 018 R1700	spacing : 5.08 mm D 2,5/5-OB0C 1000 24 VDC 1SNA 607 207 R1100   spacing : 9 mm OBC 1000 12 to 24 VDC 1SNA 608 018 R1700		spacing : 5.08 mm D 2,5/5-OB0C 1000 24 VAC/DC 1SNA 607 250 R2700 
2 A / 10 to 30 V DC 	spacing : 5.08 mm D 2,5/5-OB0C 2000 5 VDC 1SNA 607 208 R2200 		spacing : 5.08 mm D 2,5/5-OB0C 2000 24 VDC 1SNA 607 209 R2300 		spacing : 5.08 mm D 2,5/5-OB0C 2000 24 VAC/DC 1SNA 607 255 R1000 
5 A / 10 to 58 V DC 			 spacing : 9 mm ORC 111 24 VDC 1SNA 608 068 R2100		
1 A / 24 to 250 V AC 	 spacing : 9 mm OBA 1000 5 VDC 1SNA 608 015 R0400	 spacing : 9 mm OBA 1000 12 to 24 VDC 1SNA 608 019 R1000	spacing : 5.08 mm D 2,5/5-OB0A 1000 24 VDC 1SNA 607 238 R1700   spacing : 9 mm OBA 1000 12 to 24 VDC 1SNA 608 019 R1000		spacing : 5.08 mm D 2,5/5-OB0A 1000 24 VAC/DC 1SNA 607 240 R2500 
5 A / 20 to 135 V AC 			 spacing : 9 mm ORA 111 24 VDC 1SNA 608 069 R2200		

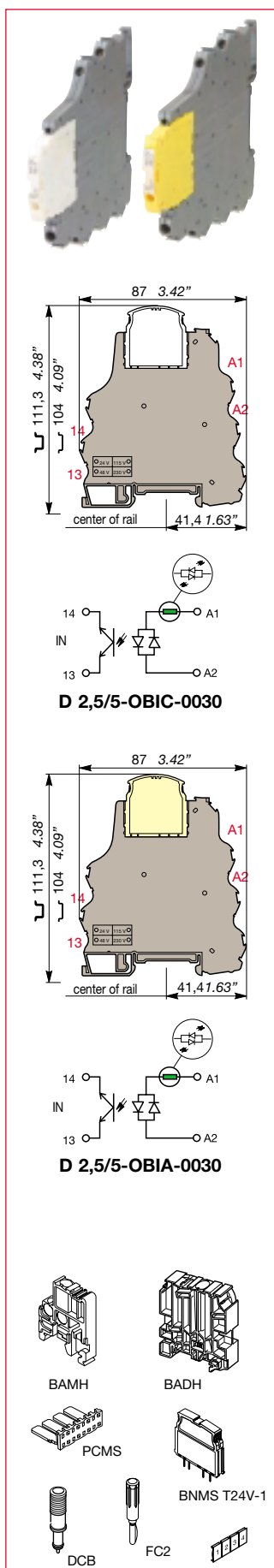
Selection guide Optocoupler modules

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



Electronic Interfaces

R500 pluggable optocoupler modules

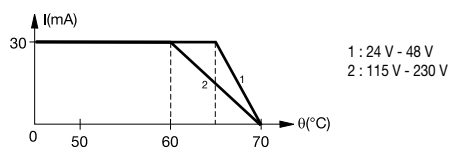


D 2,5/5-OBIC-0030 - 2.5 mm² blocks - 5.08 mm .200" spacing

Characteristics

Opto. characteristics	D 2,5/5-OBIC-0030		D 2,5/5-OBIA-0030			
INPUT						
Input voltage	19.2 V to 27.6 V DC	38.4 V to 55.2 V DC	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
Input current	5 mA	4.1 mA	8.5 mA	4.5 mA	8 mA	7 mA
Pull-in voltage at Is=100%	12 V	21 V	13 V	22 V	50 V	95 V
Switching time C / O	20 µs / 1.3 ms	20 µs / 1.3 ms	6 ms / 10 ms	6 ms / 10 ms	6 ms / 10 ms	6 ms / 10 ms
Operating frequency	400 Hz	400 Hz	30 Hz	30 Hz	30 Hz	30 Hz
Permissible leakage current	1 mA	0.8 mA	1 mA	1 mA	2 mA	2 mA
OUTPUT						
Output voltage	4.5 V to 58 V DC					
Output current min.	0.5 mA					
Output current max.	30 mA					
Output leakage current at Umax.						
Residual voltage at I max and U rated	typical 2.3 V DC					
	max. 2.7 VDC					
Frequency on inductive load						
Isolation Input / Output	2500 V RMS					
TEMPERATURE						
Ambient temperature	storage - 40°C to + 80°C					
	operating See derating curve					
Other characteristics						
Body material	grey ☐ UL 94 V0					
Wire	Solid wire 0.2-4 mm ² / 24-12 AWG					
size	Stranded wire 0.22-2.5 mm ² / 24-12 AWG					
Rated wire size	2.5 mm ² / 12 AWG					
Wire stripping length	10 mm .394"					
Recommended screwdriver	3.5 .137"					
Protection	IP 20 NEMA 1					
Recommended torque	0.4-0.6 Nm 3.5-5.3 lb.in					
Approvals						

Derating curve



D 2,5/5-OBIC-0030

Order codes

Description	Type	Order P/N	Packaging Weight kg
Optocoupler module 24 V DC	D 2,5/5-OBIC-0030 24 V DC	1SNA 607 210 R1700	1 0.032
Optocoupler module 48 V DC	D 2,5/5-OBIC-0030 48 V DC	1SNA 607 211 R0400	1 0.032
Optocoupler module 24 V AC	D 2,5/5-OBIA-0030 24 V AC	1SNA 607 212 R0500	1 0.032
Optocoupler module 48 V AC	D 2,5/5-OBIA-0030 24 V AC	1SNA 607 213 R0600	1 0.032
Optocoupler module 115 V AC	D 2,5/5-OBIA-0030 115 V AC	1SNA 607 214 R0700	1 0.032
Optocoupler module 230 V AC	D 2,5/5-OBIA-0030 230 V AC	1SNA 607 215 R0000	1 0.032

Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50
	BAMH V0 9,1 mm	1SNA 194 836 R0100	50
	BADH 12 mm	1SNA 116 900 R2700	50
Comb type jumper bar 2 to 22 poles	PCMS V0	see accessories	
Plug OBIC 24 V	white ☐ BNMS T24V-1	1SNA 031 800 R2100	4
Plug OBIC 48 V	white ☐ BNMS T48V-1	1SNA 031 801 R1600	4
Plug OBIA 24 V	yellow ☐ BNMS T24V-1	1SNA 031 802 R1700	4
Plug OBIA 48 V	yellow ☐ BNMS T48V-1	1SNA 031 803 R1000	4
Plug OBIA 115 V	yellow ☐ BNMS T115V-1	1SNA 031 804 R1100	4
Plug OBIA 230 V	yellow ☐ BNMS T230V-1	1SNA 031 805 R1200	4
Test device	blue ☐ DCB (1)	1SNA 105 028 R2100	10
Test plug	DIA. 2 mm FC2	1SNA 007 865 R2600	10
Marking method	(16) RC55	see markers	

(1) Only on top decks.

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

Characteristics

Opto. characteristics

INPUT

	D 2,5/5-OBOC-0100 5 V DC / 24 V DC	D 2,5/5-OBOC-0100 48 V DC
Input voltage	4.5 V to 5.5 V DC	20.4 V to 28.8 V DC
Input current	8.5 mA	4.8 mA
Pull-in voltage at Is=100%	2.9 V DC	16 V DC
Switching time C / O	20 µs / 1.3 ms	20 µs / 1.3 ms
Operating frequency	400 Hz	400 Hz
Permissible leakage current	1 mA	1 mA

OUTPUT

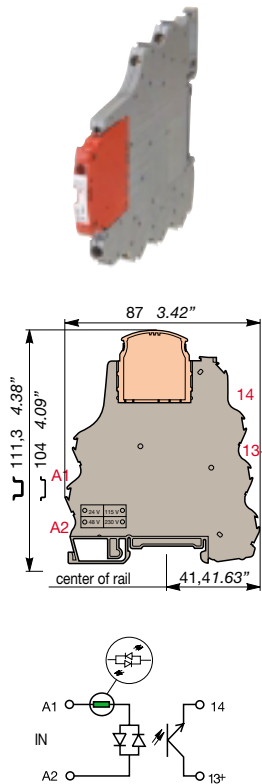
Output voltage	4.5 to 58 V DC
Output current min.	1 mA
Output current max.	100 mA
Output leakage current at Umax.	
Residual voltage at I max and U rated	1 V DC
Frequency on inductive load	1.3 V DC
Isolation Input / Output	See Note 1
	2500 V RMS

TEMPERATURE

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

Other characteristics

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



D 2,5/5-OBOC-0100

Note 1 :

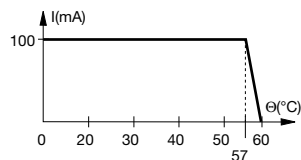
$$F_{max} = (1 - 0,007 \times U_s) / (L \times I_s^2)$$

or

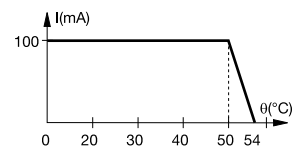
$$F_{max} = (1 - 0,007 \times U_s) / (P \times \frac{L}{R})$$

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

Derating curves



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



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

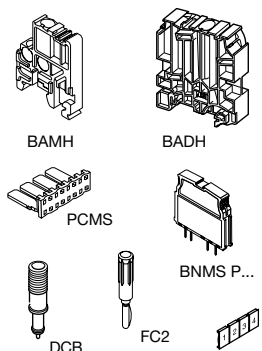
Order codes

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

Accessories

High end stop	BAMH	9,1 mm	1SNA 114 836 R0000	50
	BAMH V0	9,1 mm	1SNA 194 836 R0100	50
	BADH	12 mm	1SNA 116 900 R2700	50
Comb type jumper bar 2 to 22 poles	PCMS	V0	see accessories	
Plug for OBOC 5 V DC	red	BNMS P5V-3	1SNA 031 809 R2600	4
Plug for OBOC 24 V DC	red	BNMS P24V-3	1SNA 031 810 R1200	4
Plug for OBOC 48 V DC	red	BNMS P48V-3	1SNA 031 811 R0700	4
Test device	blue	DCB (1)	1SNA 105 028 R2100	10
Test plug	DIA. 2 mm	FC2	1SNA 007 865 R2600	10
Marking method	⑩	RC55	see markers	

(1) Only on top decks.



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				D 2,5/5-OBOC-1000 110/230 VAC	
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%
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 I _s =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 U _{max} .								
Residual voltage at I _{max} and U _{rated}	typical		0.1 V					
	max.		0.5 V					
Frequency on inductive load			See Note 1					
Isolation Input / Output			2500 V RMS					
TEMPERATURE								
Ambient temperature	storage		-40°C to +80°C					
	operating		See derating curve					
Other characteristics								
Body material	grey		UL 94 V0					
Wire	Solid wire		0.2-4 mm ² / 24-12 AWG					
size	Stranded wire		0.22-2.5 mm ² / 24-12 AWG					
Rated wire size			2.5 mm ² / 12 AWG					
Wire stripping length			10 mm .394"					
Recommended screwdriver			3.5 mm .137"					
Protection			IP 20 NEMA 1					
Recommended torque			0.4-0.6 Nm 3.5-5.3 lb.in					
Approvals								

Note 1 :

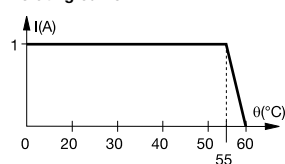
$$F_{max} = (1 - 0,007 \times U_s) / (L \times I_s^2)$$

or

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

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

Derating curve



Order codes

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

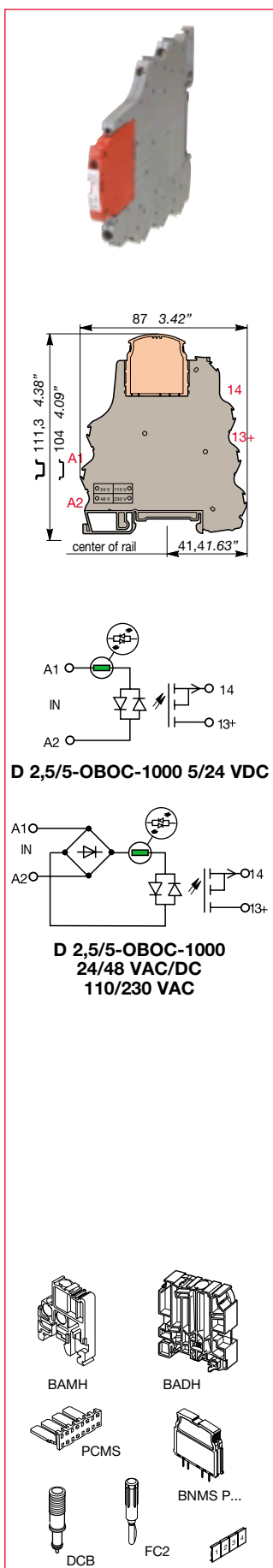
Accessories

High end stop	BAMH	9,1 mm	1SNA 114 836 R0000	50
	BAMH V0	9,1 mm	1SNA 194 836 R0100	50
	BADH	12 mm	1SNA 116 900 R2700	50
Comb type jumper bar 2 to 22 poles	PCMS	V0	see accessories	
Plug (2)	red	BNMS P5V-2 5 V/1 A	1SNA 031 818 R1600	4
Plug (3)	red	BNMS P24V-2 24 V/1 A	1SNA 031 819 R1700	4
Test device	blue	DCB (1)	1SNA 105 028 R2100	10
Test plug	DIA. 2 mm	FC2	1SNA 007 865 R2600	10
Marking method	(16)	RC55	see markers	

(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-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%
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.								
Residual voltage at I max and U rated	typical		0.1 V					
	max.		0.5 V					
Frequency on inductive load			See Note 1					
Isolation Input / Output			2500 V RMS					
TEMPERATURE								
Ambient temperature storage			-40°C to +80°C					
operating			See derating curve					
Other characteristics								
Body material	grey		UL 94 V0					
Wire	Solid wire		0.2-4 mm ² / 24-12 AWG					
size	Stranded wire		0.22-2.5 mm ² / 24-12 AWG					
Rated wire size			2.5 mm ² / 12 AWG					
Wire stripping length			10 mm .394"					
Recommended screwdriver			3.5 mm .137"					
Protection			IP 20 NEMA 1					
Recommended torque			0.4-0.6 Nm 3.5-5.3 lb.in					
Approvals								

Note 1 :

$$F_{max} = (1 - 0.012 \times U_s) / (L \times I_s^2)$$

or

$$F_{max} = (1 - 0.012 \times U_s) / (P \times \frac{L}{R})$$

Us = Output voltage

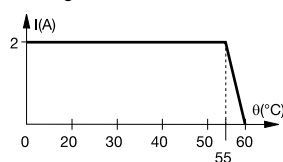
Is = Output current

L = Inductance of load

P = Power of load

R = Resistance of load

Derating curve



Order codes

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

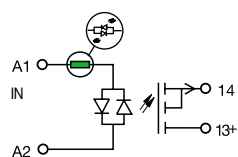
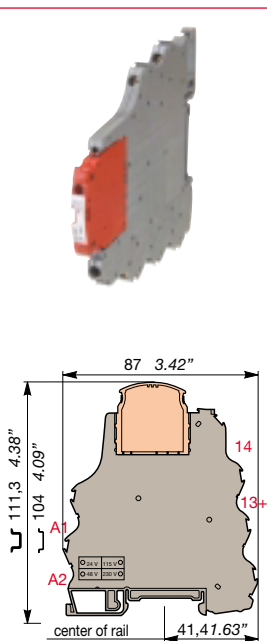
Accessories

High end stop		BAMH 9,1 mm	1SNA 114 836 R0000	50
		BAMH V0 9,1 mm	1SNA 194 836 R0100	50
		BADH 12 mm	1SNA 116 900 R2700	50
Comb type jumper bar 2 to 22 poles		PCMS V0	see accessories	
Plug (2)	red	BNMS P5V-1 5 V/2 A	1SNA 031 814 R0200	4
Plug (3)	red	BNMS P24V-1 24 V/2 A	1SNA 031 815 R0300	4
Test device	blue	DCB (1)	1SNA 105 028 R2100	10
Test plug	DIA. 2 mm	FC2	1SNA 007 865 R2600	10
Marking method		(16) RC55	see markers	

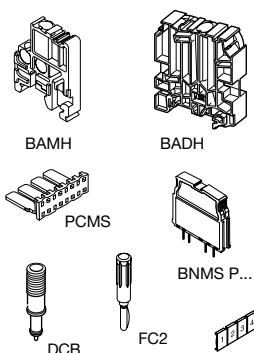
(1) Only on top decks.

(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-OBOC-2000



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%
Input current	4 mA	10 mA	7 mA	6 mA	5 mA	8 mA	7.5 mA
Pull-in voltage at I _s =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			
Output current min.				25 mA			
Output current max.				1 A			
Output leakage current at U _{max} .				0.5 mA max.			
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	Solid wire			0.2-4 mm ² / 24-12 AWG			
size	Stranded wire			0.22-2.5 mm ² / 24-12 AWG			
Rated wire size				2.5 mm ² / 12 AWG			
Wire stripping length				10 mm .394"			
Recommended screwdriver				3.5 mm .137"			
Protection				IP 20 NEMA 1			
Recommended torque				0.4-0.6 Nm 3.5-5.3 lb.in			
Approvals							

Note 1 :

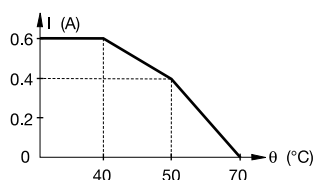
$$F_{max} = (1 - 0,012 \times U_s) / (L \times I_s^2)$$

or

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

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

Derating curve



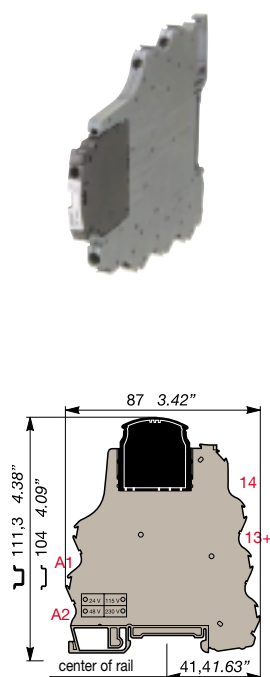
Order codes

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

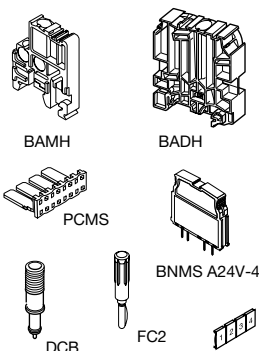
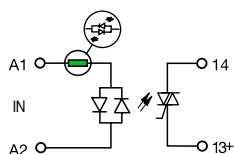
Accessories

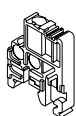
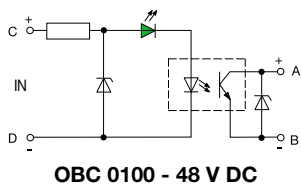
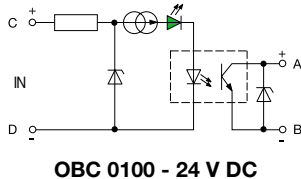
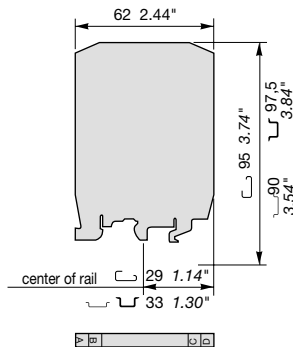
High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50
	BAMH V0 9,1 mm	1SNA 194 836 R0100	50
	BADH 12 mm	1SNA 116 900 R2700	50
Comb type jumper bar 2 to 22 poles	PCMS V0	see accessories	
Plug	black ■	BNMS A24V-4 250 V/1 A	4
Test device	blue ■	DCB (1)	10
Test plug	DIA. 2 mm	FC2	10
Marking method	⑩	RC55	see markers

(1) Only on top decks.

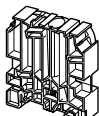


D 2,5/5-OBOA-1000





BAMH



BADH



RLV

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

Characteristics

Opto. characteristics

INPUT

	OBC 0100 - 24 V DC	OBC 0100 - 48 V DC
Input voltage	10.2 V to 28.8 V DC	40.8 V to 57.6 V DC
Input current	7 mA to 12 V / 10 mA to 24 V	5 mA
Pull-in voltage at Is=100%	10.2 V DC	40.8 V DC
Switching time C / O	20 μs / 50 μs	20 μs / 50 μs
Operating frequency	7000 Hz	7000 Hz
Permissible leakage current		

OUTPUT

Output voltage	5 to 60 V DC
Output current min.	1 mA
Output current max.	100 mA
Output leakage current at Umax.	
Residual voltage at I max and U rated	typical 1 V max. 1.3 V
Frequency on inductive load	3000 V RMS
Isolation Input / Output	

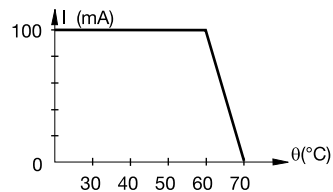
TEMPERATURE

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

Other characteristics

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

Derating curve



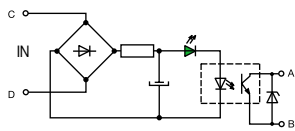
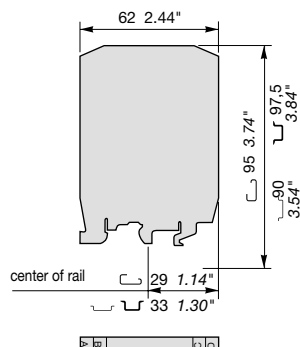
OBC 0100

Order codes

Description	Type	Order P/N	Packaging Weight kg
Optocoupler module 24 V DC	OBC 0100 24 V DC	1SNA 608 017 R0600	1 0.04
Optocoupler module 48 V DC	OBC 0100 48 V DC	1SNA 608 021 R0200	1 0.04

Accessories

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



OBC 0100 - 110-230 V

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

Characteristics

Opto. characteristics

INPUT

	OBC 0100 - 110 V AC	OBC 0100 - 230 V AC
Input voltage	93.5 V AC to 152.4 V AC	230 V AC +15%, -20%
Input current	8 mA	8 mA
Pull-in voltage at Is=100%	93,5 V AC	184 V AC
Switching time C / O	5 ms/5 ms	5 ms/5 ms
Operating frequency	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.	
Residual voltage at I max and U rated	1 V
typical	
max.	1.3 V
Frequency on inductive load	
Isolation Input / Output	3000 V RMS

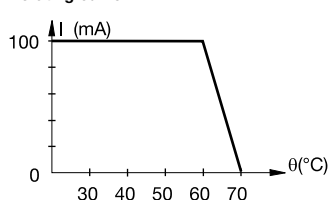
TEMPERATURE

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

Other characteristics

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

Derating curve



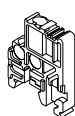
OBC 0100 - 110-230 V

Order codes

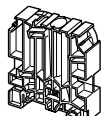
Description	Type	Order P/N	Packaging	Weight
Optocoupler module 110 V AC	OBC 0100 110 V AC	1SNA 608 024 R0500	1	0.04
Optocoupler module 230 V AC	OBC 0100 230 V AC	1SNA 608 027 R0000	1	0.04

Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50
	BAMH V0 9,1 mm	1SNA 194 836 R0100	50
	BADH 12 mm	1SNA 116 900 R2700	50
Lengthwise marker	RLV	1SNA 103 849 R0300	
Marking method	⑤ RC55	see markers	



BAMH

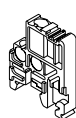
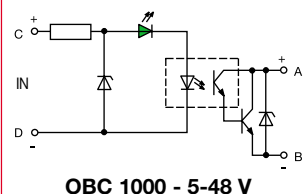
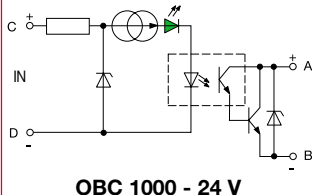
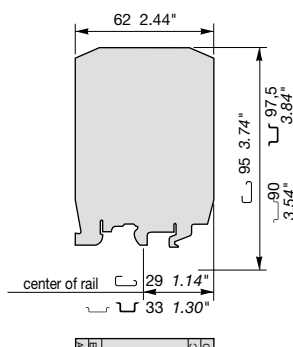


BADH

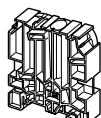


RLV





BAMH



BADH



RLV

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

Characteristics

Opto. characteristics

INPUT

	OBC 1000 - 5 V DC	OBC 1000 - 24 V DC	OBC 1000 - 48 V DC
Input voltage	5 V DC +10%, -10%	10.2 V DC to 28.8 V DC	48 V DC +20%, -15%
Input current	6.5 mA	6.5 mA to 12 V / 9.5 mA to 24 V	4.5 mA
Pull-in voltage at Is=100%	4.5 V DC	10.2 V AC	40.8 V DC
Switching time C / O	20 μs / 50 μs	20 μs / 50 μs	20 μs / 50 μs
Operating frequency	7000 Hz	7000 Hz	7000 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.	
Residual voltage at I max and U rated	typical 1 V max. 1.3 V
Frequency on inductive load	
Isolation Input / Output	3000 V RMS

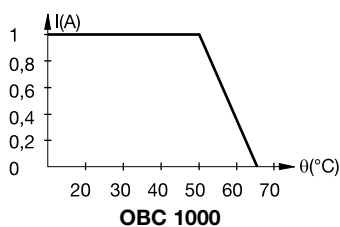
TEMPERATURE

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

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

Derating curve

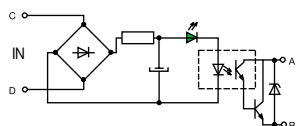
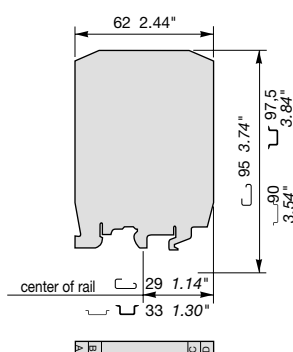


Order codes

Description	Type	Order P/N	Packaging Weight kg
Optocoupler module 5 V DC	OBC 1000 5 V DC	1SNA 608 014 R2200	1 0.04
Optocoupler module 24 V DC	OBC 1000 24 V DC	1SNA 608 018 R1700	1 0.04
Optocoupler module 48 V DC	OBC 1000 48 V DC	1SNA 608 022 R0300	1 0.04

Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50
	BAMH V0 9,1 mm	1SNA 194 836 R0100	50
	BADH 12 mm	1SNA 116 900 R2700	50
Lengthwise marker	RLV	1SNA 103 849 R0300	
Marking method	⑤ RC55	see markers	



OBC 1000 - 110-230 V

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

Characteristics

Opto. characteristics

	OBC 1000 - 110 V AC	OBC 1000 - 230 V AC
INPUT		
Input voltage	93,5 V AC to 152,4 V AC	230 V AC + 15%, - 20%
Input current	8 mA	7 mA
Pull-in voltage at Is=100%	93,5 V AC	184 V DC
Switching time C / O	2 ms / 5 ms	1 ms / 5 ms
Operating frequency	800 Hz	800 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.	
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

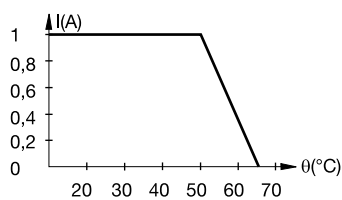
TEMPERATURE

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

Other characteristics

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

Derating curve



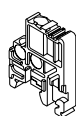
OBC 1000 - 110-230 V

Order codes

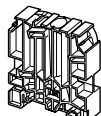
Description	Type	Order P/N	Packaging Weight kg
Optocoupler module 110 V AC	OBC 1000 110 V AC	1SNA 608 025 R0600	1 0.04
Optocoupler module 230 V AC	OBC 1000 230 V AC	1SNA 608 028 R1100	1 0.04

Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50
	BAMH V0 9,1 mm	1SNA 194 836 R0100	50
	BADH 12 mm	1SNA 116 900 R2700	50
Lengthwise marker	RLV	1SNA 103 849 R0300	
Marking method	⑤ RC55	see markers	



BAMH

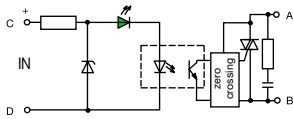
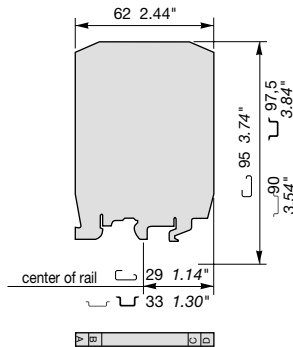


BADH

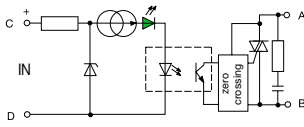


RLV

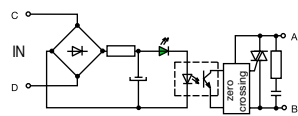




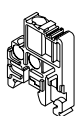
OBA 1000 - 5 - 48 V DC



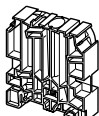
OBA 1000 - 24 V DC



OBA 1000 - 110 V AC



BAMH



BADH



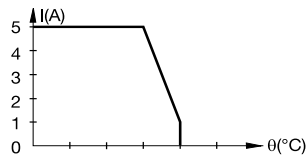
RLV

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

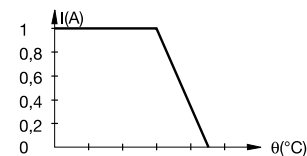
Characteristics

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
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		
Output current min.		25 mA		
Output current max.		1 A		
Output leakage current at Umax.		0.5 mA max.		
Residual voltage at I max and U rated		1 V		
Frequency on inductive load		1.6 V		
Isolation Input / Output		3000 V RMS		
TEMPERATURE				
Ambient temperature storage		- 40°C to + 80°C		
operating		See derating curves		
Other characteristics				
Body material	grey	UL 94 V0		
Wire	Solid wire	0.5-4 mm ² / 20-12 AWG		
size	Stranded wire	0.5-2.5 mm ² / 20-12 AWG		
Rated wire size		2.5 mm ² / 12 AWG		
Wire stripping length		7 mm .276"		
Recommended screwdriver		3.5 .137"		
Protection		IP 20 NEMA 1		
Recommended torque		0.4-0.6 Nm 3.5-5.3 lb.in		
Approvals				

Derating curves



OBA 1000 - 5 - 48 V DC



OBA 1000 - 24 V DC - 110 V AC

Order codes

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

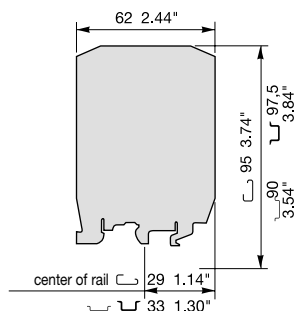
Accessories

High end stop	BAMH	9,1 mm	1SNA 114 836 R0000	50
	BAMH	9,1 mm	1SNA 194 836 R0100	50
	BADH	12 mm	1SNA 116 900 R2700	50
Lengthwise marker	RLV		1SNA 103 849 R0300	
Marking method	⑤	RC55	see markers	

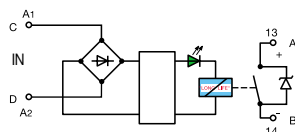


Relay Interfaces

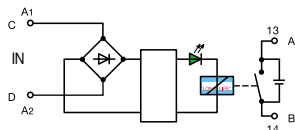
"Long Life" relay modules R900  DIN 1-3



Relay blocks R900



ORC 111



ORA 111

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

Characteristics

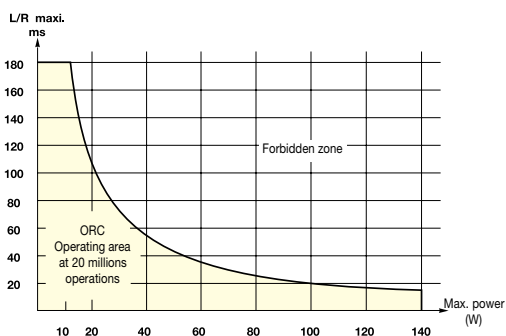
Relay characteristics

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

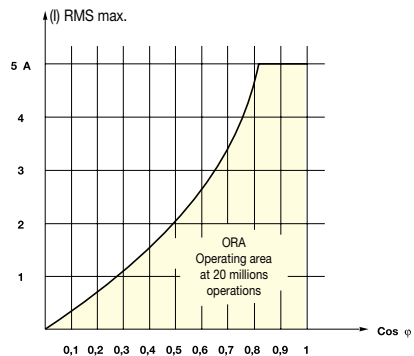
Other characteristics

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

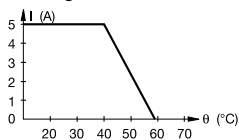
ORC type - Maximum switching power at 24V DC as per L/R



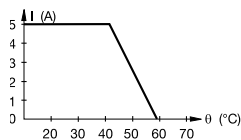
ORA type - Maximum switching current as per cos ϕ



Derating curves



ORC 111



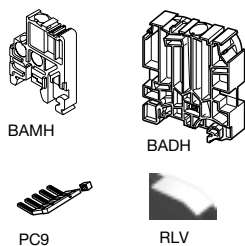
ORA 111

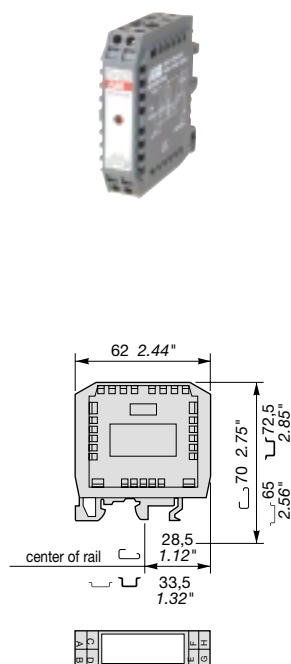
Order codes

Description	Type	Order P/N	Packaging	Weight kg
Long Life relay module 24 V DC	ORC 111 24 V DC	1SNA 608 068 R2100	1	0.03
Long Life relay module 24 V DC	ORA 111 24 V DC	1SNA 608 069 R2200	1	0.04

Accessories

High end section	BADH	1SNA 116 900 R2700	50
	BAMH	1SNA 114 836 R0000	50
	BAMH V0	1SNA 194 836 R0100	50
Comb-type jumper bar	PC9	1SNA 210 160 R1200	10
Lengthwise marker	RLV	1SNA 103 849 R0300	
Marking method	RC55	see markers	

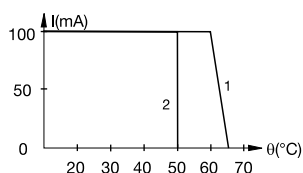


EBO... - 2.5 mm² blocks - 9 mm .354" spacing

Characteristics

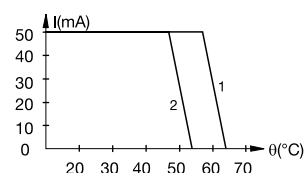
Opto. characteristics	EBO1 - 24 V		EBO1 - 127-220 V		EBO3 DC				
	24 V AC	24 V DC	127 V AC/DC	220 V AC/DC	5 V DC	12 V DC	15 V DC	24 V DC	48 V DC
INPUT									
Input voltage	24 V AC	24 V DC	127 V AC/DC	220 V AC/DC	5 V DC	12 V DC	15 V DC	24 V DC	48 V DC
Input current	10 mA	8 mA	6 mA	5 mA			11 mA		
Pull-in 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.									
Residual voltage at I max and U rated	typical				1 V				
	max.				1.3 V				
Frequency on inductive load					1.3 V				
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				0.5-4 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				
Approvals									

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 24 V AC/DC	1SNA 610 022 R2000	1 0.03
Optocoupler module 127 V AC/DC	EBO1 127 V AC/DC	1SNA 610 108 R1400	1 0.03
Optocoupler module 220 V AC/DC	EBO1 220 V AC/DC	1SNA 610 023 R2100	1 0.03
Optocoupler module 5-12-15-24-48 V DC	EBO3 DC	1SNA 610 230 R1100	1 0.03

Accessories

High end stop	BAMH 9,1 mm	1SNA 114 836 R0000	50
	BAMH V0 9,1 mm	1SNA 194 836 R0100	50
	BADH 12 mm	1SNA 116 900 R2700	50
Lengthwise marker	RLV	1SNA 103 849 R0300	
Marking method	⑤ RC55	see markers	

