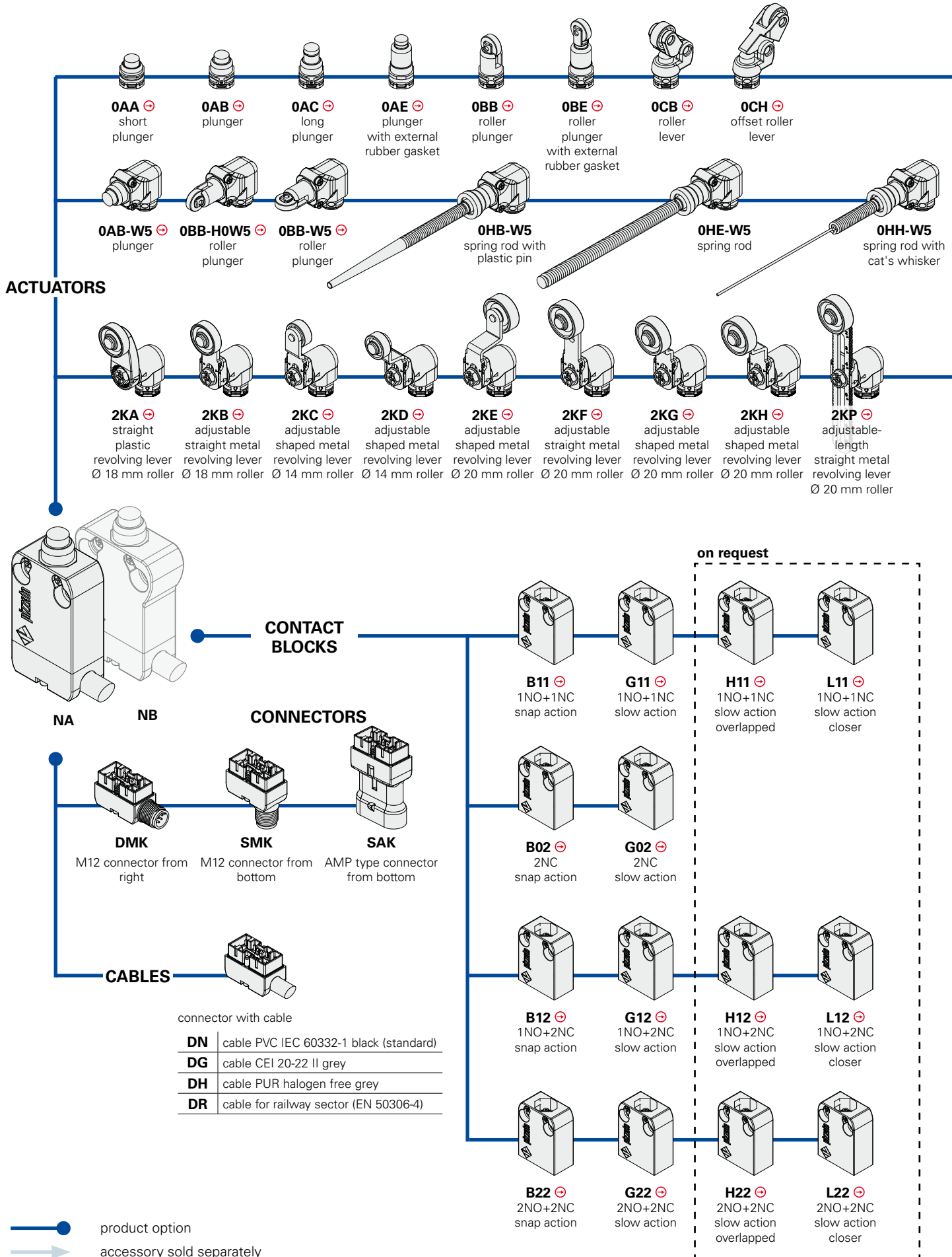
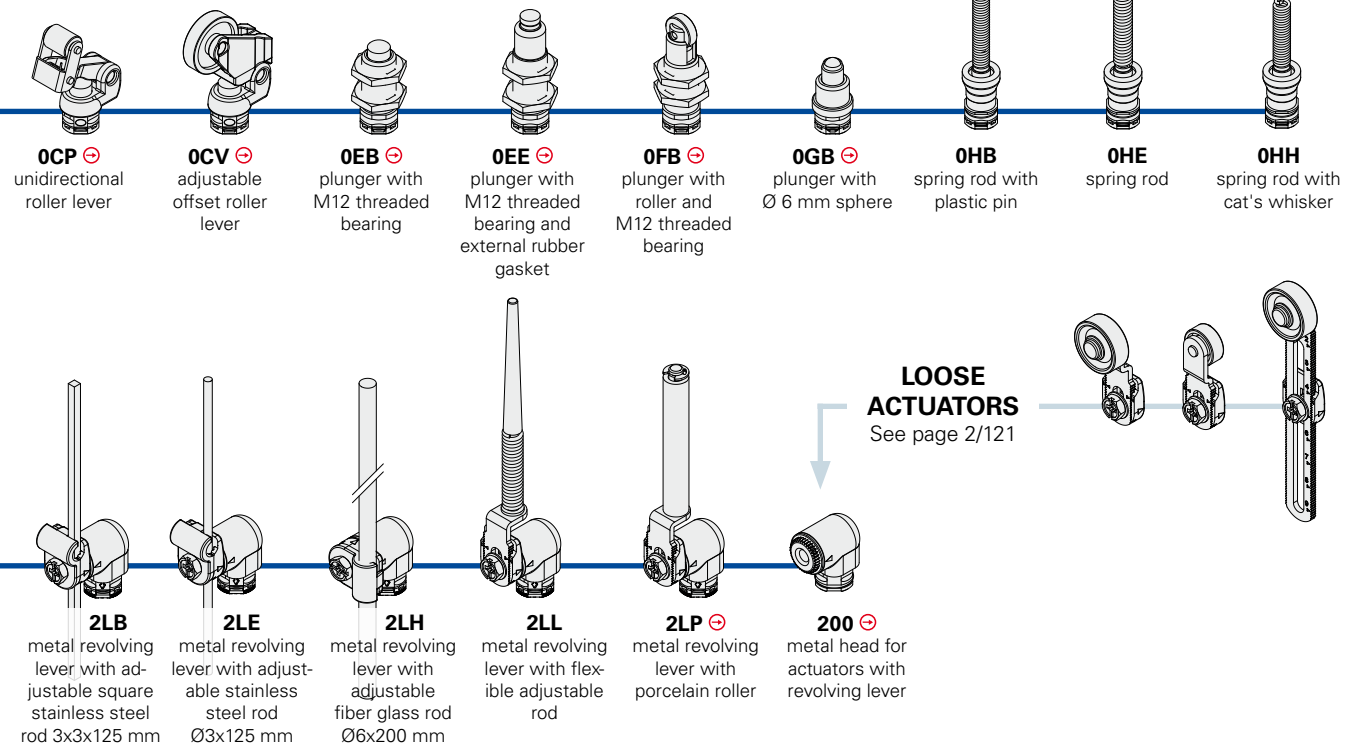


**Selection diagram for articles NA-NB series sold assembled**





**Code structure** **Attention!** The feasibility of a code number does not mean the effective availability of a product. Please contact our sales office.

article options

**NA B110AB-DN2 GR7T6W5**

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**Main data**

- Metal housing, cable output from right or from bottom
- 4 integrated cable types available
- Versions with M12 connector from right or from bottom suitable for safety applications  $\ominus$
- Protection degree IP67 and IP69K
- 14 contact blocks available
- 36 actuators available

**Markings and quality marks:**

Approval IMQ: CA02.03746  
 Approval UL: E131787  
 Approval GOST: POCC IT.AB24.B04512

**⚠ Installation for persons protection applications:**

Use only switches marked with the symbol  $\ominus$ . The safety circuit must always be connected with the **contacts NC** (normally closed contacts: see "internal connections" on page 2/104) as stated in the **standard EN 60947-5-1, encl. K, par. 2**. The switch must be actuated with **at least up to the positive opening travel** indicated in the travel diagrams at page 7/10. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the min. force. All enforceable standards must be respected.

**⚠ If not expressly indicated in this chapter, for the right installation and the correct utilization of all articles see requirements indicated from page 7/1 to page 7/12.**

**⚠ Attention: switch off the circuit voltage before disconnecting the connector from the switch. The connector is not suitable for sectioning of electrical loads. According to EN 60204-1, versions with 8 poles M12 and AMP connector can be used only in circuits PELV.**

**Technical data****Housing**

Metal housing, coated with baked UV resistant powder.  
 Version with cable integrated, standard length 2 m. Other lengths on request.  
 Versions with 5 or 8 poles M12 integrated connector

Protection degree: IP67 according to EN 60529  
 IP69K according to DIN 40050  
 (Protect the cables from direct high-pressure and high-temperature jets)

Saline smoke resistance:  $\geq 300$  hours in NSS according to ISO 9227

**General data**

Utilization temperatures: See table on page 2/104  
 Max actuation frequency: 3600 operations cycles<sup>1</sup>/hour  
 Mechanical endurance: 20 million operations cycles<sup>1</sup>  
 Assembling position: any  
 Driving torque for installation: see pages 7/1-7/12

(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

**Electrical data**

Rated impulse withstand voltage ( $U_{imp}$ ): 4 kV  
 Conditional short circuit current: 1000 A according to EN 60947-5-1  
 Pollution degree: 3

**In conformity with standards:**

IEC 60947-5-1, EN 60947-5-1, IEC 60204-1, EN 60204-1, EN 1088, EN ISO 12100-1, EN ISO 12100-2, IEC 529, EN 60529, DIN 40050, NFC 63-140, VDE 0660-200, VDE 0113.

**In conformity with requirements requested by:**

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and Electromagnetic Compatibility 2004/108/EC.

**Positive contact opening in conformity with standards:**

IEC 60947-5-1, EN 60947-5-1, VDE 0660-206.

**Data type approved by IMQ**

Rated insulation voltage ( $U_i$ ): 250 Vac  
 Thermal current (I<sub>th</sub>): 10 A (1-2 contacts) / 6 A (2-3 contacts) / 4 A (4 contacts or 5 poles M12 connector)  
 Protection against short circuits (fuse): 10 A (1-2 contacts) / 6 A (2-3 contacts) / 4 A (4 contacts or 5 poles M12 connector) type gG  
 Rated impulse withstand voltage ( $U_{imp}$ ): 4 kV  
 Protection degree: IP67  
 MA terminals (seamed clamps)  
 Pollution degree: 3  
 Utilization category: AC15 / DC13 (with connector)  
 Operation voltage ( $U_e$ ): 250 Vac (50 Hz) / 24 Vdc (with connector)  
 Operation current (I<sub>e</sub>): 3 A / 2 A (with connector)  
 Forms of the contact element: X, Y, X+Y, X+X, Y+Y, Y+Y+X, X+X+Y, X+X+Y+Y, Zb  
 Positive opening of contacts on contact block B01, B11, B02, B12, B21, B22, G01, G11, G02, G12, G21, G22, L01, L11, L02, L12, L21, L22, H01, H11, H02, H12, H21, H22

In conformity with standards: EN 60947-1, EN 60947-5-1+ A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/CE.

Please contact our technical service for the list of approved products.

**Data type approved by UL**

Utilization categories: R300 pilot duty (28 VA, 125-250 Vdc)  
 B300 pilot duty (360 VA, 120-240 Vac) (1-2-3 cont.)  
 C300 pilot duty (180 VA, 120-240 Vac) (4 cont.)

Data of the housing type 1, 4X "indoor use only"; 12  
 Data of the housing with 1-2-contact versions with N-type cable type 1, 4X "indoor use only"

In conformity with standard: UL 508

Please contact our technical service for the list of approved products.

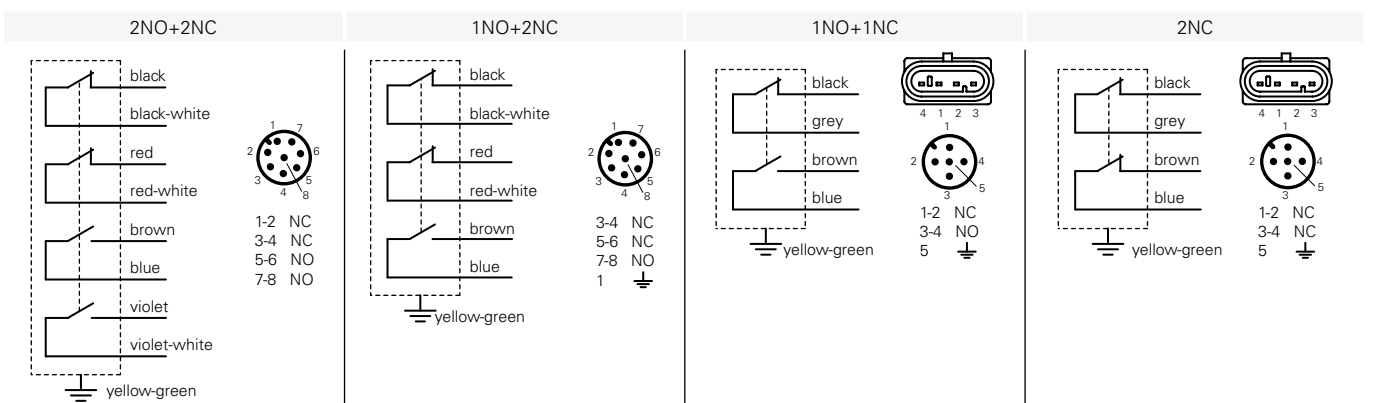


## Utilization temperatures and electrical data

output with cable								output with connector M12		Output with AMP connector
2 contacts versions				3 contacts versions		4 contacts versions		2 contacts versions	3/4 contacts versions	2 contacts versions
Cable type N 5x0,75 mm <sup>2</sup> ,	Cable type G 5x0,75 mm <sup>2</sup> ,	Cable type H 5x0,75 mm <sup>2</sup> ,	Cable type R 5x0,5mm <sup>2</sup>	Cable type N 7x0,5 mm <sup>2</sup>	Cable type H 7x0,5 mm <sup>2</sup> ,	Cable type N 9x0,34 mm <sup>2</sup>	Cable type R 9x0,5mm <sup>2</sup>	5 poles M12 connector	8 poles M12 connector	AMP super seal 1,5 connector
		Max Speed 100 m/min Max Acceleration 2 m/s <sup>2</sup>	Cable for railway applica- tions EN50306-4 1E-300V-5x0,5 mm <sup>2</sup> MM-90		Max Speed 300 m/min Max Acceleration 25 m/s <sup>2</sup>		Cable for railway applica- tions EN50306-4 1P-300V-9x0,5 mm <sup>2</sup> MM-90			
Sheath PVC H05VV-F, Not flame- spreading IEC 60332-1-2 IEC 60332-1-3	Sheath PVC S05VV-F, Not flame- spreading IEC 60332-1-2 IEC 60332-1-3 IEC 60332-3 CEI 20-22 II	Sheath PUR HALO- GEN FREE Not flame- spreading IEC 60332-1-2 IEC 60332-1-3	According to: EN 50306-4 EN 45555 Not flame- spreading: IEC 60332-1 EN 50305 EN 50306-1	Sheath PVC H05VV-F, Not flame- spreading IEC 60332-1-2 IEC 60332-1-3	Sheath PUR HALO- GEN FREE Not flame- spreading IEC 60332-1-2 IEC 60332-1-3	Sheath PVC H05VV-F, Not flame- spreading IEC 60332-1-2 IEC 60332-1-3	According to: EN 50306-4 EN 45555 Not flame- spreading: IEC 60332-1 EN 50305 EN 50306-1			
Min. bend radius: 72 mm	Min. bend radius: 72 mm	Min. bend radius: 70 mm Without halogens Oil-resistant IEC 60811-2-1	Min. bend radius: 60 mm	Min. bend radius 108 mm	Min. bend radius: 108 mm Without halogens Oil-resistant IEC 60811-2-1	Min. bend radius: 94 mm	Min. bend radius: 60 mm			
Copper class 5 IEC 60228	Copper class 5 IEC 60228	Copper class 6 IEC 60228	Copper class 5 IEC 60228	Copper class 5 IEC 60228	Copper class 6 IEC 60228	Copper class 5 IEC 60228	Copper class 5 IEC 60228			

Utilization temperatures	Standard	Extended -T6											
		Fixed laying cable	Flexible laying cable	Dynamic laying cable	Fixed laying cable	Flexible laying cable	Dynamic laying cable	Fixed laying cable	Flexible laying cable	Dynamic laying cable			
		-25°C ... +70°C	-25°C ... +70°C	-25°C ... +80°C	-25°C ... +80°C	-25°C ... +80°C	-25°C ... +80°C	-25°C ... +80°C	-25°C ... +80°C	-25°C ... +80°C			
		+5°C ... +70°C	+5°C ... +70°C	-25°C ... +80°C	-25°C ... +80°C	-5°C ... +80°C	-25°C ... +80°C	-5°C ... +80°C	-25°C ... +80°C	-25°C ... +80°C			-25°C ... +80°C
		/	/	-25°C ... +80°C	/	/	-25°C ... +80°C	/	/	/			
		/	/	-40°C ... +80°C	-40°C ... +80°C	/	-40°C ... +80°C	/	-40°C ... +80°C	-40°C ... +80°C			-40°C ... +80°C
		/	/	-40°C ... +80°C	-40°C ... +80°C	/	-30°C ... +80°C	/	-40°C ... +80°C	-40°C ... +80°C			-40°C ... +80°C
		/	/	-40°C ... +80°C	/	/	-30°C ... +80°C	/	/	/			
Electrical data	Thermal current I <sub>th</sub>	10 A	10 A	10 A	6 A	6 A	6 A	3 A	4 A	4 A	2 A	10 A	
	Rated insulation Voltage U <sub>i</sub>	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	300 Vdc	36 Vdc	250 Vac
	Protection against short circuits (fuse)	10 A 500 V type gG	10 A 500 V type gG	10 A 500 V type gG	6 A 500 V type gG	6 A 500 V type gG	6 A 500 V type gG	3 A 500 V type gG	4 A 500 V type gG	4 A 500 V type gG	4 A 500 V type gG	2 A 500V type gG	10 A 500 V type gG
	Utilization categories DC13	24 V	2 A	2 A	2 A	2 A	2 A	2 A	2 A	2 A	2 A	2 A	2 A
		125 V	0,4 A	0,4 A	0,4 A	0,4 A	0,4 A	0,4 A	0,4 A	0,4 A	0,4 A	/	0,4 A
		250 V	0,3 A	0,3 A	0,3 A	0,3 A	0,3 A	0,3 A	0,3 A	0,3 A	0,3 A	/	0,3 A
	Utilization categories AC15	24 V	4 A	4 A	4 A	4 A	4 A	4 A	3 A	4 A	4 A	2 A	4 A
120 V		4 A	4 A	4 A	4 A	4 A	4 A	3 A	4 A	4 A	/	4 A	
250 V		4 A	4 A	4 A	4 A	4 A	4 A	3 A	4 A	4 A	/	4 A	
Approvals of switches with integrated cable	CE cULus IMQ	CE	CE cULus IMQ	CE IMQ	CE cULus IMQ	CE cULus IMQ	CE cULus IMQ	CE cULus IMQ	CE IMQ	CE cULus IMQ	CE cULus	CE cULus	

## Internal connections



Contacts type:						With external rubber gasket		
<b>R</b> = snap action <b>L</b> = slow action								
Contact blocks								
B11	<b>R</b> NA B110AA-DN2	⊕ 1NO+1NC	<b>NA B110AB-DN2</b>	⊕ 1NO+1NC	NA B110AC-DN2	⊕ 1NO+1NC	NA B110AE-DN2	⊕ 1NO+1NC
B02	<b>R</b> NA B020AA-DN2	⊕ 2NC	NA B020AB-DN2	⊕ 2NC	NA B020AC-DN2	⊕ 2NC	NA B020AE-DN2	⊕ 2NC
B12	<b>R</b> NA B120AA-DN2	⊕ 1NO+2NC	NA B120AB-DN2	⊕ 1NO+2NC	NA B120AC-DN2	⊕ 1NO+2NC	NA B120AE-DN2	⊕ 1NO+2NC
B22	<b>R</b> NA B220AA-DN2	⊕ 2NO+2NC	NA B220AB-DN2	⊕ 2NO+2NC	NA B220AC-DN2	⊕ 2NO+2NC	NA B220AE-DN2	⊕ 2NO+2NC
G11	<b>L</b> NA G110AA-DN2	⊕ 1NO+1NC	<b>NA G110AB-DN2</b>	⊕ 1NO+1NC	NA G110AC-DN2	⊕ 1NO+1NC	NA G110AE-DN2	⊕ 1NO+1NC
G02	<b>L</b> NA G020AA-DN2	⊕ 2NC	NA G020AB-DN2	⊕ 2NC	NA G020AC-DN2	⊕ 2NC	NA G020AE-DN2	⊕ 2NC
G12	<b>L</b> NA G120AA-DN2	⊕ 1NO+2NC	NA G120AB-DN2	⊕ 1NO+2NC	NA G120AC-DN2	⊕ 1NO+2NC	NA G120AE-DN2	⊕ 1NO+2NC
G22	<b>L</b> NA G220AA-DN2	⊕ 2NO+2NC	NA G220AB-DN2	⊕ 2NO+2NC	NA G220AC-DN2	⊕ 2NO+2NC	NA G220AE-DN2	⊕ 2NO+2NC
Max speed	page 7/9 - type 4		page 7/9 - type 4		page 7/9 - type 4		page 7/9 - type 4	
Min. force	7 N (25 N ⊕)		7 N (25 N ⊕)		7 N (25 N ⊕)		7 N (25 N ⊕)	
Travel diagrams	page 7/10 - group 1		page 7/10 - group 1		page 7/10 - group 1		page 7/10 - group 1	

		With external rubber gasket		With stainless steel roller on request		With stainless steel roller on request		
Contact blocks								
B11	<b>R</b> <b>NA B110BB-DN2</b>	⊕ 1NO+1NC	NA B110BE-DN2	⊕ 1NO+1NC	NA B110CB-DN2	⊕ 1NO+1NC	NA B110CH-DN2	⊕ 1NO+1NC
B02	<b>R</b> NA B020BB-DN2	⊕ 2NC	NA B020BE-DN2	⊕ 2NC	NA B020CB-DN2	⊕ 2NC	NA B020CH-DN2	⊕ 2NC
B12	<b>R</b> NA B120BB-DN2	⊕ 1NO+2NC	NA B120BE-DN2	⊕ 1NO+2NC	NA B120CB-DN2	⊕ 1NO+2NC	NA B120CH-DN2	⊕ 1NO+2NC
B22	<b>R</b> NA B220BB-DN2	⊕ 2NO+2NC	NA B220BE-DN2	⊕ 2NO+2NC	NA B220CB-DN2	⊕ 2NO+2NC	NA B220CH-DN2	⊕ 2NO+2NC
G11	<b>L</b> <b>NA G110BB-DN2</b>	⊕ 1NO+1NC	NA G110BE-DN2	⊕ 1NO+1NC	NA G110CB-DN2	⊕ 1NO+1NC	NA G110CH-DN2	⊕ 1NO+1NC
G02	<b>L</b> NA G020BB-DN2	⊕ 2NC	NA G020BE-DN2	⊕ 2NC	NA G020CB-DN2	⊕ 2NC	NA G020CH-DN2	⊕ 2NC
G12	<b>L</b> NA G120BB-DN2	⊕ 1NO+2NC	NA G120BE-DN2	⊕ 1NO+2NC	NA G120CB-DN2	⊕ 1NO+2NC	NA G120CH-DN2	⊕ 1NO+2NC
G22	<b>L</b> NA G220BB-DN2	⊕ 2NO+2NC	NA G220BE-DN2	⊕ 2NO+2NC	NA G220CB-DN2	⊕ 2NO+2NC	NA G220CH-DN2	⊕ 2NO+2NC
Max speed	page 7/9 - type 2		page 7/9 - type 5		page 7/9 - type 3		page 7/9 - type 3	
Min. force	7 N (25 N ⊕)		7 N (25 N ⊕)		5 N (25 N ⊕)		5 N (25 N ⊕)	
Travel diagrams	page 7/10 - group 1		page 7/10 - group 1		page 7/10 - group 2		page 7/10 - group 2	

<b>Housing NB series</b>	<b>M12 connector output from right</b>	<b>M12 connector output from bottom</b>	<b>AMP superseal 1,5 connector</b>

**In order to buy a NB series product:**  
 substitute on above mentioned codes NA with NB.  
 Example:  
**NA B110AA-DN2** → **NB B110AA-DN2**

**In order to buy a product with M12 connector output from right** substitute on above mentioned codes DN2 with DMK.  
 Example:  
**NA B110AA-DN2** → **NA B110AA-DMK**

**In order to buy a product with M12 connector output from bottom** substitute on above mentioned codes DN2 with SMK.  
 Example:  
**NA B110AA-DN2** → **NA B110AA-SMK**

**In order to buy a product with AMP type connector output** substitute on above mentioned codes DN2 with SAK. Example:  
**NA B110AA-DN2** → **NA B110AA-SAK**

All measures in the drawings are in mm



Contacts type:	No switching		Switching		Fixed only by threaded head		Fixed only by threaded head With external rubber gasket						
<b>R</b> = snap action <b>L</b> = slow action													
Contact blocks													
B11	<b>R</b>	NA B110CP-DN2	⊕	1NO+1NC	NA B110CV-DN2	⊕	1NO+1NC	NA B110EB-DN2	⊕	1NO+1NC	NA B110EE-DN2	⊕	1NO+1NC
B02	<b>R</b>	NA B020CP-DN2	⊕	2NC	NA B020CV-DN2	⊕	2NC	NA B020EB-DN2	⊕	2NC	NA B020EE-DN2	⊕	2NC
B12	<b>R</b>	NA B120CP-DN2	⊕	1NO+2NC	NA B120CV-DN2	⊕	1NO+2NC	NA B120EB-DN2	⊕	1NO+2NC	NA B120EE-DN2	⊕	1NO+2NC
B22	<b>R</b>	NA B220CP-DN2	⊕	2NO+2NC	NA B220CV-DN2	⊕	2NO+2NC	NA B220EB-DN2	⊕	2NO+2NC	NA B220EE-DN2	⊕	2NO+2NC
G11	<b>L</b>	NA G110CP-DN2	⊕	1NO+1NC	NA G110CV-DN2	⊕	1NO+1NC	NA G110EB-DN2	⊕	1NO+1NC	NA G110EE-DN2	⊕	1NO+1NC
G02	<b>L</b>	NA G020CP-DN2	⊕	2NC	NA G020CV-DN2	⊕	2NC	NA G020EB-DN2	⊕	2NC	NA G020EE-DN2	⊕	2NC
G12	<b>L</b>	NA G120CP-DN2	⊕	1NO+2NC	NA G120CV-DN2	⊕	1NO+2NC	NA G120EB-DN2	⊕	1NO+2NC	NA G120EE-DN2	⊕	1NO+2NC
G22	<b>L</b>	NA G220CP-DN2	⊕	2NO+2NC	NA G220CV-DN2	⊕	2NO+2NC	NA G220EB-DN2	⊕	2NO+2NC	NA G220EE-DN2	⊕	2NO+2NC
Max speed	page 7/9 - type 3		page 7/9 - type 3		page 7/9 - type 4		page 7/9 - type 4						
Min. force	3 N (25 N ⊕)		3 N (25 N ⊕)		7 N (25 N ⊕)		7 N (25 N ⊕)						
Travel diagrams	page 7/10 - group 6		page 7/10 - group 3		page 7/10 - group 1		page 7/10 - group 1						

Contact blocks	Fixed only by threaded head		Plunger with Ø 6 mm sphere		With external rubber gasket		With external rubber gasket				
B11	<b>R</b>	NA B110FB-DN2	⊕	1NO+1NC	NA B110GB-DN2	⊕	1NO+1NC	NA B110HB-DN2	1NO+1NC	NA B110HE-DN2	1NO+1NC
B02	<b>R</b>	NA B020FB-DN2	⊕	2NC	NA B020GB-DN2	⊕	2NC	NA B020HB-DN2	2NC	NA B020HE-DN2	2NC
B12	<b>R</b>	NA B120FB-DN2	⊕	1NO+2NC	NA B120GB-DN2	⊕	1NO+2NC	NA B120HB-DN2	1NO+2NC	NA B120HE-DN2	1NO+2NC
B22	<b>R</b>	NA B220FB-DN2	⊕	2NO+2NC	NA B220GB-DN2	⊕	2NO+2NC	NA B220HB-DN2	2NO+2NC	NA B220HE-DN2	2NO+2NC
G11	<b>L</b>	NA G110FB-DN2	⊕	1NO+1NC	NA G110GB-DN2	⊕	1NO+1NC	NA G020HB-DN2	2NC	NA G020HE-DN2	2NC
G02	<b>L</b>	NA G020FB-DN2	⊕	2NC	NA G020GB-DN2	⊕	2NC				
G12	<b>L</b>	NA G120FB-DN2	⊕	1NO+2NC	NA G120GB-DN2	⊕	1NO+2NC				
G22	<b>L</b>	NA G220FB-DN2	⊕	2NO+2NC	NA G220GB-DN2	⊕	2NO+2NC				
Max speed	page 7/9 - type 2		page 7/9 - type 2		1 m/s		1 m/s				
Min. force	7 N (25 N ⊕)		7 N (25 N ⊕)		0,03 Nm		0,07 Nm				
Travel diagrams	page 7/10 - group 1		page 7/10 - group 1		page 7/10 - group 4		page 7/10 - group 4				

**Accessories**

Article	Description	Article	Description
VN DT1F	Spacers for NA-NF series	VF CA***M	Female wired connectors
VF D16B	Spacers for NB series		
	By interposing spacers between the switches, it is possible to join two or more prewired switches, preventing them from moving one against the other. <b>10 pcs</b> packs		<b>General data:</b> - Self locking ring nut - High flexibility wire suitable for dynamic laying applications (copper class 6) - Gold plated contact (resistance < 5 mΩ) - Connector body in polyurethane <b>See page 6/2</b>

Items with code on the green background are available in stock



Contacts type:

- R** = snap action
- L** = slow action

	With external rubber gasket	With stainless steel roller on request	With stainless steel roller on request	With stainless steel roller on request
Contact blocks				
B11	<b>R</b> NA B110HH-DN2 1NO+1NC	NA B112KA-DN2 $\rightarrow$ 1NO+1NC	NA B112KB-DN2 $\rightarrow$ 1NO+1NC	NA B112KC-DN2 $\rightarrow$ 1NO+1NC
B02	<b>R</b> NA B020HH-DN2 2NC	NA B022KA-DN2 $\rightarrow$ 2NC	NA B022KB-DN2 $\rightarrow$ 2NC	NA B022KC-DN2 $\rightarrow$ 2NC
B12	<b>R</b> NA B120HH-DN2 1NO+2NC	NA B122KA-DN2 $\rightarrow$ 1NO+2NC	NA B122KB-DN2 $\rightarrow$ 1NO+2NC	NA B122KC-DN2 $\rightarrow$ 1NO+2NC
B22	<b>R</b> NA B220HH-DN2 2NO+2NC	NA B222KA-DN2 $\rightarrow$ 2NO+2NC	NA B222KB-DN2 $\rightarrow$ 2NO+2NC	NA B222KC-DN2 $\rightarrow$ 2NO+2NC
G11	<b>L</b>	NA G112KA-DN2 $\rightarrow$ 1NO+1NC	NA G112KB-DN2 $\rightarrow$ 1NO+1NC	NA G112KC-DN2 $\rightarrow$ 1NO+1NC
G02	<b>L</b> NA G020HH-DN2 2NC	NA G022KA-DN2 $\rightarrow$ 2NC	NA G022KB-DN2 $\rightarrow$ 2NC	NA G022KC-DN2 $\rightarrow$ 2NC
G12	<b>L</b>	NA G122KA-DN2 $\rightarrow$ 1NO+2NC	NA G122KB-DN2 $\rightarrow$ 1NO+2NC	NA G122KC-DN2 $\rightarrow$ 1NO+2NC
G22	<b>L</b>	NA G222KA-DN2 $\rightarrow$ 2NO+2NC	NA G222KB-DN2 $\rightarrow$ 2NO+2NC	NA G222KC-DN2 $\rightarrow$ 2NO+2NC
Max speed	1 m/s	page 7/9 - type 1	page 7/9 - type 1	page 7/9 - type 1
Min. force	0,03 Nm	0,07 Nm (0,25 Nm $\rightarrow$ )	0,07 Nm (0,25 Nm $\rightarrow$ )	0,07 Nm (0,25 Nm $\rightarrow$ )
Travel diagrams	page 7/10 - group 4	page 7/10 - group 5	page 7/10 - group 5	page 7/10 - group 5

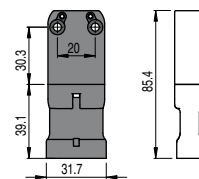
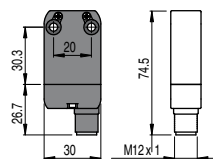
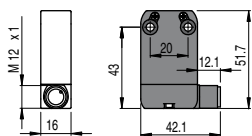
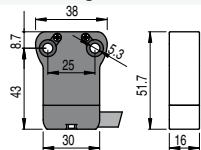
	With stainless steel roller on request	With stainless steel roller on request	With stainless steel roller on request	With stainless steel roller on request
Contact blocks				
B11	<b>R</b> NA B112KD-DN2 $\rightarrow$ 1NO+1NC	NA B112KE-DN2 $\rightarrow$ 1NO+1NC	NA B112KF-DN2 $\rightarrow$ 1NO+1NC	NA B112KG-DN2 $\rightarrow$ 1NO+1NC
B02	<b>R</b> NA B022KD-DN2 $\rightarrow$ 2NC	NA B022KE-DN2 $\rightarrow$ 2NC	NA B022KF-DN2 $\rightarrow$ 2NC	NA B022KG-DN2 $\rightarrow$ 2NC
B12	<b>R</b> NA B122KD-DN2 $\rightarrow$ 1NO+2NC	NA B122KE-DN2 $\rightarrow$ 1NO+2NC	NA B122KF-DN2 $\rightarrow$ 1NO+2NC	NA B122KG-DN2 $\rightarrow$ 1NO+2NC
B22	<b>R</b> NA B222KD-DN2 $\rightarrow$ 2NO+2NC	NA B222KE-DN2 $\rightarrow$ 2NO+2NC	NA B222KF-DN2 $\rightarrow$ 2NO+2NC	NA B222KG-DN2 $\rightarrow$ 2NO+2NC
G11	<b>L</b> NA G112KD-DN2 $\rightarrow$ 1NO+1NC	NA G112KE-DN2 $\rightarrow$ 1NO+1NC	NA G112KF-DN2 $\rightarrow$ 1NO+1NC	NA G112KG-DN2 $\rightarrow$ 1NO+1NC
G02	<b>L</b> NA G022KD-DN2 $\rightarrow$ 2NC	NA G022KE-DN2 $\rightarrow$ 2NC	NA G022KF-DN2 $\rightarrow$ 2NC	NA G022KG-DN2 $\rightarrow$ 2NC
G12	<b>L</b> NA G122KD-DN2 $\rightarrow$ 1NO+2NC	NA G122KE-DN2 $\rightarrow$ 1NO+2NC	NA G122KF-DN2 $\rightarrow$ 1NO+2NC	NA G122KG-DN2 $\rightarrow$ 1NO+2NC
G22	<b>L</b> NA G222KD-DN2 $\rightarrow$ 2NO+2NC	NA G222KE-DN2 $\rightarrow$ 2NO+2NC	NA G222KF-DN2 $\rightarrow$ 2NO+2NC	NA G222KG-DN2 $\rightarrow$ 2NO+2NC
Max speed	page 7/9 - type 1	page 7/9 - type 1	page 7/9 - type 1	page 7/9 - type 1
Min. force	0,07 Nm (0,25 Nm $\rightarrow$ )	0,07 Nm (0,25 Nm $\rightarrow$ )	0,07 Nm (0,25 Nm $\rightarrow$ )	0,07 Nm (0,25 Nm $\rightarrow$ )
Travel diagrams	page 7/10 - group 5	page 7/10 - group 5	page 7/10 - group 5	page 7/10 - group 5

Housing NB series

M12 connector output from right

M12 connector output from bottom

AMP superseal 1,5 connector



**In order to buy a NB series product:**  
 substitute on above mentioned codes NA with NB.  
 Example:  
 NA B110AA-DN2  $\rightarrow$  NB B110AA-DN2

**In order to buy a product with M12 connector output from right** substitute on above mentioned codes DN2 with DMK.  
 Example:  
 NA B110AA-DN2  $\rightarrow$  NA B110AA-DMK

**In order to buy a product with M12 connector output from bottom** substitute on above mentioned codes DN2 with SMK.  
 Example:  
 NA B110AA-DN2  $\rightarrow$  NA B110AA-SMK

**In order to buy a product with AMP type connector output** substitute on above mentioned codes DN2 with SAK. Example:  
 NA B110AA-DN2  $\rightarrow$  NA B110AA-SAK



Contacts type:	With stainless steel roller on request	With stainless steel roller on request	Stainless steel 3x3 mm square rod	Ø 3 mm stainless steel round rod
<b>R</b> = snap action <b>L</b> = slow action				
Contact blocks				
B11 <b>R</b>	NA B112KH-DN2  1NO+1NC	NA B112KP-DN2  1NO+1NC	NA B112LB-DN2 1NO+1NC	NA B112LE-DN2 1NO+1NC
B02 <b>R</b>	NA B022KH-DN2  2NC	NA B022KP-DN2  2NC	NA B022LB-DN2 2NC	NA B022LE-DN2 2NC
B12 <b>R</b>	NA B122KH-DN2  1NO+2NC	NA B122KP-DN2  1NO+2NC	NA B122LB-DN2 1NO+2NC	NA B122LE-DN2 1NO+2NC
B22 <b>R</b>	NA B222KH-DN2  2NO+2NC	NA B222KP-DN2  2NO+2NC	NA B222LB-DN2 2NO+2NC	NA B222LE-DN2 2NO+2NC
G11 <b>L</b>	NA G112KH-DN2  1NO+1NC	NA G112KP-DN2  1NO+1NC	NA G112LB-DN2 1NO+1NC	NA G112LE-DN2 1NO+1NC
G02 <b>L</b>	NA G022KH-DN2  2NC	NA G022KP-DN2  2NC	NA G022LB-DN2 2NC	NA G022LE-DN2 2NC
G12 <b>L</b>	NA G122KH-DN2  1NO+2NC	NA G122KP-DN2  1NO+2NC	NA G122LB-DN2 1NO+2NC	NA G122LE-DN2 1NO+2NC
G22 <b>L</b>	NA G222KH-DN2  2NO+2NC	NA G222KP-DN2  2NO+2NC	NA G222LB-DN2 2NO+2NC	NA G222LE-DN2 2NO+2NC
Max speed	page 7/9 - type 1	page 7/9 - type 1	1,5 m/s	1,5 m/s
Min. force	0,07 Nm (0,25 Nm )	0,07 Nm (0,25 Nm )	0,07 Nm	0,07 Nm
Travel diagrams	page 7/10 - group 5	page 7/10 - group 5	page 7/10 - group 5	page 7/10 - group 5

Contacts type:	Fiber glass rod	Porcelain roller	
Contact blocks			
B11 <b>R</b>	NA B112LH-DN2 1NO+1NC	NA B112LL-DN2 1NO+1NC	NA B112LP-DN2E24  1NO+1NC
B02 <b>R</b>	NA B022LH-DN2 2NC	NA B022LL-DN2 2NC	NA B022LP-DN2E24  2NC
B12 <b>R</b>	NA B122LH-DN2 1NO+2NC	NA B122LL-DN2 1NO+2NC	NA B122LP-DN2E24  1NO+2NC
B22 <b>R</b>	NA B222LH-DN2 2NO+2NC	NA B222LL-DN2 2NO+2NC	NA B222LP-DN2E24  2NO+2NC
G11 <b>L</b>	NA G112LH-DN2 1NO+1NC	NA G112LL-DN2 1NO+1NC	NA G112LP-DN2E24  1NO+1NC
G02 <b>L</b>	NA G022LH-DN2 2NC	NA G022LL-DN2 2NC	NA G022LP-DN2E24  2NC
G12 <b>L</b>	NA G122LH-DN2 1NO+2NC	NA G122LL-DN2 1NO+2NC	NA G122LP-DN2E24  1NO+2NC
G22 <b>L</b>	NA G222LH-DN2 2NO+2NC	NA G222LL-DN2 2NO+2NC	NA G222LP-DN2E24  2NO+2NC
Max speed	1,5 m/s	1,5 m/s	0,5 m/s
Min. force	0,07 Nm	0,07 Nm	0,04 Nm
Travel diagrams	page 7/10 - group 5	page 7/10 - group 5	page 7/10 - group 5

**Accessories**

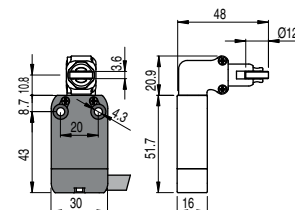
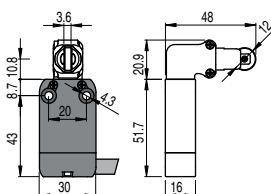
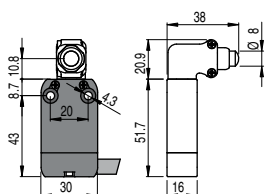
Article	Description	Article	Description
VN DT1F	Spacers for NA-NF series	VF CA***M	Female wired connectors
VF D16B	Spacers for NB series		
	By interposing spacers between the switches, it is possible to join two or more prewired switches, preventing them from moving one against the other. <b>10 pcs</b> packs		<b>General data:</b> - Self locking ring nut - High flexibility wire suitable for dynamic laying applications (copper class 6) - Gold plated contact (resistance < 5 mΩ) - Connector body in polyurethane <b>See page 6/2</b>

Items with code on the green background are available in stock



Contacts type:

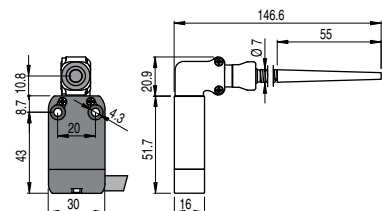
- R** = snap action
- L** = slow action



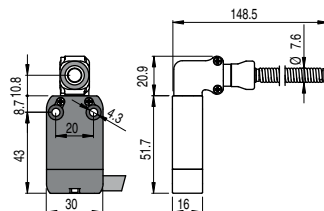
Contact blocks

B11	<b>R</b>	NA B110AB-DN2W5	⊕ 1NO+1NC	NA B110BB-DN2H0W5	⊕ 1NO+1NC	NA B110BB-DN2W5	⊕ 1NO+1NC
B02	<b>R</b>	NA B020AB-DN2W5	⊕ 2NC	NA B020BB-DN2H0W5	⊕ 2NC	NA B020BB-DN2W5	⊕ 2NC
B12	<b>R</b>	NA B120AB-DN2W5	⊕ 1NO+2NC	NA B120BB-DN2H0W5	⊕ 1NO+2NC	NA B120BB-DN2W5	⊕ 1NO+2NC
B22	<b>R</b>	NA B220AB-DN2W5	⊕ 2NO+2NC	NA B220BB-DN2H0W5	⊕ 2NO+2NC	NA B220BB-DN2W5	⊕ 2NO+2NC
G11	<b>L</b>	NA G110AB-DN2W5	⊕ 1NO+1NC	NA G110BB-DN2H0W5	⊕ 1NO+1NC	NA G110BB-DN2W5	⊕ 1NO+1NC
G02	<b>L</b>	NA G020AB-DN2W5	⊕ 2NC	NA G020BB-DN2H0W5	⊕ 2NC	NA G020BB-DN2W5	⊕ 2NC
G12	<b>L</b>	NA G120AB-DN2W5	⊕ 1NO+2NC	NA G120BB-DN2H0W5	⊕ 1NO+2NC	NA G120BB-DN2W5	⊕ 1NO+2NC
G22	<b>L</b>	NA G220AB-DN2W5	⊕ 2NO+2NC	NA G220BB-DN2H0W5	⊕ 2NO+2NC	NA G220BB-DN2W5	⊕ 2NO+2NC
Max speed		page 7/9 - type 4		page 7/9 - type 2		page 7/9 - type 2	
Min. force		9,5 N (25 N ⊕)		9,5 N (25 N ⊕)		9,5 N (25 N ⊕)	
Travel diagrams		page 7/10 - group 1		page 7/10 - group 1		page 7/10 - group 1	

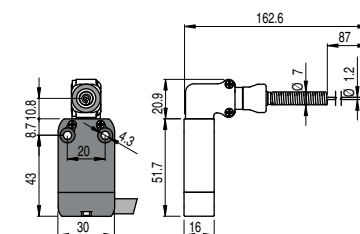
With external rubber gasket



With external rubber gasket



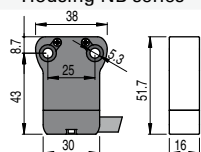
With external rubber gasket



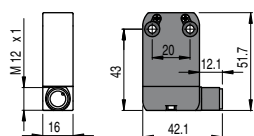
Contact blocks

B11	<b>R</b>	NA B110HB-DN2W5	1NO+1NC	NA B110HE-DN2W5	1NO+1NC	NA B110HH-DN2W5	1NO+1NC
B02	<b>R</b>	NA B020HB-DN2W5	2NC	NA B020HE-DN2W5	2NC	NA B020HH-DN2W5	2NC
B12	<b>R</b>	NA B120HB-DN2W5	1NO+2NC	NA B120HE-DN2W5	1NO+2NC	NA B120HH-DN2W5	1NO+2NC
B22	<b>R</b>	NA B220HB-DN2W5	2NO+2NC	NA B220HE-DN2W5	2NO+2NC	NA B220HH-DN2W5	2NO+2NC
G11	<b>L</b>						
G02	<b>L</b>	NA G020HB-DN2W5	2NC	NA G020HE-DN2W5	2NC	NA G020HH-DN2W5	2NC
G12	<b>L</b>						
G22	<b>L</b>						
Max speed		1 m/s		1 m/s		1 m/s	
Min. force		0,08 Nm		0,12 Nm		0,08 Nm	
Travel diagrams		page 7/10 - group 4		page 7/10 - group 4		page 7/10 - group 4	

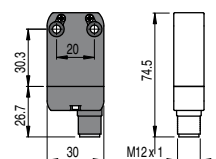
Housing NB series



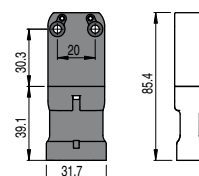
M12 connector output from right



M12 connector output from bottom



AMP superseal 1,5 connector



**In order to buy a NB series product:**  
 substitute on above mentioned codes NA with NB.  
 Example:  
**NA B110AA-DN2 → NB B110AA-DN2**

**In order to buy a product with M12 connector output from right** substitute on above mentioned codes DN2 with DMK.  
 Example:  
**NA B110AA-DN2 → NA B110AA-DMK**

**In order to buy a product with M12 connector output from bottom** substitute on above mentioned codes DN2 with SMK.  
 Example:  
**NA B110AA-DN2 → NA B110AA-SMK**

**In order to buy a product with AMP type connector output** substitute on above mentioned codes DN2 with SAK. Example:  
**NA B110AA-DN2 → NA B110AA-SAK**

