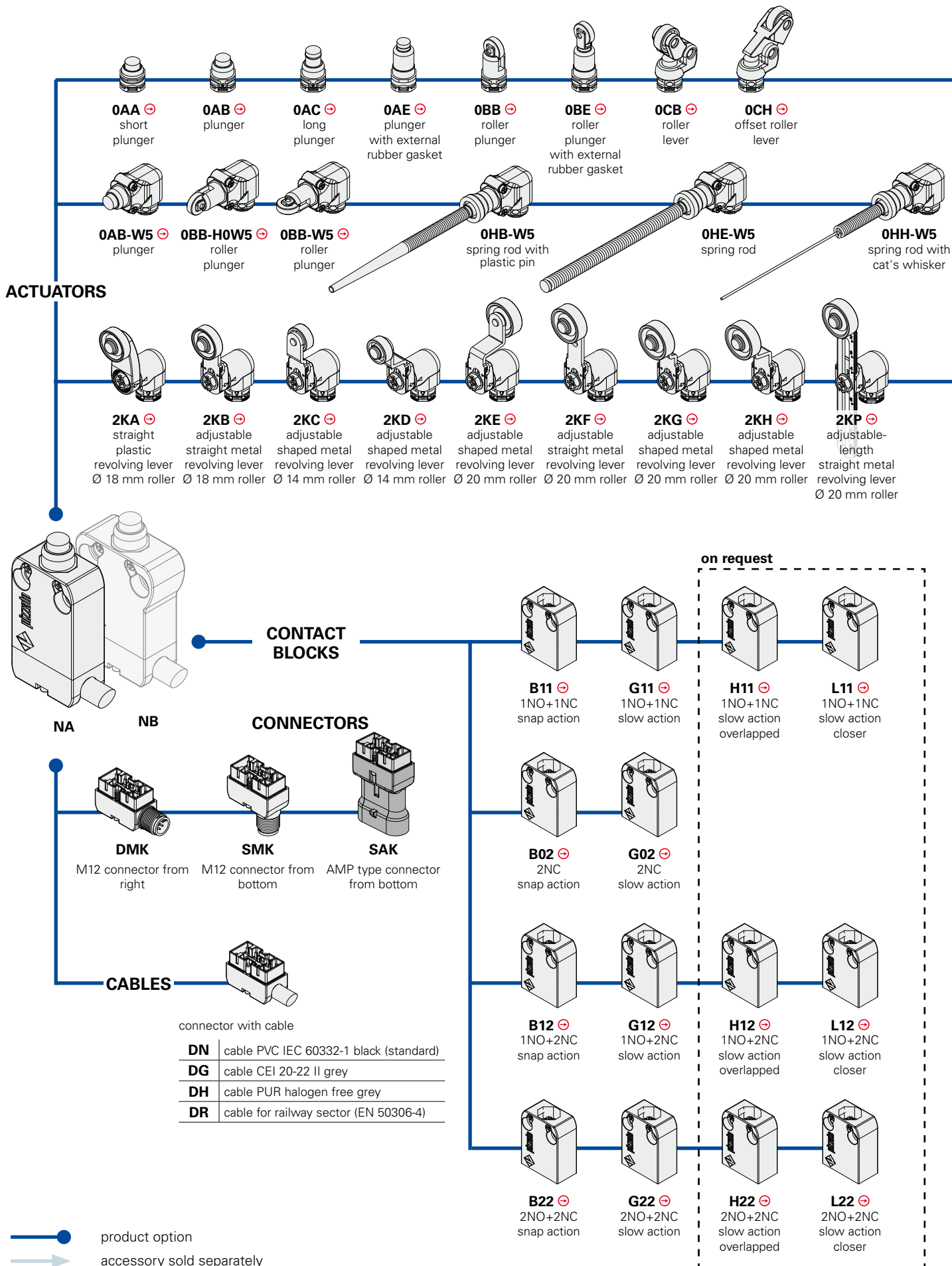
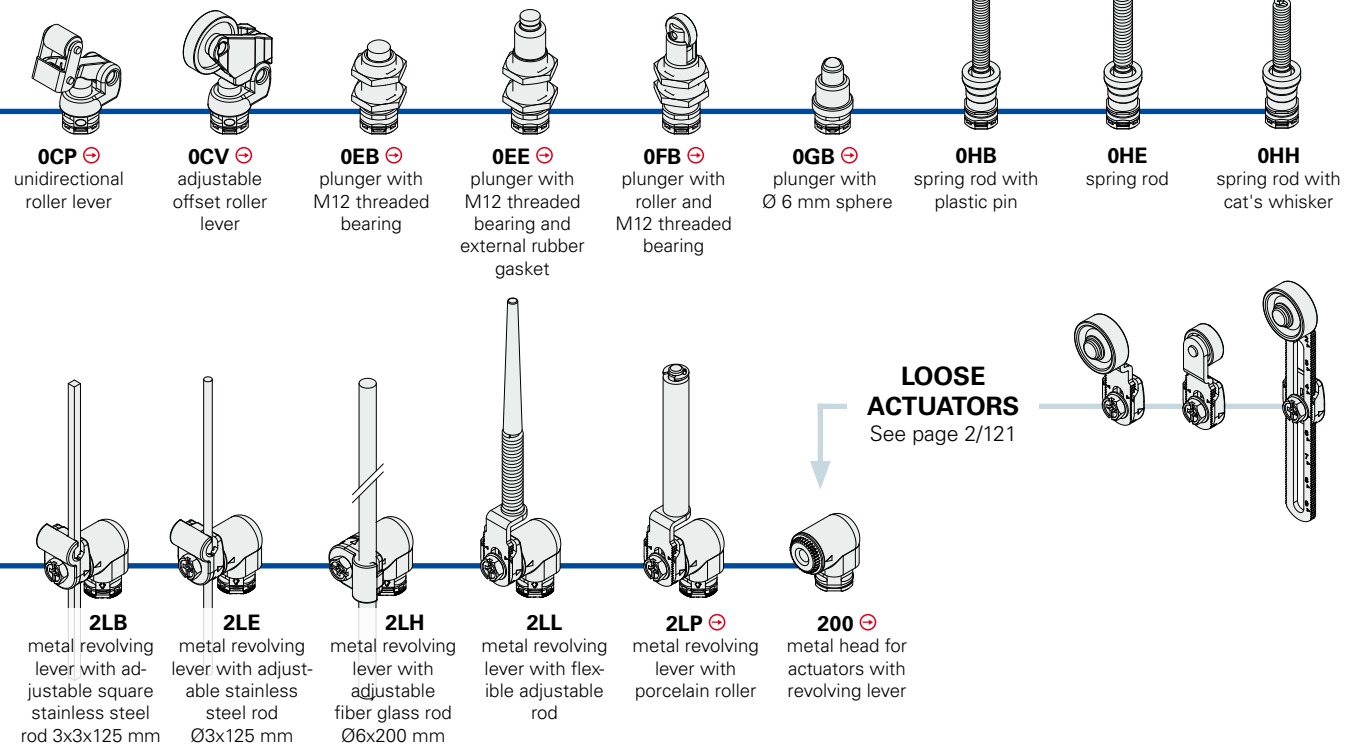


Selection diagram for articles NA-NB series sold assembled





LOOSE ACTUATORS
See page 2/121

Code structure

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

article **NA B110AB-DN2** options **GR7T6W5**

<p>Housing</p> <p>NA metal, 20 mm holes interaxes</p> <p>NB metal, 25 mm holes interaxes</p>	<p>Transmission block</p> <p>without transmission block</p> <p>W5 90° transmission block</p>
<p>Contact blocks</p> <p>B11 1NO+1NC, snap action</p> <p>B02 2NC, snap action</p> <p>B12 1NO+2NC, snap action</p> <p>B22 2NO+2NC, snap action</p> <p>G11 1NO+1NC, slow action</p> <p>G02 2NC, slow action</p> <p>G12 1NO+2NC, slow action</p> <p>G22 2NO+2NC, slow action</p> <p>H11 1NO+1NC, slow action overlapped</p> <p>H12 1NO+2NC, slow action overlapped</p> <p>H22 2NO+2NC, slow action overlapped</p> <p>L11 1NO+1NC, slow action closer</p> <p>L12 1NO+2NC, slow action closer</p> <p>L22 2NO+2NC, slow action closer</p> <p>Other Contact blocks on requests.</p>	<p>Utilization temperatures</p> <p>-25 °C ... +80 °C</p> <p>T6 -40 °C ... +80 °C</p>
<p>Actuation heads</p> <p>0 without head</p> <p>2 head for revolving lever actuators</p>	<p>Roller</p> <p>with standard roller</p> <p>R7 with Ø 18 mm plastic roller</p> <p>R18 with Ø 14 mm plastic roller</p> <p>R19 with Ø 22 mm plastic roller</p> <p>R22 with Ø 20 mm plastic roller</p> <p>R23 with Ø 14 mm stainless steel roller</p> <p>R24 with Ø 20 mm stainless steel roller</p> <p>R25 with Ø 35 mm plastic roller</p>
<p>Actuators</p> <p>00 without actuator</p> <p>AA with short plunger</p> <p>AB with plunger</p> <p>...</p>	<p>Contacts type</p> <p>silver contacts (standard)</p> <p>G silver contacts gold plated 1 µm</p>
<p>Connection output direction</p> <p>D cable or connector from right</p> <p>S connector form bottom</p>	<p>Cable length</p> <p>2 cable length 2 m (standard)</p> <p>5 cable length 5 m</p> <p>K with connector</p> <p>Other length on requests.</p>
	<p>Type of cable</p> <p>N cable PVC IEC 60332-1 black (standard)</p> <p>G cable CEI 20-22 II grey</p> <p>H cable PUR halogen free grey</p> <p>R cable for railway sector (EN 50306-4)</p> <p>M M12 connector</p> <p>A super seal 1,5 AMP connector</p>

**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 (⊕)
- Protection degree IP67 and IP69K
- 14 contact blocks available
- 36 actuators available

Markings and quality marks:

Approval IMQ: CA02.03746
Approval UL: E131787

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: ≥ 300 hours in NSS according to ISO 9227

General data

Utilization temperatures: See table on page 2/104
Max actuation frequency: 3600 operations cycles¹/hour
Mechanical endurance: 20 million operations cycles¹
Assembling position: any
Driving torque for installation: see pages 7/1-7/10
(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.

⚠ Installation for persons protection applications:

Use only switches marked with the symbol (⊕). 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 7/10.

⚠ 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.

Data type approved by IMQ

Rated insulation voltage (U_i): 250 Vac
Thermal current (I_{th}): 10 A (1-2 contacts) / 6 A (3 contacts) / 4 A (4 contacts e with connector)
Protection against short circuits (fuse): 10 A (1-2 contacts) / 6 A (3 contacts) / 4 A (4 contacts e with 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_e): 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
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)
Data of the housing type 1, 4X "indoor use only" 12
Data of the housing with 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.

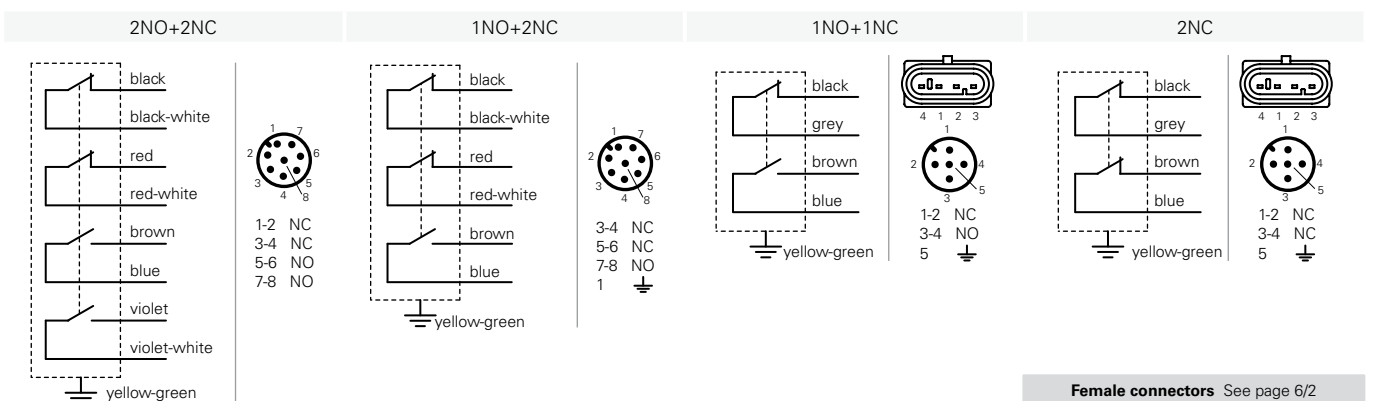


Utilization temperatures and electrical data

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 ² ,	Cable type G 5x0,75 mm ² ,	Cable type H 5x0,75 mm ² ,	Cable type R 5x0,5mm ²	Cable type N 7x0,5 mm ²	Cable type H 7x0,5 mm ² ,	Cable type N 9x0,34 mm ²	Cable type R 9x0,5mm ²	5 poles M12 connector	8 poles M12 connector	AMP super seal 1,5 connector
		Max Speed 100 m/min Max Acceleration 2 m/s ²	Cable for railway applications EN50306-4 1E-300V-5x0,5 mm ² MM-90		Max Speed 300 m/min Max Acceleration 25 m/s ²		Cable for railway applications EN50306-4 1P-300V-9x0,5 mm ² MM-90			
Sheath PVC H05VV-F, Not flame- spreading IEC 60332-1-2 IEC 60332-1-3 IEC 60332-2-2	Sheath PVC S05VV-F, Not flame- spreading IEC 60332-1-2 IEC 60332-1-3 IEC 60332-2-2 IEC 60332-3 CEI 20-22 II	Sheath PUR HALO- GEN FREE Not flame- spreading IEC 60332-1-2 IEC 60332-1-3 IEC 60332-2-2 IEC 60332-3	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 IEC 60332-2-2	Sheath PUR HALO- GEN FREE Not flame- spreading IEC 60332-1-2 IEC 60332-1-3 IEC 60332-2-2 IEC 60332-3	Sheath PVC H05VV-F, Not flame- spreading IEC 60332-1-2 IEC 60332-1-3 IEC 60332-2-2	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 IEC 60754-1 Oil-resistant IEC 60811-2-1 Gas emission reduced IEC 61034-1	Min. bend radius: 60 mm Fumes density: EN 50306 IEC 61304-2 EN 50305 TC<5 Halogen content: IEC 60754-1 0% EN 50267 0% Fumes corrosion: EN 50267 pH>4,3 IEC 60754-4/2 pH>4,3	Min. bend radius 108 mm	Min. bend radius: 108 mm Without halogens IEC 60754-1 Oil-resistant IEC 60811-2-1 Gas emission reduced IEC 61034-1	Min. bend radius: 94 mm	Min. bend radius: 60 mm Fumes density: EN 50306 IEC 61304-2 EN 50305 TC<5 Halogen content: IEC 60754-1 0% EN 50267 0% Fumes corrosion: EN 50267 pH>4,3 IEC 60754-4/2 pH>4,3			
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								Standard				
	Fixed 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			
Flexible laying cable	+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	
Dynamic laying cable	/	/	-25°C ... +80°C	/	/	-25°C ... +80°C	/	/	/				
Fixed laying cable	/	/	-40°C ... +80°C	-40°C ... +80°C	/	-40°C ... +80°C	/	-40°C ... +80°C	-40°C ... +80°C				
Flexible laying cable	/	/	-40°C ... +80°C	-40°C ... +80°C	/	-30°C ... +80°C	/	-40°C ... +80°C	-40°C ... +80°C			-40°C ... +80°C	
Dynamic laying cable	/	/	-40°C ... +80°C	/	/	-30°C ... +80°C	/	/	/				
Thermal current I _{th}	10 A	10 A	10 A	6 A	6 A	6 A	4 A	4 A	4 A	2 A	10 A		
Rated insulation Voltage U _i	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	300 Vdc	300 Vdc	
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	4 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	
Electrical data	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	4 A	4 A	4 A	2 A	4 A
		120 V	4 A	4 A	4 A	4 A	4 A	4 A	4 A	4 A	4 A	/	4 A
		250 V	4 A	4 A	4 A	4 A	4 A	4 A	4 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 cULus IMQ	CE cULus IMQ	CE cULus IMQ	CE cULus IMQ	

Internal connections



Female connectors See page 6/2

Contacts type:						With external rubber gasket			
R = snap action L = slow action									
Contact blocks									
B11	R	NA B110AA-DN2	⊕ 1NO+1NC	NA B110AB-DN2	⊕ 1NO+1NC	NA B110AC-DN2	⊕ 1NO+1NC	NA B110AE-DN2	⊕ 1NO+1NC
B02	R	NA B020AA-DN2	⊕ 2NC	NA B020AB-DN2	⊕ 2NC	NA B020AC-DN2	⊕ 2NC	NA B020AE-DN2	⊕ 2NC
B12	R	NA B120AA-DN2	⊕ 1NO+2NC	NA B120AB-DN2	⊕ 1NO+2NC	NA B120AC-DN2	⊕ 1NO+2NC	NA B120AE-DN2	⊕ 1NO+2NC
B22	R	NA B220AA-DN2	⊕ 2NO+2NC	NA B220AB-DN2	⊕ 2NO+2NC	NA B220AC-DN2	⊕ 2NO+2NC	NA B220AE-DN2	⊕ 2NO+2NC
G11	L	NA G110AA-DN2	⊕ 1NO+1NC	NA G110AB-DN2	⊕ 1NO+1NC	NA G110AC-DN2	⊕ 1NO+1NC	NA G110AE-DN2	⊕ 1NO+1NC
G02	L	NA G020AA-DN2	⊕ 2NC	NA G020AB-DN2	⊕ 2NC	NA G020AC-DN2	⊕ 2NC	NA G020AE-DN2	⊕ 2NC
G12	L	NA G120AA-DN2	⊕ 1NO+2NC	NA G120AB-DN2	⊕ 1NO+2NC	NA G120AC-DN2	⊕ 1NO+2NC	NA G120AE-DN2	⊕ 1NO+2NC
G22	L	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	

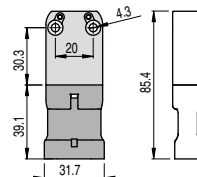
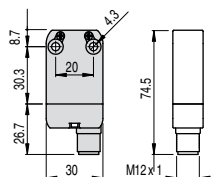
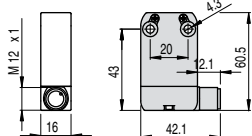
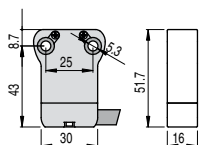
		With external rubber gasket		With stainless steel roller on request		With stainless steel roller on request			
Contact blocks									
B11	R	NA B110BB-DN2	⊕ 1NO+1NC	NA B110BE-DN2	⊕ 1NO+1NC	NA B110CB-DN2	⊕ 1NO+1NC	NA B110CH-DN2	⊕ 1NO+1NC
B02	R	NA B020BB-DN2	⊕ 2NC	NA B020BE-DN2	⊕ 2NC	NA B020CB-DN2	⊕ 2NC	NA B020CH-DN2	⊕ 2NC
B12	R	NA B120BB-DN2	⊕ 1NO+2NC	NA B120BE-DN2	⊕ 1NO+2NC	NA B120CB-DN2	⊕ 1NO+2NC	NA B120CH-DN2	⊕ 1NO+2NC
B22	R	NA B220BB-DN2	⊕ 2NO+2NC	NA B220BE-DN2	⊕ 2NO+2NC	NA B220CB-DN2	⊕ 2NO+2NC	NA B220CH-DN2	⊕ 2NO+2NC
G11	L	NA G110BB-DN2	⊕ 1NO+1NC	NA G110BE-DN2	⊕ 1NO+1NC	NA G110CB-DN2	⊕ 1NO+1NC	NA G110CH-DN2	⊕ 1NO+1NC
G02	L	NA G020BB-DN2	⊕ 2NC	NA G020BE-DN2	⊕ 2NC	NA G020CB-DN2	⊕ 2NC	NA G020CH-DN2	⊕ 2NC
G12	L	NA G120BB-DN2	⊕ 1NO+2NC	NA G120BE-DN2	⊕ 1NO+2NC	NA G120CB-DN2	⊕ 1NO+2NC	NA G120CH-DN2	⊕ 1NO+2NC
G22	L	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	

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

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						
R = snap action L = slow action													
Contact blocks													
B11	R	NA B110CP-DN2	↻	1NO+1NC	NA B110CV-DN2	↻	1NO+1NC	NA B110EB-DN2	↻	1NO+1NC	NA B110EE-DN2	↻	1NO+1NC
B02	R	NA B020CP-DN2	↻	2NC	NA B020CV-DN2	↻	2NC	NA B020EB-DN2	↻	2NC	NA B020EE-DN2	↻	2NC
B12	R	NA B120CP-DN2	↻	1NO+2NC	NA B120CV-DN2	↻	1NO+2NC	NA B120EB-DN2	↻	1NO+2NC	NA B120EE-DN2	↻	1NO+2NC
B22	R	NA B220CP-DN2	↻	2NO+2NC	NA B220CV-DN2	↻	2NO+2NC	NA B220EB-DN2	↻	2NO+2NC	NA B220EE-DN2	↻	2NO+2NC
G11	L	NA G110CP-DN2	↻	1NO+1NC	NA G110CV-DN2	↻	1NO+1NC	NA G110EB-DN2	↻	1NO+1NC	NA G110EE-DN2	↻	1NO+1NC
G02	L	NA G020CP-DN2	↻	2NC	NA G020CV-DN2	↻	2NC	NA G020EB-DN2	↻	2NC	NA G020EE-DN2	↻	2NC
G12	L	NA G120CP-DN2	↻	1NO+2NC	NA G120CV-DN2	↻	1NO+2NC	NA G120EB-DN2	↻	1NO+2NC	NA G120EE-DN2	↻	1NO+2NC
G22	L	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	R	NA B110FB-DN2	↻	1NO+1NC	NA B110GB-DN2	↻	1NO+1NC	NA B110HB-DN2	↻	1NO+1NC	NA B110HE-DN2	↻	1NO+1NC
B02	R	NA B020FB-DN2	↻	2NC	NA B020GB-DN2	↻	2NC	NA B020HB-DN2	↻	2NC	NA B020HE-DN2	↻	2NC
B12	R	NA B120FB-DN2	↻	1NO+2NC	NA B120GB-DN2	↻	1NO+2NC	NA B120HB-DN2	↻	1NO+2NC	NA B120HE-DN2	↻	1NO+2NC
B22	R	NA B220FB-DN2	↻	2NO+2NC	NA B220GB-DN2	↻	2NO+2NC	NA B220HB-DN2	↻	2NO+2NC	NA B220HE-DN2	↻	2NO+2NC
G11	L	NA G110FB-DN2	↻	1NO+1NC	NA G110GB-DN2	↻	1NO+1NC	NA G110HB-DN2	↻	1NO+1NC	NA G110HE-DN2	↻	1NO+1NC
G02	L	NA G020FB-DN2	↻	2NC	NA G020GB-DN2	↻	2NC	NA G020HB-DN2	↻	2NC	NA G020HE-DN2	↻	2NC
G12	L	NA G120FB-DN2	↻	1NO+2NC	NA G120GB-DN2	↻	1NO+2NC	NA G120HB-DN2	↻	1NO+2NC	NA G120HE-DN2	↻	1NO+2NC
G22	L	NA G220FB-DN2	↻	2NO+2NC	NA G220GB-DN2	↻	2NO+2NC	NA G220HB-DN2	↻	2NO+2NC	NA G220HE-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. 10 pcs packs		General data: - 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 See page 6/2

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
Contacts type:				
Contact blocks				
B11	R NA B110HH-DN2 1NO+1NC	NA B112KA-DN2 \rightarrow 1NO+1NC	NA B112KB-DN2 \rightarrow 1NO+1NC	NA B112KC-DN2 \rightarrow 1NO+1NC
B02	R NA B020HH-DN2 2NC	NA B022KA-DN2 \rightarrow 2NC	NA B022KB-DN2 \rightarrow 2NC	NA B022KC-DN2 \rightarrow 2NC
B12	R NA B120HH-DN2 1NO+2NC	NA B122KA-DN2 \rightarrow 1NO+2NC	NA B122KB-DN2 \rightarrow 1NO+2NC	NA B122KC-DN2 \rightarrow 1NO+2NC
B22	R NA B220HH-DN2 2NO+2NC	NA B222KA-DN2 \rightarrow 2NO+2NC	NA B222KB-DN2 \rightarrow 2NO+2NC	NA B222KC-DN2 \rightarrow 2NO+2NC
G11	L NA G110HH-DN2 1NO+1NC	NA G112KA-DN2 \rightarrow 1NO+1NC	NA G112KB-DN2 \rightarrow 1NO+1NC	NA G112KC-DN2 \rightarrow 1NO+1NC
G02	L NA G020HH-DN2 2NC	NA G022KA-DN2 \rightarrow 2NC	NA G022KB-DN2 \rightarrow 2NC	NA G022KC-DN2 \rightarrow 2NC
G12	L NA G120HH-DN2 1NO+2NC	NA G122KA-DN2 \rightarrow 1NO+2NC	NA G122KB-DN2 \rightarrow 1NO+2NC	NA G122KC-DN2 \rightarrow 1NO+2NC
G22	L NA G220HH-DN2 2NO+2NC	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
Contacts type:				
Contact blocks				
B11	R 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	R NA B022KD-DN2 \rightarrow 2NC	NA B022KE-DN2 \rightarrow 2NC	NA B022KF-DN2 \rightarrow 2NC	NA B022KG-DN2 \rightarrow 2NC
B12	R 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	R 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	L 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	L NA G022KD-DN2 \rightarrow 2NC	NA G022KE-DN2 \rightarrow 2NC	NA G022KF-DN2 \rightarrow 2NC	NA G022KG-DN2 \rightarrow 2NC
G12	L 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	L 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
R = snap action L = slow action				
Contact blocks				
B11 R	NA B112KH-DN2 1NO+1NC	NA B112KP-DN2 1NO+1NC	NA B112LB-DN2 1NO+1NC	NA B112LE-DN2 1NO+1NC
B02 R	NA B022KH-DN2 2NC	NA B022KP-DN2 2NC	NA B022LB-DN2 2NC	NA B022LE-DN2 2NC
B12 R	NA B122KH-DN2 1NO+2NC	NA B122KP-DN2 1NO+2NC	NA B122LB-DN2 1NO+2NC	NA B122LE-DN2 1NO+2NC
B22 R	NA B222KH-DN2 2NO+2NC	NA B222KP-DN2 2NO+2NC	NA B222LB-DN2 2NO+2NC	NA B222LE-DN2 2NO+2NC
G11 L	NA G112KH-DN2 1NO+1NC	NA G112KP-DN2 1NO+1NC	NA G112LB-DN2 1NO+1NC	NA G112LE-DN2 1NO+1NC
G02 L	NA G022KH-DN2 2NC	NA G022KP-DN2 2NC	NA G022LB-DN2 2NC	NA G022LE-DN2 2NC
G12 L	NA G122KH-DN2 1NO+2NC	NA G122KP-DN2 1NO+2NC	NA G122LB-DN2 1NO+2NC	NA G122LE-DN2 1NO+2NC
G22 L	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 R	NA B112LH-DN2 1NO+1NC	NA B112LL-DN2 1NO+1NC	NA B112LP-DN2E24 1NO+1NC
B02 R	NA B022LH-DN2 2NC	NA B022LL-DN2 2NC	NA B022LP-DN2E24 2NC
B12 R	NA B122LH-DN2 1NO+2NC	NA B122LL-DN2 1NO+2NC	NA B122LP-DN2E24 1NO+2NC
B22 R	NA B222LH-DN2 2NO+2NC	NA B222LL-DN2 2NO+2NC	NA B222LP-DN2E24 2NO+2NC
G11 L	NA G112LH-DN2 1NO+1NC	NA G112LL-DN2 1NO+1NC	NA G112LP-DN2E24 1NO+1NC
G02 L	NA G022LH-DN2 2NC	NA G022LL-DN2 2NC	NA G022LP-DN2E24 2NC
G12 L	NA G122LH-DN2 1NO+2NC	NA G122LL-DN2 1NO+2NC	NA G122LP-DN2E24 1NO+2NC
G22 L	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
VN DT1F	Spacers for NA-NF series
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.

10 pcs packs

Article	Description
VF CA***M	Female wired connectors

General data:

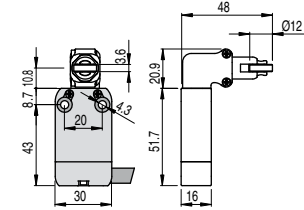
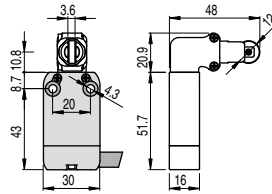
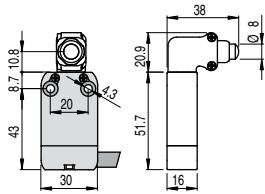
- Self locking ring nut
- High flexibility wire suitable for dynamic laying applications (copper class 6)
- Gold plated contact (resistance < 5 mΩ)
- Connector body in polyurethane

See page 6/2

Items with code on the green background are available in stock

Contacts type:

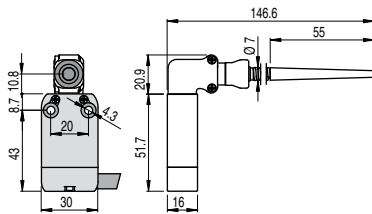
- R** = snap action
- L** = slow action



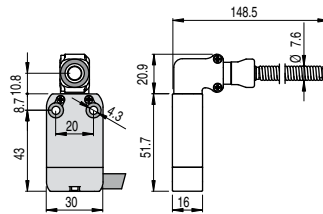
Contact blocks

B11	R	NA B110AB-DN2W5	⊕ 1NO+1NC	NA B110BB-DN2H0W5	⊕ 1NO+1NC	NA B110BB-DN2W5	⊕ 1NO+1NC
B02	R	NA B020AB-DN2W5	⊕ 2NC	NA B020BB-DN2H0W5	⊕ 2NC	NA B020BB-DN2W5	⊕ 2NC
B12	R	NA B120AB-DN2W5	⊕ 1NO+2NC	NA B120BB-DN2H0W5	⊕ 1NO+2NC	NA B120BB-DN2W5	⊕ 1NO+2NC
B22	R	NA B220AB-DN2W5	⊕ 2NO+2NC	NA B220BB-DN2H0W5	⊕ 2NO+2NC	NA B220BB-DN2W5	⊕ 2NO+2NC
G11	L	NA G110AB-DN2W5	⊕ 1NO+1NC	NA G110BB-DN2H0W5	⊕ 1NO+1NC	NA G110BB-DN2W5	⊕ 1NO+1NC
G02	L	NA G020AB-DN2W5	⊕ 2NC	NA G020BB-DN2H0W5	⊕ 2NC	NA G020BB-DN2W5	⊕ 2NC
G12	L	NA G120AB-DN2W5	⊕ 1NO+2NC	NA G120BB-DN2H0W5	⊕ 1NO+2NC	NA G120BB-DN2W5	⊕ 1NO+2NC
G22	L	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	

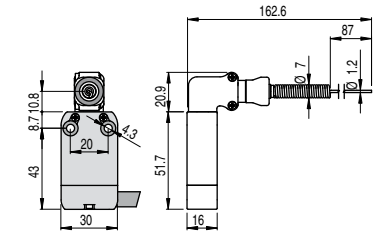
With external rubber gasket



With external rubber gasket



With external rubber gasket



Contact blocks

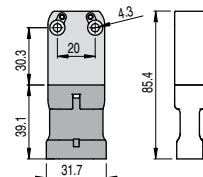
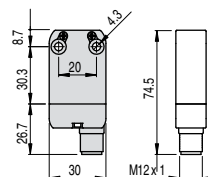
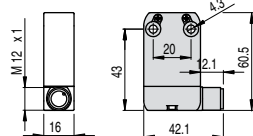
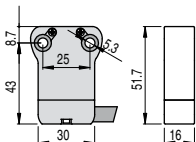
B11	R	NA B110HB-DN2W5	1NO+1NC	NA B110HE-DN2W5	1NO+1NC	NA B110HH-DN2W5	1NO+1NC
B02	R	NA B020HB-DN2W5	2NC	NA B020HE-DN2W5	2NC	NA B020HH-DN2W5	2NC
B12	R	NA B120HB-DN2W5	1NO+2NC	NA B120HE-DN2W5	1NO+2NC	NA B120HH-DN2W5	1NO+2NC
B22	R	NA B220HB-DN2W5	2NO+2NC	NA B220HE-DN2W5	2NO+2NC	NA B220HH-DN2W5	2NO+2NC
G11	L	NA G110HB-DN2W5	1NO+1NC	NA G110HE-DN2W5	1NO+1NC	NA G110HH-DN2W5	1NO+1NC
G02	L	NA G020HB-DN2W5	2NC	NA G020HE-DN2W5	2NC	NA G020HH-DN2W5	2NC
G12	L	NA G120HB-DN2W5	1NO+2NC	NA G120HE-DN2W5	1NO+2NC	NA G120HH-DN2W5	1NO+2NC
G22	L	NA G220HB-DN2W5	2NO+2NC	NA G220HE-DN2W5	2NO+2NC	NA G220HH-DN2W5	2NO+2NC
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

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