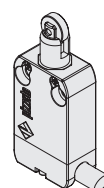


NA B110BB-DN2

NA B11000

VN AA0BB

VN CM11DN2



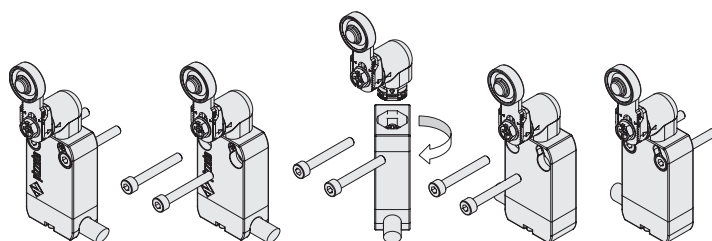
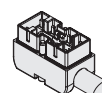
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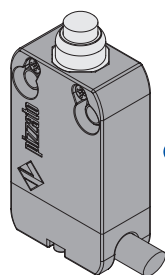
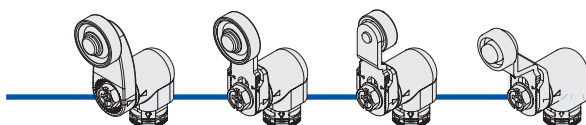
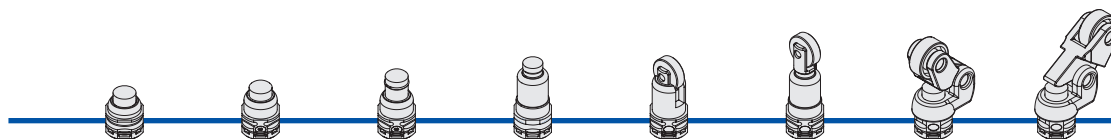
+



+

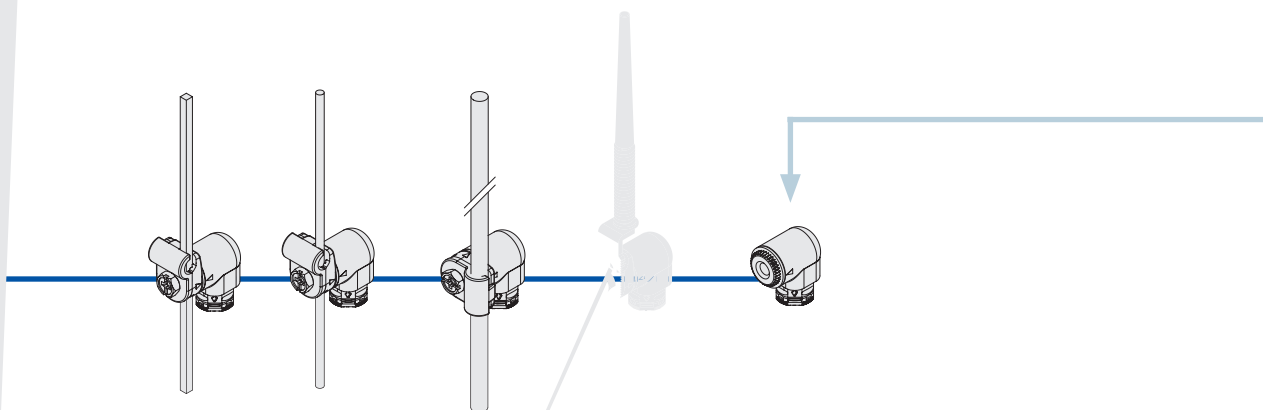


-40°C

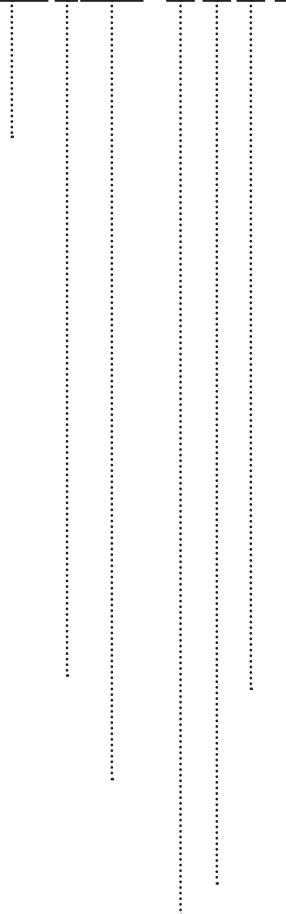


NF





NF B110AB-DN2 GR7W5



- 1
- 1A
- 1B
- 2
- 2A
- 2B
- 2C**
- 2D
- 2E
- 3
- 3A
- 3B
- 3C
- 4
- 4A
- 4B
- 4C
- 4D
- 4E
- 4F
- 4G
- 4H
- 5



Main data

- Polymer housing, cable output from right or from bottom
- 2 integrated cable types available
- Versions with M12 connector from right or from bottom
- Connector AMP version
- Protection degree IP67
- 14 contact blocks available
- 37 actuators available

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin with double insulation 

Version with cable integrated with 4 x 0,75 mm² wires, 6 x 0,5 mm² wires or 8 x 0,34 mm² wires, standard length 2 m. Other lengths on request.

Versions with 4 or 8 poles M12 integrated connector

Protection degree:

IP67 according to EN 60529

Saline smoke resistance:

≥ 300 hours in NSS according to ISO 9227

General data

Utilization temperatures:

See table on page 2/114

Max operating frequency:

3600 operations cycles¹/hour

Mechanical endurance:

20 million operations cycles¹

Assembling position:

any

Driving torque for installation:

see pages 6/1-6/10

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

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, NFC 63-140, VDE 0660-200, VDE 0113

Markings and quality marks:



Approval UL:

E131787

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 2/114) 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 6/10. 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 6/1 to page 6/10.

⚠ 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 connector can be used only in circuits PELV.

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

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 M12 connector		Output with connector AMP	
		2 contacts versions		2 contacts versions	2 contacts versions	2 contacts versions	2 contacts versions	2 contacts versions	
		Cable type N 4x0,75 mm² ,	Cable type G 4x0,75 mm² ,	Cable type N 6x0,34 mm²	Cable type N 8x0,34 mm²	4 poles M12 connector	8 poles M12 connector	AMP super seal 1,5 connector	
		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 PVC H05VV-F; Not flame-spreading IEC 60332-1-2 IEC 60332-1-3 IEC 60332-2-2	Sheath PVC H05VV-F; Not flame-spreading IEC 60332-1-2 IEC 60332-1-3 IEC 60332-2-2				
		Min. bend radius: 65 mm	Min. bend radius: 65 mm	Min. bend radius: 94 mm	Min. bend radius: 94 mm				
		Oil-resistant IEC 60811-2-1							
		Copper class 5 IEC 60228	Copper class 5 IEC 60228	Copper class 5 IEC 60228	Copper class 5 IEC 60228				
Utilization temperatures	Standard temperature	-25°C ... +80°C	-25°C ... +70°C	-25°C ... +80°C	-25°C ... +80°C	-25°C ... +80°C			
	Extended temperature -T6	-25°C ... +80°C	+5°C ... +70°C	-25°C ... +80°C	-25°C ... +80°C				
	Dynamic laying cable	/	/	/	/				
	Fixed laying cable	/	/	/	/	-40°C ... +80°C			
	Flexible laying cable	/	/	/	/				
	Dynamic laying cable	/	/	/	/				
Electrical data	Thermal current Ith	10 A	10 A	6 A	4 A	4 A	2 A	10 A	
	Rated insulation Voltage Ui	400 Vac	400 Vac	400 Vac	400 Vac	250 Vac 300 Vdc	30 Vac 36 Vdc	250 Vac 300 Vdc	
	Protection against short circuits (fuse)	10 A 500 V type gG	10 A 500 V type gG	6 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	
	Conditional shot circuit current according with EN 60947-5-1	1000 A	1000 A	1000 A	1000 A	1000 A	1000 A	1000 A	
	Pollution degree according with EN 60947-5-1	3	3	3	3	3	3	3	
	Utilization categories DC13	24 V	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
		250 V	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	2 A	4 A
		120 V	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
		400 V	3 A	3 A	3 A	3 A	/	/	3 A
Approvals of switches with integrated cable		CE	CE	CE, cULus	CE, cULus	CE, cULus	CE, cULus	CE, cULus	

Internal connections

2NO+2NC	1NO+2NC	1NO+1NC	2NC

Contacts type:

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

Contact blocks

B11	R	NF B110AA-DN2	➔ 1NO+1NC	NF B110AB-DN2	➔ 1NO+1NC	NF B110AC-DN2	➔ 1NO+1NC
B02	R	NF B020AA-DN2	➔ 2NC	NF B020AB-DN2	➔ 2NC	NF B020AC-DN2	➔ 2NC
B12	R	NF B120AA-DN2	➔ 1NO+2NC	NF B120AB-DN2	➔ 1NO+2NC	NF B120AC-DN2	➔ 1NO+2NC
B22	R	NF B220AA-DN2	➔ 2NO+2NC	NF B220AB-DN2	➔ 2NO+2NC	NF B220AC-DN2	➔ 2NO+2NC
G11	L	NF G110AA-DN2	➔ 1NO+1NC	NF G110AB-DN2	➔ 1NO+1NC	NF G110AC-DN2	➔ 1NO+1NC
G02	L	NF G020AA-DN2	➔ 2NC	NF G020AB-DN2	➔ 2NC	NF G020AC-DN2	➔ 2NC
G12	L	NF G120AA-DN2	➔ 1NO+2NC	NF G120AB-DN2	➔ 1NO+2NC	NF G120AC-DN2	➔ 1NO+2NC
G22	L	NF G220AA-DN2	➔ 2NO+2NC	NF G220AB-DN2	➔ 2NO+2NC	NF G220AC-DN2	➔ 2NO+2NC
Max speed		page 6/9 - type 4		page 6/9 - type 4		page 6/9 - type 4	page 6/9 - type 4
Min. force		7 N (25 N ➔)		7 N (25 N ➔)		7 N (25 N ➔)	7 N (25 N ➔)
Travel diagrams		page 6/10 - group 1		page 6/10 - group 1		page 6/10 - group 1	page 6/10 - group 1

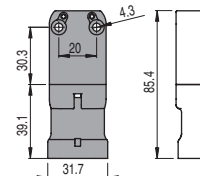
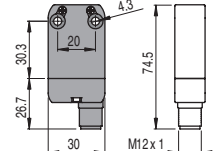
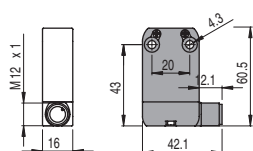
Contact blocks

B11	R	NF B110BB-DN2	➔ 1NO+1NC	NF B110BE-DN2	➔ 1NO+1NC	NF B110CB-DN2	➔ 1NO+1NC	NF B110CH-DN2	➔ 1NO+1NC
B02	R	NF B020BB-DN2	➔ 2NC	NF B020BE-DN2	➔ 2NC	NF B020CB-DN2	➔ 2NC	NF B020CH-DN2	➔ 2NC
B12	R	NF B120BB-DN2	➔ 1NO+2NC	NF B120BE-DN2	➔ 1NO+2NC	NF B120CB-DN2	➔ 1NO+2NC	NF B120CH-DN2	➔ 1NO+2NC
B22	R	NF B220BB-DN2	➔ 2NO+2NC	NF B220BE-DN2	➔ 2NO+2NC	NF B220CB-DN2	➔ 2NO+2NC	NF B220CH-DN2	➔ 2NO+2NC
G11	L	NF G110BB-DN2	➔ 1NO+1NC	NF G110BE-DN2	➔ 1NO+1NC	NF G110CB-DN2	➔ 1NO+1NC	NF G110CH-DN2	➔ 1NO+1NC
G02	L	NF G020BB-DN2	➔ 2NC	NF G020BE-DN2	➔ 2NC	NF G020CB-DN2	➔ 2NC	NF G020CH-DN2	➔ 2NC
G12	L	NF G120BB-DN2	➔ 1NO+2NC	NF G120BE-DN2	➔ 1NO+2NC	NF G120CB-DN2	➔ 1NO+2NC	NF G120CH-DN2	➔ 1NO+2NC
G22	L	NF G220BB-DN2	➔ 2NO+2NC	NF G220BE-DN2	➔ 2NO+2NC	NF G220CB-DN2	➔ 2NO+2NC	NF G220CH-DN2	➔ 2NO+2NC
Max speed		page 6/9 - type 2		page 6/9 - type 5		page 6/9 - type 3		page 6/9 - type 3	
Min. force		7 N (25 N ➔)		7 N (25 N ➔)		5 N (25 N ➔)		5 N (25 N ➔)	
Travel diagrams		page 6/10 - group 1		page 6/10 - group 1		page 6/10 - group 2		page 6/10 - group 2	

M12 connector output from right

M12 connector output from bottom

AMP superseal 1,5 connector



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	NF B110CP-DN2	➔ 1NO+1NC	NF B110CV-DN2	➔ 1NO+1NC	NF B110EB-DN2	➔ 1NO+1NC	NF B110EE-DN2	➔ 1NO+1NC
B02	R	NF B020CP-DN2	➔ 2NC	NF B020CV-DN2	➔ 2NC	NF B020EB-DN2	➔ 2NC	NF B020EE-DN2	➔ 2NC
B12	R	NF B120CP-DN2	➔ 1NO+2NC	NF B120CV-DN2	➔ 1NO+2NC	NF B120EB-DN2	➔ 1NO+2NC	NF B120EE-DN2	➔ 1NO+2NC
B22	R	NF B220CP-DN2	➔ 2NO+2NC	NF B220CV-DN2	➔ 2NO+2NC	NF B220EB-DN2	➔ 2NO+2NC	NF B220EE-DN2	➔ 2NO+2NC
G11	L	NF G110CP-DN2	➔ 1NO+1NC	NF G110CV-DN2	➔ 1NO+1NC	NF G110EB-DN2	➔ 1NO+1NC	NF G110EE-DN2	➔ 1NO+1NC
G02	L	NF G020CP-DN2	➔ 2NC	NF G020CV-DN2	➔ 2NC	NF G020EB-DN2	➔ 2NC	NF G020EE-DN2	➔ 2NC
G12	L	NF G120CP-DN2	➔ 1NO+2NC	NF G120CV-DN2	➔ 1NO+2NC	NF G120EB-DN2	➔ 1NO+2NC	NF G120EE-DN2	➔ 1NO+2NC
G22	L	NF G220CP-DN2	➔ 2NO+2NC	NF G220CV-DN2	➔ 2NO+2NC	NF G220EB-DN2	➔ 2NO+2NC	NF G220EE-DN2	➔ 2NO+2NC
Max speed		page 6/9 - type 3		page 6/9 - type 3		page 6/9 - type 4		page 6/9 - type 4	
Min. force		3 N (25 N ➔)		3 N (25 N ➔)		7 N (25 N ➔)		7 N (25 N ➔)	
Travel diagrams		page 6/10 - group 6		page 6/10 - group 3		page 6/10 - group 1		page 6/10 - group 1	

		Fixed only by threaded head		With external rubber gasket		With external rubber gasket			
Contact blocks									
B11	R	NF B110FB-DN2	➔ 1NO+1NC	NF B110GB-DN2	➔ 1NO+1NC	NF B110HB-DN2	1NO+1NC	NF B110HE-DN2	1NO+1NC
B02	R	NF B020FB-DN2	➔ 2NC	NF B020GB-DN2	➔ 2NC	NF B020HB-DN2	2NC	NF B020HE-DN2	2NC
B12	R	NF B120FB-DN2	➔ 1NO+2NC	NF B120GB-DN2	➔ 1NO+2NC	NF B120HB-DN2	1NO+2NC	NF B120HE-DN2	1NO+2NC
B22	R	NF B220FB-DN2	➔ 2NO+2NC	NF B220GB-DN2	➔ 2NO+2NC	NF B220HB-DN2	2NO+2NC	NF B220HE-DN2	2NO+2NC
G11	L	NF G110FB-DN2	➔ 1NO+1NC	NF G110GB-DN2	➔ 1NO+1NC	NF G110HB-DN2	1NO+1NC	NF G110HE-DN2	1NO+1NC
G02	L	NF G020FB-DN2	➔ 2NC	NF G020GB-DN2	➔ 2NC	NF G020HB-DN2	2NC	NF G020HE-DN2	2NC
G12	L	NF G120FB-DN2	➔ 1NO+2NC	NF G120GB-DN2	➔ 1NO+2NC	NF G120HB-DN2	1NO+2NC	NF G120HE-DN2	1NO+2NC
G22	L	NF G220FB-DN2	➔ 2NO+2NC	NF G220GB-DN2	➔ 2NO+2NC	NF G220HB-DN2	2NO+2NC	NF G220HE-DN2	2NO+2NC
Max speed		page 6/9 - type 2		page 6/9 - 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 6/10 - group 1		page 6/10 - group 1		page 6/10 - group 4		page 6/10 - group 4	

Accessories

Article	Description
VN DT1F	Spacers for NA-NF 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 5/2	

Items with code on the **green** background are available in stock

Contacts type:

R = snap action
L = slow action

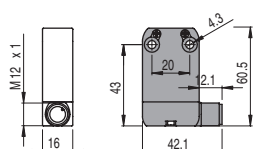
Contact blocks

	With external rubber gasket	With stainless steel roller on request	With stainless steel roller on request	With stainless steel roller on request
B11	R NF B110HH-DN2 1NO+1NC	R NF B112KA-DN2 1NO+1NC	R NF B112KB-DN2 1NO+1NC	R NF B112KC-DN2 1NO+1NC
B02	R NF B020HH-DN2 2NC	R NF B022KA-DN2 2NC	R NF B022KB-DN2 2NC	R NF B022KC-DN2 2NC
B12	R NF B120HH-DN2 1NO+2NC	R NF B122KA-DN2 1NO+2NC	R NF B122KB-DN2 1NO+2NC	R NF B122KC-DN2 1NO+2NC
B22	R NF B220HH-DN2 2NO+2NC	R NF B222KA-DN2 2NO+2NC	R NF B222KB-DN2 2NO+2NC	R NF B222KC-DN2 2NO+2NC
G11	L NF G110HH-DN2 1NO+1NC	L NF G112KA-DN2 1NO+1NC	L NF G112KB-DN2 1NO+1NC	L NF G112KC-DN2 1NO+1NC
G02	L NF G020HH-DN2 2NC	L NF G022KA-DN2 2NC	L NF G022KB-DN2 2NC	L NF G022KC-DN2 2NC
G12	L NF G120HH-DN2 1NO+2NC	L NF G122KA-DN2 1NO+2NC	L NF G122KB-DN2 1NO+2NC	L NF G122KC-DN2 1NO+2NC
G22	L NF G220HH-DN2 2NO+2NC	L NF G222KA-DN2 2NO+2NC	L NF G222KB-DN2 2NO+2NC	L NF G222KC-DN2 2NO+2NC
Max speed	1 m/s	page 6/9 - type 1	page 6/9 - type 1	page 6/9 - 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 6/10 - group 4	page 6/10 - group 5	page 6/10 - group 5	page 6/10 - group 5

Contact blocks

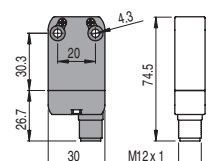
	With stainless steel roller on request	With stainless steel roller on request	With stainless steel roller on request	With stainless steel roller on request
B11	R NF B112KD-DN2 1NO+1NC	R NF B112KE-DN2 1NO+1NC	R NF B112KF-DN2 1NO+1NC	R NF B112KG-DN2 1NO+1NC
B02	R NF B022KD-DN2 2NC	R NF B022KE-DN2 2NC	R NF B022KF-DN2 2NC	R NF B022KG-DN2 2NC
B12	R NF B122KD-DN2 1NO+2NC	R NF B122KE-DN2 1NO+2NC	R NF B122KF-DN2 1NO+2NC	R NF B122KG-DN2 1NO+2NC
B22	R NF B222KD-DN2 2NO+2NC	R NF B222KE-DN2 2NO+2NC	R NF B222KF-DN2 2NO+2NC	R NF B222KG-DN2 2NO+2NC
G11	L NF G112KD-DN2 1NO+1NC	L NF G112KE-DN2 1NO+1NC	L NF G112KF-DN2 1NO+1NC	L NF G112KG-DN2 1NO+1NC
G02	L NF G022KD-DN2 2NC	L NF G022KE-DN2 2NC	L NF G022KF-DN2 2NC	L NF G022KG-DN2 2NC
G12	L NF G122KD-DN2 1NO+2NC	L NF G122KE-DN2 1NO+2NC	L NF G122KF-DN2 1NO+2NC	L NF G122KG-DN2 1NO+2NC
G22	L NF G222KD-DN2 2NO+2NC	L NF G222KE-DN2 2NO+2NC	L NF G222KF-DN2 2NO+2NC	L NF G222KG-DN2 2NO+2NC
Max speed	page 6/9 - type 1	page 6/9 - type 1	page 6/9 - type 1	page 6/9 - 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 6/10 - group 5	page 6/10 - group 5	page 6/10 - group 5	page 6/10 - group 5

M12 connector output from right



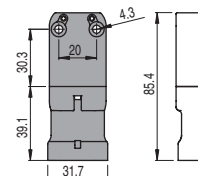
In order to buy a product with M12 connector output from right substitute above mentioned codes DN2 with DMK. Example:
 NA B110AA-DN2 → NA B110AA-DMK

M12 connector output from bottom



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

AMP superseal 1,5 connector



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



Contacts type:

R = snap action
L = slow action

Contact blocks

	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
B11 R	NF B112KH-DN2 → 1NO+1NC	NF B112KP-DN2 → 1NO+1NC	NF B112LB-DN2 1NO+1NC	NF B112LE-DN2 1NO+1NC
B02 R	NF B022KH-DN2 → 2NC	NF B022KP-DN2 → 2NC	NF B022LB-DN2 2NC	NF B022LE-DN2 2NC
B12 R	NF B122KH-DN2 → 1NO+2NC	NF B122KP-DN2 → 1NO+2NC	NF B122LB-DN2 1NO+2NC	NF B122LE-DN2 1NO+2NC
B22 R	NF B222KH-DN2 → 2NO+2NC	NF B222KP-DN2 → 2NO+2NC	NF B222LB-DN2 2NO+2NC	NF B222LE-DN2 2NO+2NC
G11 L	NF G112KH-DN2 → 1NO+1NC	NF G112KP-DN2 → 1NO+1NC	NF G112LB-DN2 1NO+1NC	NF G112LE-DN2 1NO+1NC
G02 L	NF G022KH-DN2 → 2NC	NF G022KP-DN2 → 2NC	NF G022LB-DN2 2NC	NF G022LE-DN2 2NC
G12 L	NF G122KH-DN2 → 1NO+2NC	NF G122KP-DN2 → 1NO+2NC	NF G122LB-DN2 1NO+2NC	NF G122LE-DN2 1NO+2NC
G22 L	NF G222KH-DN2 → 2NO+2NC	NF G222KP-DN2 → 2NO+2NC	NF G222LB-DN2 2NO+2NC	NF G222LE-DN2 2NO+2NC
Max speed	page 6/9 - type 1	page 6/9 - 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 6/10 - group 5	page 6/10 - group 5	page 6/10 - group 5	page 6/10 - group 5

	Fiber glass rod		
B11 R	NF B112LH-DN2 1NO+1NC	NF B112LL-DN2 1NO+1NC	
B02 R	NF B022LH-DN2 2NC	NF B022LL-DN2 2NC	
B12 R	NF B122LH-DN2 1NO+2NC	NF B122LL-DN2 1NO+2NC	
B22 R	NF B222LH-DN2 2NO+2NC	NF B222LL-DN2 2NO+2NC	
G11 L	NF G112LH-DN2 1NO+1NC	NF G112LL-DN2 1NO+1NC	
G02 L	NF G022LH-DN2 2NC	NF G022LL-DN2 2NC	
G12 L	NF G122LH-DN2 1NO+2NC	NF G122LL-DN2 1NO+2NC	
G22 L	NF G222LH-DN2 2NO+2NC	NF G222LL-DN2 2NO+2NC	
Max speed	1,5 m/s	1,5 m/s	
Min. force	0,07 Nm	0,07 Nm	
Travel diagrams	page 6/10 - group 5	page 6/10 - group 5	

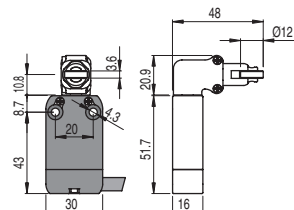
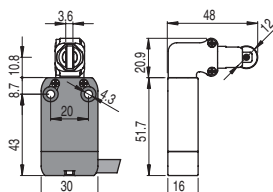
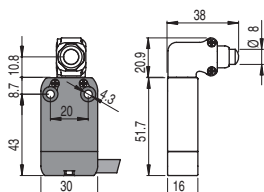
Accessories

Article	Description
VN DT1F	Spacers for NA-NF 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 5/2

Items with code on the **green** background are available in stock

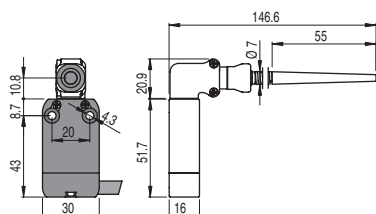
Contacts type:

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

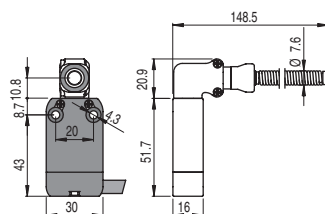
Contact blocks

B11	R	NF B110AB-DN2W5	➔ 1NO+1NC	NF B110BB-DN2H0W5	➔ 1NO+1NC	NF B110BB-DN2W5	➔ 1NO+1NC
B02	R	NF B020AB-DN2W5	➔ 2NC	NF B020BB-DN2H0W5	➔ 2NC	NF B020BB-DN2W5	➔ 2NC
B12	R	NF B120AB-DN2W5	➔ 1NO+2NC	NF B120BB-DN2H0W5	➔ 1NO+2NC	NF B120BB-DN2W5	➔ 1NO+2NC
B22	R	NF B220AB-DN2W5	➔ 2NO+2NC	NF B220BB-DN2H0W5	➔ 2NO+2NC	NF B220BB-DN2W5	➔ 2NO+2NC
G11	L	NF G110AB-DN2W5	➔ 1NO+1NC	NF G110BB-DN2H0W5	➔ 1NO+1NC	NF G110BB-DN2W5	➔ 1NO+1NC
G02	L	NF G020AB-DN2W5	➔ 2NC	NF G020BB-DN2H0W5	➔ 2NC	NF G020BB-DN2W5	➔ 2NC
G12	L	NF G120AB-DN2W5	➔ 1NO+2NC	NF G120BB-DN2H0W5	➔ 1NO+2NC	NF G120BB-DN2W5	➔ 1NO+2NC
G22	L	NF G220AB-DN2W5	➔ 2NO+2NC	NF G220BB-DN2H0W5	➔ 2NO+2NC	NF G220BB-DN2W5	➔ 2NO+2NC
Max speed		page 6/9 - type 4		page 6/9 - type 2		page 6/9 - type 2	
Min. force		9,5 N (25 N ➔)		9,5 N (25 N ➔)		9,5 N (25 N ➔)	
Travel diagrams		page 6/10 - group 1		page 6/10 - group 1		page 6/10 - group 1	

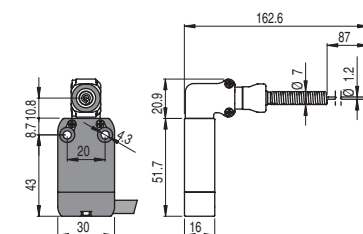
With external rubber gasket



With external rubber gasket



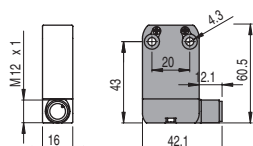
With external rubber gasket



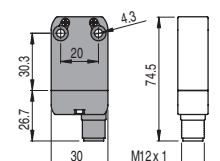
Contact blocks

B11	R	NF B110HB-DN2W5	1NO+1NC	NF B110HE-DN2W5	1NO+1NC	NF B110HH-DN2W5	1NO+1NC
B02	R	NF B020HB-DN2W5	2NC	NF B020HE-DN2W5	2NC	NF B020HH-DN2W5	2NC
B12	R	NF B120HB-DN2W5	1NO+2NC	NF B120HE-DN2W5	1NO+2NC	NF B120HH-DN2W5	1NO+2NC
B22	R	NF B220HB-DN2W5	2NO+2NC	NF B220HE-DN2W5	2NO+2NC	NF B220HH-DN2W5	2NO+2NC
G11	L	NF G110HB-DN2W5	1NO+1NC	NF G110HE-DN2W5	1NO+1NC	NF G110HH-DN2W5	1NO+1NC
G02	L	NF G020HB-DN2W5	2NC	NF G020HE-DN2W5	2NC	NF G020HH-DN2W5	2NC
G12	L	NF G120HB-DN2W5	1NO+2NC	NF G120HE-DN2W5	1NO+2NC	NF G120HH-DN2W5	1NO+2NC
G22	L	NF G220HB-DN2W5	2NO+2NC	NF G220HE-DN2W5	2NO+2NC	NF 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 6/10 - group 4		page 6/10 - group 4		page 6/10 - group 4	

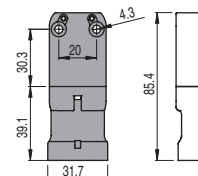
M12 connector output from right



M12 connector output from bottom



AMP superseal 1,5 connector

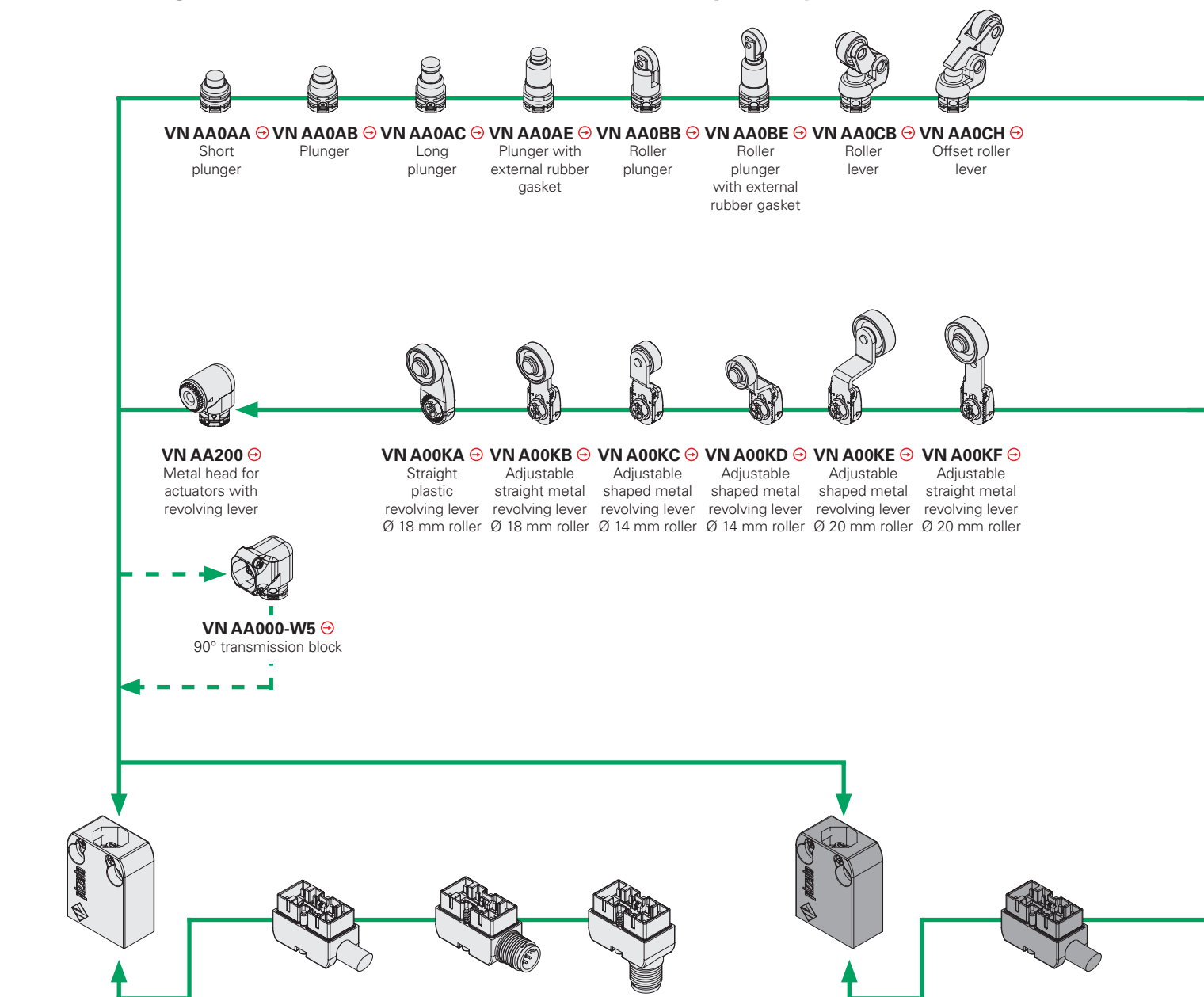


In order to buy a product with M12 connector output from right substitute on above mentioned codes DN2 with DMK. Example:
NA B110AA-DN2 → NA B110AA-DMK

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 AMP connector output substitute on above mentioned codes DN2 with SAK. Example:
NA B110AA-DN2 → NA B110AA-SAK

Selection diagram for serie NA - NB - NF articles sold separately



METAL housing NA 20 mm holes interaxes	
NA B11000 ⊕ 1NO+1NC R	
NA G11000 ⊕ 1NO+1NC L	
NA L11000 ⊕ 1NO+1NC LA	
NA H11000 ⊕ 1NO+1NC LO	
NA B02000 ⊕ 2NC R	
NA G02000 ⊕ 2NC L	
NA B12000 ⊕ 1NO+2NC R	
NA G12000 ⊕ 1NO+2NC L	
NA L12000 ⊕ 1NO+2NC LA	
NA H12000 ⊕ 1NO+2NC LO	
NA B22000 ⊕ 2NO+2NC R	
NA G22000 ⊕ 2NO+2NC L	
NA L22000 ⊕ 2NO+2NC LA	
NA H22000 ⊕ 2NO+2NC LO	

Contacts type:
R = snap action
L = slow action
LO = slow action overlapped
LA = slow action closer

Metal connector with cable	cable length(m)
VN CM11DN2	2
VN CM11DN5	5
VN CM02DN2	2
VN CM02DN5	5
VN CM12DN2	2
VN CM12DN5	5
VN CM22DN2	2
VN CM22DN5	5

Forbidden to install metal connector on polymer housing

M12 metal connector from right	M12 metal connector from bottom,
VN CM11DMK	VN CM11SMK
VN CM02DMK	VN CM02SMK
VN CM12DMK	VN CM12SMK
VN CM22DMK	VN CM22SMK

POLYMER housing NF 20 mm holes interaxes	
NF B11000 ⊕ 1NO+1NC R	
NF G11000 ⊕ 1NO+1NC L	
NF L11000 ⊕ 1NO+1NC LA	
NF H11000 ⊕ 1NO+1NC LO	
NF B02000 ⊕ 2NC R	
NF G02000 ⊕ 2NC L	
NF B12000 ⊕ 1NO+2NC R	
NF G12000 ⊕ 1NO+2NC L	
NF L12000 ⊕ 1NO+2NC LA	
NF H12000 ⊕ 1NO+2NC LO	
NF B22000 ⊕ 2NO+2NC R	
NF G22000 ⊕ 2NO+2NC L	
NF L22000 ⊕ 2NO+2NC LA	
NF H22000 ⊕ 2NO+2NC LO	

Polymer connectors with cable	cable length(m)
VN CP11DN2	2
VN CP11DN5	5
VN CP02DN2	2
VN CP02DN5	5
VN CP12DN2	2
VN CP12DN5	5
VN CP22DN2	2
VN CP22DN5	5

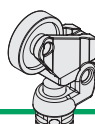
Forbidden to install polymer connector on metal housing



- 1
- 1A
- 1B
- 2
- 2A
- 2B
- 2C
- 2D
- 2E
- 3
- 3A
- 3B
- 3C
- 4
- 4A
- 4B
- 4C
- 4D
- 4E
- 4F
- 4G
- 4H
- 5
- 6



VN AA0CP ⊕
Unidirectional
roller lever



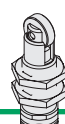
VN AA0CV ⊕
Adjustable
offset roller
lever



VN AA0EB ⊕
Plunger with
M12 threaded
bearing



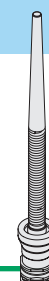
VN AA0EE ⊕
Plunger with
M12 threaded
bearing and
external rubber
gasket



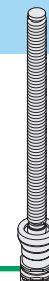
VN AA0FB ⊕
Plunger with
roller and
M12 threaded
bearing



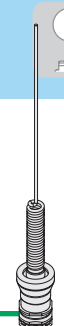
VN AA0GB ⊕
Plunger with
Ø 6 mm sphere



VN AA0HB
Spring rod with
plastic pin



VN AA0HE
Spring rod



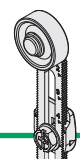
VN AA0HH
Spring rod with
cat's whisker



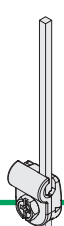
VN A00KG ⊕
Adjustable
shaped metal
revolving lever
Ø 20 mm roller



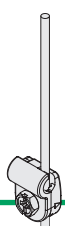
VN A00KH ⊕
Adjustable
shaped metal
revolving lever
Ø 20 mm roller



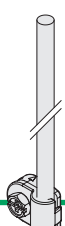
VN A00KP ⊕
Adjustable-length
straight metal
revolving lever
Ø 20 mm roller



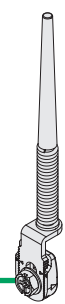
VN A00LB
Metal revolving
lever with ad-
justable square
stainless steel
rod 3x3x125



VN A00LE
Metal revolving
lever with adjust-
able stainless
steel rod
Ø3x125



VN A00LH
Metal revolving
lever with
adjustable
fiber glass rod
Ø6x200

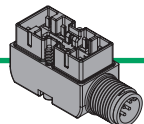
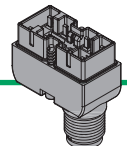
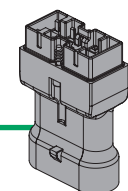


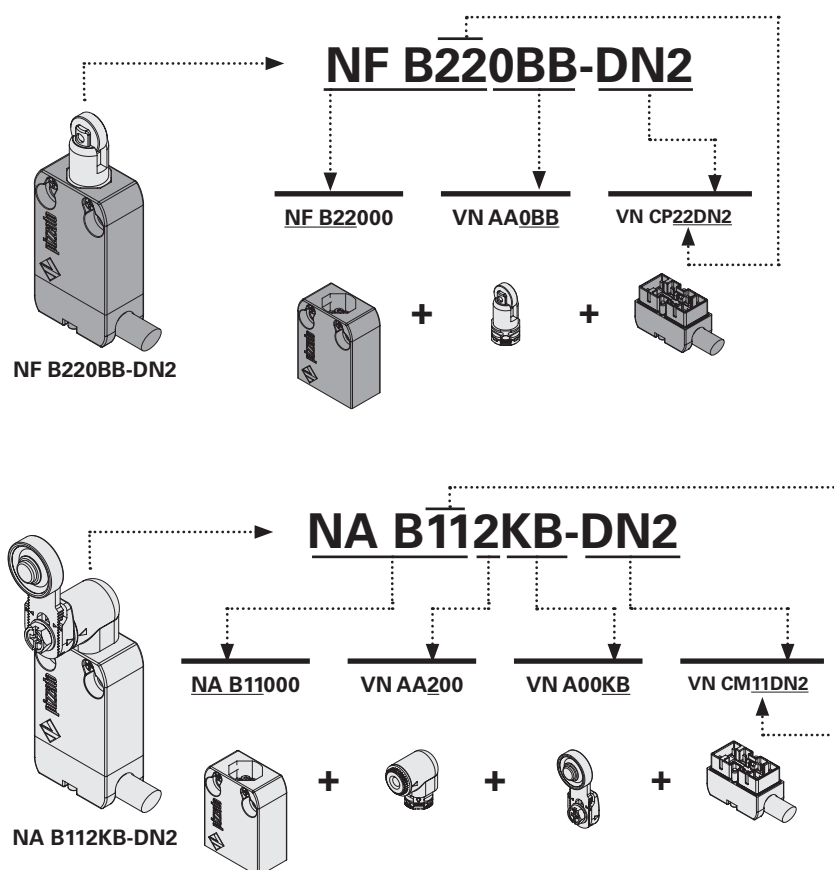
VN A00LL
Metal revolving
lever with flex-
ible adjustable
rod

⚠ Installation for persons protection applications:

In order to obtain a safety switch with positive opening ⊕, assemble housings having the positive opening symbol next to the code ⊕ with actuators having the positive opening symbol next to the code ⊕.
Example: **VN A00KB ⊕ + VN AA200 ⊕ + NA B11000 ⊕**

Examples of article code composition

		
M12 polymer connector from right	M12 polymer connector from bottom	AMP type polymer connector from bottom
↔ VN CP11DMK ↔	↔ VN CP11SMK ↔	↔ VN CP11SAK ↔
↔ VN CP02DMK ↔	↔ VN CP02SMK ↔	↔ VN CP02SAK ↔
↔ VN CP22DMK ↔	↔ VN CP22SMK ↔	



Housings

metal housing NA	metal housing NB
NA B11000 ⊕ 1NO+1NC	NB B11000 ⊕ 1NO+1NC R
NA G11000 ⊕ 1NO+1NC L	NB G11000 ⊕ 1NO+1NC L
NA B12000 ⊕ 1NO+2NC R	NB B12000 ⊕ 1NO+2NC R
NA G12000 ⊕ 1NO+2NC L	NB G12000 ⊕ 1NO+2NC L
NA L12000 ⊕ 1NO+2NC LA	NB L12000 ⊕ 1NO+2NC LA
NA B22000 ⊕ 2NO+2NC R	NB B22000 ⊕ 2NO+2NC R
NA G22000 ⊕ 2NO+2NC L	NB G22000 ⊕ 2NO+2NC L
NA L22000 ⊕ 2NO+2NC LA	NB L22000 ⊕ 2NO+2NC LA
NA H22000 ⊕ 2NO+2NC LO	NB H22000 ⊕ 2NO+2NC LO

Contacts type:
R = snap action
L = slow action
LO = slow action overlapped
LA = slow action closer

polymer housing NF
NF B11000 ⊕ 1NO+1NC R
NF G11000 ⊕ 1NO+1NC L
NF B12000 ⊕ 1NO+2NC R
NF G12000 ⊕ 1NO+2NC L
NF L12000 ⊕ 1NO+2NC LA
NF B22000 ⊕ 2NO+2NC R
NF G22000 ⊕ 2NO+2NC L
NF L22000 ⊕ 2NO+2NC LA
NF H22000 ⊕ 2NO+2NC LO

Connector with cable

metal connectors for NA and NB housing	Cable length(m)	Cable type
		N = PVC Fixed laying cable H = PUR HALOGEN FREE Dynamic laying cable
VN CM11DN2 1NO+1NC	2	N
VN CM11DN5 1NO+1NC	5	
VN CM12DN2 1NO+2NC	2	
VN CM12DN5 1NO+2NC	5	
VN CM22DN2 2NO+2NC	2	H
VN CM22DN5 2NO+2NC	5	
VN CM11DH2 1NO+1NC	2	
VN CM11DH5 1NO+1NC	5	
VN CM12DH2 1NO+2NC	2	
VN CM12DH5 1NO+2NC	5	

other cable lengths on request

polymer connectors for NF housing	Cable length(m)	Cable type
		N = PVC Fixed laying cable
VN CP11DN2 1NO+1NC	2	N
VN CP11DN5 1NO+1NC	5	
VN CP12DN2 1NO+2NC	2	
VN CP12DN5 1NO+2NC	5	
VN CP22DN2 2NO+2NC	2	
VN CP22DN5 2NO+2NC	5	

M12 or AMP connector

M12 connector from right	M12 connector from bottom
VN CM11DMK 1NO+1NC	VN CM11SMK 1NO+1NC
VN CM02DMK 2NC	VN CM02SMK 2NC
VN CM22DMK 2NO+2NC	VN CM22SMK 2NO+2NC

M12 connector from right	M12 connector from bottom
VN CP11DMK 1NO+1NC	VN CP11SMK 1NO+1NC
VN CP02DMK 2NC	VN CP02SMK 2NC
VN CP22DMK 2NO+2NC	VN CP22SMK 2NO+2NC

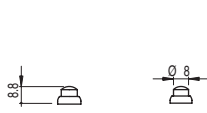
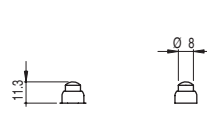
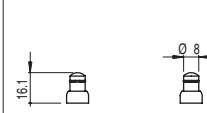
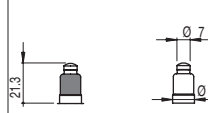
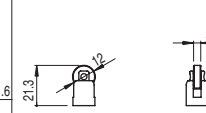
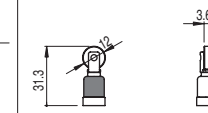
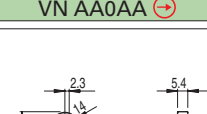
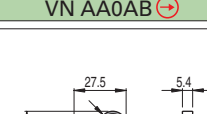
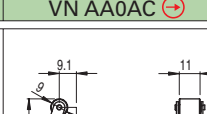
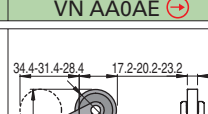
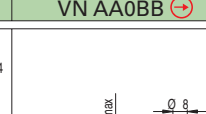
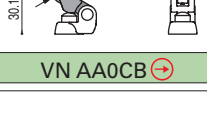
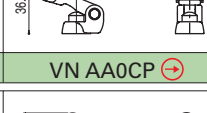
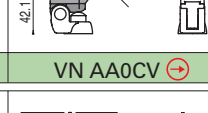
AMP super seal 1,5 connector

VN CP11SAK 1NO+1NC
VN CP02SAK 2NC

Items with code on the **green** background are available in stock

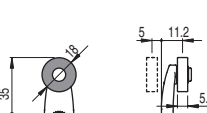
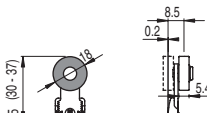
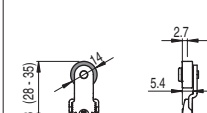
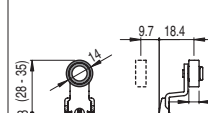
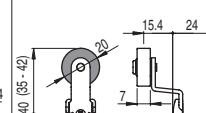
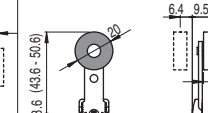
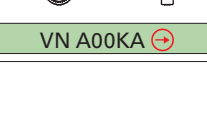
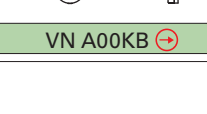
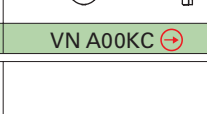
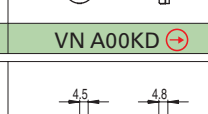
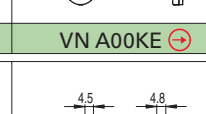
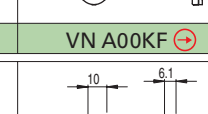


Actuators

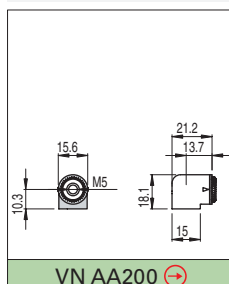
 VN AA0AA →	 VN AA0AB →	 VN AA0AC →	 VN AA0AE →	 VN AA0BB →	 VN AA0BE →
 VN AA0CB →	 VN AA0CH →	 VN AA0CP →	 VN AA0CV →	 VN AA0EB →	 VN AA0EE →
 VN AA0FB →	 VN AA0HB	 VN AA0HE	 VN AA0HH		

Revolving levers

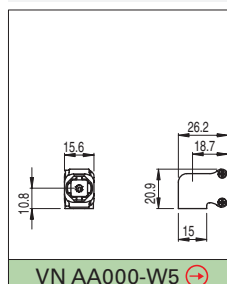
ATTENTION: These loose actuators can be used with products of series NA, NB and NF only.

 VN A00KA →	 VN A00KB →	 VN A00KC →	 VN A00KD →	 VN A00KE →	 VN A00KF →
 VN A00KG →	 VN A00KH →	 VN A00KP →	 VN A00LB	 VN A00LE	 VN A00LH
 VN A00LL					

Head



Transmission block



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