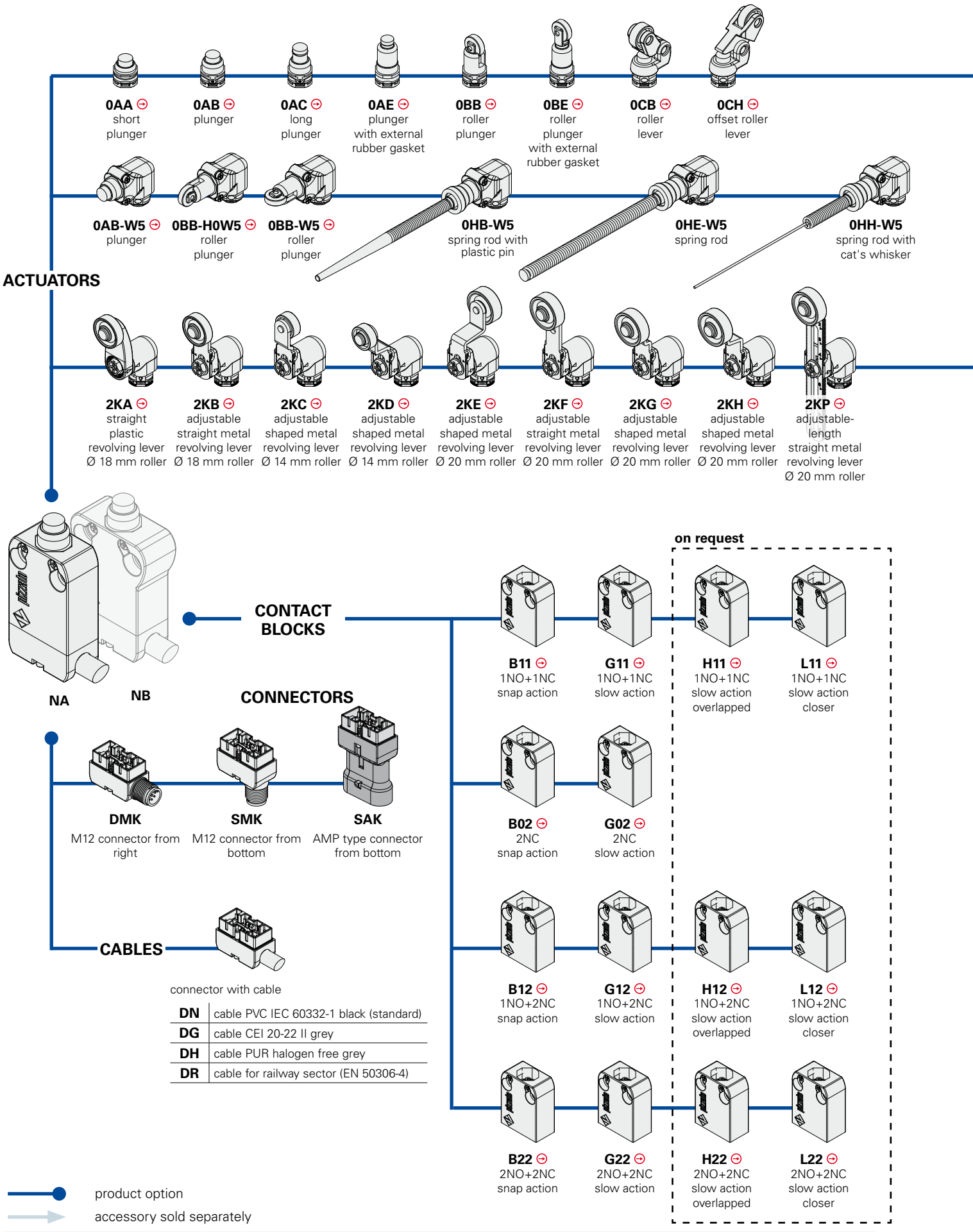
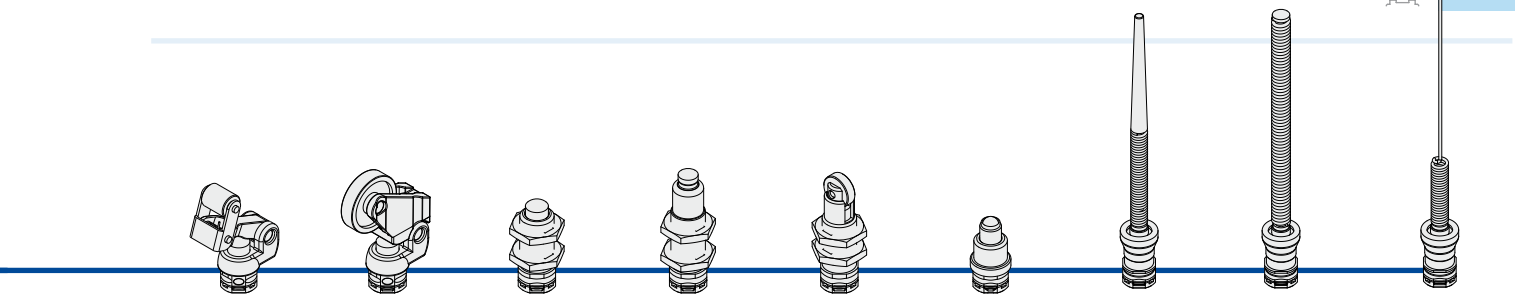
Selection diagram for articles NA-NB series sold assembled



DN	cable PVC IEC 60332-1 black (standard)
DG	cable CEI 20-22 II grey
DH	cable PUR halogen free grey
DR	cable for railway sector (EN 50306-4)

product option

accessory sold separately



0CP unidirectional roller lever

0CV adjustable offset roller lever

0EB plunger with M12 threaded bearing

0EE plunger with M12 threaded bearing and external rubber gasket

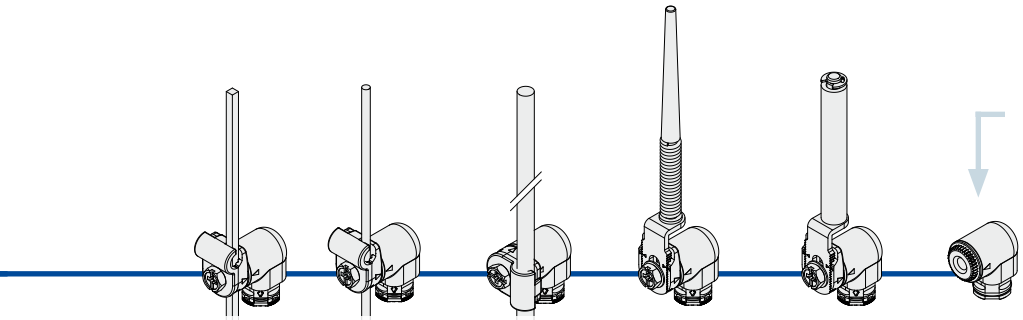
0FB plunger with roller and M12 threaded bearing

0GB plunger with Ø 6 mm sphere

0HB spring rod with plastic pin

0HE spring rod

0HH spring rod with cat's whisker



2LB metal revolving lever with adjustable square stainless steel rod 3x3x125 mm

2LE metal revolving lever with adjustable stainless steel rod Ø3x125 mm

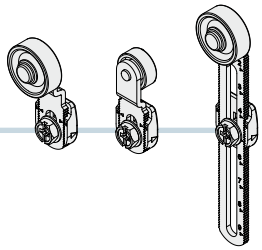
2LH metal revolving lever with adjustable fiber glass rod Ø6x200 mm

2LL metal revolving lever with flexible adjustable rod

2LP metal revolving lever with porcelain roller

200 metal head for actuators with revolving lever

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 | options

NA B110AB-DN2 GR7T6W5

Housing

NA	metal, 20 mm holes interaxes
NB	metal, 25 mm holes interaxes

Contact blocks

B11	1NO+1NC, snap action
B02	2NC, snap action
B12	1NO+2NC, snap action
B22	2NO+2NC, snap action
G11	1NO+1NC, slow action
G02	2NC, slow action
G12	1NO+2NC, slow action
G22	2NO+2NC, slow action
H11	1NO+1NC, slow action overlapped
H12	1NO+2NC, slow action overlapped
H22	2NO+2NC, slow action overlapped
L11	1NO+1NC, slow action closer
L12	1NO+2NC, slow action closer
L22	2NO+2NC, slow action closer

Other Contact blocks on requests.

Actuation heads

0	without head
2	head for revolving lever actuators

Actuators

00	without actuator
AA	with short plunger
AB	with plunger
...	.....

Connection output direction

D	cable or connector from right
S	connector form bottom

Transmission block

	without transmission block
W5	90° transmission block

Utilization temperatures

	-25 °C ... +80 °C
T6	-40 °C ... +80 °C

Roller

	with standard roller
R7	with Ø 18 mm plastic roller
R18	with Ø 14 mm plastic roller
R19	with Ø 22 mm plastic roller
R22	with Ø 20 mm plastic roller
R23	with Ø 14 mm stainless steel roller
R24	with Ø 20 mm stainless steel roller
R25	with Ø 35 mm plastic roller

Contacts type

	silver contacts (standard)
G	silver contacts gold plated 1 µm

Cable length

2	cable length 2 m (standard)
5	cable length 5 m
K	with connector

Other length on requests.

Type of cable

N	cable PVC IEC 60332-1 black (standard)
G	cable CEI 20-22 II grey
H	cable PUR halogen free grey
R	cable for railway sector (EN 50306-4)
M	M12 connector
A	super seal 1,5 AMP connector

Metal modular prewired switches **NA-NB series**

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 cycles[1]/hour
Mechanical endurance:	20 million operations cycles[1]
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 shot 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.

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

⚠ **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 (Ui):	250 Vac
Thermal current (Ith):	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 (Ue):	250 Vac (50 Hz) / 24 Vdc (with connector)
Operation current (Ie):	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

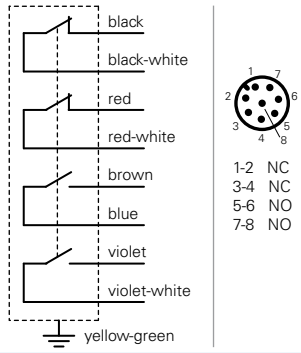
Please contact our technical service for the list of approved products.

Utilization temperatures and electrical data

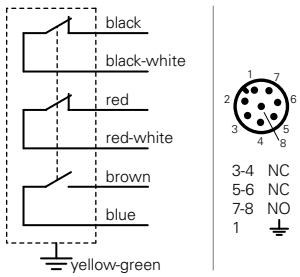
			output with cable								output with connector M12		Output with AMP connector
			2 contacts versions				3 contacts versions		4 contacts versions		2 contacts versions	3 /4 contacts versions	2 contacts versions
			Cable type N 5x0,75 mm², Sheath PVC H05VV-F, Not flame-spreading IEC 60332-1-2 IEC 60332-1-3 IEC 60332-2-2 Min. bend radius: 72 mm Copper class 5 IEC 60228	Cable type G 5x0,75 mm², 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 Min. bend radius: 72 mm Copper class 5 IEC 60228	Cable type H 5x0,75 mm², Max Speed 100 m/min Max Acceleration 2 m/s² Sheath PUR HALO-GEN FREE Not flame-spreading IEC 60332-1-2 IEC 60332-1-3 IEC 60332-2-2 IEC 60332-3 Min. bend radius: 70 mm Without halogens IEC 60754-1 Oil-resistant IEC 60811-2-1 Gas emission reduced IEC 61034-1 Copper class 6 IEC 60228	Cable type R 5x0,5mm² Cable for railway applications EN50306-4 1E-300V-5x0,5 mm² MM-90 According to: EN 50306-4 EN 45555 Not flame-spreading: IEC 60332-1 EN 50305 EN 50306-1 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 Copper class 5 IEC 60228	Cable type N 7x0,5 mm² Sheath PVC H05VV-F, Not flame-spreading IEC 60332-1-2 IEC 60332-1-3 IEC 60332-2-2 Min. bend radius 108 mm Copper class 5 IEC 60228	Cable type H 7x0,5 mm², Max Speed 300 m/min Max Acceleration 25 m/s² Sheath PUR HALO-GEN FREE Not flame-spreading IEC 60332-1-2 IEC 60332-1-3 IEC 60332-2-2 IEC 60332-3 Min. bend radius: 108 mm Without halogens IEC 60754-1 Oil-resistant IEC 60811-2-1 Gas emission reduced IEC 61034-1 Copper class 6 IEC 60228	Cable type N 9x0,34 mm² Sheath PVC H05VV-F, Not flame-spreading IEC 60332-1-2 IEC 60332-1-3 IEC 60332-2-2 Min. bend radius: 94 mm Copper class 5 IEC 60228	Cable type R 9x0,5mm² Cable for railway applications EN50306-4 1P-300V-9x0,5 mm² MM-90 According to: EN 50306-4 EN 45555 Not flame-spreading: IEC 60332-1 EN 50305 EN 50306-1 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 Copper class 5 IEC 60228	5 poles M12 connector	8 poles M12 connector	AMP super seal 1,5 connector
Utilization temperatures 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			
	Dynamic laying cable		/	/	-25°C ... +80°C	/	/	-25°C ... +80°C	/	/			
Utilization temperatures Extended -T6	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			
	Dynamic laying cable		/	/	-40°C ... +80°C	/	/	-30°C ... +80°C	/	/			
Electrical data	Thermal current Ith		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 Ui		250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 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	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	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	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 IMQ	CE cULus IMQ	CE cULus	CE cULus

Internal connections

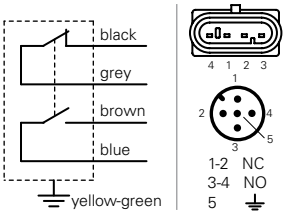
2NO+2NC



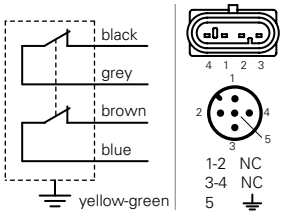
1NO+2NC



1NO+1NC



2NC



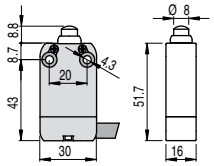
Female connectors See page 6/2

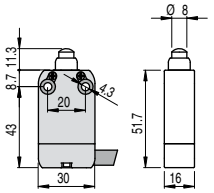
Metal modular prewired switches **NA-NB series**

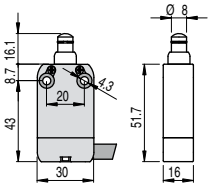
Contacts type:

R = snap action
L = slow action

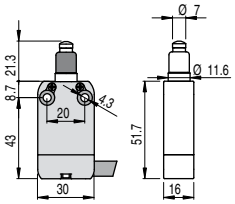
Contact blocks





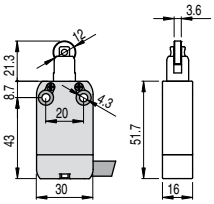


With external rubber gasket

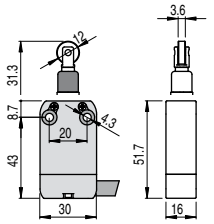


B11	R	NA B110AA-DN2	1NO+1NC	NA B110AB-DN2	1NO+1NC	NA B110AC-DN2	1NO+1NC	NA B110AE-DN2	1NO+1NC
B02	R	NA B020AA-DN2	2NC	NA B020AB-DN2	2NC	NA B020AC-DN2	2NC	NA B020AE-DN2	2NC
B12	R	NA B120AA-DN2	1NO+2NC	NA B120AB-DN2	1NO+2NC	NA B120AC-DN2	1NO+2NC	NA B120AE-DN2	1NO+2NC
B22	R	NA B220AA-DN2	2NO+2NC	NA B220AB-DN2	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	

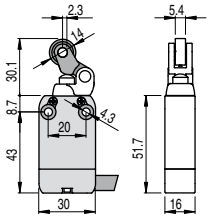
Contact blocks



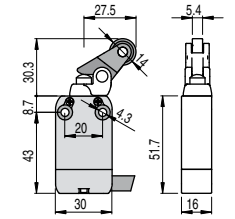
With external rubber gasket



With stainless steel roller on request

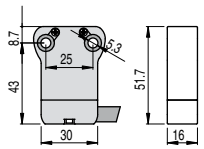


With stainless steel roller on request



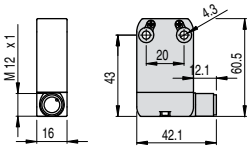
B11	R	NA B110BB-DN2	1NO+1NC	NA B110BE-DN2	1NO+1NC	NA B110CB-DN2	1NO+1NC	NA B110CH-DN2	1NO+1NC
B02	R	NA B020BB-DN2	2NC	NA B020BE-DN2	2NC	NA B020CB-DN2	2NC	NA B020CH-DN2	2NC
B12	R	NA B120BB-DN2	1NO+2NC	NA B120BE-DN2	1NO+2NC	NA B120CB-DN2	1NO+2NC	NA B120CH-DN2	1NO+2NC
B22	R	NA B220BB-DN2	2NO+2NC	NA B220BE-DN2	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



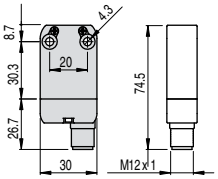
In order to buy a NB series product: substitute on above mentioned codes NA with NB.
Example:
NA B110AA-DN2 → **NB** B110AA-DN2

M12 connector output from right



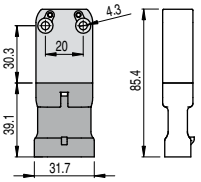
In order to buy a product with M12 connector output from right substitute on above mentioned codes DN2 with DMK.
Example:
NA B110AA-**DN2** → NA B110AA-**DMK**

M12 connector output from bottom



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**

AMP superseal 1,5 connector



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:

R = snap action
L = slow action

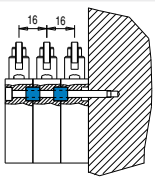
Contact blocks								
		No switching → Switching		Fixed only by threaded head		Fixed only by threaded head With external rubber gasket	
B11	R	NA B110CP-DN2	1NO+1NC	NA B110CV-DN2	1NO+1NC	NA B110EB-DN2	1NO+1NC	NA B110EE-DN2	1NO+1NC
B02	R	NA B020CP-DN2	2NC	NA B020CV-DN2	2NC	NA B020EB-DN2	2NC	NA B020EE-DN2	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
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

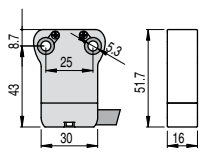
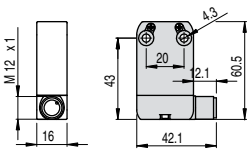
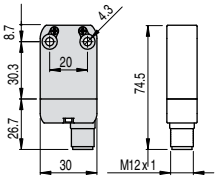
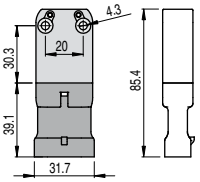
Metal modular prewired switches **NA-NB series**

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	NA B110HH-DN2 1NO+1NC	NA B112KA-DN2 → 1NO+1NC	NA B112KB-DN2 → 1NO+1NC	NA B112KC-DN2 → 1NO+1NC
B02	R	NA B020HH-DN2 2NC	NA B022KA-DN2 → 2NC	NA B022KB-DN2 → 2NC	NA B022KC-DN2 → 2NC
B12	R	NA B120HH-DN2 1NO+2NC	NA B122KA-DN2 → 1NO+2NC	NA B122KB-DN2 → 1NO+2NC	NA B122KC-DN2 → 1NO+2NC
B22	R	NA B220HH-DN2 2NO+2NC	NA B222KA-DN2 → 2NO+2NC	NA B222KB-DN2 → 2NO+2NC	NA B222KC-DN2 → 2NO+2NC
G11	L	NA G110HH-DN2 1NO+1NC	NA G112KA-DN2 → 1NO+1NC	NA G112KB-DN2 → 1NO+1NC	NA G112KC-DN2 → 1NO+1NC
G02	L	NA G020HH-DN2 2NC	NA G022KA-DN2 → 2NC	NA G022KB-DN2 → 2NC	NA G022KC-DN2 → 2NC
G12	L	NA G120HH-DN2 1NO+2NC	NA G122KA-DN2 → 1NO+2NC	NA G122KB-DN2 → 1NO+2NC	NA G122KC-DN2 → 1NO+2NC
G22	L	NA G220HH-DN2 2NO+2NC	NA G222KA-DN2 → 2NO+2NC	NA G222KB-DN2 → 2NO+2NC	NA G222KC-DN2 → 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 →)	0,07 Nm (0,25 Nm →)	0,07 Nm (0,25 Nm →)
Travel diagrams		page 7/10 - group 4	page 7/10 - group 5	page 7/10 - group 5	page 7/10 - 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	NA B112KD-DN2 → 1NO+1NC	NA B112KE-DN2 → 1NO+1NC	NA B112KF-DN2 → 1NO+1NC	NA B112KG-DN2 → 1NO+1NC
B02	R	NA B022KD-DN2 → 2NC	NA B022KE-DN2 → 2NC	NA B022KF-DN2 → 2NC	NA B022KG-DN2 → 2NC
B12	R	NA B122KD-DN2 → 1NO+2NC	NA B122KE-DN2 → 1NO+2NC	NA B122KF-DN2 → 1NO+2NC	NA B122KG-DN2 → 1NO+2NC
B22	R	NA B222KD-DN2 → 2NO+2NC	NA B222KE-DN2 → 2NO+2NC	NA B222KF-DN2 → 2NO+2NC	NA B222KG-DN2 → 2NO+2NC
G11	L	NA G112KD-DN2 → 1NO+1NC	NA G112KE-DN2 → 1NO+1NC	NA G112KF-DN2 → 1NO+1NC	NA G112KG-DN2 → 1NO+1NC
G02	L	NA G022KD-DN2 → 2NC	NA G022KE-DN2 → 2NC	NA G022KF-DN2 → 2NC	NA G022KG-DN2 → 2NC
G12	L	NA G122KD-DN2 → 1NO+2NC	NA G122KE-DN2 → 1NO+2NC	NA G122KF-DN2 → 1NO+2NC	NA G122KG-DN2 → 1NO+2NC
G22	L	NA G222KD-DN2 → 2NO+2NC	NA G222KE-DN2 → 2NO+2NC	NA G222KF-DN2 → 2NO+2NC	NA G222KG-DN2 → 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 →)	0,07 Nm (0,25 Nm →)	0,07 Nm (0,25 Nm →)	0,07 Nm (0,25 Nm →)
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 → **NB** B110AA-DN2

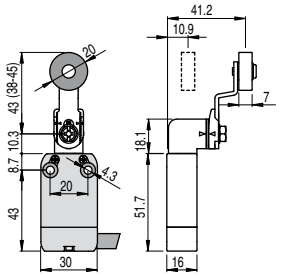
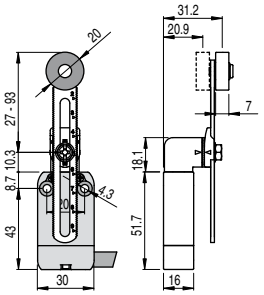
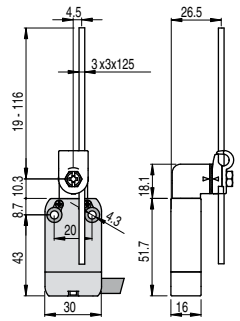
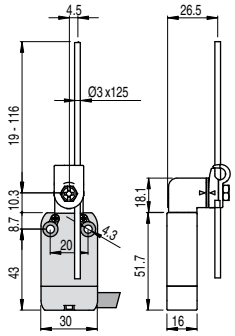
In order to buy a product with M12 connector output from right substitute on above mentioned codes DN2 with DMK.
Example:
NA B110AA-**DN2** → NA B110AA-**DMK**

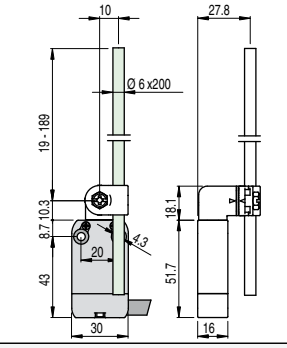
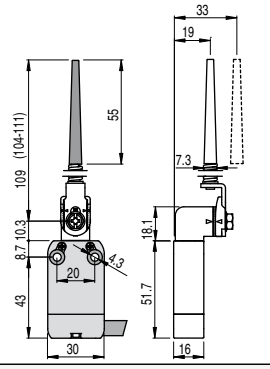
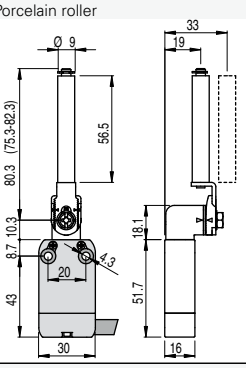
In order to buy a product with M12 connector output from bottom substitute on above mentioned codes DN2 with SMK.
Example:
NA B110AA-**DN2** → NA B110AA-**SMK**

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**

Contacts type:

R = snap action
L = slow action

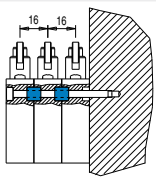
Contact blocks		With stainless steel roller on request		With stainless steel roller on request		Stainless steel 3x3 mm square rod		Ø 3 mm stainless steel round rod	
									
B11	R	NA B112KH-DN2	1NO+1NC	NA B112KP-DN2	1NO+1NC	NA B112LB-DN2	1NO+1NC	NA B112LE-DN2	1NO+1NC
B02	R	NA B022KH-DN2	2NC	NA B022KP-DN2	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	

Contact blocks		Fiber glass rod			Porcelain roller		
							
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

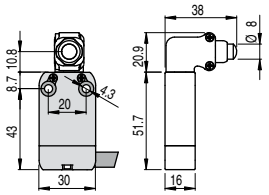
See page 6/2

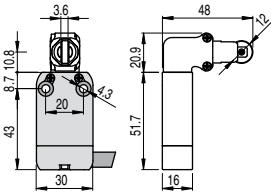
Items with code on the **green** background are available in stock

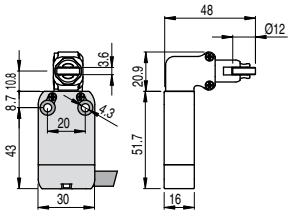
Metal modular prewired switches **NA-NB series**

Contacts type:

R = snap action
L = slow action

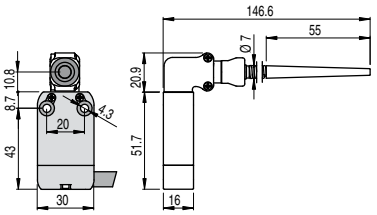




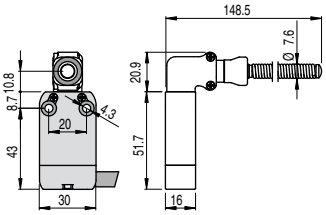


Contact blocks						
B11	R	NA B110AB-DN2W5	1NO+1NC	NA B110BB-DN2H0W5	1NO+1NC	NA B110BB-DN2W5	1NO+1NC
B02	R	NA B020AB-DN2W5	2NC	NA B020BB-DN2H0W5	2NC	NA B020BB-DN2W5	2NC
B12	R	NA B120AB-DN2W5	1NO+2NC	NA B120BB-DN2H0W5	1NO+2NC	NA B120BB-DN2W5	1NO+2NC
B22	R	NA B220AB-DN2W5	2NO+2NC	NA B220BB-DN2H0W5	2NO+2NC	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	

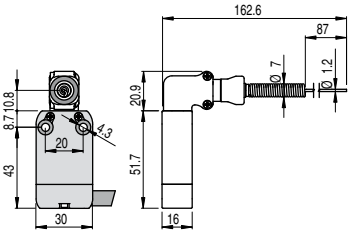
With external rubber gasket



With external rubber gasket

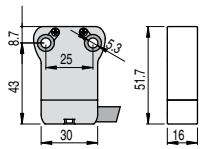


With external rubber gasket

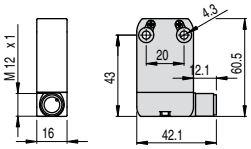


Contact blocks							
B11	R	NA B110HB-DN2W5	1NO+1NC	NA B110HE-DN2W5	1NO+1NC	NA B110HH-DN2W5	1NO+1NC
B02	R	NA B020HB-DN2W5	2NC	NA B020HE-DN2W5	2NC	NA B020HH-DN2W5	2NC
B12	R	NA B120HB-DN2W5	1NO+2NC	NA B120HE-DN2W5	1NO+2NC	NA B120HH-DN2W5	1NO+2NC
B22	R	NA B220HB-DN2W5	2NO+2NC	NA B220HE-DN2W5	2NO+2NC	NA 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	

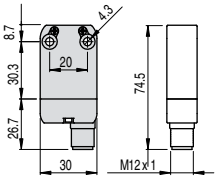
Housing NB series	M12 connector output from right	M12 connector output from bottom	AMP superseal 1,5 connector



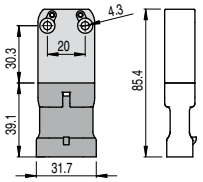
In order to buy a NB series product: substitute on above mentioned codes NA with NB.
Example:
NA B110AA-DN2 → **NB** B110AA-DN2



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**

Notes