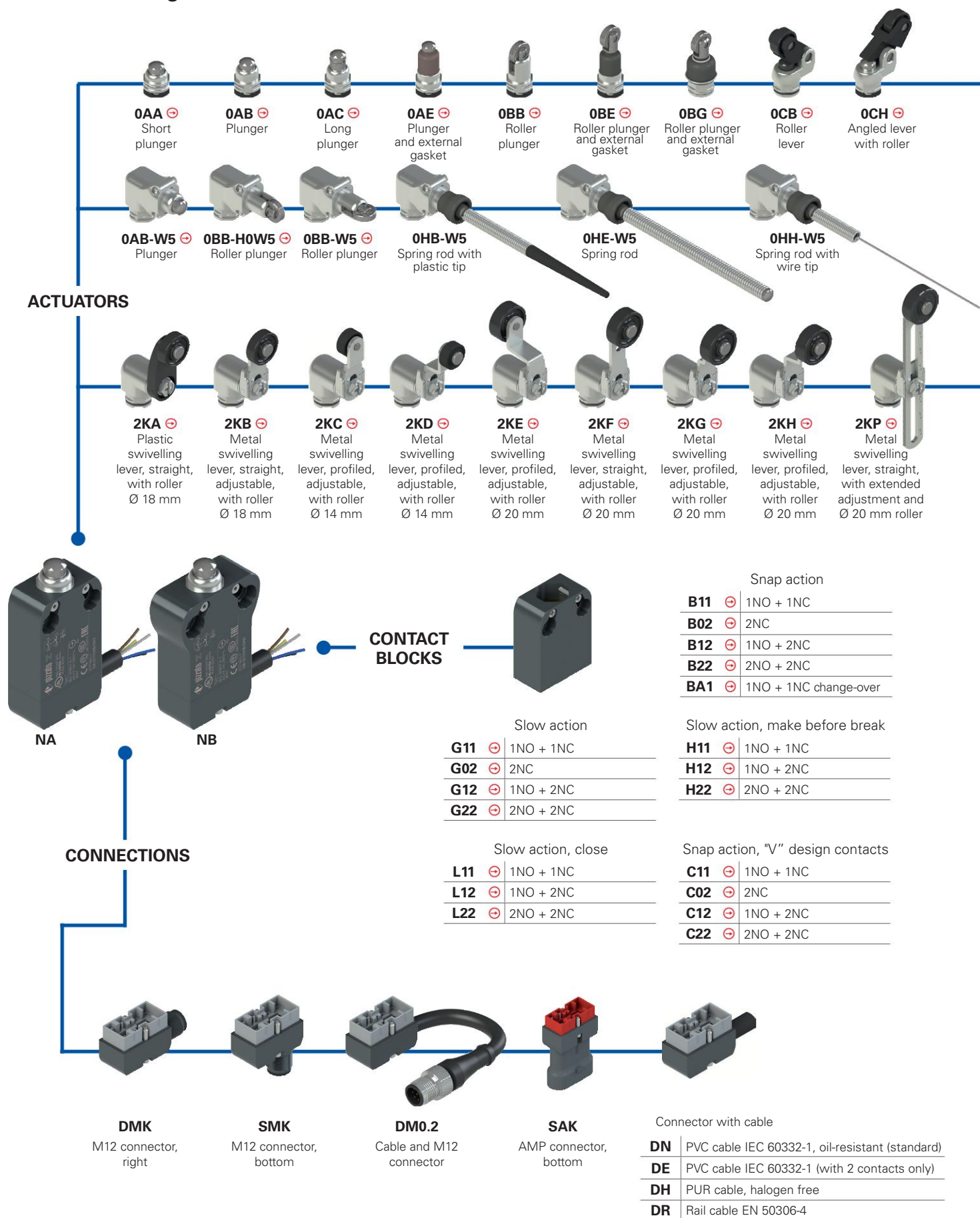
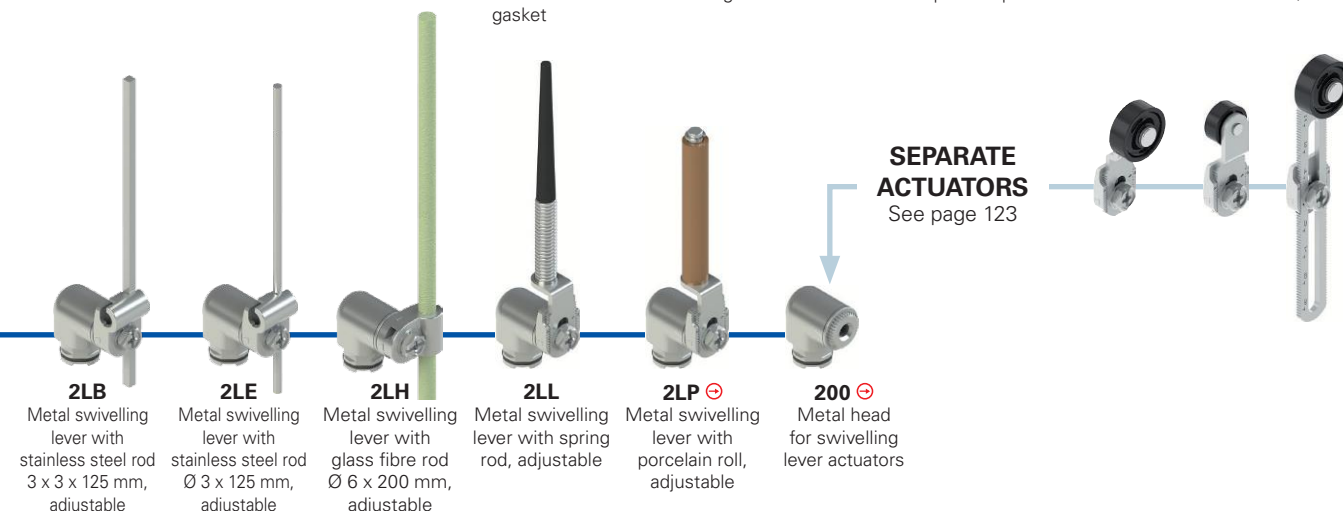
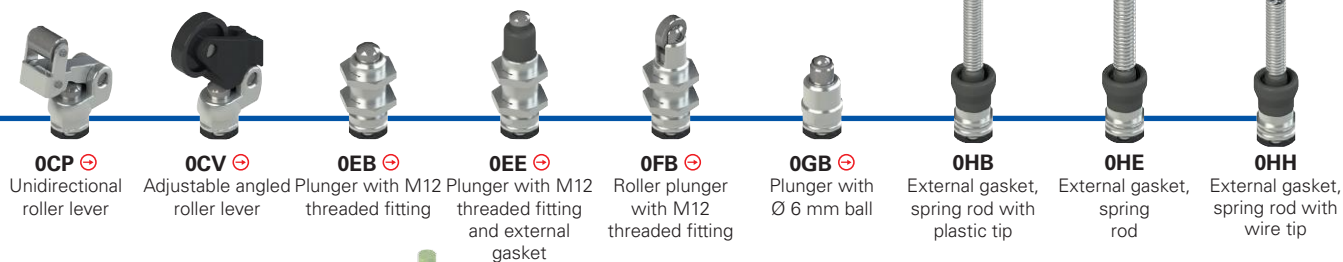


Selection diagram for item combinations of the NA-NB series





Code structure

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

Housing		article		options	
NA	metal, hole spacing 20 mm (standard)	NA B110AB-DN2		GR7T6W5	
NB	metal, hole spacing 25 mm				
				Redirection	
				without redirection	
				W5 90° redirection	
				Ambient temperature	
				-25°C ... +80°C	
				T6 -40°C ... +80°C	
				Rollers	
				standard roller	
				R30 316L stainless steel, Ø 10.6 mm	
				R44 316L stainless steel, Ø 12 mm	
				R29 Steel, with self-lubrication, Ø 13 mm	
				R18 technopolymer, Ø 14 mm	
				R23 Steel, with self-lubrication, Ø 14 mm	
				R43 316L stainless steel, Ø 14 mm	
				R36 steel, with self-lubrication, Ø 16 mm	
				R7 technopolymer, Ø 18 mm	
				R22 technopolymer, Ø 20 mm	
				R24 steel, with self-lubrication, Ø 20 mm	
				R41 316L stainless steel, Ø 20 mm	
				R19 technopolymer, Ø 22 mm	
				R25 technopolymer, Ø 35 mm	
				Contact type	
				silver contacts (standard)	
				G silver contacts with 1 µm gold coating ⁽¹⁾	
				⁽¹⁾ Not available for contact block C••	
				Connection type	
				0.2 cable, length: 0.2 m with M12 connector (available for DM0.2 versions only)	
				2 cable, length: 2 m (standard)	
				5 cable, length 5 m (other cable lengths available on request)	
				K integrated connector	
				Cable or connector type	
				N PVC cable IEC 60332-1, oil-resistant (standard)	
				E PVC cable IEC 60332-1 (with 2 contacts only)	
				H PUR cable, halogen free	
				R Rail cable EN 50306-4	
				M M12 connector	
				A AMP Superseal 1.5 connector	



Main features

- Metal housing, right or bottom cable output
- Protection degrees IP67 and IP69K
- 4 types of integrated cable available
- Versions with M12 connector suitable for safety applications ☹
- Versions with AMP connector
- 19 contact blocks available
- 36 actuators available

Quality marks:



IMQ approval: CA02.04562
 UL approval: E131787
 CCC approval: 2024010305656745
 EAC approval: RU Д-IT.PA07.B.37848/24

Technical data

Housing

Metal housing, baked with UV resistant powder coating.
 Versions with integrated cable, standard length 2 m, other lengths 0.5 ... 10 m on request.
 Versions with integrated M12 connector.
 Versions with 0.2 m cable length and M12 connector, other lengths 0.1 ... 3 m available on request.

Protection degree: IP67 acc. to EN 60529
 IP69K acc. to ISO 20653
 (Protect the cables from direct high-pressure and high-temperature jets)

Corrosion resistance in saline mist: ≥ 300 hours in NSS acc. to ISO 9227

General data

Ambient temperature for switches without cable: -25°C ... + 80°C (standard)
 -40°C ... + 80°C (T6 option)

Ambient temperature for switches with cable: See table on page 106
 Max. actuation frequency: 3600 operating cycles/hour

Mechanical endurance:

B••, G••, H••, L•• contact blocks: 20 million operating cycles
 C•• contact block: 5 million operating cycles

Mounting position:

Safety parameter B_{10D} :

B••, G••, H••, L•• contact blocks: 40,000,000 for NC contacts
 C•• contact block: 10,000,000 for NC contacts

Mechanical interlock, not coded: type 1 acc. to EN ISO 14119

Vibration resistance: 5 ... 150 Hz (7.9 m/s²)

(0BB, 2KB, 2KC, 2KD actuators):

Tightening torques for installation: acc. to EN 61373 cl. 9

Electrical data

Rated impulse withstand voltage (U_{imp}): 4 kV

Conditional short circuit current: 1000 A acc. to EN 60947-5-1

Pollution degree: 3

In compliance with standards:

IEC 60947-5-1, EN 60947-5-1, IEC 60947-1, EN 60947-1, IEC 60204-1, EN 60204-1, EN ISO 14119, EN ISO 12100, IEC 60529, EN 60529, EN IEC 63000, ISO 20653, UL 508, CSA C22.2 No. 14.

Compliance with the requirements of:

Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU,

RoHS Directive 2011/65/EU.

Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1.

⚠ Installation for safety applications:

Use only switches marked with the ☹ symbol beside the product code. Always connect the safety circuit to the **NC contacts** (normally closed contacts: see "Internal cable wiring" on page 106) as required by **EN ISO 14119, paragraph 5.4** for specific interlock applications and **EN ISO 13849-2 tables D3 (well-trying components) and D.8 (fault exclusions)** for safety applications in general. Actuate the switch **at least up to the positive opening travel** shown in the travel diagrams on page 226. Actuate the switch **at least with the positive opening force**, reported in brackets below each article, next to the actuating force value.

⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see chapter Utilization requirements from page 217 to page 232.

⚠ Important: Switch off the circuit voltage before disconnecting the connector from the switch. The connector is not suitable for separation of electrical loads. According to EN 60204-1, versions with 8-pole M12 (2NO+2NC) and AMP connector can be used only in SELV circuits.

Features approved by IMQ

Rated insulation voltage (U_i): 250 Vac
 Conventional free air thermal current (I_n): 10 A (1-2 contacts) / 6 A (2-3 contacts) / 4 A (4 contacts or 5-pole M12 connector)
 Protection against short circuits (fuse): 10 A (1-2 contacts) / 6 A (2-3 contacts) / 4 A (4 contacts or 5-pole M12 connector) type gG
 Rated impulse withstand voltage (U_{imp}): 4 kV
 Protection degree of the housing: IP67 / IP69K
 Terminals: integrated or connector plug
 Pollution degree: 3
 Utilization category: AC15 / DC13 (with connector)
 Operating voltage (U_e): 250 Vac (50 Hz) / 24 Vdc (with connector)
 Operating 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, Zb
 Positive opening of contacts on contact blocks 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 compliance with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2014/35/EU.

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

Features approved by UL

Electrical Ratings: R300 pilot duty (28 VA, 125 250 Vdc)
 B300 pilot duty (360 VA, 120 240 Vac) (1 cont.)
 B300 pilot duty (360 VA, 120 240 Vac) (2 - 3 cont. without connector)
 C300 pilot duty (180 VA, 120 240 Vac) (4 cont.)
 Environmental Ratings: Types 1, 4X, 6, 12, 13
 Types 1, 4X "indoor use only" (1 - 2 cont. with "E" type cable)
 Screws torque of the detachable connector housing nominal are 0.3 ÷ 0.6 Nm.

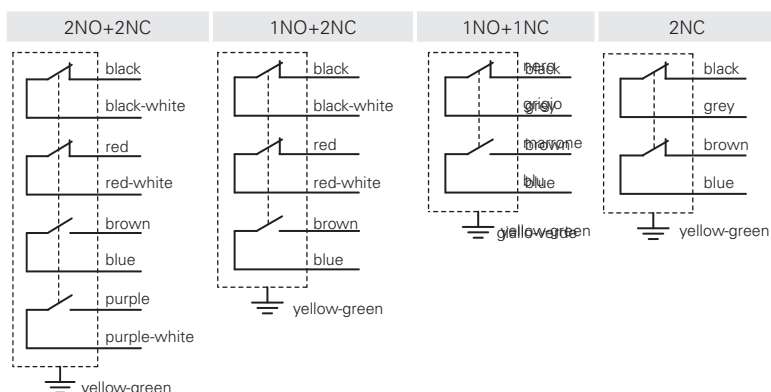
Please contact our technical department for the list of approved products.



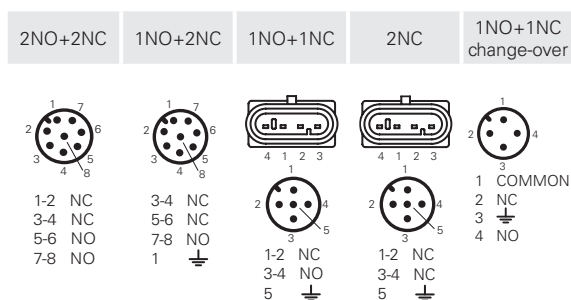
Ambient temperatures for switches with cable and electrical data

Connection type		Output with cable								Output with M12 connector		Output with AMP connector	
Contact block		2 contacts				3 contacts		4 contacts		2 contacts	3 or 4 contacts	2 contacts	
Cable or connector type		E	N	H	R	N	H	N	R	M12 connector, 5-pole	M12 connector, 8-pole	AMP Super-seal 1.5 connector	
Cable features	Conductors	5x0.75 mm²	5x0.75 mm²	5x0.75 mm²	5x0.5mm²	7x0.5 mm²	7x0.5 mm²	9x0.34 mm²	9x0.5 mm²	5x0.25 mm²	8x0.25 mm²		
	Application field	General	General	General, mobile installation	Rail	General	General, mobile installation	General	Rail	General	General	General	
	In compliance with standards	H05VV-F	05VV5-F	05EQ-H	1E-300V 500.5 mm² MM-90 EN 50306-4 EN 45545	03VV-F	03E7Q-H	03VV-F	1P-300V- 900.5 mm² MM-90 EN 50306-4 EN 45545	03VV-H	03VV-H	/	
	Sheath	PVC	PVC OIL RESISTANT	PUR HALOGEN FREE	/	PVC OIL RESISTANT	PUR HALOGEN FREE	PVC OIL RESISTANT	/	PVC OIL RESISTANT	PVC OIL RESISTANT	/	
	Self-extinguishing	IEC 60332-1-2	IEC 60332-1-2 UL 758-FT1 CEI 20-22 II	IEC 60332-1-2 UL 758-FT1	IEC 60332-1 EN 50305 EN 50306-1	IEC 60332-1-2 UL 758-FT1 CEI 20-22 II	IEC 60332-1-2 UL 758-FT1	IEC 60332-1-2 UL 758-FT1 CEI 20-22 II	IEC 60332-1 EN 50305 EN 50306-1	IEC 60332-1-2 CEI 20-22 II UL 758-FT1	IEC 60332-1-2 CEI 20-22 II UL 758-FT1	/	
	Oil resistant	/	UL 758 CSA 22.2 N°210	UL 758 CSA 22.2 N°210	/	UL 758 CSA 22.2 N°210	UL 758 CSA 22.2 N°210	UL 758 CSA 22.2 N°210	/	UL 758 CSA 22.2 N°210	UL 758 CSA 22.2 N°210	/	
	Max. speed	/	/	300 m/min	/	/	300 m/min	/	/	50 m/min	50 m/min	/	
	Max. acceleration	/	/	30 m/s²	/	/	30 m/s²	/	/	5 m/s²	5 m/s²	/	
	Minimum bending radius	80 mm	80 mm	80 mm	60 mm	108 mm	80 mm	108 mm	65 mm	75 mm	90 mm	/	
	Outer diameter	8 mm	8 mm	8 mm	6 mm	7 mm	7 mm	7 mm	6.5 mm	6 mm	6 mm	/	
	End stripped	80 mm	80 mm	80 mm	80 mm	80 mm	80 mm	80 mm	80 mm	/	/	/	
	Copper conductors IEC 60228	Class 5	Class 5	Class 6	Class 5	Class 5	Class 6	Class 5	Class 5	Class 6	Class 6	/	
	Engraving	Standard	6268	6280	Standard	6274	6282	6278	Standard	6267	6275	/	
Ambient temperature with cable extended (T _b)	Cable, fixed installation	-15°C +60°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	-25°C +80°C	-25°C +80°C	/	
	Cable, flexible installation	+5°C +60°C	-5°C +80°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	-15°C +80°C	-15°C +80°C	/	
	Cable, mobile installation	/	/	-25°C +80°C	/	/	-25°C +80°C	/	/	-15°C +80°C	-15°C +80°C	/	
	Cable, fixed installation	/	/	-40°C +80°C	-40°C +80°C	/	-40°C +80°C	/	-40°C +80°C	/	/	/	
	Cable, flexible installation	/	/	-40°C +80°C	-40°C +80°C	/	-40°C +80°C	/	-40°C +80°C	/	/	/	
	Cable, mobile installation	/	/	-40°C +80°C	/	/	-40°C +80°C	/	/	/	/	/	
Electrical data	Thermal current I _{th}		10 A	10 A	10 A	6 A	6 A	6 A	3 A	4 A	4 A	2 A	10 A
	Rated insulation voltage U _i		250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac	250 Vac 300 Vdc	30 Vac 36 Vdc	30 Vac
	Protection against short circuits (fuse)		10 A 500 V type gG	10 A 500 V type gG	10 A 500 V type gG	6 A 500 V type gG	6 A 500 V type gG	6 A 500 V type gG	3 A 500 V type gG	4 A 500 V type gG	4 A 500 V type gG	2 A 500V type gG	10 A 500 V type gG
	Utilization category 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	/	/
		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	/	/
	Utilization category AC15	24 V	4 A	4 A	4 A	4 A	4 A	4 A	3 A	4 A	4 A	2 A	4 A
		120 V	4 A	4 A	4 A	4 A	4 A	4 A	3 A	4 A	4 A	/	/
250 V		4 A	4 A	4 A	4 A	4 A	4 A	3 A	4 A	4 A	/	/	
Approvals		CE cULus IMQ EAC CCC	CE cULus IMQ EAC CCC	CE cULus IMQ EAC CCC	CE IMQ EAC CCC	CE cULus IMQ EAC CCC	CE cULus IMQ EAC CCC	CE cULus IMQ EAC CCC	CE IMQ EAC CCC	CE cULus IMQ EAC CCC	CE cULus EAC	CE cULus EAC	

Internal cable wiring



Connector pin assignment



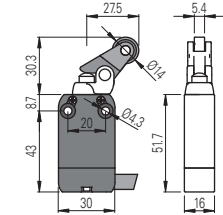
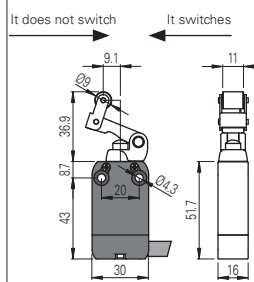
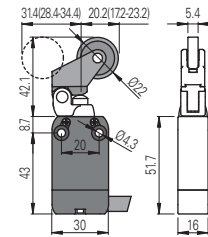
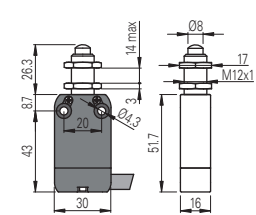
Female connectors See page 200

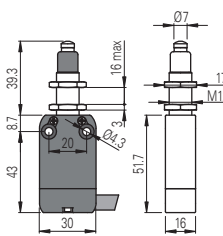
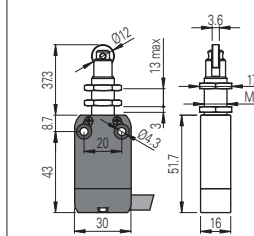
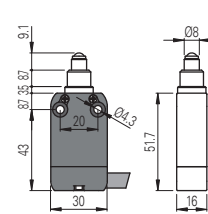
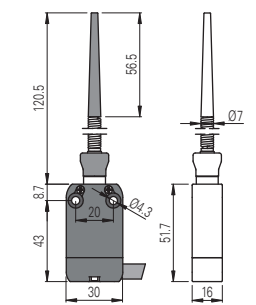
Contact type						External gasket			
R = snap action L = slow action									
Contact block									
B11	R	NA B110AA-DN2	➔ 1NO+1NC	NA B110AB-DN2	➔ 1NO+1NC	NA B110AC-DN2	➔ 1NO+1NC	NA B110AE-DN2	➔ 1NO+1NC
B02	R	NA B020AA-DN2	➔ 2NC	NA B020AB-DN2	➔ 2NC	NA B020AC-DN2	➔ 2NC	NA B020AE-DN2	➔ 2NC
B12	R	NA B120AA-DN2	➔ 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 225 - type 4		page 225 - type 4		page 225 - type 4		page 225 - type 4	
Actuating force		7 N (25 N ➔)		7 N (25 N ➔)		7 N (25 N ➔)		7 N (25 N ➔)	
Travel diagrams		page 226 - group 1		page 226 - group 1		page 226 - group 1		page 226 - group 1	

Contact type		With 316L stainless steel roller on request	External gasket	External gasket	With steel roller with self-lubrication or 316L stainless steel on request
R = snap action L = slow action			With 316L stainless steel roller on request	With 316L stainless steel roller on request	
Contact block					
B11	R	NA B110BB-DN2 ➔ 1NO+1NC	NA B110BE-DN2 ➔ 1NO+1NC	NA B110BG-DN2 ➔ 1NO+1NC	NA B110CB-DN2 ➔ 1NO+1NC
B02	R	NA B020BB-DN2 ➔ 2NC	NA B020BE-DN2 ➔ 2NC	NA B020BG-DN2 ➔ 2NC	NA B020CB-DN2 ➔ 2NC
B12	R	NA B120BB-DN2 ➔ 1NO+2NC	NA B120BE-DN2 ➔ 1NO+2NC	NA B120BG-DN2 ➔ 1NO+2NC	NA B120CB-DN2 ➔ 1NO+2NC
B22	R	NA B220BB-DN2 ➔ 2NO+2NC	NA B220BE-DN2 ➔ 2NO+2NC	NA B220BG-DN2 ➔ 2NO+2NC	NA B220CB-DN2 ➔ 2NO+2NC
G11	L	NA G110BB-DN2 ➔ 1NO+1NC	NA G110BE-DN2 ➔ 1NO+1NC	NA G110BG-DN2 ➔ 1NO+1NC	NA G110CB-DN2 ➔ 1NO+1NC
G02	L	NA G020BB-DN2 ➔ 2NC	NA G020BE-DN2 ➔ 2NC	NA G020BG-DN2 ➔ 2NC	NA G020CB-DN2 ➔ 2NC
G12	L	NA G120BB-DN2 ➔ 1NO+2NC	NA G120BE-DN2 ➔ 1NO+2NC	NA G120BG-DN2 ➔ 1NO+2NC	NA G120CB-DN2 ➔ 1NO+2NC
G22	L	NA G220BB-DN2 ➔ 2NO+2NC	NA G220BE-DN2 ➔ 2NO+2NC	NA G220BG-DN2 ➔ 2NO+2NC	NA G220CB-DN2 ➔ 2NO+2NC
Max. speed		page 225 - type 2	page 225 - type 5	page 225 - type 5	page 225 - type 3
Actuating force		7 N (25 N ➔)	7 N (25 N ➔)	7 N (25 N ➔)	5 N (25 N ➔)
Travel diagrams		page 226 - group 1	page 226 - group 1	page 226 - group 1	page 226 - group 2

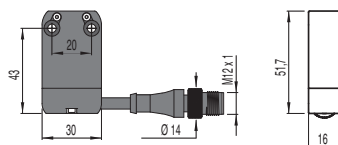
NB series housing	M12 connector, right	M12 connector, bottom	AMP Superseal 1.5 connector
To order a product of the NB series, replace NA with NB in the codes shown above. Example: NA B110AA-DN2 ➔ NB B110AA-DN2	To order a product with M12 right connector, replace DN2 with DMK in the codes shown above. Example: NA B110AA-DN2 ➔ NA B110AA-DMK	To order a product with M12 bottom connector, replace DN2 with SMK in the codes shown above. Example: NA B110AA-DN2 ➔ NA B110AA-SMK	To order a product with AMP connector, replace DN2 with SAK in the codes shown above. Example: NA B110AA-DN2 ➔ NA B110AA-SAK



Contact type R = snap action L = slow action	With steel roller with self-lubrication or 316L stainless steel on request	Unidirectional operation	Secured only by means of threaded head	
				
Contact block				
B11 R	NA B110CH-DN2 ➔ 1NO+1NC	NA B110CP-DN2 ➔ 1NO+1NC	NA B110CV-DN2 ➔ 1NO+1NC	NA B110EB-DN2 ➔ 1NO+1NC
B02 R	NA B020CH-DN2 ➔ 2NC	NA B020CP-DN2 ➔ 2NC	NA B020CV-DN2 ➔ 2NC	NA B020EB-DN2 ➔ 2NC
B12 R	NA B120CH-DN2 ➔ 1NO+2NC	NA B120CP-DN2 ➔ 1NO+2NC	NA B120CV-DN2 ➔ 1NO+2NC	NA B120EB-DN2 ➔ 1NO+2NC
B22 R	NA B220CH-DN2 ➔ 2NO+2NC	NA B220CP-DN2 ➔ 2NO+2NC	NA B220CV-DN2 ➔ 2NO+2NC	NA B220EB-DN2 ➔ 2NO+2NC
G11 L	NA G110CH-DN2 ➔ 1NO+1NC	NA G110CP-DN2 ➔ 1NO+1NC	NA G110CV-DN2 ➔ 1NO+1NC	NA G110EB-DN2 ➔ 1NO+1NC
G02 L	NA G020CH-DN2 ➔ 2NC	NA G020CP-DN2 ➔ 2NC	NA G020CV-DN2 ➔ 2NC	NA G020EB-DN2 ➔ 2NC
G12 L	NA G120CH-DN2 ➔ 1NO+2NC	NA G120CP-DN2 ➔ 1NO+2NC	NA G120CV-DN2 ➔ 1NO+2NC	NA G120EB-DN2 ➔ 1NO+2NC
G22 L	NA G220CH-DN2 ➔ 2NO+2NC	NA G220CP-DN2 ➔ 2NO+2NC	NA G220CV-DN2 ➔ 2NO+2NC	NA G220EB-DN2 ➔ 2NO+2NC
Max. speed	page 225 - type 3	page 225 - type 3	page 225 - type 3	page 225 - type 4
Actuating force	5 N (25 N ➔)	3 N (25 N ➔)	3 N (25 N ➔)	7 N (25 N ➔)
Travel diagrams	page 226 - group 2	page 226 - group 6	page 226 - group 3	page 226 - group 1

Contact type R = snap action L = slow action	External gasket	Secured only by means of threaded head	Plunger with Ø 6 mm ball	External gasket
	Secured only by means of threaded head	With Ø12 mm roller in 316L stainless steel on request		
				
Contact block				
B11 R	NA B110EE-DN2 ➔ 1NO+1NC	NA B110FB-DN2 ➔ 1NO+1NC	NA B110GB-DN2 ➔ 1NO+1NC	NA B110HB-DN2 1NO+1NC
B02 R	NA B020EE-DN2 ➔ 2NC	NA B020FB-DN2 ➔ 2NC	NA B020GB-DN2 ➔ 2NC	NA B020HB-DN2 2NC
B12 R	NA B120EE-DN2 ➔ 1NO+2NC	NA B120FB-DN2 ➔ 1NO+2NC	NA B120GB-DN2 ➔ 1NO+2NC	NA B120HB-DN2 1NO+2NC
B22 R	NA B220EE-DN2 ➔ 2NO+2NC	NA B220FB-DN2 ➔ 2NO+2NC	NA B220GB-DN2 ➔ 2NO+2NC	NA B220HB-DN2 2NO+2NC
G11 L	NA G110EE-DN2 ➔ 1NO+1NC	NA G110FB-DN2 ➔ 1NO+1NC	NA G110GB-DN2 ➔ 1NO+1NC	/
G02 L	NA G020EE-DN2 ➔ 2NC	NA G020FB-DN2 ➔ 2NC	NA G020GB-DN2 ➔ 2NC	NA G020HB-DN2 2NC
G12 L	NA G120EE-DN2 ➔ 1NO+2NC	NA G120FB-DN2 ➔ 1NO+2NC	NA G120GB-DN2 ➔ 1NO+2NC	/
G22 L	NA G220EE-DN2 ➔ 2NO+2NC	NA G220FB-DN2 ➔ 2NO+2NC	NA G220GB-DN2 ➔ 2NO+2NC	/
Max. speed	page 225 - type 4	page 225 - type 2	page 225 - type 2	1 m/s
Actuating force	7 N (25 N ➔)	7 N (25 N ➔)	7 N (25 N ➔)	0.03 Nm
Travel diagrams	page 226 - group 1	page 226 - group 1	page 226 - group 1	page 226 - group 4

Cable and M12 connector



To order a product with cable and M12 connector
replace DN2 with DM0.2 in the codes shown above. Example:
NA B110AA-**DN2** → NA B110AA-**DM0.2**

Contact type R = snap action L = slow action	External gasket		With Ø 20 mm steel roller with self-lubrication or 316L stainless steel on request	
	External gasket		With Ø 20 mm steel roller with self-lubrication or 316L stainless steel on request	
Contact block				
B11 R	NA B110HE-DN2	1NO+1NC	NA B110HH-DN2	1NO+1NC
B02 R	NA B020HE-DN2	2NC	NA B020HH-DN2	2NC
B12 R	NA B120HE-DN2	1NO+2NC	NA B120HH-DN2	1NO+2NC
B22 R	NA B220HE-DN2	2NO+2NC	NA B220HH-DN2	2NO+2NC
G11 L	/	/	NA G112KA-DN2	1NO+1NC
G02 L	NA G020HE-DN2	2NC	NA G020HH-DN2	2NC
G12 L	/	/	NA G122KA-DN2	1NO+2NC
G22 L	/	/	NA G222KA-DN2	2NO+2NC
Max. speed	1 m/s	1 m/s	page 225 - type 1	page 225 - type 1
Actuating force	0.07 Nm	0.03 Nm	0.07 Nm (0.25 Nm →)	0.07 Nm (0.25 Nm →)
Travel diagrams	page 226 - group 4	page 226 - group 4	page 226 - group 5	page 226 - group 5

Contact type R = snap action L = slow action	With steel roller with self-lubrication or 316L stainless steel on request		With steel roller with self-lubrication or 316L stainless steel on request	
	With steel roller with self-lubrication or 316L stainless steel on request		With steel roller with self-lubrication or 316L stainless steel on request	
Contact block				
B11 R	NA B112KC-DN2	1NO+1NC	NA B112KD-DN2	1NO+1NC
B02 R	NA B022KC-DN2	2NC	NA B022KD-DN2	2NC
B12 R	NA B122KC-DN2	1NO+2NC	NA B122KD-DN2	1NO+2NC
B22 R	NA B222KC-DN2	2NO+2NC	NA B222KD-DN2	2NO+2NC
G11 L	NA G112KC-DN2	1NO+1NC	NA G112KD-DN2	1NO+1NC
G02 L	NA G022KC-DN2	2NC	NA G022KD-DN2	2NC
G12 L	NA G122KC-DN2	1NO+2NC	NA G122KD-DN2	1NO+2NC
G22 L	NA G222KC-DN2	2NO+2NC	NA G222KD-DN2	2NO+2NC
Max. speed	page 225 - type 1	page 225 - type 1	page 225 - type 1	page 225 - type 1
Actuating 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 226 - group 5	page 226 - group 5	page 226 - group 5	page 226 - group 5

NB series housing	M12 connector, right	M12 connector, bottom	AMP Superseal 1.5 connector
To order a product of the NB series, replace NA with NB in the codes shown above. Example: NA B110AA-DN2 → NB B110AA-DN2	To order a product with M12 right connector, replace DN2 with DMK in the codes shown above. Example: NA B110AA-DN2 → NA B110AA-DMK	To order a product with M12 bottom connector, replace DN2 with SMK in the codes shown above. Example: NA B110AA-DN2 → NA B110AA-SMK	To order a product with AMP connector, replace DN2 with SAK in the codes shown above. Example: NA B110AA-DN2 → NA B110AA-SAK

All values in the drawings are in mm

Accessories See page 195

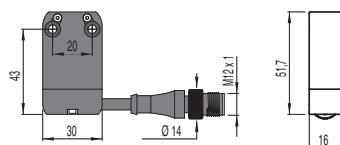
→ The 2D and 3D files are available at www.pizzato.com



Contact type	With steel roller with self-lubrication or 316L stainless steel on request			
R = snap action L = slow action				
Contact block				
B11 R	NA B112KG-DN2 $\rightarrow$ 1NO+1NC	NA B112KH-DN2 $\rightarrow$ 1NO+1NC	NA B112KP-DN2 $\rightarrow$ 1NO+1NC	NA B112LB-DN2 1NO+1NC
B02 R	NA B022KG-DN2 $\rightarrow$ 2NC	NA B022KH-DN2 $\rightarrow$ 2NC	NA B022KP-DN2 $\rightarrow$ 2NC	NA B022LB-DN2 2NC
B12 R	NA B122KG-DN2 $\rightarrow$ 1NO+2NC	NA B122KH-DN2 $\rightarrow$ 1NO+2NC	NA B122KP-DN2 $\rightarrow$ 1NO+2NC	NA B122LB-DN2 1NO+2NC
B22 R	NA B222KG-DN2 $\rightarrow$ 2NO+2NC	NA B222KH-DN2 $\rightarrow$ 2NO+2NC	NA B222KP-DN2 $\rightarrow$ 2NO+2NC	NA B222LB-DN2 2NO+2NC
G11 L	NA G112KG-DN2 $\rightarrow$ 1NO+1NC	NA G112KH-DN2 $\rightarrow$ 1NO+1NC	NA G112KP-DN2 $\rightarrow$ 1NO+1NC	NA G112LB-DN2 1NO+1NC
G02 L	NA G022KG-DN2 $\rightarrow$ 2NC	NA G022KH-DN2 $\rightarrow$ 2NC	NA G022KP-DN2 $\rightarrow$ 2NC	NA G022LB-DN2 2NC
G12 L	NA G122KG-DN2 $\rightarrow$ 1NO+2NC	NA G122KH-DN2 $\rightarrow$ 1NO+2NC	NA G122KP-DN2 $\rightarrow$ 1NO+2NC	NA G122LB-DN2 1NO+2NC
G22 L	NA G222KG-DN2 $\rightarrow$ 2NO+2NC	NA G222KH-DN2 $\rightarrow$ 2NO+2NC	NA G222KP-DN2 $\rightarrow$ 2NO+2NC	NA G222LB-DN2 2NO+2NC
Max. speed	page 225 - type 1	page 225 - type 1	page 225 - type 1	1.5 m/s
Actuating 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
Travel diagrams	page 226 - group 5	page 226 - group 5	page 226 - group 5	page 226 - group 5

Contact type	Round rod, Ø 3 mm, stainless steel			
R = snap action L = slow action				
Contact block				
B11 R	NA B112LE-DN2 1NO+1NC	NA B112LH-DN2 1NO+1NC	NA B112LL-DN2 1NO+1NC	NA B112LP-DN2E24 $\rightarrow$ 1NO+1NC
B02 R	NA B022LE-DN2 2NC	NA B022LH-DN2 2NC	NA B022LL-DN2 2NC	NA B022LP-DN2E24 $\rightarrow$ 2NC
B12 R	NA B122LE-DN2 1NO+2NC	NA B122LH-DN2 1NO+2NC	NA B122LL-DN2 1NO+2NC	NA B122LP-DN2E24 $\rightarrow$ 1NO+2NC
B22 R	NA B222LE-DN2 2NO+2NC	NA B222LH-DN2 2NO+2NC	NA B222LL-DN2 2NO+2NC	NA B222LP-DN2E24 $\rightarrow$ 2NO+2NC
G11 L	NA G112LE-DN2 1NO+1NC	NA G112LH-DN2 1NO+1NC	NA G112LL-DN2 1NO+1NC	NA G112LP-DN2E24 $\rightarrow$ 1NO+1NC
G02 L	NA G022LE-DN2 2NC	NA G022LH-DN2 2NC	NA G022LL-DN2 2NC	NA G022LP-DN2E24 $\rightarrow$ 2NC
G12 L	NA G122LE-DN2 1NO+2NC	NA G122LH-DN2 1NO+2NC	NA G122LL-DN2 1NO+2NC	NA G122LP-DN2E24 $\rightarrow$ 1NO+2NC
G22 L	NA G222LE-DN2 2NO+2NC	NA G222LH-DN2 2NO+2NC	NA G222LL-DN2 2NO+2NC	NA G222LP-DN2E24 $\rightarrow$ 2NO+2NC
Max. speed	1.5 m/s	1.5 m/s	1.5 m/s	0.5 m/s
Actuating force	0.07 Nm	0.07 Nm	0.07 Nm	0.04 Nm
Travel diagrams	page 226 - group 5	page 226 - group 5	page 226 - group 5	page 226 - group 5

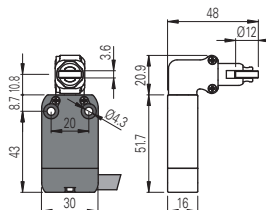
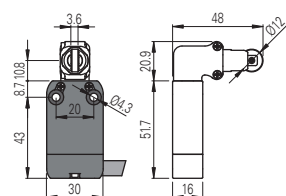
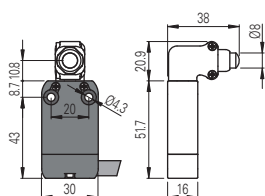
Cable and M12 connector



To order a product with cable and M12 connector:
replace DN2 with DM0.2 in the codes shown above. Example:
NA B110AA-DN2 $\rightarrow$ NA B110AA-DM0.2

Contact type

R = snap action
L = slow action

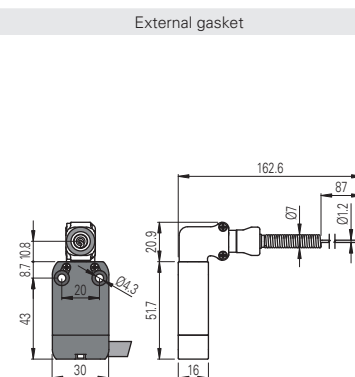
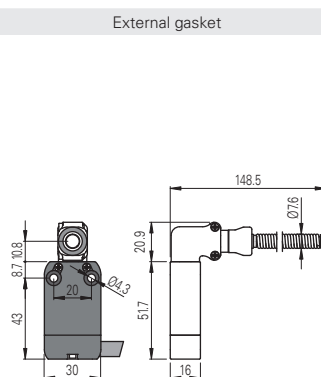
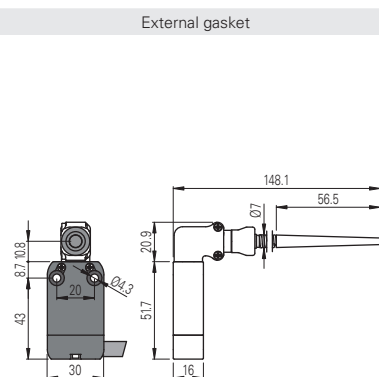


Contact block

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 225 - type 4			page 225 - type 2			page 225 - type 2		
Actuating force		9.5 N (25 N ➔)			9.5 N (25 N ➔)			9.5 N (25 N ➔)		
Travel diagrams		page 226 - group 1			page 226 - group 1			page 226 - group 1		

Contact type

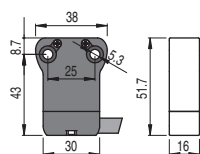
R = snap action
L = slow action



Contact block

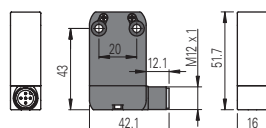
B11	R	NA B110HB-DN2W5		1NO+1NC	NA B110HE-DN2W5		1NO+1NC	NA B110HH-DN2W5		1NO+1NC
B02	R	NA B020HB-DN2W5		2NC	NA B020HE-DN2W5		2NC	NA B020HH-DN2W5		2NC
B12	R	NA B120HB-DN2W5		1NO+2NC	NA B120HE-DN2W5		1NO+2NC	NA B120HH-DN2W5		1NO+2NC
B22	R	NA B220HB-DN2W5		2NO+2NC	NA B220HE-DN2W5		2NO+2NC	NA B220HH-DN2W5		2NO+2NC
G11	L	/		/	/		/	/		/
G02	L	NA G020HB-DN2W5		2NC	NA G020HE-DN2W5		2NC	NA G020HH-DN2W5		2NC
G12	L	/		/	/		/	/		/
G22	L	/		/	/		/	/		/
Max. speed		1 m/s			1 m/s			1 m/s		
Actuating force		0.08 Nm			0.12 Nm			0.08 Nm		
Travel diagrams		page 226 - group 4			page 226 - group 4			page 226 - group 4		

NB series housing



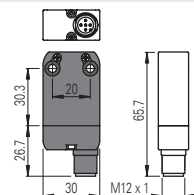
To order a product of the NB series, replace NA with NB in the codes shown above. Example:
 NA B110AA-DN2 → NB B110AA-DN2

M12 connector, right



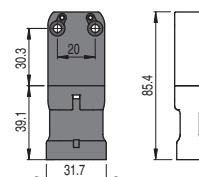
To order a product with M12 right connector, replace DN2 with DMK in the codes shown above. Example:
 NA B110AA-DN2 → NA B110AA-DMK

M12 connector, bottom



To order a product with M12 bottom connector, replace DN2 with SMK in the codes shown above. Example:
 NA B110AA-DN2 → NA B110AA-SMK

AMP Superseal 1.5 connector



To order a product with AMP connector, replace DN2 with SAK in the codes shown above. Example:
 NA B110AA-DN2 → NA B110AA-SAK