NA-NB series modular metal pre-wired switches

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:	any
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 (0BB, 2KB, 2KC, 2KD actuators):	5 … 150 Hz (7.9 m/s²) acc. to EN 61373 cl. 9
Tightening torques for installation:	see page 225

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-tried 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_{th}):	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)

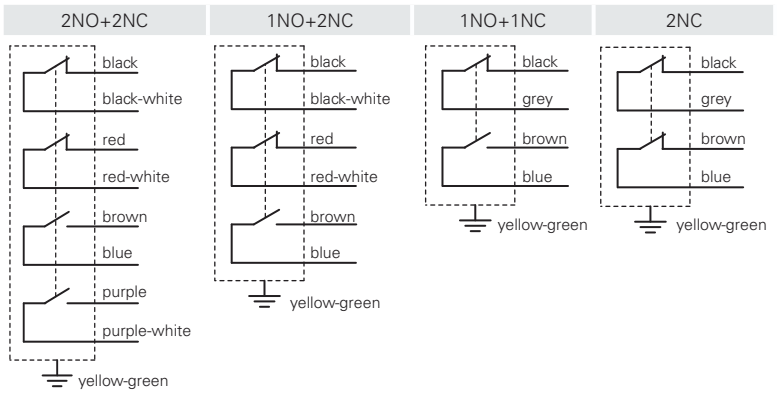
Screws torque of the detachable connector housing nominal are 0.3 ÷ 0.6 Nm.

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

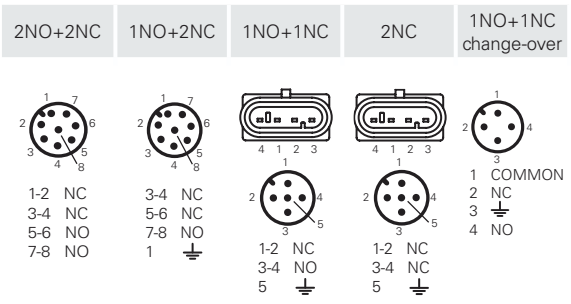
Ambient temperatures for switches with cable and electrical data

	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 Superseal 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 5G0.5 mm² MM-90 EN 50306-4 EN 45545	03VV-F	03E7Q-H	03VV-F	1P-300V-9G0.5 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 standard	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	/
Ambient temperature extended (T6)	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 Ith	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 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	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
	Utilization category DC13 — 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	/	/
	Utilization category DC13 — 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
	Utilization category AC15 — 120 V	4 A	4 A	4 A	4 A	4 A	4 A	3 A	4 A	4 A	/	/
	Utilization category AC15 — 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



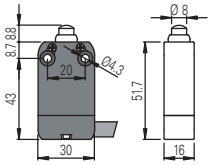
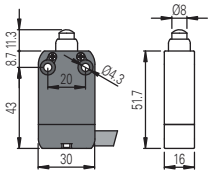
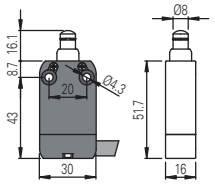
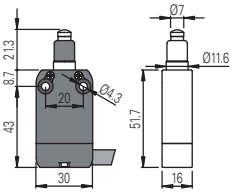
Connector pin assignment



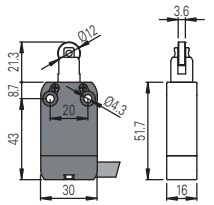
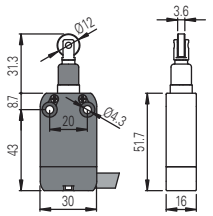
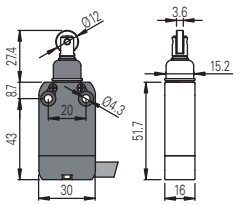
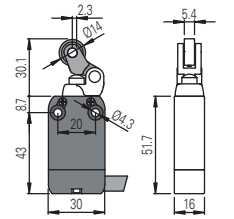
Female connectors See page 200

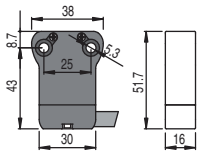
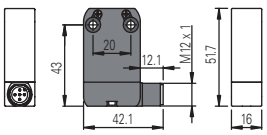
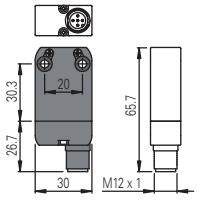
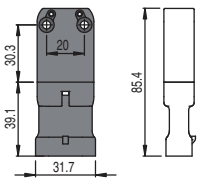
NA-NB series modular metal pre-wired switches

Contact type
R = snap action
L = slow action

Contact block					
					External 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 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
R = snap action
L = slow action

Contact block					
		With 316L stainless steel roller on request	External gasket With 316L stainless steel roller on request	External gasket With 316L stainless steel roller on request	With steel roller with self-lubrication or 316L stainless steel on request
					
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**

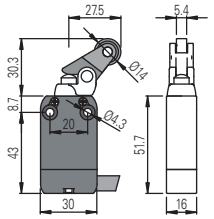
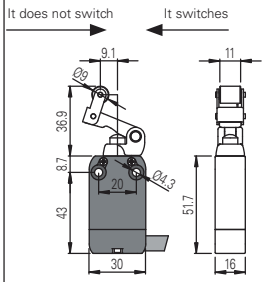
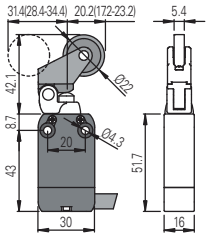
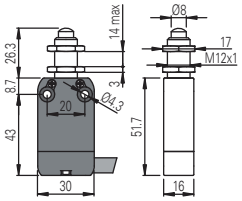
To order a product with AMP connector, replace DN2 with SAK in the codes shown above. Example:
NA B110AA-**DN2** → NA B110AA-**SAK**

All values in the drawings are in mm

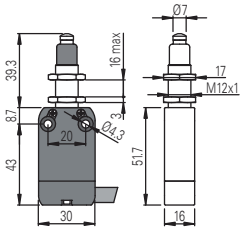
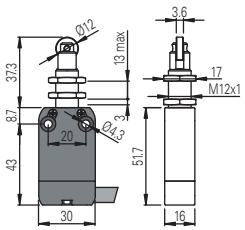
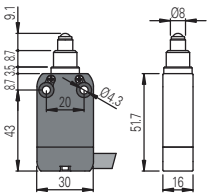
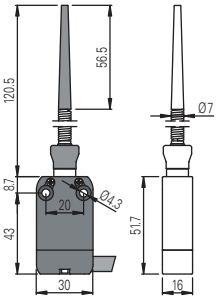
Accessories See page 195

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

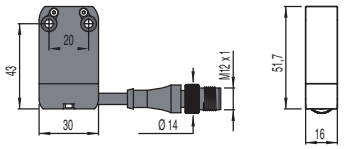
Contact type
R = snap action
L = slow action

Contact block		With steel roller with self-lubrication or 316L stainless steel on request	Unidirectional operation		Secured only by means of threaded head
					
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

Contact block		External gasket Secured only by means of threaded head	Secured only by means of threaded head With Ø12 mm roller in 316L stainless steel on request	Plunger with Ø 6 mm ball	External gasket
					
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**

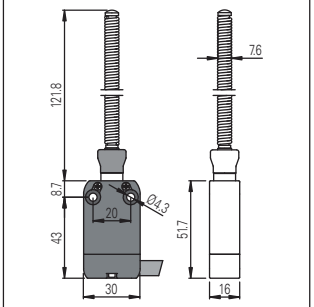
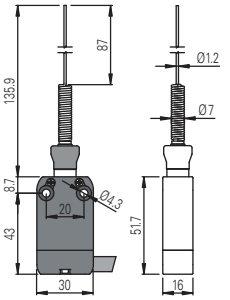
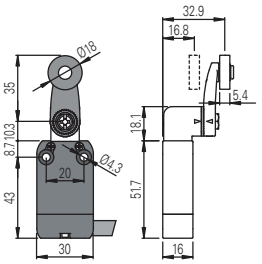
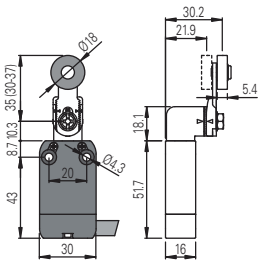
All values in the drawings are in mm

Accessories See page 195

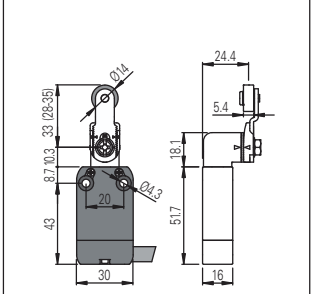
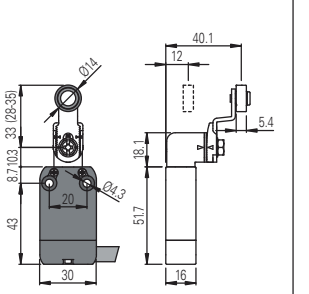
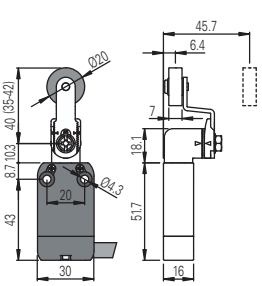
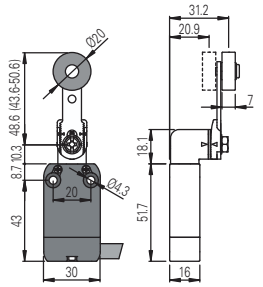
→ The 2D and 3D files are available at **www.pizzato.com**

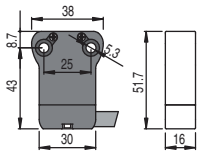
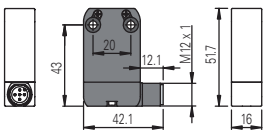
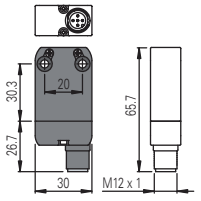
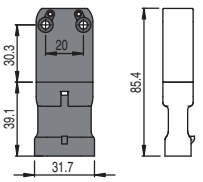
NA-NB series modular metal pre-wired switches

Contact type
R = snap action
L = slow action

Contact block		External gasket	External gasket	With Ø 20 mm steel roller with self-lubrication or 316L stainless steel on request	With Ø 20 mm steel roller with self-lubrication or 316L stainless steel on request
					
B11	R	NA B110HE-DN2 1NO+1NC	NA B110HH-DN2 1NO+1NC	NA B112KA-DN2 → 1NO+1NC	NA B112KB-DN2 → 1NO+1NC
B02	R	NA B020HE-DN2 2NC	NA B020HH-DN2 2NC	NA B022KA-DN2 → 2NC	NA B022KB-DN2 → 2NC
B12	R	NA B120HE-DN2 1NO+2NC	NA B120HH-DN2 1NO+2NC	NA B122KA-DN2 → 1NO+2NC	NA B122KB-DN2 → 1NO+2NC
B22	R	NA B220HE-DN2 2NO+2NC	NA B220HH-DN2 2NO+2NC	NA B222KA-DN2 → 2NO+2NC	NA B222KB-DN2 → 2NO+2NC
G11	L	/	/	NA G112KA-DN2 → 1NO+1NC	NA G112KB-DN2 → 1NO+1NC
G02	L	NA G020HE-DN2 2NC	NA G020HH-DN2 2NC	NA G022KA-DN2 → 2NC	NA G022KB-DN2 → 2NC
G12	L	/	/	NA G122KA-DN2 → 1NO+2NC	NA G122KB-DN2 → 1NO+2NC
G22	L	/	/	NA G222KA-DN2 → 2NO+2NC	NA G222KB-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

Contact block		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
					
B11	R	NA B112KC-DN2 → 1NO+1NC	NA B112KD-DN2 → 1NO+1NC	NA B112KE-DN2 → 1NO+1NC	NA B112KF-DN2 → 1NO+1NC
B02	R	NA B022KC-DN2 → 2NC	NA B022KD-DN2 → 2NC	NA B022KE-DN2 → 2NC	NA B022KF-DN2 → 2NC
B12	R	NA B122KC-DN2 → 1NO+2NC	NA B122KD-DN2 → 1NO+2NC	NA B122KE-DN2 → 1NO+2NC	NA B122KF-DN2 → 1NO+2NC
B22	R	NA B222KC-DN2 → 2NO+2NC	NA B222KD-DN2 → 2NO+2NC	NA B222KE-DN2 → 2NO+2NC	NA B222KF-DN2 → 2NO+2NC
G11	L	NA G112KC-DN2 → 1NO+1NC	NA G112KD-DN2 → 1NO+1NC	NA G112KE-DN2 → 1NO+1NC	NA G112KF-DN2 → 1NO+1NC
G02	L	NA G022KC-DN2 → 2NC	NA G022KD-DN2 → 2NC	NA G022KE-DN2 → 2NC	NA G022KF-DN2 → 2NC
G12	L	NA G122KC-DN2 → 1NO+2NC	NA G122KD-DN2 → 1NO+2NC	NA G122KE-DN2 → 1NO+2NC	NA G122KF-DN2 → 1NO+2NC
G22	L	NA G222KC-DN2 → 2NO+2NC	NA G222KD-DN2 → 2NO+2NC	NA G222KE-DN2 → 2NO+2NC	NA G222KF-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**

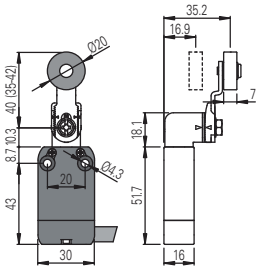
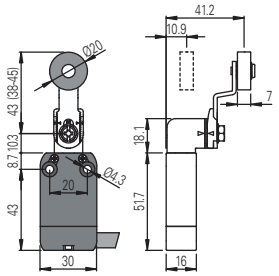
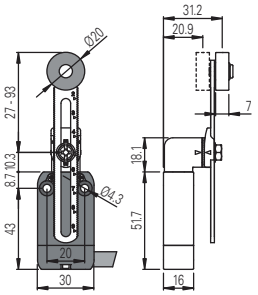
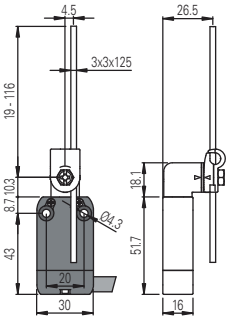
To order a product with AMP connector, replace DN2 with SAK in the codes shown above. Example:
NA B110AA-**DN2** → NA B110AA-**SAK**

All values in the drawings are in mm

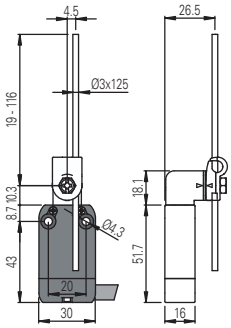
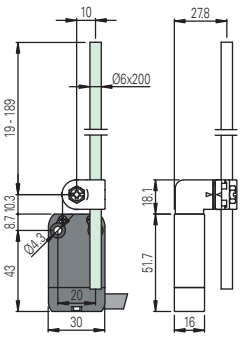
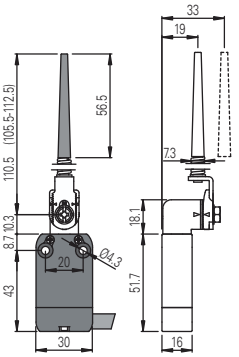
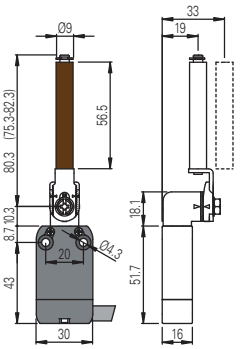
Accessories See page 195

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

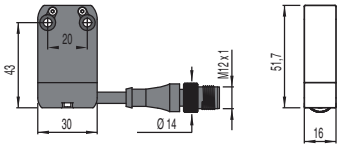
Contact type
R = snap action
L = slow action

Contact block		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	Square rod, 3x3 mm, stainless steel
					
B11	R	NA B112KG-DN2 1NO+1NC	NA B112KH-DN2 1NO+1NC	NA B112KP-DN2 1NO+1NC	NA B112LB-DN2 1NO+1NC
B02	R	NA B022KG-DN2 2NC	NA B022KH-DN2 2NC	NA B022KP-DN2 2NC	NA B022LB-DN2 2NC
B12	R	NA B122KG-DN2 1NO+2NC	NA B122KH-DN2 1NO+2NC	NA B122KP-DN2 1NO+2NC	NA B122LB-DN2 1NO+2NC
B22	R	NA B222KG-DN2 2NO+2NC	NA B222KH-DN2 2NO+2NC	NA B222KP-DN2 2NO+2NC	NA B222LB-DN2 2NO+2NC
G11	L	NA G112KG-DN2 1NO+1NC	NA G112KH-DN2 1NO+1NC	NA G112KP-DN2 1NO+1NC	NA G112LB-DN2 1NO+1NC
G02	L	NA G022KG-DN2 2NC	NA G022KH-DN2 2NC	NA G022KP-DN2 2NC	NA G022LB-DN2 2NC
G12	L	NA G122KG-DN2 1NO+2NC	NA G122KH-DN2 1NO+2NC	NA G122KP-DN2 1NO+2NC	NA G122LB-DN2 1NO+2NC
G22	L	NA G222KG-DN2 2NO+2NC	NA G222KH-DN2 2NO+2NC	NA G222KP-DN2 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)	0.07 Nm (0.25 Nm)	0.07 Nm (0.25 Nm)	0.07 Nm
Travel diagrams		page 226 - group 5	page 226 - group 5	page 226 - group 5	page 226 - group 5

Contact type
R = snap action
L = slow action

Contact block		Round rod, Ø 3 mm, stainless steel	Glass fibre rod		Porcelain roller
					
B11	R	NA B112LE-DN2 1NO+1NC	NA B112LH-DN2 1NO+1NC	NA B112LL-DN2 1NO+1NC	NA B112LP-DN2E24 1NO+1NC
B02	R	NA B022LE-DN2 2NC	NA B022LH-DN2 2NC	NA B022LL-DN2 2NC	NA B022LP-DN2E24 2NC
B12	R	NA B122LE-DN2 1NO+2NC	NA B122LH-DN2 1NO+2NC	NA B122LL-DN2 1NO+2NC	NA B122LP-DN2E24 1NO+2NC
B22	R	NA B222LE-DN2 2NO+2NC	NA B222LH-DN2 2NO+2NC	NA B222LL-DN2 2NO+2NC	NA B222LP-DN2E24 2NO+2NC
G11	L	NA G112LE-DN2 1NO+1NC	NA G112LH-DN2 1NO+1NC	NA G112LL-DN2 1NO+1NC	NA G112LP-DN2E24 1NO+1NC
G02	L	NA G022LE-DN2 2NC	NA G022LH-DN2 2NC	NA G022LL-DN2 2NC	NA G022LP-DN2E24 2NC
G12	L	NA G122LE-DN2 1NO+2NC	NA G122LH-DN2 1NO+2NC	NA G122LL-DN2 1NO+2NC	NA G122LP-DN2E24 1NO+2NC
G22	L	NA G222LE-DN2 2NO+2NC	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	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** → NA B110AA-**DM0.2**

All values in the drawings are in mm

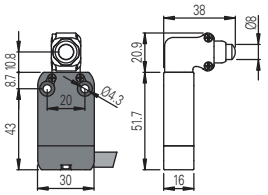
Accessories See page 195

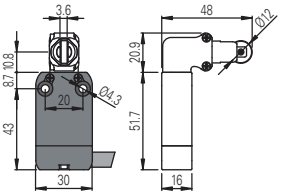
→ The 2D and 3D files are available at **www.pizzato.com**

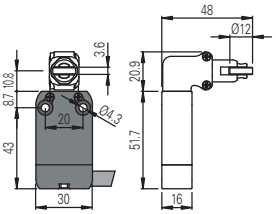
NA-NB series modular metal pre-wired switches

Contact type
R = snap action
L = slow action

Contact block



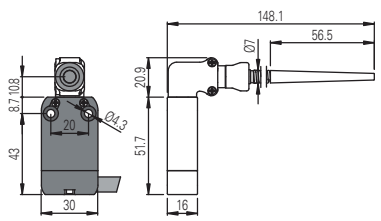
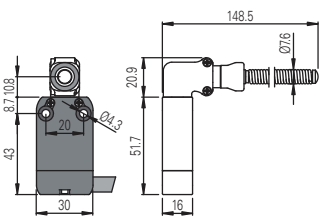
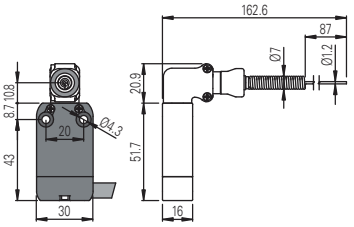


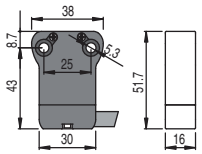
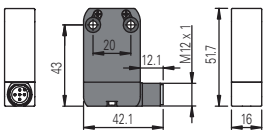
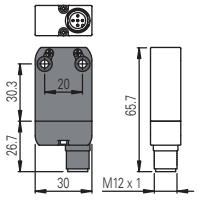
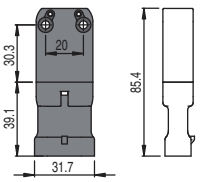


B11	R	NA B110AB-DN2W5	1NO+1NC	NA B110BB-DN2H0W5	1NO+1NC	NA B110BB-DN2W5	1NO+1NC
B02	R	NA B020AB-DN2W5	2NC	NA B020BB-DN2H0W5	2NC	NA B020BB-DN2W5	2NC
B12	R	NA B120AB-DN2W5	1NO+2NC	NA B120BB-DN2H0W5	1NO+2NC	NA B120BB-DN2W5	1NO+2NC
B22	R	NA B220AB-DN2W5	2NO+2NC	NA B220BB-DN2H0W5	2NO+2NC	NA B220BB-DN2W5	2NO+2NC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

	External gasket		External gasket		External gasket	
						
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	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**