

Модульные технополимерные выключатели серии NF

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

Алматы (727)345-47-04
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +(727)345-47-04

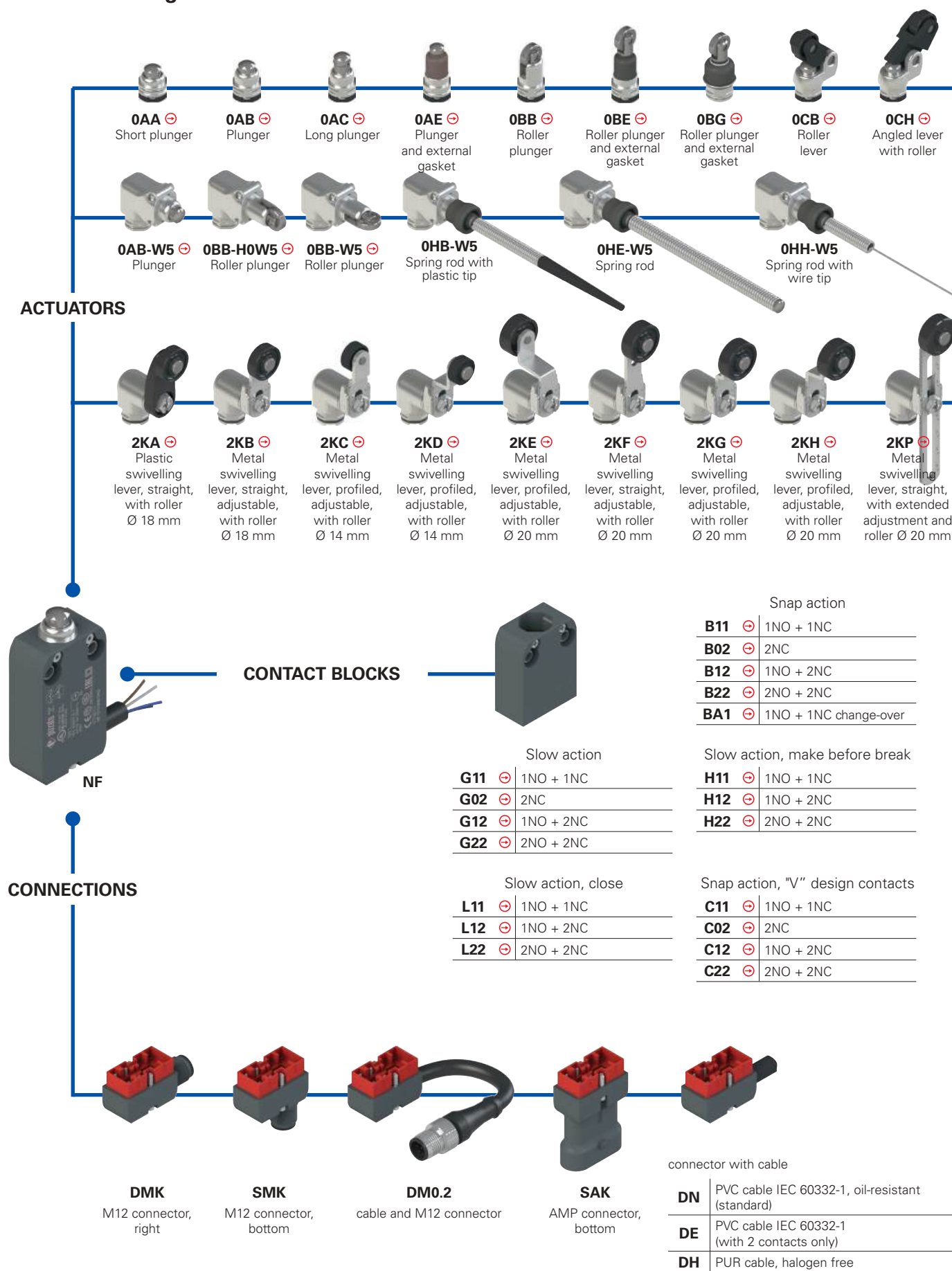
Беларусь +(375)257-127-884

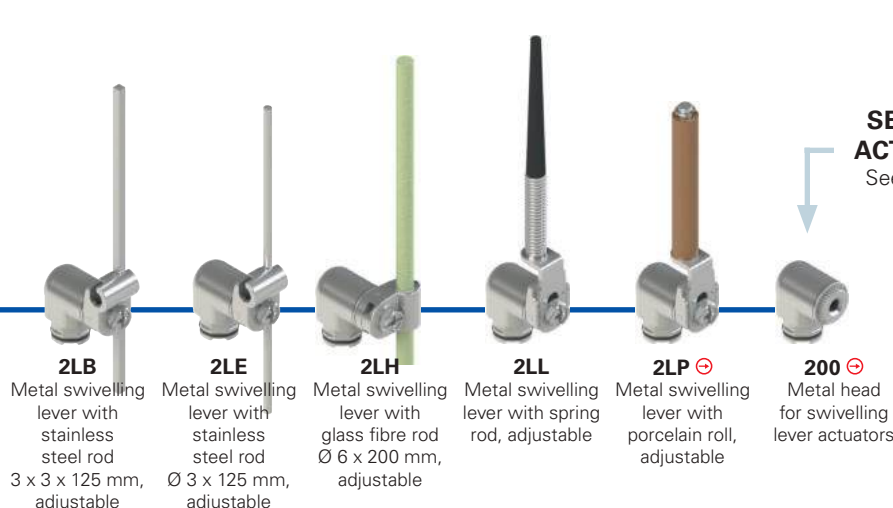
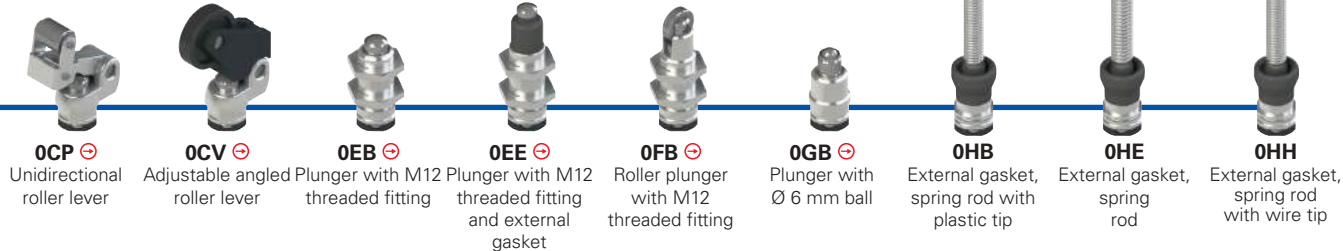
Узбекистан +998(71)205-18-59

Киргизия +996(312)96-26-47

эл.почта: poz@nt-rt.ru || сайт: <https://pizzato.nt-rt.ru/>

Selection diagram for item combinations of the NF series





SEPARATE ACTUATORS
See page 135



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	
NF technopolymer, hole spacing 20 mm		NF B110AB-DN2 GR7T6W5			
				Redirection	
				without redirection	
				W5 90° redirection	
				Ambient temperature	
				-25°C ... +80°C (standard)	
				T6 -40°C ... +80°C	
				Rollers	
				standard roller	
				R30 Steel, with self-lubrication, 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	
				M M12 connector	
				A AMP Superseal 1.5 connector	



Main features

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

Quality marks:



IMQ approval: CA02.04562
 UL approval: E131787
 CCC approval: 2021000305000109
 EAC approval: RU C-IT.YT03.B.00035/19

Technical data

Housing

Housing made of glass fibre reinforced technopolymer, self-extinguishing, shock-proof and with double insulation ☹.

Versions with integrated cable, standard length 2 m. Other lengths 0.5 ... 10 m or special cables available on request.

Versions with integrated M12 connector.

Versions with 0.2 m cable length and M12 connector, other lengths from 0.1 ... 3 m 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 128

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

Tightening torques for installation:

see page 235

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 60204-1, EN 60204-1, EN ISO 14119, EN ISO 12100, 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 128) as required by **EN ISO 14119, paragraph 5.4** for specific interlock applications and **EN ISO 13849-2 tables D3** (well-tries 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 236. Actuate the switch **at least with the positive opening force**, reported in brackets below each article, next to the actuating force value. All applicable standards must be respected too.

⚠ If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given on pages 227 to 242.

⚠ Important: Switch off the circuit voltage before disconnecting the connector from the switch. The connector is not suitable for separation of electrical loads.

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 4-pole M12 connector)
 Protection against short circuits (fuse): 10 A (1-2 contacts) / 6 A (2-3 contacts) / 4 A (4 contacts or 4-pole M12 connector) type gG
 Rated impulse withstand voltage (U_{imp}): 4 kV
 Protection degree of the housing: IP67 / IP69K
 MA terminals (crimped terminals)
 Pollution degree: 3
 Utilization category: AC15 / DC13 (with connector)
 Operating voltage (U_o): 250 Vac (50 Hz) / 24 Vdc (with connector)
 Operating current (I_o): 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) (2 - 3 cont. with 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 is 0.2 ÷ 0.3 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	N	N	H	M12 connector, 4-pole	M12 connector, 8-pole	AMP Superseal 1.5 connector	
Cable features	Conductors	4x0.75 mm²	4x0.75 mm²	4x0.75 mm²	6x0.5 mm²	8x0.34 mm²	8x0.34 mm²	4x0.34 mm²	8x0.25mm²		
	Application field	General	General	General, mobile installation	General	General	General, mobile installation	General	General	General	
	In compliance with standards	H05VV-F	05VV5-F	05EQ-H	03VV-F	03VV-F	03E7Q-H	03VV-H	03VV-H	/	
	Sheath	PVC	PVC OIL RESISTANT	PUR HALOGEN FREE	PVC OIL RESISTANT	PVC OIL RESISTANT	PUR HALOGEN FREE	PVC OIL RESISTANT	PVC OIL RESISTANT	/	
	Self-extinguishing	IEC 60332-1-2	IEC 60332-1-2 UL 758:FT1 CEI 20-22 II	IEC60332-1-2 UL 758:FT1	IEC 60332-1-2 UL 758:FT1 CEI 20-22 II	IEC 60332-1-2 UL 758:FT1 CEI 20-22 II	IEC 60332-1-2 UL 758:FT1	IEC60332-1-2 UL 758:FT1 CEI 20-22 II	IEC60332-1-2 UL 758:FT1 CEI 20-22 II	/	
	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	70 mm	70 mm	70 mm	108 mm	108 mm	70 mm	75 mm	90 mm	/	
	Outer diameter	7 mm	7 mm	7 mm	7 mm	7 mm	7 mm	6 mm	6 mm	/	
	End stripped	80mm	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 6	Class 6	/	
Engraving	Standard	6266	6279	6272	6276	6283	6263	6275	/		
Ambient temperature with cable extended (T6) 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	/	
	Cable, flexible installation	+5°C +60°C	- 5°C +80°C	-25°C +80°C	-5°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	/	/	/	
	Cable, flexible installation	/	/	-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	3 A	3 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 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	3 A 500 V type gG	3 A 500 V type gG	4 A 500 V type gG	2 A 500 V 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	
		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
		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
	Utilization category AC15	24 V	4 A	4 A	4 A	4 A	3 A	3 A	4 A	2 A	4 A
		120 V	4 A	4 A	4 A	4 A	3 A	3 A	4 A	/	4 A
250 V		4 A	4 A	4 A	4 A	3 A	3 A	4 A	/	4 A	
Approvals		CE cULus IMQ EAC CCC	CE cULus IMQ EAC CCC	CE cULus EAC	CE cULus IMQ EAC CCC	CE cULus IMQ EAC CCC	CE cULus EAC	CE cULus IMQ EAC CCC	CE cULus EAC	CE cULus EAC CCC	

Internal cable wiring

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

Connector pin assignment

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

Female connectors see page 210

Contact type

R = snap action
L = slow action

Contact block

				External gasket
B11	R NF B110AA-DN2 → 1NO+1NC	R NF B110AB-DN2 → 1NO+1NC	R NF B110AC-DN2 → 1NO+1NC	R NF B110AE-DN2 → 1NO+1NC
B02	R NF B020AA-DN2 → 2NC	R NF B020AB-DN2 → 2NC	R NF B020AC-DN2 → 2NC	R NF B020AE-DN2 → 2NC
B12	R NF B120AA-DN2 → 1NO+2NC	R NF B120AB-DN2 → 1NO+2NC	R NF B120AC-DN2 → 1NO+2NC	R NF B120AE-DN2 → 1NO+2NC
B22	R NF B220AA-DN2 → 2NO+2NC	R NF B220AB-DN2 → 2NO+2NC	R NF B220AC-DN2 → 2NO+2NC	R NF B220AE-DN2 → 2NO+2NC
G11	L NF G110AA-DN2 → 1NO+1NC	L NF G110AB-DN2 → 1NO+1NC	L NF G110AC-DN2 → 1NO+1NC	L NF G110AE-DN2 → 1NO+1NC
G02	L NF G020AA-DN2 → 2NC	L NF G020AB-DN2 → 2NC	L NF G020AC-DN2 → 2NC	L NF G020AE-DN2 → 2NC
G12	L NF G120AA-DN2 → 1NO+2NC	L NF G120AB-DN2 → 1NO+2NC	L NF G120AC-DN2 → 1NO+2NC	L NF G120AE-DN2 → 1NO+2NC
G22	L NF G220AA-DN2 → 2NO+2NC	L NF G220AB-DN2 → 2NO+2NC	L NF G220AC-DN2 → 2NO+2NC	L NF G220AE-DN2 → 2NO+2NC
Max. speed	page 235 - type 4	page 235 - type 4	page 235 - type 4	page 235 - type 4
Actuating force	7 N (25 N →)	7 N (25 N →)	7 N (25 N →)	7 N (25 N →)
Travel diagrams	page 236 - group 1	page 236 - group 1	page 236 - group 1	page 236 - group 1

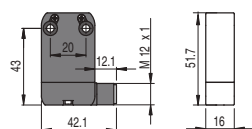
Contact type

R = snap action
L = slow action

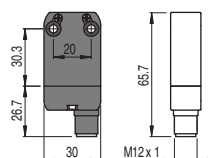
Contact block

	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 NF B110BB-DN2 → 1NO+1NC	R NF B110BE-DN2 → 1NO+1NC	R NF B110BG-DN2 → 1NO+1NC	R NF B110CB-DN2 → 1NO+1NC
B02	R NF B020BB-DN2 → 2NC	R NF B020BE-DN2 → 2NC	R NF B020BG-DN2 → 2NC	R NF B020CB-DN2 → 2NC
B12	R NF B120BB-DN2 → 1NO+2NC	R NF B120BE-DN2 → 1NO+2NC	R NF B120BG-DN2 → 1NO+2NC	R NF B120CB-DN2 → 1NO+2NC
B22	R NF B220BB-DN2 → 2NO+2NC	R NF B220BE-DN2 → 2NO+2NC	R NF B220BG-DN2 → 2NO+2NC	R NF B220CB-DN2 → 2NO+2NC
G11	L NF G110BB-DN2 → 1NO+1NC	L NF G110BE-DN2 → 1NO+1NC	L NF G110BG-DN2 → 1NO+1NC	L NF G110CB-DN2 → 1NO+1NC
G02	L NF G020BB-DN2 → 2NC	L NF G020BE-DN2 → 2NC	L NF G020BG-DN2 → 2NC	L NF G020CB-DN2 → 2NC
G12	L NF G120BB-DN2 → 1NO+2NC	L NF G120BE-DN2 → 1NO+2NC	L NF G120BG-DN2 → 1NO+2NC	L NF G120CB-DN2 → 1NO+2NC
G22	L NF G220BB-DN2 → 2NO+2NC	L NF G220BE-DN2 → 2NO+2NC	L NF G220BG-DN2 → 2NO+2NC	L NF G220CB-DN2 → 2NO+2NC
Max. speed	page 235 - type 2	page 235 - type 5	page 235 - type 5	page 235 - type 3
Actuating force	7 N (25 N →)	7 N (25 N →)	7 N (25 N →)	5 N (25 N →)
Travel diagrams	page 236 - group 1	page 236 - group 1	page 236 - group 1	page 236 - group 2

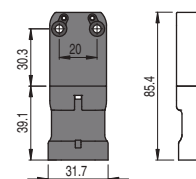
M12 connector, right



M12 connector, bottom



AMP Superseal 1.5 connector



To order a product with M12 right connector, replace DN2 with DMK in the codes shown above.

Example:
 NF B110AA-DN2 → NF B110AA-DMK

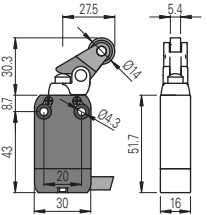
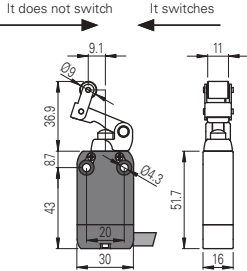
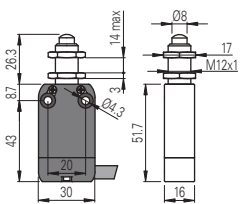
To order a product with M12 bottom connector, replace DN2 with SMK in the codes shown above.

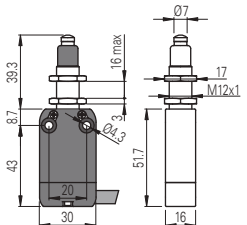
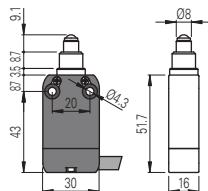
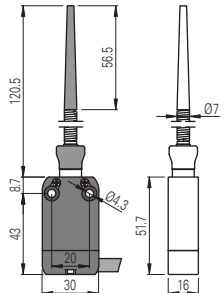
Example:
 NF B110AA-DN2 → NF B110AA-SMK

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

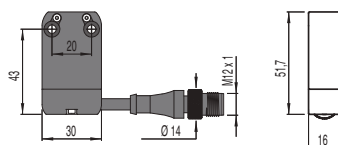
NF B110AA-DN2 → NF B110AA-SAK



Contact type	With steel roller with self-lubrication or 316L stainless steel on request		Unidirectional operation		Secured only by means of threaded head	
						
Max. speed	page 235 - type 3		page 235 - type 3		page 235 - type 4	
Actuating force	5 N (25 N $\rightarrow$)		3 N (25 N $\rightarrow$)		7 N (25 N $\rightarrow$)	
Travel diagrams	page 236 - group 2		page 236 - group 6		page 236 - group 1	

Contact type	Secured only by means of threaded head		Plunger with Ø 6 mm ball		External gasket	
						
Max. speed	page 235 - type 4		page 235 - type 2		1 m/s	
Actuating force	7 N (25 N $\rightarrow$)		7 N (25 N $\rightarrow$)		0.03 Nm	
Travel diagrams	page 236 - group 1		page 236 - group 1		page 236 - group 4	

Cable and M12 connector

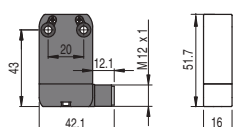


To order a product with cable and M12 connector:
replace DN2 with DM0.2 in the codes shown above. Example:
NF B110AA-DN2 → NF B110AA-DM0.2

Contact type	External gasket			
	With Ø 20 mm steel roller with self-lubrication or stainless steel on request			
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			
B11 R	NF B110HE-DN2 1NO+1NC	NF B110HH-DN2 1NO+1NC	NF B112KA-DN2 R 1NO+1NC	NF B112KB-DN2 R 1NO+1NC
B02 R	NF B020HE-DN2 2NC	NF B020HH-DN2 2NC	NF B022KA-DN2 R 2NC	NF B022KB-DN2 R 2NC
B12 R	NF B120HE-DN2 1NO+2NC	NF B120HH-DN2 1NO+2NC	NF B122KA-DN2 R 1NO+2NC	NF B122KB-DN2 R 1NO+2NC
B22 R	NF B220HE-DN2 2NO+2NC	NF B220HH-DN2 2NO+2NC	NF B222KA-DN2 R 2NO+2NC	NF B222KB-DN2 R 2NO+2NC
G11 L	/	/	NF G112KA-DN2 R 1NO+1NC	NF G112KB-DN2 R 1NO+1NC
G02 L	NF G020HE-DN2 2NC	NF G020HH-DN2 2NC	NF G022KA-DN2 R 2NC	NF G022KB-DN2 R 2NC
G12 L	/	/	NF G122KA-DN2 R 1NO+2NC	NF G122KB-DN2 R 1NO+2NC
G22 L	/	/	NF G222KA-DN2 R 2NO+2NC	NF G222KB-DN2 R 2NO+2NC
Max. speed	1 m/s	1 m/s	page 235 - type 1	page 235 - type 1
Actuating force	0.07 Nm	0.03 Nm	0.07 Nm (0.25 Nm R)	0.07 Nm (0.25 Nm R)
Travel diagrams	page 236 - group 4	page 236 - group 4	page 236 - group 5	page 236 - group 5

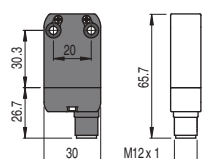
Contact type	With steel roller with self-lubrication or 316L stainless steel on request			
	With steel roller with self-lubrication or 316L stainless steel on request			
R = snap action L = slow action				
Contact block	With steel roller with self-lubrication or 316L stainless steel on request			
	With steel roller with self-lubrication or 316L stainless steel on request			
B11 R	NF B112KC-DN2 R 1NO+1NC	NF B112KD-DN2 R 1NO+1NC	NF B112KE-DN2 R 1NO+1NC	NF B112KF-DN2 R 1NO+1NC
B02 R	NF B022KC-DN2 R 2NC	NF B022KD-DN2 R 2NC	NF B022KE-DN2 R 2NC	NF B022KF-DN2 R 2NC
B12 R	NF B122KC-DN2 R 1NO+2NC	NF B122KD-DN2 R 1NO+2NC	NF B122KE-DN2 R 1NO+2NC	NF B122KF-DN2 R 1NO+2NC
B22 R	NF B222KC-DN2 R 2NO+2NC	NF B222KD-DN2 R 2NO+2NC	NF B222KE-DN2 R 2NO+2NC	NF B222KF-DN2 R 2NO+2NC
G11 L	NF G112KC-DN2 R 1NO+1NC	NF G112KD-DN2 R 1NO+1NC	NF G112KE-DN2 R 1NO+1NC	NF G112KF-DN2 R 1NO+1NC
G02 L	NF G022KC-DN2 R 2NC	NF G022KD-DN2 R 2NC	NF G022KE-DN2 R 2NC	NF G022KF-DN2 R 2NC
G12 L	NF G122KC-DN2 R 1NO+2NC	NF G122KD-DN2 R 1NO+2NC	NF G122KE-DN2 R 1NO+2NC	NF G122KF-DN2 R 1NO+2NC
G22 L	NF G222KC-DN2 R 2NO+2NC	NF G222KD-DN2 R 2NO+2NC	NF G222KE-DN2 R 2NO+2NC	NF G222KF-DN2 R 2NO+2NC
Max. speed	page 235 - type 1	page 235 - type 1	page 235 - type 1	page 235 - type 1
Actuating force	0.07 Nm (0.25 Nm R)	0.07 Nm (0.25 Nm R)	0.07 Nm (0.25 Nm R)	0.07 Nm (0.25 Nm R)
Travel diagrams	page 236 - group 5	page 236 - group 5	page 236 - group 5	page 236 - group 5

M12 connector, right



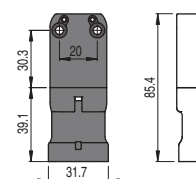
To order a product with M12 right connector, replace DN2 with DMK in the codes shown above.
Example:
NF B110AA-DN2 → NF B110AA-DMK

M12 connector, bottom



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

AMP Superseal 1.5 connector



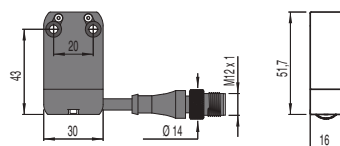
To order a product with AMP connector, replace DN2 with SAK in the codes shown above. Example:
NF B110AA-DN2 → NF B110AA-SAK



Contact type	With steel roller with self-lubrication or 316L stainless steel on request			
R = snap action L = slow action				
Contact block				
B11 R	NF B112KG-DN2 ➔ 1NO+1NC	NF B112KH-DN2 ➔ 1NO+1NC	NF B112KP-DN2 ➔ 1NO+1NC	NF B112LB-DN2 1NO+1NC
B02 R	NF B022KG-DN2 ➔ 2NC	NF B022KH-DN2 ➔ 2NC	NF B022KP-DN2 ➔ 2NC	NF B022LB-DN2 2NC
B12 R	NF B122KG-DN2 ➔ 1NO+2NC	NF B122KH-DN2 ➔ 1NO+2NC	NF B122KP-DN2 ➔ 1NO+2NC	NF B122LB-DN2 1NO+2NC
B22 R	NF B222KG-DN2 ➔ 2NO+2NC	NF B222KH-DN2 ➔ 2NO+2NC	NF B222KP-DN2 ➔ 2NO+2NC	NF B222LB-DN2 2NO+2NC
G11 L	NF G112KG-DN2 ➔ 1NO+1NC	NF G112KH-DN2 ➔ 1NO+1NC	NF G112KP-DN2 ➔ 1NO+1NC	NF G112LB-DN2 1NO+1NC
G02 L	NF G022KG-DN2 ➔ 2NC	NF G022KH-DN2 ➔ 2NC	NF G022KP-DN2 ➔ 2NC	NF G022LB-DN2 2NC
G12 L	NF G122KG-DN2 ➔ 1NO+2NC	NF G122KH-DN2 ➔ 1NO+2NC	NF G122KP-DN2 ➔ 1NO+2NC	NF G122LB-DN2 1NO+2NC
G22 L	NF G222KG-DN2 ➔ 2NO+2NC	NF G222KH-DN2 ➔ 2NO+2NC	NF G222KP-DN2 ➔ 2NO+2NC	NF G222LB-DN2 2NO+2NC
Max. speed	page 235 - type 1	page 235 - type 1	page 235 - 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 236 - group 5	page 236 - group 5	page 236 - group 5	page 236 - group 5

Contact type	Round rod, Ø 3 mm, stainless steel			
R = snap action L = slow action				
Contact block				
B11 R	NF B112LE-DN2 1NO+1NC	NF B112LH-DN2 1NO+1NC	NF B112LL-DN2 1NO+1NC	NF B112LP-DN2E24 ➔ 1NO+1NC
B02 R	NF B022LE-DN2 2NC	NF B022LH-DN2 2NC	NF B022LL-DN2 2NC	NF B022LP-DN2E24 ➔ 2NC
B12 R	NF B122LE-DN2 1NO+2NC	NF B122LH-DN2 1NO+2NC	NF B122LL-DN2 1NO+2NC	NF B122LP-DN2E24 ➔ 1NO+2NC
B22 R	NF B222LE-DN2 2NO+2NC	NF B222LH-DN2 2NO+2NC	NF B222LL-DN2 2NO+2NC	NF B222LP-DN2E24 ➔ 2NO+2NC
G11 L	NF G112LE-DN2 1NO+1NC	NF G112LH-DN2 1NO+1NC	NF G112LL-DN2 1NO+1NC	NF G112LP-DN2E24 ➔ 1NO+1NC
G02 L	NF G022LE-DN2 2NC	NF G022LH-DN2 2NC	NF G022LL-DN2 2NC	NF G022LP-DN2E24 ➔ 2NC
G12 L	NF G122LE-DN2 1NO+2NC	NF G122LH-DN2 1NO+2NC	NF G122LL-DN2 1NO+2NC	NF G122LP-DN2E24 ➔ 1NO+2NC
G22 L	NF G222LE-DN2 2NO+2NC	NF G222LH-DN2 2NO+2NC	NF G222LL-DN2 2NO+2NC	NF 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 236 - group 5	page 236 - group 5	page 236 - group 5	page 236 - group 5

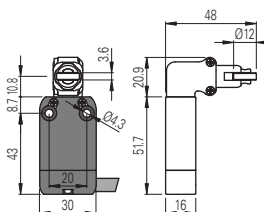
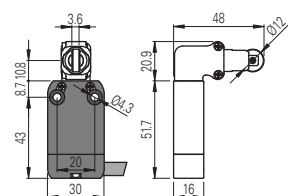
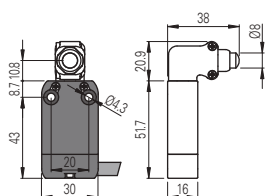
Cable and M12 connector



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

Contact type

R = snap action
L = slow action



Contact block

B11	R	NF B110AB-DN2W5	➔	1NO+1NC	NF B110BB-DN2H0W5	➔	1NO+1NC	NF B110BB-DN2W5	➔	1NO+1NC
B02	R	NF B020AB-DN2W5	➔	2NC	NF B020BB-DN2H0W5	➔	2NC	NF B020BB-DN2W5	➔	2NC
B12	R	NF B120AB-DN2W5	➔	1NO+2NC	NF B120BB-DN2H0W5	➔	1NO+2NC	NF B120BB-DN2W5	➔	1NO+2NC
B22	R	NF B220AB-DN2W5	➔	2NO+2NC	NF B220BB-DN2H0W5	➔	2NO+2NC	NF B220BB-DN2W5	➔	2NO+2NC
G11	L	NF G110AB-DN2W5	➔	1NO+1NC	NF G110BB-DN2H0W5	➔	1NO+1NC	NF G110BB-DN2W5	➔	1NO+1NC
G02	L	NF G020AB-DN2W5	➔	2NC	NF G020BB-DN2H0W5	➔	2NC	NF G020BB-DN2W5	➔	2NC
G12	L	NF G120AB-DN2W5	➔	1NO+2NC	NF G120BB-DN2H0W5	➔	1NO+2NC	NF G120BB-DN2W5	➔	1NO+2NC
G22	L	NF G220AB-DN2W5	➔	2NO+2NC	NF G220BB-DN2H0W5	➔	2NO+2NC	NF G220BB-DN2W5	➔	2NO+2NC
Max. speed		page 235 - type 4			page 235 - type 2			page 235 - type 2		
Actuating force		9.5 N (25 N ➔)			9.5 N (25 N ➔)			9.5 N (25 N ➔)		
Travel diagrams		page 236 - group 1			page 236 - group 1			page 236 - group 1		

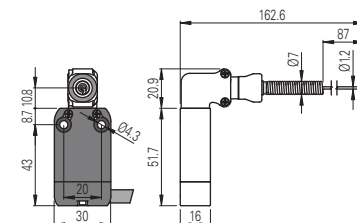
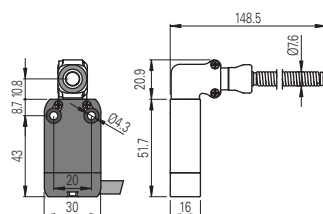
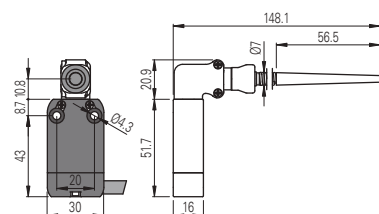
Contact type

R = snap action
L = slow action

External gasket

External gasket

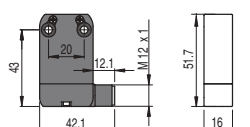
External gasket



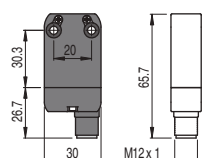
Contact block

B11	R	NF B110HB-DN2W5		1NO+1NC	NF B110HE-DN2W5		1NO+1NC	NF B110HH-DN2W5		1NO+1NC
B02	R	NF B020HB-DN2W5		2NC	NF B020HE-DN2W5		2NC	NF B020HH-DN2W5		2NC
B12	R	NF B120HB-DN2W5		1NO+2NC	NF B120HE-DN2W5		1NO+2NC	NF B120HH-DN2W5		1NO+2NC
B22	R	NF B220HB-DN2W5		2NO+2NC	NF B220HE-DN2W5		2NO+2NC	NF B220HH-DN2W5		2NO+2NC
G11	L	/		/	/		/	/		/
G02	L	NF G020HB-DN2W5		2NC	NF G020HE-DN2W5		2NC	NF 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 236 - group 4			page 236 - group 4			page 236 - group 4		

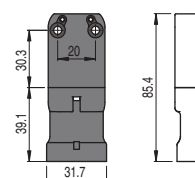
M12 connector, right



M12 connector, bottom



AMP Superseal 1.5 connector



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

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

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



По вопросам продаж и поддержки обращайтесь:

Алматы (727)345-47-04	Иваново (4932)77-34-06	Магнитогорск (3519)55-03-13	Ростов-на-Дону (863)308-18-15	Тольятти (8482)63-91-07
Ангарск (3955)60-70-56	Ижевск (3412)26-03-58	Москва (495)268-04-70	Рязань (4912)46-61-64	Томск (3822)98-41-53
Архангельск (8182)63-90-72	Иркутск (395)279-98-46	Мурманск (8152)59-64-93	Самара (846)206-03-16	Тула (4872)33-79-87
Астрахань (8512)99-46-04	Казань (843)206-01-48	Набережные Челны (8552)20-53-41	Санкт-Петербург (812)309-46-40	Тюмень (3452)66-21-18
Барнаул (3852)73-04-60	Калининград (4012)72-03-81	Нижний Новгород (831)429-08-12	Саратов (845)249-38-78	Ульяновск (8422)24-23-59
Белгород (4722)40-23-64	Калуга (4842)92-23-67	Новокузнецк (3843)20-46-81	Севастополь (8692)22-31-93	Улан-Удэ (3012)59-97-51
Благовещенск (4162)22-76-07	Кемерово (3842)65-04-62	Ноябрьск (3496)41-32-12	Саранск (8342)22-96-24	Уфа (347)229-48-12
Брянск (4832)59-03-52	Киров (8332)68-02-04	Новосибирск (383)227-86-73	Симферополь (3652)67-13-56	Хабаровск (4212)92-98-04
Владивосток (423)249-28-31	Коломна (4966)23-41-49	Омск (3812)21-46-40	Смоленск (4812)29-41-54	Чебоксары (8352)28-53-07
Владикавказ (8672)28-90-48	Кострома (4942)77-07-48	Орел (4862)44-53-42	Сочи (862)225-72-31	Челябинск (351)202-03-61
Владимир (4922)49-43-18	Краснодар (861)203-40-90	Оренбург (3532)37-68-04	Ставрополь (8652)20-65-13	Череповец (8202)49-02-64
Волгоград (844)278-03-48	Красноярск (391)204-63-61	Пенза (8412)22-31-16	Сургут (3462)77-98-35	Чита (3022)38-34-83
Вологда (8172)26-41-59	Курск (4712)77-13-04	Петрозаводск (8142)55-98-37	Сыктывкар (8212)25-95-17	Якутск (4112)23-90-97
Воронеж (473)204-51-73	Курган (3522)50-90-47	Псков (8112)59-10-37	Тамбов (4752)50-40-97	Ярославль (4852)69-52-93
Екатеринбург (343)384-55-89	Липецк (4742)52-20-81	Пермь (342)205-81-47	Тверь (4822)63-31-35	

Россия +7(495)268-04-70	Казахстан +(727)345-47-04	Беларусь +(375)257-127-884	Узбекистан +998(71)205-18-59	Киргизия +996(312)96-26-47
-------------------------	---------------------------	----------------------------	------------------------------	----------------------------