Security & control

Electric actuators

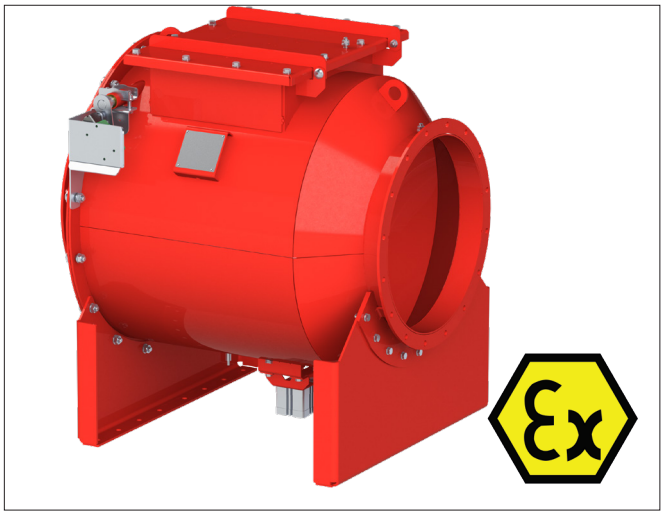
Valves

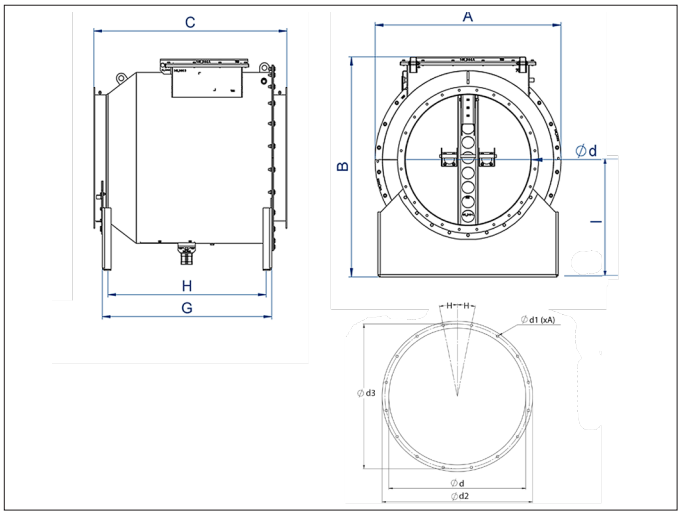
Pneumatic actuators

Explosion isolation

Sensors

BADA-FAB - Non-return valve for explosion isolation





BADA-FAB - Non-return valve for explosion isolation
An explosion involves not only the immediate processed material, but can also propagate to the rest of the process. This propagation can be avoided if the affected processed material is quickly isolated by a non-return valve.

The BADA-FAB non-return valve is designed to separate the filter from the plant. It is a simple and effective system that is easy to install, without electronics which requires no electrical connections, pratically no maintenance and with very low pressure loss.

Our BADA-FAB non-return valve is an excellent ATEX certified Safety system for the compartmentalization of an explosion and is suitable for use in Ex zone 21 (ext.) and up to Ex zone 20 (int.).

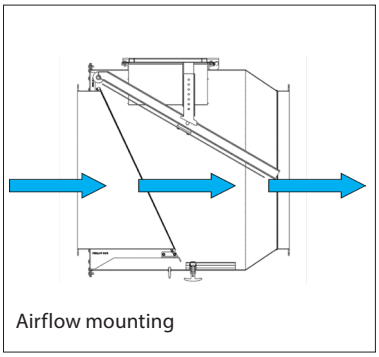
Advantages
- economically suitable solution for security against an explosion
- completely mechanical requiring practically no maintenance
- no power consumption
- low pressure losses
- high pressure resistance

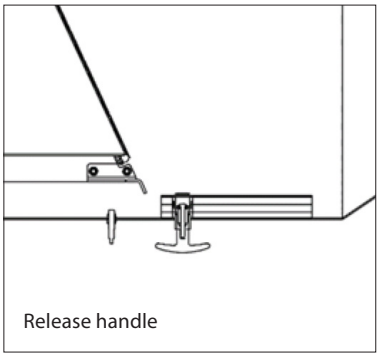
Options
- position sensor for BADA-FAB (ATEX 3D)
- position sensor for BADA-FAB (ATEX 2D)
- dust level indicator for BADA-FAB (ATEX 1GD)
- remote unlocking (2GD)

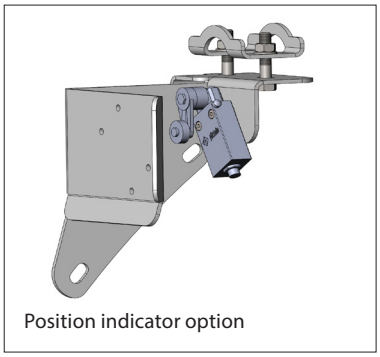
Material
Body : steel 16MO3 (EN 10028).
Closing flap : HB 400 HARDOX (EN10051).
Surface treatment : powder coated RAL 3020.

Type
Welded plates with welded FA flanges (ISO).

Other information
- diameter range : Ø200 up to Ø1000
- conformity according to : EN 16447 : 2014 & NFPA 69 regulations
- certification number : FTZU 18 ATEX 0141X
- ATEX norm 114 : 2014/34/EC
- exterior zone certification : 21-22
- interior zone certification : 20-21-22
- level of protection : St1 (organic & nonmetallic), Kst min. = 50 bar*m/s, Kst max. = 200 bar*m/s, MIE =13 mJ, MIT = 430°C
- Pred,max. : 0.5 bar
- min. / max. airspeed : 15 m/s to 35 m/s
- use : Indoors or outdoors
- Ø200 to 400 : Pull and Push flow situation, straight pipes may include 2x90° bend between the protected vessel and non-return valve,
- Ø450 to 1000 : Pull flow situation, only straight pipes between the protected vessel and the non-return valve,
- min. / max installation distance from filter Ø200 : 2 m to 7 m, Ø250 to Ø400 : 3 m to 7 m, and Ø450 to Ø1000 : 4 m to 7 m
- protected vessel venting may only be non-reclosing devices
- max. dust concentration in duct : no limit
- only to be used in horizontal ducting
- temperature range : -20°C to +60°C
- see complete technical data in the user guide


Airflow mounting


Release handle


Position indicator option

BADA-FAB - Non-return valve for explosion isolation

Ø d	Min. distance (m)	Max. Distance (m)	Min. vessel volume (m^3)
200	2.2	7.2	0.46
250	3.1	7.2	0.96
300	3.1	7.2	0.96
350	3.1	7.2	0.96
400	3.1	7.2	0.96
450	4	7.2	6
500	4	7.2	6
550	4	7.2	6
600	4	7.2	6
650	4	7.2	6
700	4	7.2	6
750	4	7.2	6
800	4	7.2	6
850	4	7.2	6
900	4	7.2	6
950	4	7.2	6
1000	4	7	6

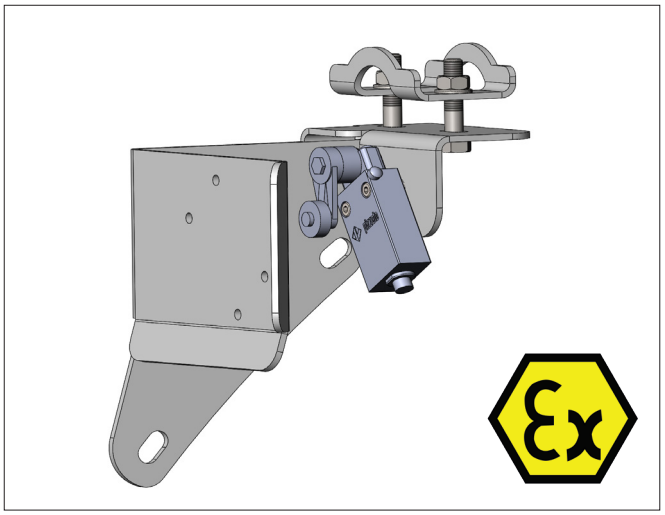
Pressure loss (in Pa)

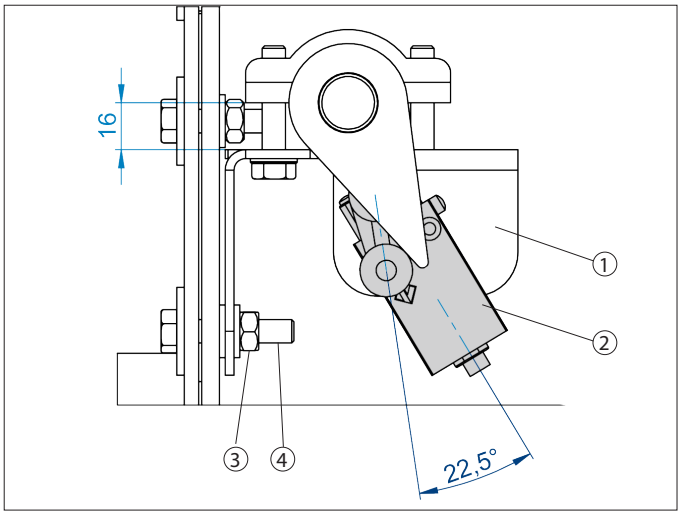
BADA-FAB	Velocity				
	15	20	25	30	35
Ød	m/s	m/s	m/s	m/s	m/s
200	350	480	610	780	850
250	370	480	640	820	970
300	380	480	670	870	1080
350	400	480	700	910	1190
400	410	480	730	960	1300
450	420	470	750	1000	1410
500	400	490	800	1100	1570
550	380	510	840	1200	1730
600	350	530	890	1300	1890
650	330	550	930	1390	2050
700	360	610	1010	1510	2210
750	380	660	1080	1620	2360
800	410	710	1160	1730	2510
850	440	760	1240	1840	2660
900	460	800	1300	1930	2790
950	490	840	1370	2030	2920
1000	510	890	1440	2120	3050

Dimensions

Ø d	Code	A	B	C	G	H	I	d1	d2	d3	A	H	S	Weight
		mm	mm	mm	mm	mm	mm	mm	mm	mm	qty	(°)	mm	kg
200	NABA000100	470	510	590	458	394	350	10	255	235	12	15	3	45.00
250	NABA000101	520	555	620	488	424	375	10	305	285	12	15	3	52.00
300	NABA000102	570	610	640	508	444	400	10	355	336	12	15	3	60.00
350	NABA000103	620	660	670	538	474	425	12	415	389	12	15	3	70.00
400	NABA000104	670	710	735	603	539	450	12	465	439	16	11.25	3	83.00
450	NABA000105	720	760	785	653	589	475	12	515	489	16	11.25	3	94.00
500	NABA000106	770	810	835	703	639	500	12	565	540	16	11.25	3	106.00
550	NABA000107	820	860	885	753	689	525	12	615	590	16	11.25	3	118.00
600	NABA000108	870	910	935	803	739	550	12	665	640	16	11.25	3	130.00
650	NABA000109	985	1021	1090	952	888	601.5	12	715	690	24	7.5	3	169.00
700	NABA000110	1035	1072	1120	982	918	626.5	12	785	750	24	7.5	3	185.00
750	NABA000111	1085	1127	1150	1012	948	651.5	12	835	800	24	7.5	3	199.00
800	NABA000112	1152	1213	1220	1082	1018	685	12	885	850	24	7.5	3	229.00
850	NABA000113	1202	1263	1340	1083	1019	710	12	935	900	24	7.5	3	241.00
900	NABA000114	1252	1313	1340	1202	1138	735	12	985	950	24	7.5	3	268.00
950	NABA000115	1302	1363	1340	1202	1138	760	12	1035	1000	24	7.5	3	281.00
1000	NABA000116	1352	1413	1340	1202	1138	785	12	1085	1050	24	7.5	3	294.00

NCED - Position sensor for BADA-FAB





NCED - Position sensors for BADA-FAB
The NCED position sensors are designed to send a signal to a control panel when the BADA-FAB ATEX non-return valve is in a locked position.

They are prewired devices produced according to the ATEX directives. Available for ATEX zone 21 or ATEX zone 22.

Position sensors must be installed with a mounting plate adapted to the dimension of the BADA-FAB.

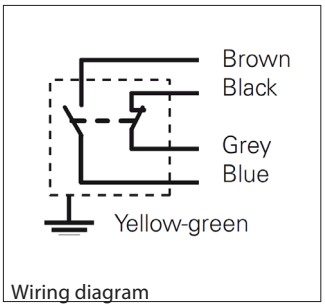
Advantages
- Economically suitable solution for explosion detection
- Requires practically no maintenance
- Little power consumption

Protection level
- Model for 3D (Zone 22)

II 3D Ex tc IIIC T80°C Dc

- model for 2D (zone 21)

II 2D Ex tb IIIC T80°C Db



Wiring diagram

Material
powder coated metal housing.

Type
Zone 22 : Prewired with 2m cable IP 67 according to EN 60529.
Zone 21 : without cable IP 66 according to EN 60529 (cable gland not included).

Other information
- conformity according to : ATEX Directive 2014/34/EU,
  EMC DIrective 2014/30/EU
- positive contact opening according to : IEC 60947-5-1, EN 60947-5-1
- other Compliance standards : IEC 60947-5-1, EN 60947-5-1, EN 60947-1, IEC 30204-1, EN 60204-1, EN ISO 14119, EN ISO 12100, IEC 60529, EN 60529, UL 508, CSA 22.2 No.14, IEC 60079-0, EN 60079-0, IEC 60079-31, EN 60079-31, IEC 60079-15, EN 60079-15
- current : 10A (FA model), 6A (FD model)
- insulation voltage : 24 to 400 V AC/DC
- protection : fuse type aM 10A 500V or aM 6A 500V
- temperature range : -20°C to +60°C

Options
- none

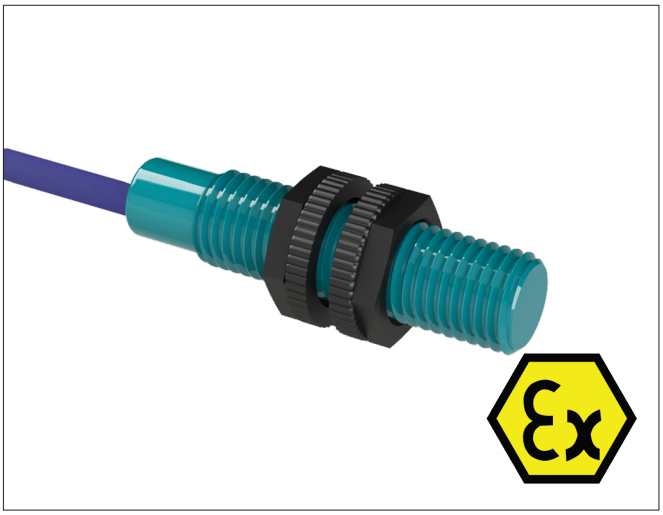
Parts list

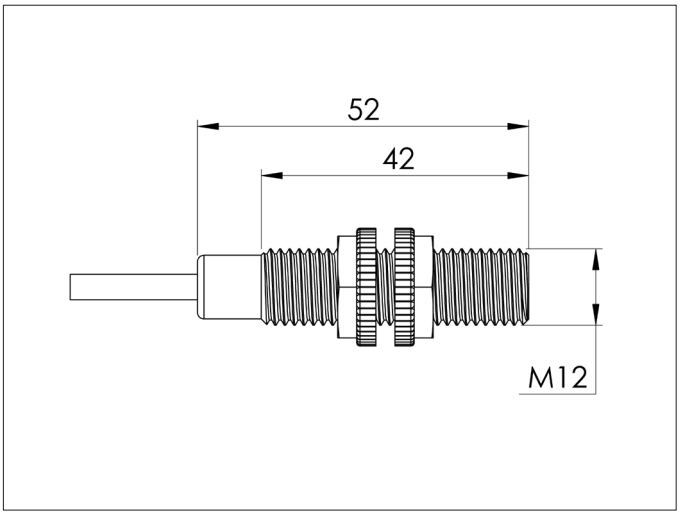
Part #	Description	Quantity
1	Position sensor support plate	1
2	Position sensor	1
3	M10 nut	2
4	M10 bolt	2

Model Zone 22						
Voltage	AC15 (50>60 Hz)			DC13		
Ue (V)	120	250	400	25	125	250
Ie (A)	6	4	3	2.5	0.55	0.27

Model Zone 21				
Voltage	AC15 (50>60 Hz)		DC13	
Ue (V)	250	24	125	250
Ie (A)	6	3	0.55	0.3

NCEA000001 - Dust level sensor for BADA-FAB





NCEA000001 - Dust level sensor for BADA-FAB
This sensor is designed to measure the dust level formation within the BADA-FAB ATEX non-return valve and give a signal in case of non-compliance.

It is a prewired device produced according to the ATEX directives.

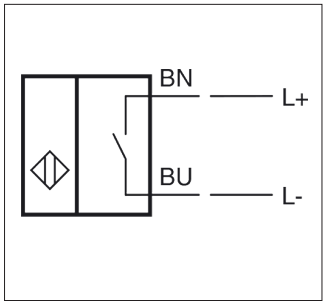
Protection level
- 1G Ex ia IIC T6…T1 Ga
- 1D Ex ia IIIC T135°C Da

Material
Stainless steel housing with M12 mounting nuts.

Type
Pre-wired with 2 x 10 m PVC coated cables.

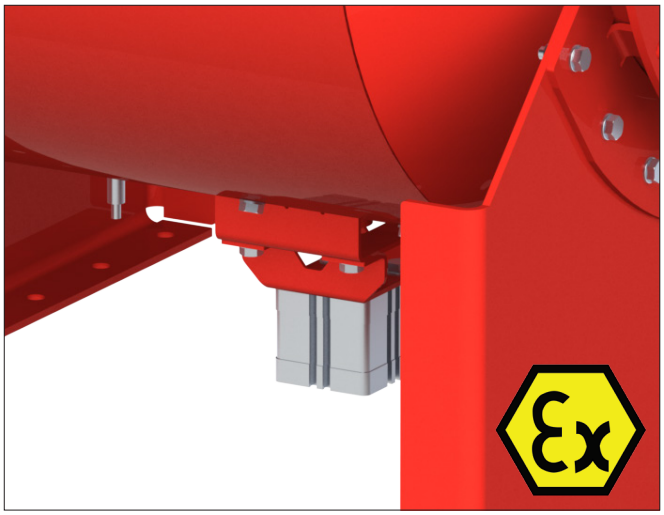
Other information
- conformity according to : CE, CSA, UL and FM
- NAMUR compliance : EN 60947-5-6:2000 IEC 60947-5-6:1999 and EN 60947-5-2:2007
- other Compliance standards : EN 60947-5-2/A1:2012, IEC 60947-5-2:2007, and IEC 60947-5-2 AMD 1:2012
- voltage : 12 V DC
- protection : IP 68
- temperature range : -25°C to +70°C

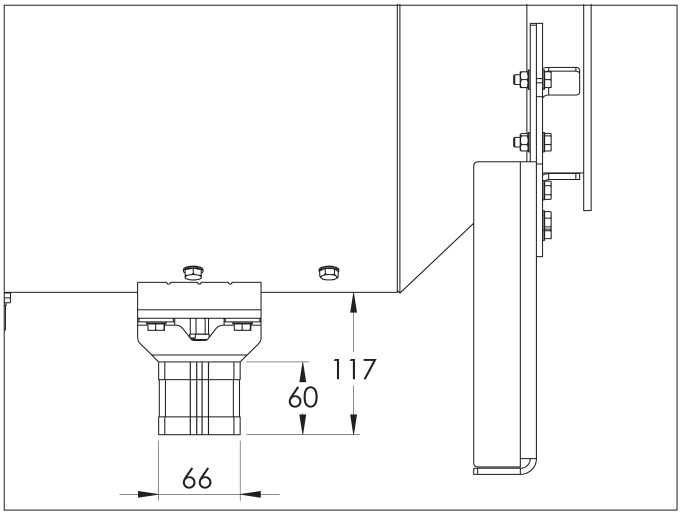
Options
- other voltages



Wiring diagram

NABZ000018 - ATEX Remote unlocking system for BADA-FAB





NABZ000018 - ATEX Remote unlocking system for BADA-FAB
The remote unlocking system for BADA-FAB is an ATEX remote operate pneumatic unlocking system that replaces the handle on the underside of the BADA-FAB body.

Especially suited for BADA-FAB ATEX non-return valves placed in high, or hard to reach places.

When an unwanted closing of the non-return valve occurs during normal operating conditions, the pneumatic cylinder can be activated from a remote location to release the blade.

It may not be used when an explosion has occured in an installation.

ATEX conformity
- Ex 2Gc IIC T100°C

Material
Structure : AISI 304 stainless steel.
Cylinder : Cast aluminum.
Cylinder Rod : AISI 304.

Type
Cast aluminum cylinder on welded plates including 4/6 air hose quick-connector.

Other information
- certification notified body : TÜV
- conform to : ATEX Directive 2014/34/EC
- other certification : ISO 21287
- designed for BADA-FAB sizes Ø200 up to Ø1000
- temperature range : -20°C to +80°C
- working pressure : max. 8 Bar

Options
- non-ATEX execution

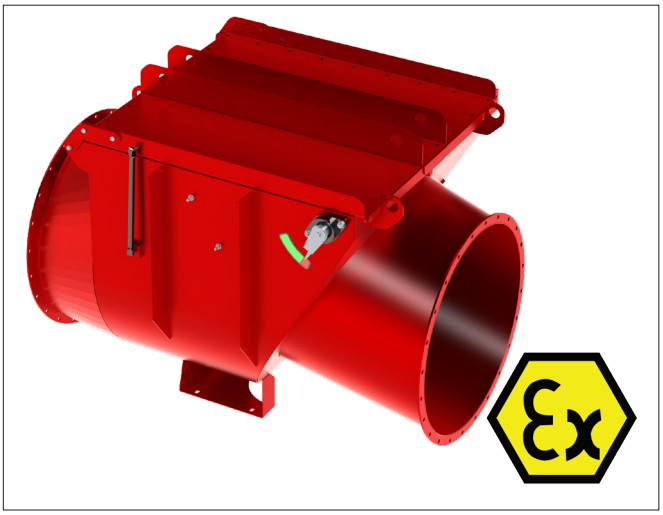
The compressed air activation device is not included.

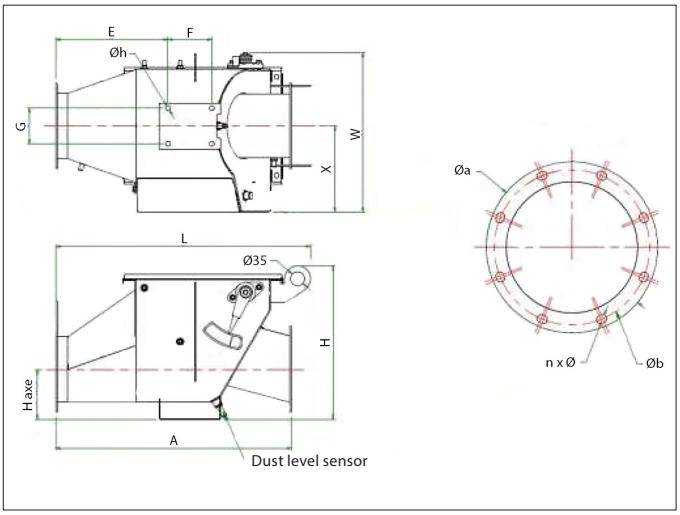
Max. Luftdruck im Pneumatikzylinder: 8 Bar

Verwenden Sie nur ölfreie, trockene Luft

Ø d BADA-FAB	Remote unlocking Code	Weight (kg)
200 to 1000	NABZ000018	0.5

BADA-VEX - Certified ATEX non-return valves





BADA-VEX - Certified ATEX non-return valves
An explosion involves not only the immediate processed material, but can also propagate to the rest of the installation. This propagation can be avoided if the affected processed material is quickly isolated by a non-return valve.
The BADA-VEX non-return valve is designed to separate the filter from the rest of the installation. It is a simple and effective system that is easy to install, without electronics which requires no electrical connections, pratically no maintenance and with very low pressure loss.

Our BADA-VEX non-return valve is an excellent ATEX St2 certified Safety system for the compartmentalization of an explosion and is suitable for use in Ex zone 21 (ext.) and up to Ex zone 20 (int.) for organic as well as synthetic and metal dust applications and is equiped as a standard with a non-ATEX closing detection sensor.

The blade locking mechanism allows the BADA-VEX to be placed before and after the vessel in horizontal and vertical position.

Advantages
- economically suitable solution for security against an explosion
- completely mechanical requiring practically no maintenance
- no power consumption
- low pressure losses
- high pressure resistance
- indoor or outdoor assembly allowed
- loaded and clean air mounting
- horizontal and vertical assembly

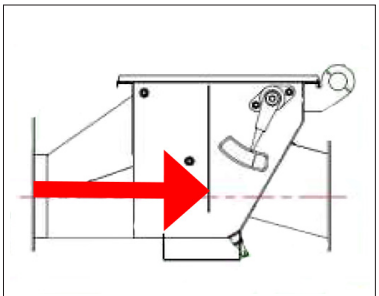
ATEX conformity
- ATEX norm 114 : 2014/34/EC
  EN 16447 : 2014, EN 15089 : 2009 and NFPA 69 regulations

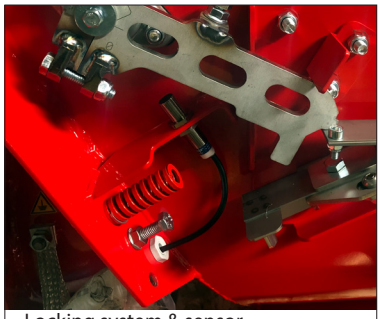
Material
Body : powder-coated steel.
Closing flap : round domed stainless steel.
Surface treatment : powder coated RAL 3020.

Type
Rolled and welded plates with welded flanges (ISO/ANSI).
EPDM gasket -30°C to +70°C (FDA conform).
Non-ATEX inductive locking detection sensor.

Other information
- certification number : INERIS 23ATEX0012X
- available in diameters Ø160 up to Ø800
- exterior zone certification : 21-22
- interior zone certification : 20-21-22
- level of protection : St2 (organic, synthetic & metal), Kst max. = ≤250 bar*m/s, Kst min. = no limit, MIE = ≥10 Mj, MIT = ≥400°C (≥752°F)
- Pred,max. : 0.5 bar
- minimum airspeed : 15 m/s
- maximum airspeed : 45 m/s (loaded air), 30m/s (clean air)
- max. bends between BADA-VEX and vessel : no limit
- max. dust concentration in duct : no limit
- temperature range : -30°C to +70°C

Options
- body in zinc coated steel, or stainless steel
- FDA conform silicone gasket (-10°C to +180°C)
- inspection window on top lid
- ATEX 21 closing inductive sensor
- dust level sensor (max. +70°C)
- connection box
- ISO or ANSI counter-flanges


Explosion isolation direction


Locking system & sensor


Connection box (option)

BADA-VEX - Certified ATEX non-return valves

References and installation distances

BADA-VEX Ød	Internal reference	Min. vessel volume (m^3)	Installation distance LMin * (m)	LMin+2m ** (m)	LMax * (m)
160	NABA000501	0.70/1.35	4.0/3.0	6.0/5.0	17.0
180	NABA000502	0.70/1.35	4.0/3.0	6.0/5.0	17.0
200	NABA000503	1.35	4.6	6.6	17.0
250	NABA000504	1.35	4.0	6.0	17.0
300	NABA000505	2.90	4.6	6.6	17.0
350	NABA000506	2.90	4.2	6.2	17.0
400	NABA000507	4.50	5.2	7.2	17.0
450	NABA000508	4.50	4.7	6.7	17.0
500	NABA000509	6.05	5.8	7.8	17.0
550	NABA000510	6.05	5.5	7.5	17.0
600	NABA000511	7.65	7.2	9.2	17.0
650	NABA000512	7.65	6.7	8.7	17.0
700	NABA000513	7.65	6.4	8.4	17.0
750	NABA000514	10.00	7.3	9.3	17.0
800	NABA000515	10.00	6.9	8.9	17.0

* with flap in floating position

** with flap in locked open position, or vertical mounting, or with bends

Pressure loss (in Pa)

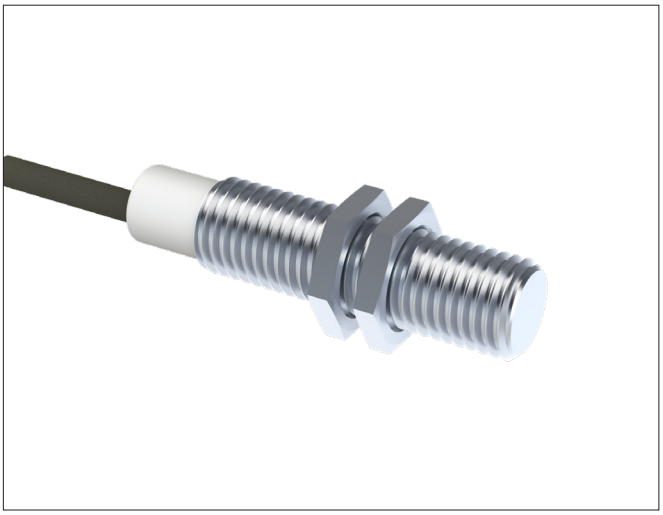
BADA-VEX	LOADED AIR (floating or locked)				CLEAN AIR (locked)			
	15	25	35	45	15	20	25	30
Ød	(m/s)	(m/s)	(m/s)	(m/s)	(m/s)	(m/s)	(m/s)	(m/s)
160	220	598	1200	2100	231	437	708	1063
180	374	943	1920	3313	374	702	1140	1700
200	110	242	492	838	99	173	288	438
250	230	624	1200	2100	242	456	708	1063
300	138	336	660	1113	115	240	384	575
350	230	624	1200	2100	242	456	708	1063
400	173	384	788	1300	253	480	775	1113
450	230	624	1250	2100	414	756	1238	1788
500	184	420	875	1425	276	516	850	1225
550	240	624	1250	2100	432	756	1238	1788
600	144	350	688	1113	120	250	400	575
650	192	438	875	1425	288	538	850	1225
700	240	650	1250	2100	432	788	1238	1788
750	180	400	788	1300	264	500	775	1113
800	204	500	988	1625	336	625	975	1400

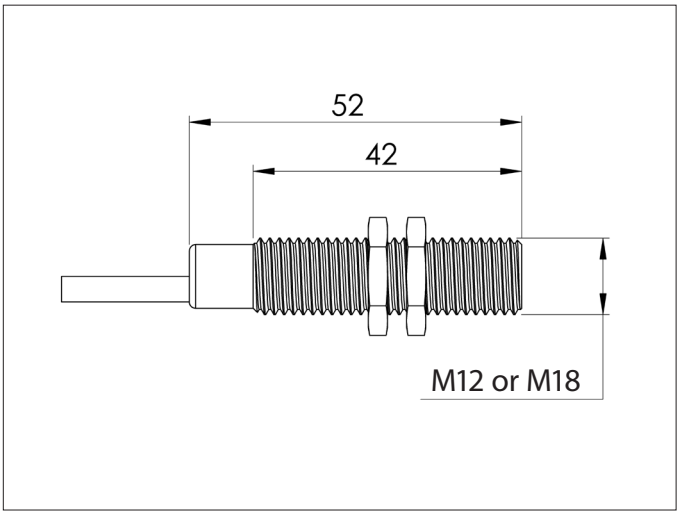
Dimensions***

Ø d	L	H	W	X	A	H axe	E	F	G	Øh	Øa	Øb	n x Ø	Weight
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
160	640	386	400	216	591	126	282	110	90	12	215	195	8 x 10	21
180	612	386	400	216	531	136	254	110	90	12	235	215	8 x 10	20
200	857	466	490	261	857	138	325	160	140	12	255	235	12 x 10	35
250	717	466	490	261	671	163	253	160	140	12	305	385	12 x 10	33
300	966	575	590	311	966	197	373	160	160	12	355	336	12 x 10	44
350	817	575	590	311	776	222	302	160	160	12	415	389	12 x 12	50
400	1088	705	740	385	1089	249	431	180	260	12	465	439	16 x 12	81
450	945	705	740	385	893	274	359	180	260	12	515	489	16 x 12	77
500	1197	815	840	434	1199	309	441	200	300	12	565	540	16 x 12	106
550	1045	815	840	434	996	334	369	200	300	12	615	590	16 x 12	104
600	1549	1038	992	508	1549	366	588	200	400	12	665	640	16 x 12	150
650	1363	1038	992	508	1364	391	517	200	400	12	715	690	24 x 12	150
700	1207	1038	992	508	1155	416	446	200	400	12	785	750	24 x 12	150
750	1751	1213	1200	602	1752	443	514	400	500	12	835	800	24 x 12	285
800	1563	1213	1200	602	1564	468	442	400	500	12	885	850	24 x 12	285

*** ANSI measurements available on request

NCEB - Position sensors for BADA-VEX





NCEB - Position sensors for BADA-VEX
These sensors are designed to detect the closing of the non-return valve flap within the BADA-VEX ATEX non-return valve and give a signal in case of locking.

They are prewired devices produced according to the EU directives.

Available in size M12 for non-return valves up to Ø350, and in M18 as of size Ø400.

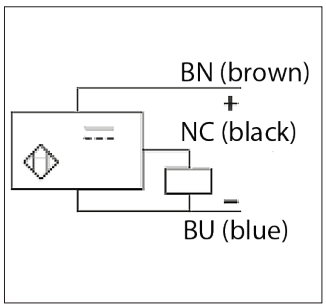
Options
- none

Material
Nickel plated brass housing with M12 or M18 mounting nuts.

Type
Pre-wired with 3 PVC coated cables with yellow LED.

Other information (M12 version)
- conformity according to : CE, CSA, UL
- voltage : 12 to 48 V DC
- max. current : 200 mA
- protection level : IP 68
- cable type : 3 x 2 m PVC coated 0.34 mm^2
- temperature range : -25°C to +70°C
- TOR output : NC
- TOR output type : PNP

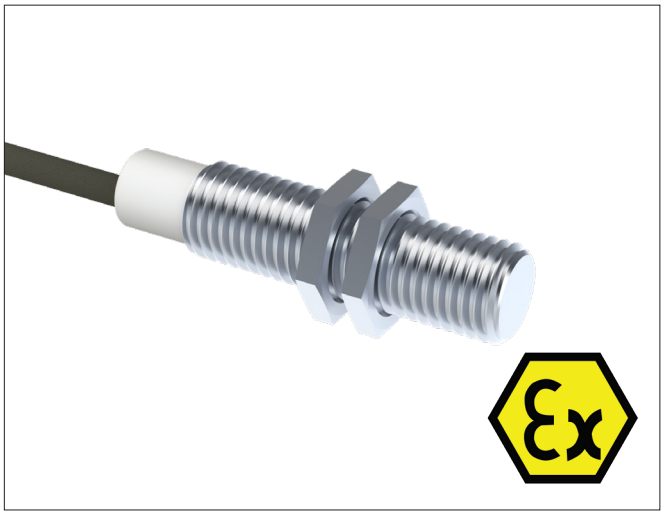
Other information (M18 version)
- conformity according to : CE, CSA, UL
- voltage : 12 to 24 V DC
- max. current : 200 mA
- protection level : IP 67
- cable type : 3 x 2 m PVC coated 0.14 mm^2
- temperature range : -25°C to +70°C
- TOR output : NC
- TOR output type : PNP

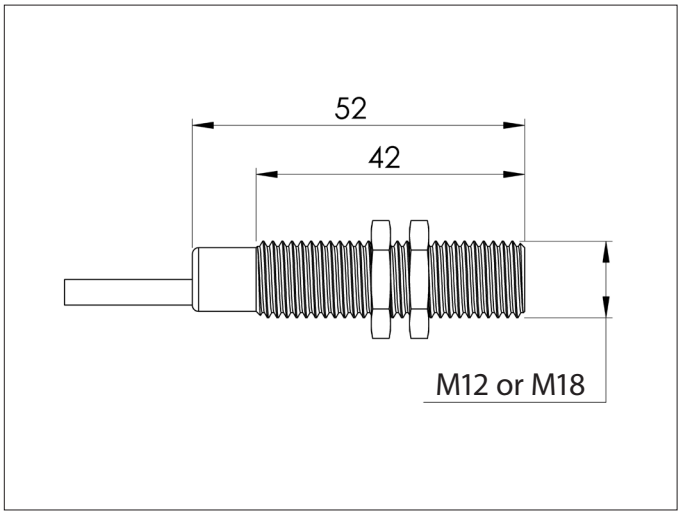


PNP - Wiring diagram

Size	Reference	BADA-VEX size	cable length	cable size	output type	Weight (kg)
M12	NCEB000004	160 to 350	2 m	0.34	PNP	0.10
M18	NCEB000005	400 to 800	2 m	0.14	PNP	0.20

NCEB - ATEX Position sensors for BADA-VEX





NCEB - ATEX Position sensors for BADA-VEX
These ATEX sensors are designed to detect the closing of the non-return valve flap within the BADA-VEX ATEX non-return valve and give a signal in case of locking.

They are prewired devices produced according to the EU directives.

Available in size M12 for non-return valves up to Ø350, and in M18 as of size Ø400.

Protection level
- II 2D Ex tb IIIC T90°C Db

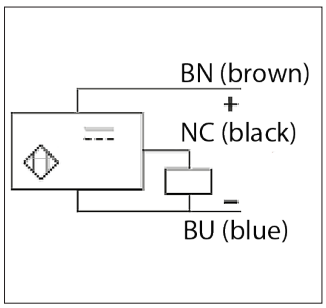
Options
- none

Material
Nickel plated brass housing with M12 or M18 mounting nuts.

Type
Pre-wired with 3 PVC coated cables with yellow LED.

Other information (M12 ATEX version)
- ATEX certification : INERIS 04ATEX0022 / INE 17.0006
- conformity according to : CE, CSA, UL
- voltage : 12 to 48 V DC
- max. current : 200 mA
- protection level : IP 68
- cable type : 3 x 10 m PVC coated 0.34 mm^2
- temperature range : -20°C to +60°C
- TOR output : NC
- TOR output type : PNP

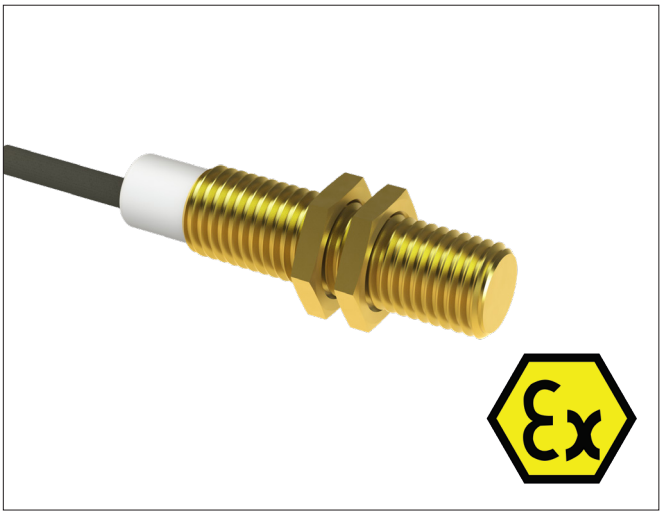
Other information (M18 ATEX version)
- ATEX certification : INERIS 04ATEX0022 / INE 17.0006
- conformity according to : CE, CSA, UL
- voltage : 12 to 48 V DC
- max. current : 200 mA
- protection level : IP 68
- cable type : 3 x 10 m PVC coated 0.34 mm^2
- temperature range : -20°C to +60°C
- TOR output : NC
- TOR output type : PNP

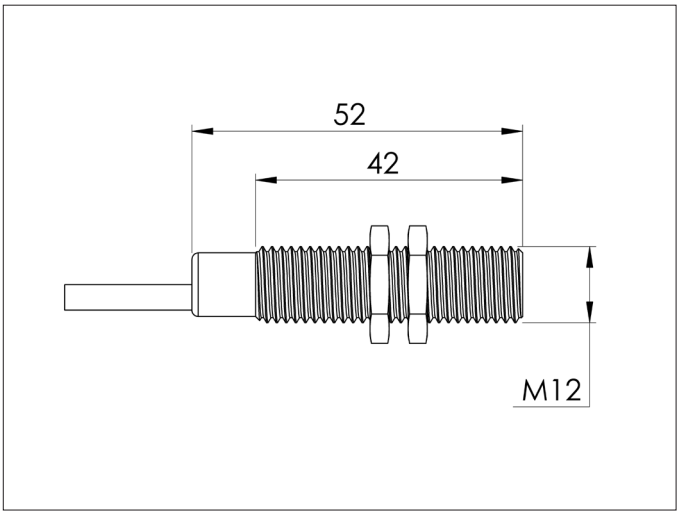


PNP - Wiring diagram

Size	Reference	BADA-VEX size	cable length	cable size	output type	Weight (kg)
M12	NCEB000006	160 to 350	2 m	0.34	PNP	0.10
M18	NCEB000007	400 to 800	2 m	0.14	PNP	0.20

NCEA000002 - ATEX Dust level sensor for BADA-VEX





NCEA000002 - ATEX Dust level sensor for BADA-VEX
This ATEX dust level sensor is designed to detect unusual dust deposits on the bottom inside the BADA-VEX ATEX non-return valve which could lead to functioning issues.

The standard BADA-VEX non-return valves are foreseen with a brass M12 plug on the underside of the body designed to fit this sensor.

NAMUR sensors must be used with switching amplifiers approved for this intrinsic safety mode according to EN 60079-11:2012.

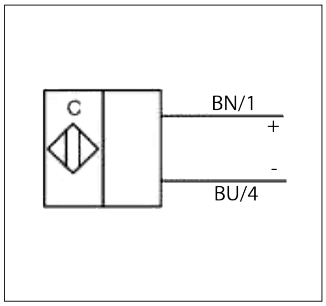
Protection level
- Ex II 1D Ex ia IIIC T101°C Da

Options
- none

Material
Nickel plated brass housing with M12 mounting nut.

Type
Pre-wired with 2 PVC coated cables with yellow LED.

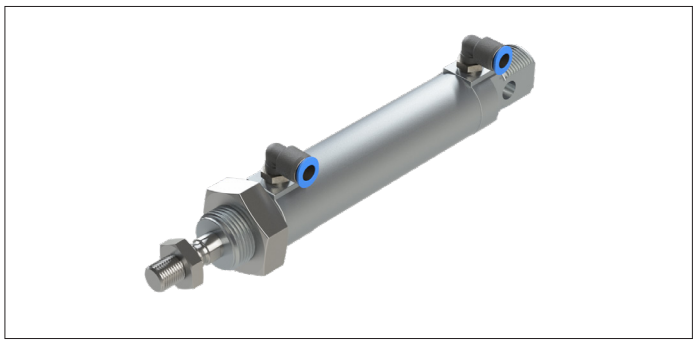
Other information
- ATEX certification : DMT 03 ATEX E 048 / BVS 07.0031
- conformity according to : CE, CSA, UL
- voltage : 5 to 15 V DC
- max. current : 1.5 to 2.5 mA
- protection level : IP 67
- cable type : 2 x 2 m PVC coated 0.14 mm²
- temperature range : -20°C to +70°C
- output : NAMUR DIN 30947-5-6

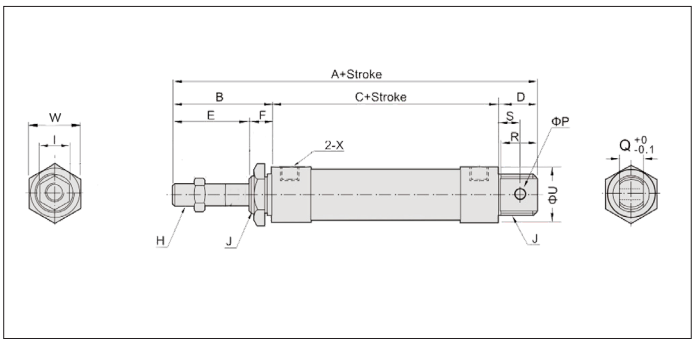


Wiring diagram

Size	Reference	BADA-VEX size	cable length	cable size	output type	Weight (kg)
M12	NCEA000002	160 to 800	2 m	0.14	NAMUR	0.10

NDBB Pneumatic cylinder for sliding dampers





NDBB Pneumatic cylinders for sliding dampers
Aluminum alloy body cylinders activate the pneumatic sliding dampers opening and closing by compressed air.

Airthightness is ensured by NBR gaskets along cylinder rod.

The carbon steel rod ensures a magnetic reaction with the reed contacts to indicate the open/closed position of the cylinder and is lubrication free.

Options
- high temperature gaskets
- reed contacts
- stainless steel versions

Material
Aluminum alloy body, S45C hard chrome carbon steel rod.
NBR gaskets.

Type
With threaded head to be bolted to the body of the component.

Other information
- temperature range : -5°C up to +70°C
- connection to air hose 4/6 mm

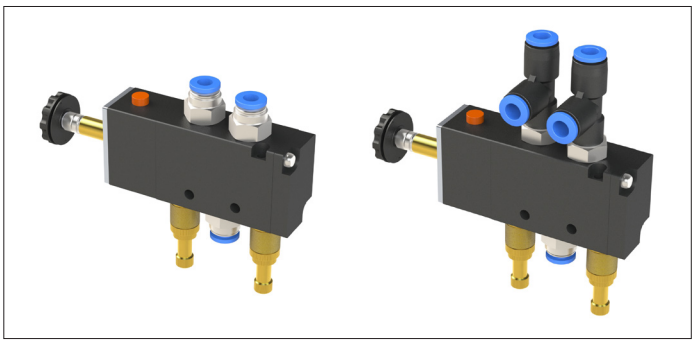
Max. air pressure in pneumatic cylinder : 8 Bar

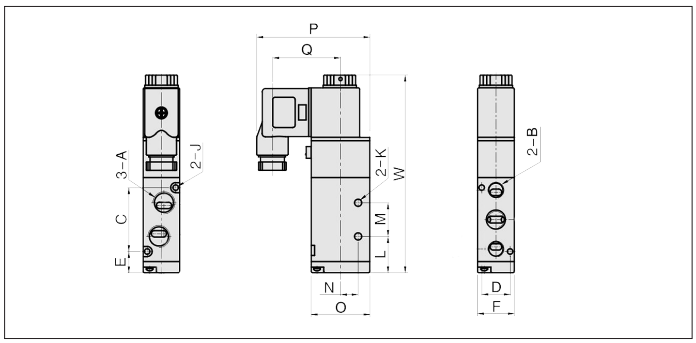
Use only oil free dry air

Ø Damper	Stroke mm	A mm	B mm	C mm	D mm	E mm	F mm	H mm	I mm
50-63	75	135	44	70	21	30	14	M10 x 1.25	17
76-80	90	135	44	70	21	30	14	M10 x 1.25	17
89-100-102	110	135	44	70	21	30	14	M10 x 1.25	17
114-120-125-127	135	135	44	70	21	30	14	M10 x 1.25	17
140-150-152	160	135	44	70	21	30	14	M10 x 1.25	17
160	170	135	44	70	21	30	14	M10 x 1.25	17
180-200-203	210	135	44	70	21	30	14	M10 x 1.25	17
225-250	260	135	44	70	21	30	14	M10 x 1.25	17
275 to 315	325	152	46	92	27	32	14	M12 x 1.25	17
350	365	152	46	92	27	32	14	M12 x 1.25	17
400	415	152	46	92	27	32	14	M12 x 1.25	17
450	465	152	46	92	27	32	14	M12 x 1.25	17
500	510	152	46	92	27	32	14	M12 x 1.25	17

Ø Damper	J mm	P mm	Q mm	R mm	S mm	ØU mm	W mm	X mm	Weight kg
50-63	M22 x 1.5	8	16	19	12	34	29	G1/8	0.35
76-80	M22 x 1.5	8	16	19	12	34	29	G1/8"	0.38
89-100-102	M22 x 1.5	8	16	19	12	34	29	G1/8"	0.42
114-120-125-127	M22 x 1.5	8	16	19	12	34	29	G1/8"	0.43
140-150-152	M22 x 1.5	8	16	19	12	34	29	G1/8"	0.53
160	M22 x 1.5	8	16	19	12	34	29	G1/8"	0.55
180-200-203	M22 x 1.5	8	16	19	12	34	29	G1/8"	0.58
225-250	M22 x 1.5	8	16	19	12	34	29	G1/8"	0.65
275 to 315	M30 x 2.0	12	20	25	15	49.5	41	G1/8"	1.11
350	M30 x 2.0	12	20	25	15	49.5	41	G1/8"	1.25
400	M30 x 2.0	12	20	25	15	49.5	41	G1/8"	1.42
450	M30 x 2.0	12	20	25	15	49.5	41	G1/8"	1.59
500	M30 x 2.0	12	20	25	15	49.5	41	G1/8"	1.75

NDCA Solenoid valve for pneumatic sliding dampers





NDCA Solenoid valve for pneumatic sliding dampers
Aluminum alloy body solenoid valve, 5/2 way monostable, activates the pneumatic sliding dampers opening and closing by compressed air.

Airthightness is ensured by NBR gaskets along compressed air rod.

Can be manually operated by activating the button on the body of the valve. The opening and closing speed can be regulated by adjusting the regulators.

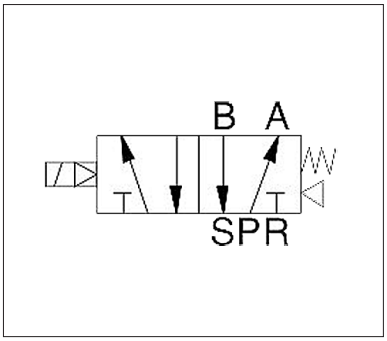
Connection to air hose 4/6 mm.

Material
Aluminum alloy body, NBR gaskets.
PVC coated coil and connector protection cap.

Type
With two holes to attach to sliding damper body or other support.

Other information
- temperature range : -5°C up to +60°C
- protection level : IP 65 (DIN40050)
- insulation class : F
- power consumption : 3 W DC, 3.0 VA AC

Options
- stainless steel versions
- model for two cylinder control
- bistable version



Monostable solenoid valve wiring diagram

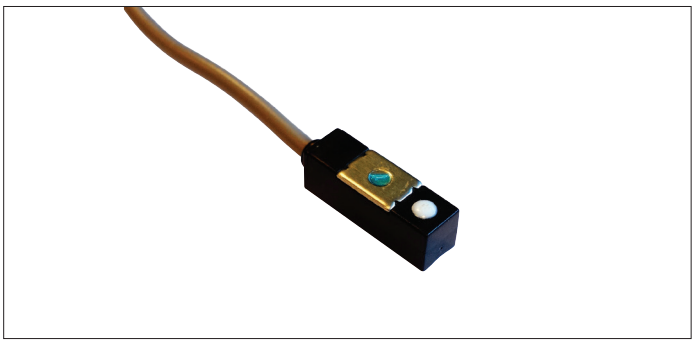
Max. air pressure in solenoid valve : 8 Bar
Use only oil free dry air

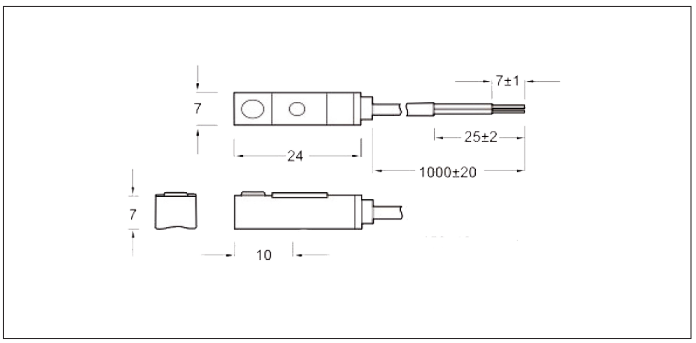
Please state the voltage when ordering :
24 V AC, 24 V DC, 220 V AC

V5221-06 Code.	# Zylinder	A mm	B mm	C mm	D mm	E mm	F mm	J mm	K mm
NDCA000001	1	G1/8	G1/8	38	17	13	22	3.3	4.3
NDCA000002	2	G1/8	G1/8	38	17	13	22	3.3	4.3

V5221-06 Code	L mm	M mm	N mm	O mm	P mm	Q mm	W mm	Weight kg
NDCA000001	22	20	10.5	35	67.5	40.5	120	0.29
NDCA000002	22	20	10.5	35	67.5	40.5	120	0.30

NCEC Reed contact for NDBB Pneumatic cylinder for sliding dampers





NCEC Reed contact for NDBB Pneumatic cylinders for sliding dampers
Metal casing reed contact to strap on cylinder to indicate position of cylinder.

Usually mounted on the two extremities of the cylinder.

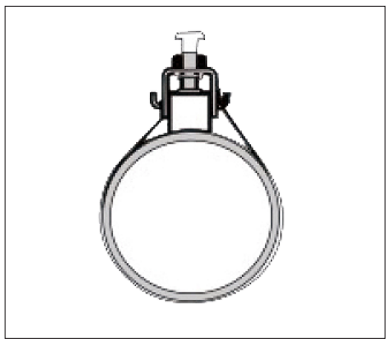
Supplied with mounting strap and integrated 1.5 m cable.

Material
Metal casing with LED indicator.
Oil resistant PVC coated 1.5 m cable.

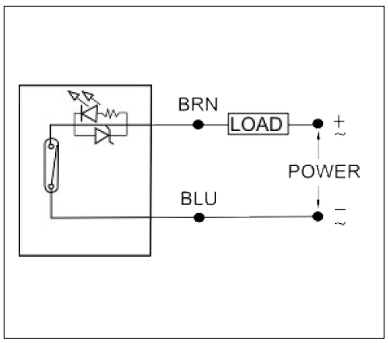
Type
2 wire type.

Other information
- temperature range : -5°C up to +60°C
- operating voltage : 5 to 240 V DC-AC
- min. / max. switching currrent : 50 mA / 100 mA
- power consumption : none
- protection level : IP 67 (NEMA 6)

Options
- 3 wire version
- 5 m cable version



Reed contact supplied with strap to fix to cylinder

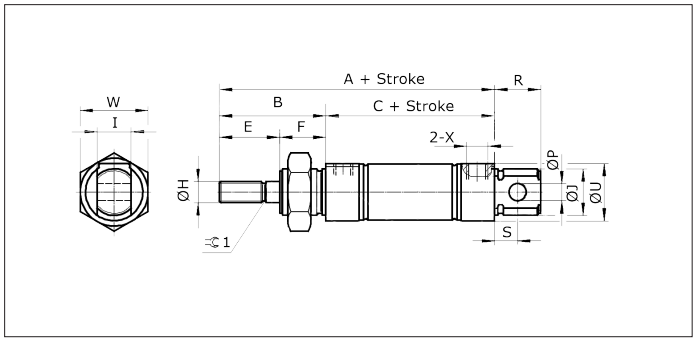


Wiring diagram of reed contact

Model	Code	Weight kg
Reed contact	NCEC000001	0.10

NDBB Pneumatic FESTO cylinder for FESTO sliding dampers





NDBB Pneumatic FESTO cylinders for FESTO sliding dampers
Aluminum alloy body Festo cylinders activate the pneumatic Festo sliding dampers Ø50 to Ø250 opening and closing by compressed air.

Airthightness is ensured by NBR gaskets along cylinder rod.

The carbon steel rod ensures a magnetic reaction with the reed contacts to indicate the open/closed position of the cylinder and is lubrication free.

Material
Aluminum alloy body, S45C hard chrome carbon steel rod.
NBR gaskets.

Type
With threaded head to be bolted to the body of the component.

Other information
- temperature range : -20°C up to +80°C
- connection to air hose 4/6 mm

Options
- high temperature gaskets
- reed contacts
- stainless steel versions
- ATEX version

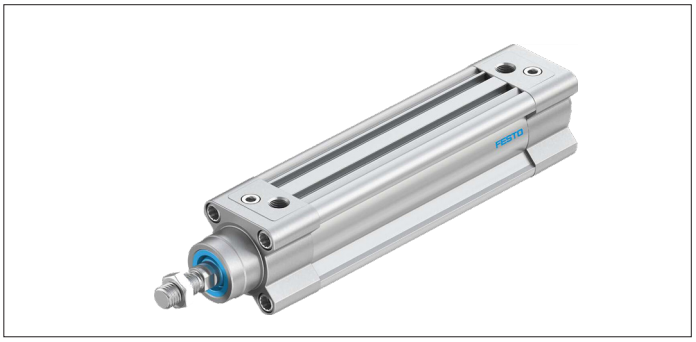
Max. air pressure in pneumatic cylinder : 8 Bar

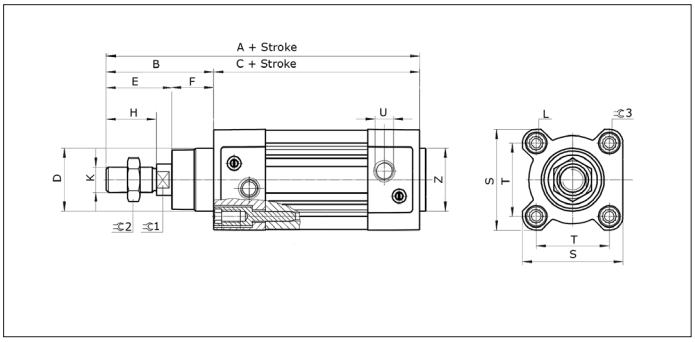
Use only oil free dry air

Ø Damper	Stroke mm	A mm	B mm	C mm	E mm	F mm	ØH mm	I mm	ØJ mm
50-63	75	141.5	50	69.5	28	22	M10 x 1.25	16	M22 x 1.5
76-80	90	141.5	50	69.5	28	22	M10 x 1.25	16	M22 x 1.5
89-100-102	110	141.5	50	69.5	28	22	M10 x 1.25	16	M22 x 1.5
114-120-125-127	135	141.5	50	69.5	28	22	M10 x 1.25	16	M22 x 1.5
140-150-152	160	141.5	50	69.5	28	22	M10 x 1.25	16	M22 x 1.5
160	170	141.5	50	69.5	28	22	M10 x 1.25	16	M22 x 1.5
180-200-203	210	141.5	50	69.5	28	22	M10 x 1.25	16	M22 x 1.5
225-250	260	141.5	50	69.5	28	22	M10 x 1.25	16	M22 x 1.5

Ø Damper	ØP mm	R mm	S mm	ØU mm	W mm	ØX mm	#1 mm	Weight kg
50-63	8	22	12	27	32	G1/8	9	0.35
76-80	8	22	12	27	32	G1/8"	9	0.38
89-100-102	8	22	12	27	32	G1/8"	9	0.42
114-120-125-127	8	22	12	27	32	G1/8"	9	0.43
140-150-152	8	22	12	27	32	G1/8"	9	0.53
160	8	22	12	27	32	G1/8"	9	0.55
180-200-203	8	22	12	27	32	G1/8"	9	0.58
225-250	8	22	12	27	32	G1/8"	9	0.65

NDBB Pneumatic FESTO cylinder for FESTO sliding dampers





NDBB Pneumatic FESTO cylinders for FESTO sliding dampers
Aluminum alloy body Festo cylinders activate the pneumatic Festo sliding dampers Ø275 to Ø700 opening and closing by compressed air.

Airthightness is ensured by NBR gaskets along cylinder rod.

The carbon steel rod ensures a magnetic reaction with the reed contacts to indicate the open/closed position of the cylinder and is lubrication free.

Material
Aluminum alloy body, S45C hard chrome carbon steel rod.
NBR gaskets.

Type
With threaded head to be bolted to the body of the component.

Other information
- temperature range : -20°C up to +80°C
- connection to air hose 4/6 mm

Options
- hinge set for cylinder base
- fork for cylinder rod
- high temperature gaskets
- reed contacts
- stainless steel versions
- ATEX version

Max. air pressure in pneumatic cylinder : 8 Bar

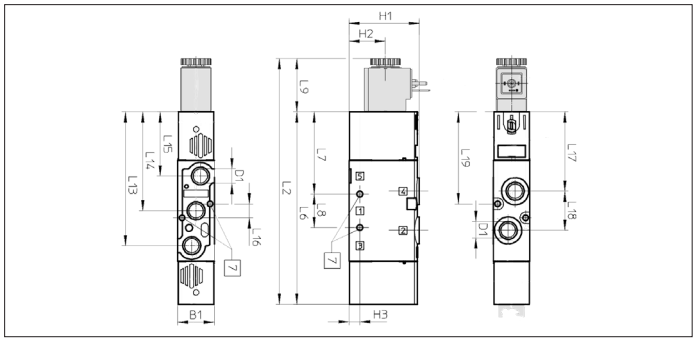
Use only oil free dry air

Ø Damper	Stroke mm	A mm	B mm	C mm	D mm	E mm	F mm	H mm	K mm
275 bis 315	325 x 32	141.1	47	94	30	29	18	22	M10x1.25
350	365 x 32	141.1	47	94	30	29	18	22	M10x1.25
400	415 x 32	141.1	47	94	30	29	18	22	M10x1.25
450	465 x 32	141.1	47	94	30	29	18	22	M10x1.25
500	510 x 32	141.1	47	94	30	29	18	22	M10x1.25
550	580 x 50	173.8	67.6	106	40	40.8	26.8	32	M16x1.5
600	625 x 50	173.8	67.6	106	40	40.8	26.8	32	M16x1.5
630	660 x 50	173.8	67.6	106	40	40.8	26.8	32	M16x1.5
650	660 x 50	173.8	67.6	106	40	40.8	26.8	32	M16x1.5
700	740 x 50	173.8	67.6	106	40	40.8	26.8	32	M16x1.5

Ø Damper	L mm	S mm	T mm	U mm	Z mm	#1 mm	#2 mm	#3 mm	Weight kg
275 bis 315	M6	45	32.5	G1/8"	30	10	16	6	1.11
350	M6	45	32.5	G1/8"	30	10	16	6	1.25
400	M6	45	32.5	G1/8"	30	10	16	6	1.42
450	M6	45	32.5	G1/8"	30	10	16	6	1.59
500	M6	45	32.5	G1/8"	30	10	16	6	1.75
550	M8	64	46.5	G1/4"	40	17	24	8	2.50
600	M8	64	46.5	G1/4"	40	17	24	8	3.00
630	M8	64	46.5	G1/4"	40	17	24	8	3.50
650	M8	64	46.5	G1/4"	40	17	24	8	3.70
700	M8	64	46.5	G1/4"	40	17	24	8	4.00

NDCA FESTO Solenoid valve for pneumatic FESTO sliding dampers





NDCA FESTO Solenoid valve for pneumatic FESTO sliding dampers
Aluminum alloy body Festo solenoid valve, 5/2 way monostable, activates the pneumatic Festo sliding dampers opening and closing by compressed air.

Airthightness is ensured by NBR gaskets along compressed air rod.

Can be manually operated by activating the button on the body of the valve. The opening and closing speed can be regulated by adjusting the regulators.

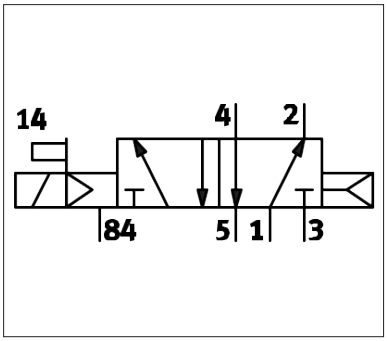
Connection to air hose 4/6 mm.

Material
Aluminum alloy body, NBR gaskets.
PVC coated coil and connector protection cap.

Type
With two holes to attach to sliding damper body or other support.

Other information
- temperature range : -10°C up to +60°C
- protection level : IP 65 (DIN40050)
- insulation class : F
- power consumption : 3 W DC, 3.0 VA AC

Options
- model for two cylinder control
- bistable version
- ATEX version



Monostable solenoid valve wiring diagram

Max. air pressure in solenoid valve : 8 Bar
Use only oil free dry air

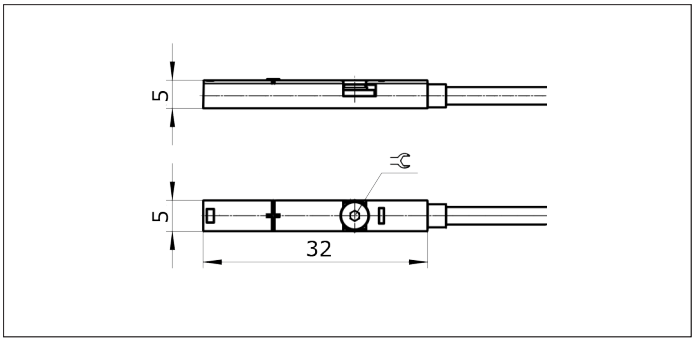
Please state the voltage when ordering :
24 V AC, 24 V DC, 220 V AC

Model	7	D1	H1	H2	H3	L2	L6	L7	L8
	mm	mm	mm	mm	mm	mm	mm	mm	mm
V5221-06	M3 screw	G1/8	40.4	20.9	6.2	141.2	110.6	47.3	19.2

Model	L9	L13	L14	L15	L16	L17	L18	L19	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	kg
V5221-06	30.6	76.9	56.9	36.9	8	45.6	22.5	52.9	0.29

NCEC FESTO Reed contact for NDBB Pneumatic FESTO cylinder for sliding dampers





NCEC FESTO Reed contact for NDBB Pneumatic FESTO cylinders for sliding dampers
Plastic casing reed contact to strap on cylinder to indicate position of cylinder.

Usually mounted on the two extremities of the cylinder.

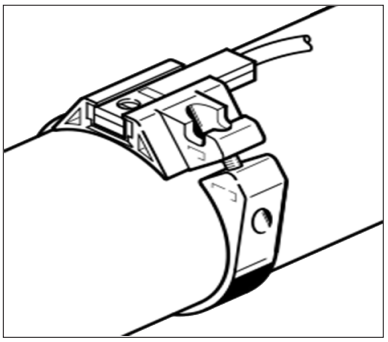
Supplied with mounting circlip and integrated 2.5 m cable.

Material
Plasitc casing with LED indicator.
Oil resistant PVC coated 2.5 m cable.

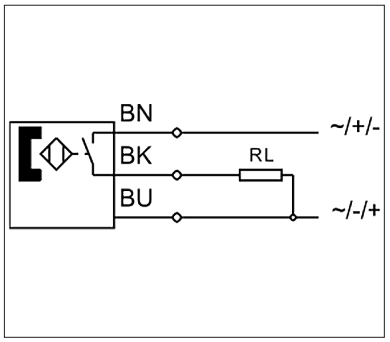
Type
2 wire type.

Other information
- temperature range : -40°C up to +70°C
- operating voltage : 3 to 230 V AC-DC
- min. / max. switching currrent : 50 mA / 100 mA
- switching output : bipolar contact
- protection level : IP 65 (NEMA 6)

Options
- 3 wire version
- 5 m cable version
- ATEX 2GD version



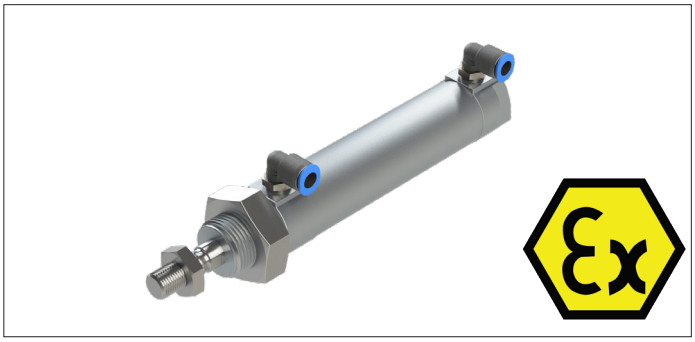
Reed contact supplied with circlip to fix to round cylinder (Ø50 to Ø250)

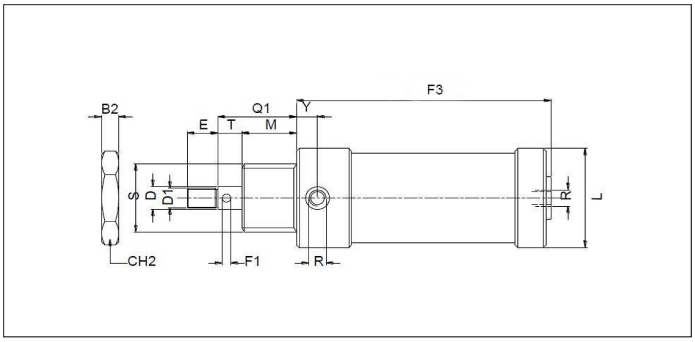


Wiring diagram of reed contact

Model Ø	Code	Weight kg
50 to 250	NCEC000002	0.13
275 to 700	NCEC400002	0.10

PCE Pneumatic cylinder for AADA-ATEX sliding dampers





PCE ATEX pneumatic cylinders for AADA-ATEX sliding dampers
Aluminum alloy body cylinders activate the pneumatic sliding damper opening and closing by compressed air.

The carbon steel rod ensures a magnetic reaction with the reed contacts to indicate the open/closed position, lubrication free, the airthightness is ensured by NBR gaskets along cylinder rod.

Material
Aluminum alloy body, S45C hard chrome carbon steel rod.
NBR gaskets.

Type
With threaded head to be bolted to the body of the component.

Other information
- temperature range : -10°C up to +90°C
- connection to air hose 4/6 mm.

Options
- reed contacts

II 2GDT6/T85° CX
Certified according to EN1366-2, EN13501-3, CSI1645FR and REI120-RE120.

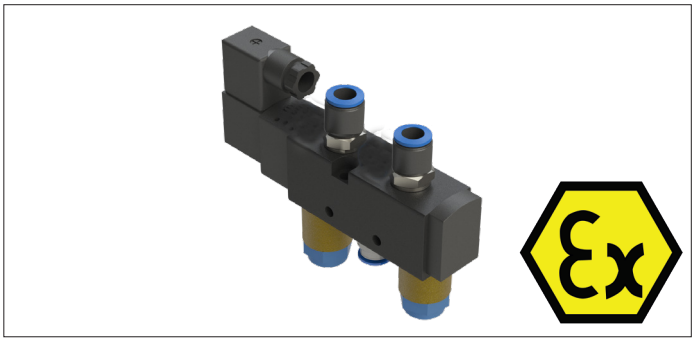
Max. air pressure in pneumatic cylinder : 8 Bar

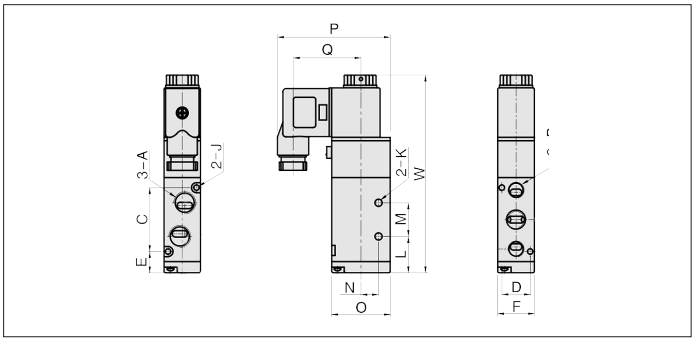
Use only oil free dry air

Ø Damper	Stroke mm	A mm	B mm	C mm	D mm	E mm	F mm	H mm	I mm
80	90	M8 x 1.25	6	35	12	4	139	35	20
100	110	M8 x 1.25	6	35	12	4	159	35	20
120	130	M8 x 1.25	6	35	12	4	179	35	20
125	130	M8 x 1.25	6	35	12	4	184	35	20
140	150	M8 x 1.25	6	35	12	4	189	35	20
150	160	M8 x 1.25	6	35	12	4	199	35	20
160	170	M8 x 1.25	6	35	12	4	219	35	20
180	190	M8 x 1.25	6	35	12	4	239	35	20
200	210	M8 x 1.25	6	35	12	4	259	35	20
225	230	M8 x 1.25	6	35	12	4	279	35	20
250	250	M8 x 1.25	6	35	12	4	299	35	20
280	280	M8 x 1.25	6	35	12	4	329	35	20
300	300	M8 x 1.25	6	35	12	4	349	35	20

Ø Damper	Q1 mm	R mm	S mm	T mm	Y mm	Weight kg
80	30	1/8"	M28 x 2	10	9.5	0.38
100	30	1/8"	M28 x 2	10	9.5	0.42
120	30	1/8"	M28 x 2	10	9.5	0.43
125	30	1/8"	M28 x 2	10	9.5	0.43
140	30	1/8"	M28 x 2	10	9.5	0.53
150	30	1/8"	M28 x 2	10	9.5	0.54
160	30	1/8"	M28 x 2	10	9.5	0.55
180	30	1/8"	M28 x 2	10	9.5	0.60
200	30	1/8"	M28 x 2	10	9.5	0.65
225	30	1/8"	M28 x 2	10	9.5	0.70
250	30	1/8"	M28 x 2	10	9.5	0.80
280	30	1/8"	M28 x 2	10	9.5	0.90
300	30	1/8"	M28 x 2	10	9.5	1.00

PCG Solenoid valves for AADA-ATEX sliding dampers





PCG Solenoid valve for AADA-ATEX sliding dampers
Aluminum alloy body solenoid valve, 5/2 way monostable, activates the pneumatic cylinder opening and closing by compressed air on sliding damper.

Airthightness is ensured by NBR gaskets along compressed air rod.

Can be manually operated by activating the button on the body of the valve. The opening and closing speed can be regulated by adjusting the regulators.

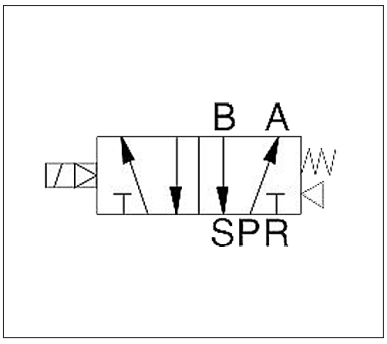
Connection to air hose 4/6 mm.

Material
Aluminum alloy body, NBR gaskets.
PVC coated coil and connector protection cap.

Type
With two holes to attach to component body or other support.

Other information
- temperature range : -5°C up to +60°C
- protection level : IP 65 (DIN40050)
- insulation class : F
- power consumption : 3 W DC, 5.5 VA AC

Options
- ATEX zone 21 or Zone 22 execution



Solenoid valve wiring diagram

Please state the voltage when ordering :
24 V AC, 24 V DC, 110 V AC, 220 V AC

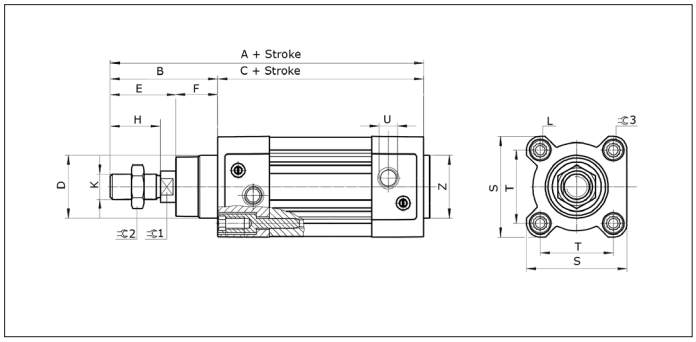
Max. air pressure in solenoid valve : 8 Bar
Use only oil free dry air

Model	A	B	C	D	E	F	J	K	L
	mm	mm	mm	mm	mm	mm	mm	mm	mm
4V210-EX	G1/8	G1/8	36	17	13.5	22	3.2	4.3	21.5

Model	M	N	O	P	Q	W	Weight
	mm	mm	mm	mm	mm	mm	kg
4V210-EX	20	12.5	35	66.5	40.0	116.5	0.29

NDBB FESTO Pneumatic cylinders for Diverters BAHC & BAHD





NDBB FESTO Pneumatic cylinders for diverters BAHC & BAHD
Aluminum alloy body Festo cylinders activate the pneumatic diverter opening and closing by compressed air.

The carbon steel rod ensures a magnetic reaction with the reed contacts to indicate the open/closed position, lubrication free, the airthightness is ensured by NBR gaskets along cylinder rod.

Material
Aluminum alloy body, S45C hard chrome carbon steel rod.
NBR gaskets.

Type
With threaded head to be bolted to the body of the component.

Other information
- temperature range : -20°C up to +80°C
- connection to air hose 4/6 mm

Options
- hinge set for cylinder base
- fork for cylinder rod
- high temperature gaskets
- reed contacts
- stainless steel versions
- ATEX version

Max. air pressure in pneumatic cylinder : 8 Bar

Use only oil free dry air



Male hinge for cylinder base



Female hinge for cylinder base

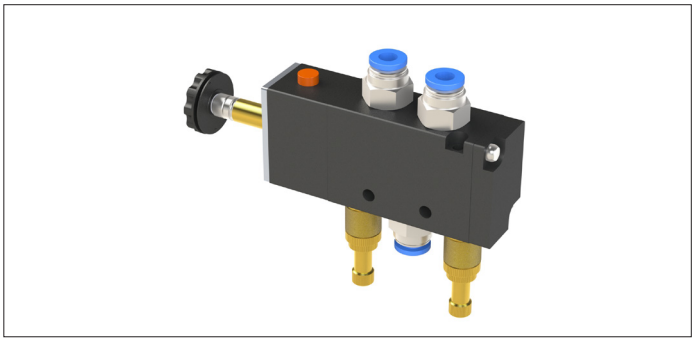


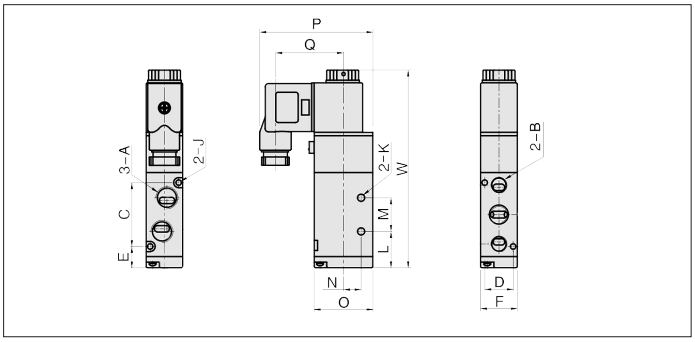
Fork for cylinder rod

Ø Diverter	Stroke mm	A mm	B mm	C mm	D mm	E mm	F mm	H mm	K mm
100 - 125	125 x 40	157.9	52.7	105	35	34.7	21.3	24	M12x1.25
140 - 160	150 x 63	189.1	67.9	121	45	40.9	27	32	M16x1.5
180 - 300	200 x 63	189.1	67.9	121	45	40.9	27	32	M16x1.5
315 - 500	250 x 63	189.1	67.9	121	45	40.9	27	32	M16x1.5
550 - 600	300 x 100	227.5	89.3	138	55	51.3	38	40	M20x1.5

Ø Diverter	L mm	S mm	T mm	U mm	Z mm	#1 mm	#2 mm	#3 mm	Weight kg
100 - 125	M6	54	38	G1/4"	35	13	18	6	1.4
140 - 160	M8	75	56.5	G3/8"	45	17	24	8	2.2
180 - 300	M8	75	56.5	G3/8"	45	17	24	8	2.9
315 - 500	M8	75	56.5	G3/8"	45	17	24	8	3.6
550 - 600	M10	110	89	G1/2"	55	22	30	6	6.9

NDCA Solenoid valve for diverters BAHC & BAHD





NDCA Solenoid valve for diverters BAHC & BAHD
Aluminum alloy body solenoid valve, 5/2 way monostable, activates the pneumatic cylinder opening and closing by compressed air on diverter.

Airthightness is ensured by NBR gaskets along compressed air rod.

Can be manually operated by activating the button on the body of the valve. The opening and closing speed can be regulated by adjusting the regulators.

Connection to air hose 4/6 mm.

Material
Aluminum alloy body, NBR gaskets.
PVC coated coil and connector protection cap.

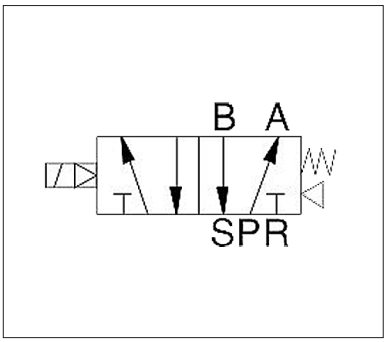
Type
With two holes to attach to component body or other support.

Other information
- temperature range : -5°C up to +60°C
- protection level : IP 65 (DIN40050)
- insulation class : F
- power consumption : 3 W DC, 3.0 VA AC

Options
- stainless steel versions
- model for two cylinder control

Please state the voltage when ordering :
24 V AC, 24 V DC, 220 V AC

Max. air pressure in solenoid valve : 8 Bar
Use only oil free dry air



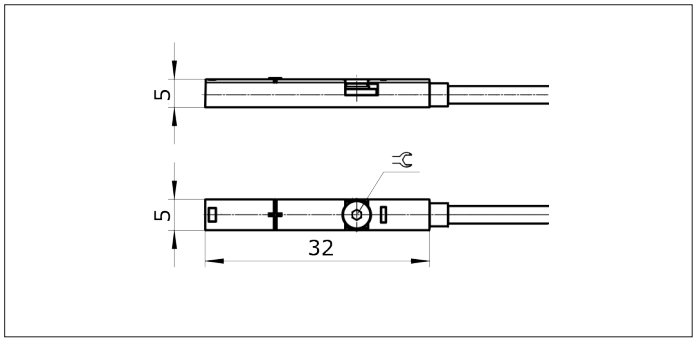
Solenoid valve wiring diagram

V5221-06 Code	A mm	B mm	C mm	D mm	E mm	F mm	J mm	K mm	L mm
NDCA000001	G1/8	G1/8	38	17	13	22	3.3	4.3	22

V5221-06 Code	M mm	N mm	O mm	P mm	Q mm	W mm	Weight kg
NDCA000001	20	10.5	35	67.5	40.5	120	0.29

NCEC FESTO Reed contact for diverters BAHC & BAHD





NCEC FESTO Reed contact for diverters BAHC & BAHD
Plastic casing Festo reed contact to slide into the grooves of the Festo cylinder of the diverter to indicate position of cylinder.

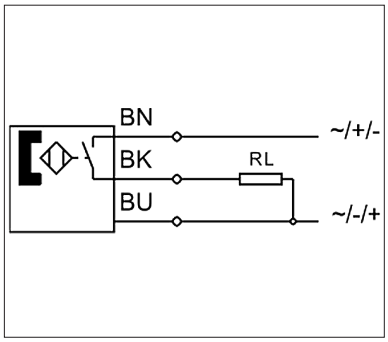
Usually mounted on either side of the cylinder.

Material
Plasitc casing with LED indicator.
Oil resistant PVC coated 2.5 m cable.

Type
2 wire type.

Other information
- temperature range : -40°C up to +70°C
- operating voltage : 3 to 230 V AC-DC
- min. / max. switching currrent : 50 mA / 100 mA
- switching output : bipolar contact
- protection level : IP 65 (NEMA 6)

Options
- 3 wire version
- 5 m cable version
- ATEX 2GD version

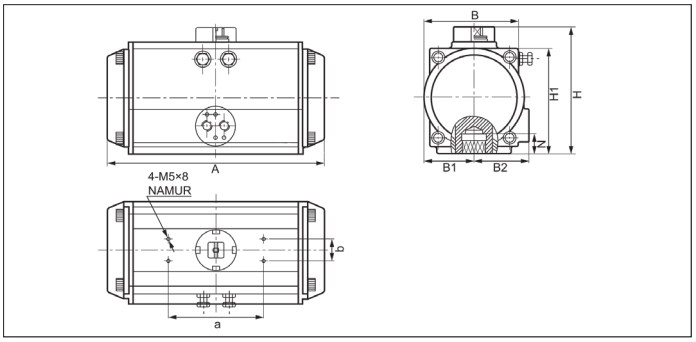


Wiring diagram of reed contact

Model	Code	Weight kg
Reed contact	NCEC400002	0.05

NDBA Pneumatic actuators for pneumatic throttle valves (AADK, ABDK)





NDBA Pneumatic actuators for pneumatic throttle valves (AADK, ABDK)
Double acting pneumatic actuators controlled by NAMUR valve mounted directly on the actuator which sends compressed air to the unit.

The AP2 (NDBA000001) model is mounted on throttle valves up to size Ø400, and the AP3 (NDBA000002) is mounted on throttle valves sizes Ø450 up to Ø800.

A visual rotation indicator is mounted on the top of the unit, but it can be replaced with an electric rotation indicator/detector (NCED000039).

Options
- other sizes
- low or high temperature executions (-40°C up to +140°C)
- multi-travel rotation (120°, 135°, 180°) and three position actuators
- ATEX models

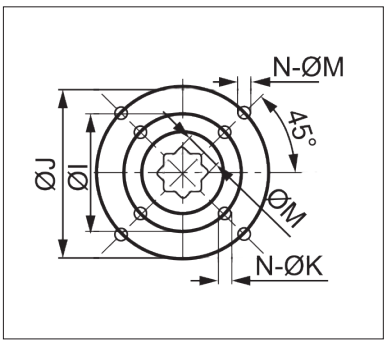
Material
Aluminum alloy body and die-cast aluminum pistons and end caps.
Steel alloy nickel plated drive shaft.
Polyamide visual rotation indicator.

Type
Connection types : ISO 5211, DIN 3337, VD/VDE 3845 & NAMUR.
Adjustments : +/- 6° open or close.
Compressed air connections : G1/4".

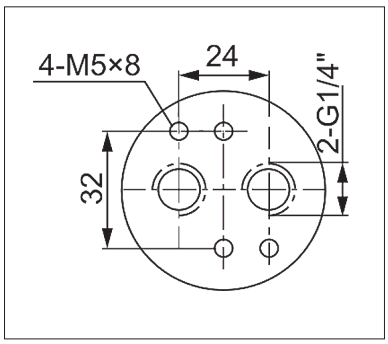
Other information
- max. air pressure : 8 Bar
- torque : 12 to 58 Nm depending on air pressure
- air consumption (open/close) :
  AP2 - 0.11/0.14 L,
  AP3 - 0.20/0.23 L
- temperature range : -20°C up to +80°C
- lubricant : none required

Max. air pressure in pneumatic cylinder : 8 Bar

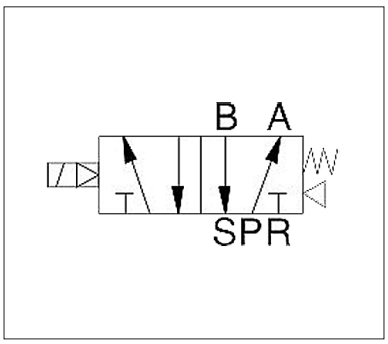
Use only oil free dry air



Connection measurements to axle



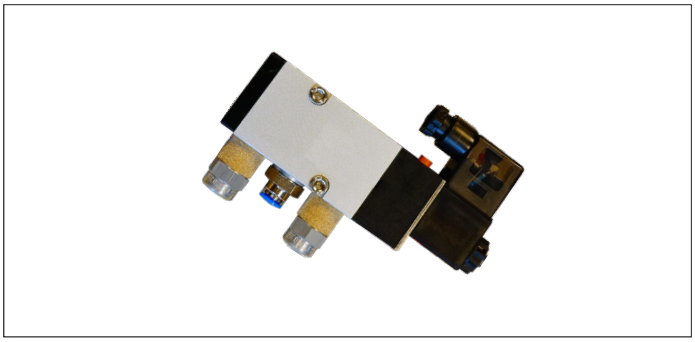
Connection measurements to NAMUR solenoid valve

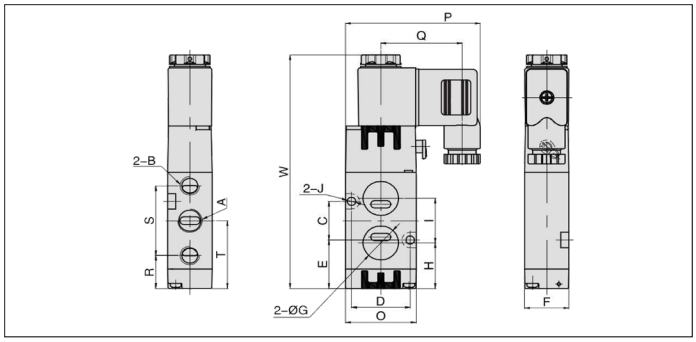


Wiring diagram of NAMUR solenoid valve

Model	A	B	B1	B2	H	H1	a	b	ØI	ØJ	ØM	N-ØM	NØK	Air	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Ø	kg
DA-52	147	65	30	41.5	92	65.5	80	30	36	50	11	M6x10	M5x8	G1/4"	1.20
DA-63	168	72	36	47	108	81	80	30	50	70	14	M8x13	M6x10	G1/4"	2.00

PCG Solenoid valve for pneumatic throttle valves (AADK, ABDK)





PCG Solenoid valve for pneumatic throttle valves (AADK, ABDK)
Aluminum alloy body solenoid valve, 5/2 way monostable, activates the pneumatic throttle valves opening and closing by compressed air.

Airthightness is ensured by NBR gaskets along compressed air rod.

Can be manually operated by activating the button on the body of the valve. The opening and closing speed can be regulated by adjusting the regulators.

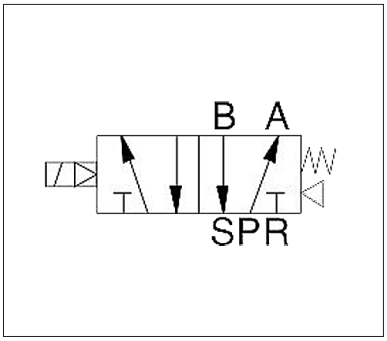
Connection to air hose 4/6 mm.

Material
Aluminum alloy body, NBR gaskets.
PVC coated coil and connector protection cap.

Type
With two holes to attach to sliding damper body or other support.

Other information
- temperature range : -5°C up to +60°C
- protection level : IP 65 (DIN40050)
- insulation class : F
- power consumption : 3 W DC, 3.0 VA AC

Options
- stainless steel versions



Solenoid valve wiring diagram

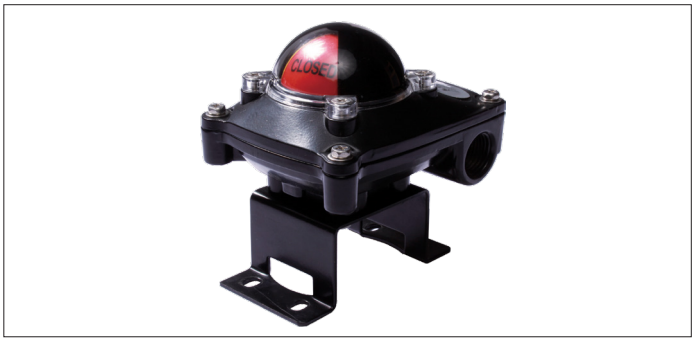
Max. air pressure in solenoid valve : 8 Bar
Use only oil free dry air

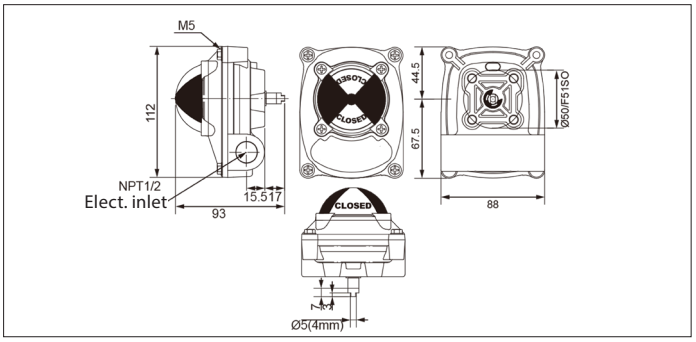
Please state the voltage when ordering :
24 V AC, 24 V DC, 220 V AC

RV5232-08 Code	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm
NDCA000003	G1/4	G1/8	24	32	32.1	27	19.6	32.1	24

RV5232-08 Code	J mm	O mm	P mm	Q mm	R mm	S mm	T mm	W mm	Weight kg
NDCA000003	5.2	40	69.2	40.2	21.6	45	44.1	139.3	0.29

NCED Position detector for pneumatic throttle valves (AADK, ABDK)





NCED Position detector for pneumatic throttle valves (AADK, ABDK)
Compact and flexible limit switch box made of aluminum for simple assembly on pneumatic actuator on throttle valves in non-ATEX environment.

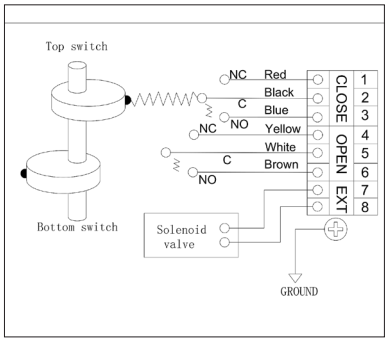
Simply place over the existing visual position indicator of the actuator and bolt in its place.

Options
- IP 68 enclosure
- other colours of indicator
- ATEX models

Material
Aluminum exterior box with flat polycarbonate cover (PC).
Adjustable Aluminum mounting bracket.
Sealings EPDM and NBR, Screws AISI 304.
Shaft polyamide AISI 304.

Type
Hole spacings : ISO F05 interface.
Connection : ready for cable gland M20 (for cable Ø 6-12mm).

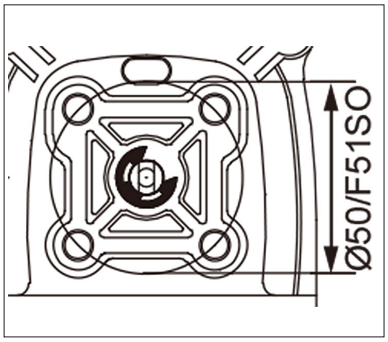
Other information
- voltage : 8 - 250 V
- max. current : 250VAC: 3A, 125VAC: 5A, 250VDC: 0.2A, 125VDC: 0.4A, 30VDC: 4A, 14 VDC: 5A, 8 VDC: 5A
- temperature range : -25°C up to +80°C
- protection level : IP 67 according to DIN EN 60529
- approvals : CE available on request



Wiring diagram of position detector



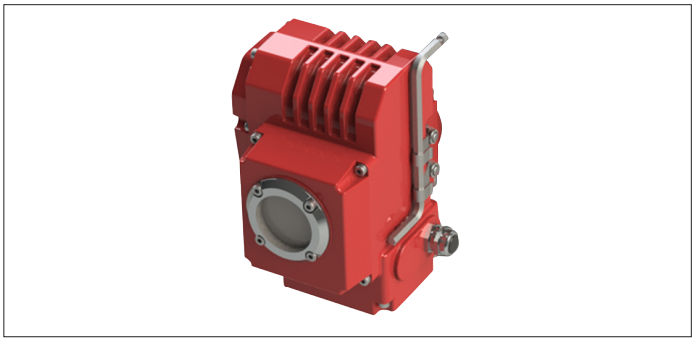
Visual position indicator on top of unit

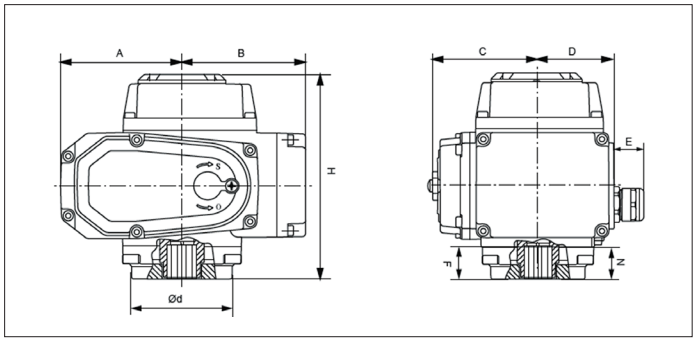


Underside ISO connection

Model	Code	Weight kg
AADK detector	NCED000040	0.48

NDAA Electric actuator H-50 for electric throttle valves (AADL, ABDL)





NDAA Electric actuator H-50 for electric throttle valves (AADL, ABDL)
The H-50 actuators are especially suitable for the operation of ball valves and throttle valves with 90°-rotation angle.

Water resistant body with overload protection and a heating resistance against condensation with its self-locking secondary reducing gear to have an exact positioning.

Delivered with vertical upward optical position indicator and 2 (OPEN/CLOSE) torque switches. All other executions only on request. All models of the H series come standard with a manual operation hand lever.

Prominently labeled and color coded viewing window – yellow for open, red for closed – indicates valve position through the full range of travel. Made of high impact, heat and chemical resistant clear polycarbonate.

The actuator switches are pre-wired to an easily accessible terminal block.

Material
Carbon steel, aluminum alloy, bronze body polyester coated.
2 limit switches.

Type
Mounting pad : DIN-ISO 5211, M5-M6-M8 (F03, F05 & F07).

Other information
- torque : 50 Nm
- voltage : 220V AC
- power : 10 W
- rated current : 0.24 A
- running time : 30 seconds
- temperature range : -20°C to +70°C
- protection level : IP 67
- operating angle : 90° ±5°
- UL, CSA and CE certification of most units

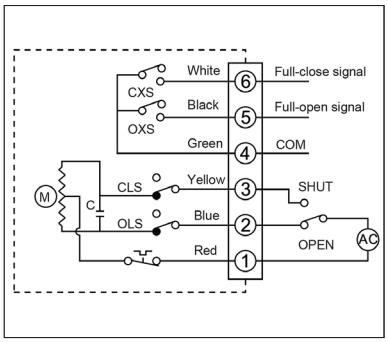
Options
- other torques : 100, 200, 400 and 600, 1000, 2000 Nm
- other voltages : 24V DC/AC, 110V AC, 380V AC & 220V AC modulante
- ATEX versions

Standard available in 220 V AC

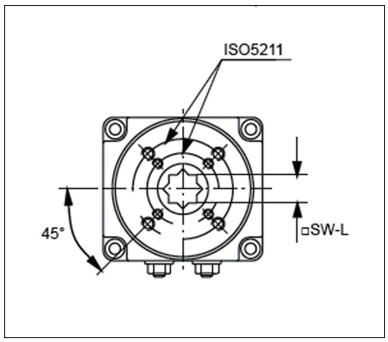
The screw is only to adjust the mechanical limit switch, removal is not permitted



Provided with hexagonal handle for manual operation



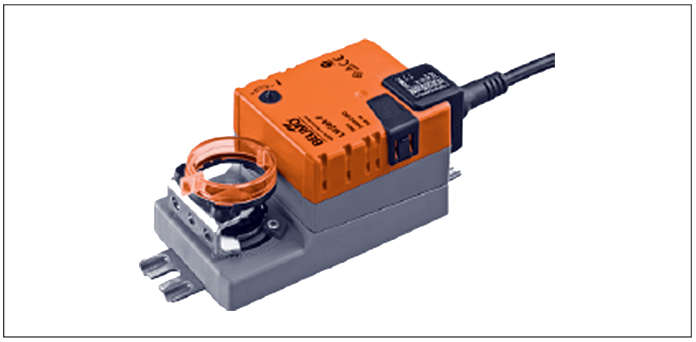
Wiring diagram of 220V AC actuator

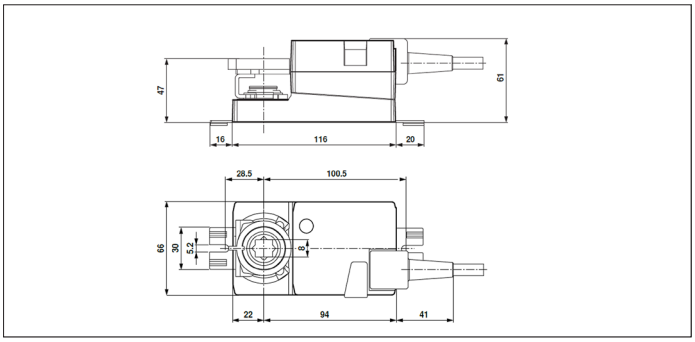


Actuator support dimensions

H-50 code	Voltage	A mm	B mm	C mm	D mm	E mm	F mm	H mm	N mm	Ød mm	SW	Open/ close sec.	Weight kg
NDAA000001	220V AC	82	83	70	50.5	20	23	137.5	22	68	9-11-14	30	2.50
NDAA000002	24V DC	82	83	70	50.5	20	23	137.5	22	68	9-11-14	30	2.50
NDAA000003	24V AC	82	83	70	50.5	20	23	137.5	22	68	9-11-14	30	2.50

NDAA Electric actuator LMC for AADL & ABDL electric throttle valves





NDAA Electric actuator LMC for AADL & ABDL electric throttle valves
Actuator for operating throttle valves and such in ventilation, dust extraction and air-conditioning systems for building services and industrial installations.

Simple direct mounting on the damper spindleby form-fit. The actuator, with its hollow shaft, is placed over the 8 mm square spindle of the throttle valve and secured by two screws.

Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked).

Mounted on AADL & ABDL throttle valves Ø80 up to Ø160, they have an adjustable angle of rotation with mechanical end stops. The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.

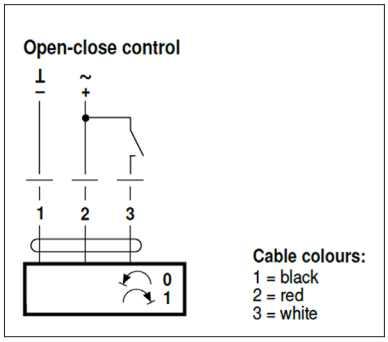
Material
Prewired plastic body on metal base with metal mechanism.

Type
Cable type : 1m, 3 x 0.75 mm².
Torque : 5 Nm.
Angle rotation : max. 95° adjustable.
Speed : 35 sec. / 90°.

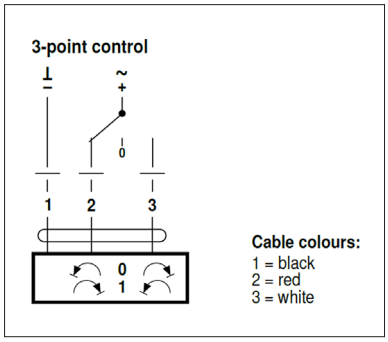
Other information
- nominal voltage : 24V AC/DC or 220V AC - 50/60 Hz.
- power consumption : 1.5 W - 3VA.
- sound level : 45 dB(A).
- protection class : NEMA 2, UL enclosure type 2.
- EMC : 2004/108/EC Directive.
- certification : cULus according to UL 60730-28A and UL 60730-2-284 and CAN/CSA E60730-28:02, IEC/EN 60730-28 and IEC/EN 60730-2-284.
- protection level : IP 54.
- temperature range : -30°C up to +50°C.
- ambient humidity : 95% non-condensating.
- maintenance : maintenance free.
- axle requirements : L = ≥20, 8mm square axle.

Options
- S2-A position detector

Please state the voltage when ordering:
24 V AC-DC, 220 V AC.



Wiring diagram of electric actuator (open/close)



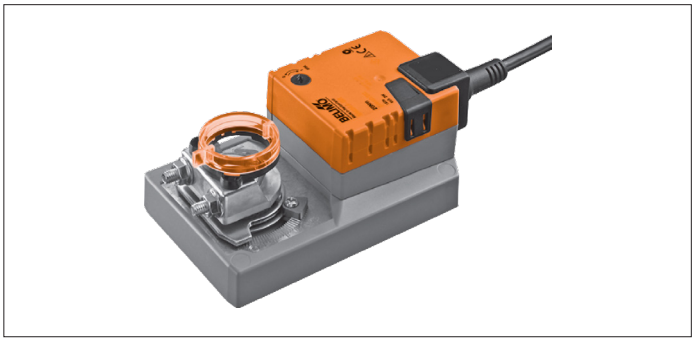
Wiring diagram of electric actuator (3 point control)

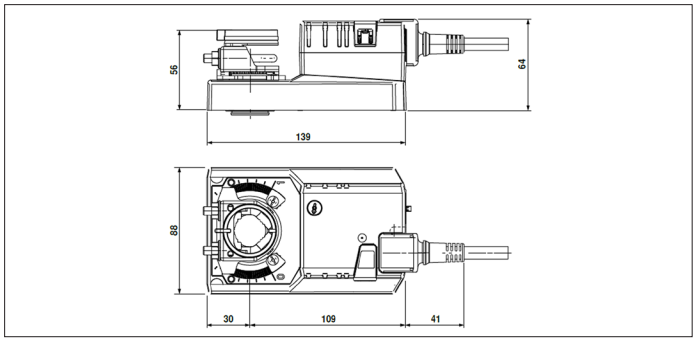


Optional S2-A position detector

Model	Code		Weight
	24V	220V	kg
LMC-A	NDAA000009	NDAA000010	0.48

NDAA Electric actuator SM for electric throttle valves (AADL, ABDL, BADL, BBDL, BDDL)





NDAA Electric actuator SM for electric throttle valves (AADL, ABDL, BADL, BBDL, BDDL)
Actuator for operating throttle valves and such in ventilation, dust extraction and air-conditioning systems for building services and industrial installations.

Simple direct mounting on the damper spindleby form-fit. The actuator, with its hollow shaft, is placed over the 8 mm square spindle of the throttle valve and secured by two screws.

Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked).

Mounted on throttle valves AADL & ABDL Ø160 up to Ø800, and BADL, BBDL & BDDL Ø80 up to Ø175 without seal, they have an adjustable angle of rotation with mechanical end stops. The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.

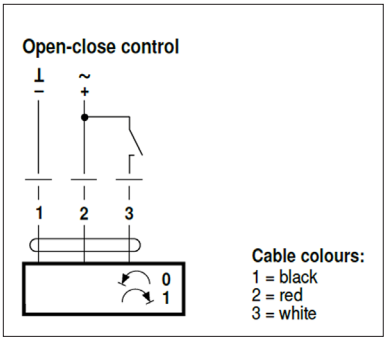
Material
Prewired plastic body on metal base with metal mechanism.

Type
Cable type : 1m, 3 x 0.75 mm².
Torque : 20 Nm.
Angle rotation : max. 95° adjustable.
Speed : 150 sec. / 90°.

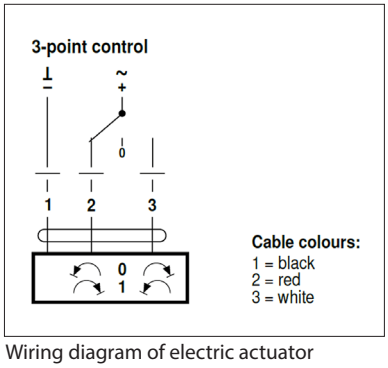
Other information
- nominal voltage : 24V AC/DC or 220V AC - 50/60 Hz
- power consumption : 2W / 4VA or 2.5W / 6VA
- sound level : 45 dB(A)
- protection class : NEMA 2, UL enclosure type 2
- EMC : 2004/108/EC Directive
- certification : cULus according to UL 60730-29A and UL 60730-2-294 and CAN/CSA E60730-29:02, IEC/EN 60730-29 and IEC/EN 60730-2-294
- protection level : IP 54
- emperature range : -30°C up to +50°C
- ambient humidity : 95% non-condensating
- maintenance : maintenance free
- axle requirements : L = ≥20.8 mm square axle

Options
- S2-A position detector

Please state the voltage when ordering:
24 V AC-DC, 220 V AC.



Wiring diagram of electric actuator (open/close)



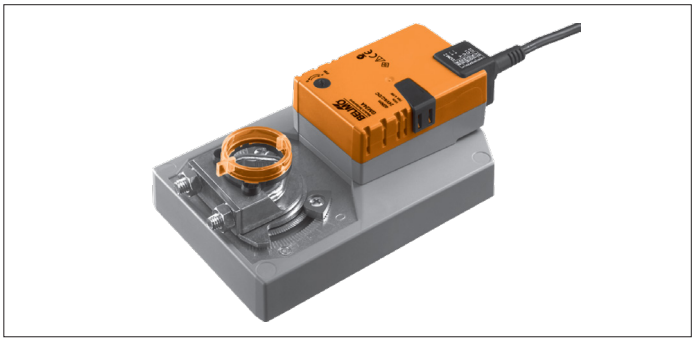
Wiring diagram of electric actuator (3 point control)

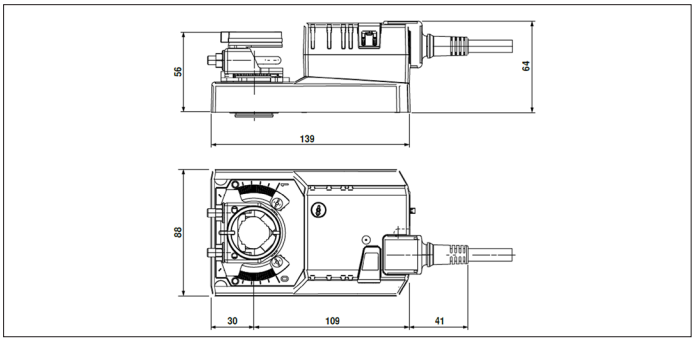


Optional S2-A position detector

Model	Code		Weight
	24V	220V	kg
SM	NDAA000011	NDAA000012	1.00

NDAA Electric actuator GM for electric throttle valves (BADL, BBDL, BDDL)





NDAA Electric actuator GM for electric throttle valves (BADL, BBDL, BDDL)
Actuator for operating throttle valves and such in ventilation, dust extraction and air-conditioning systems for building services and industrial installations.

Simple direct mounting on the damper spindleby form-fit. The actuator, with its hollow shaft, is placed over the 8 mm square spindle of the throttle valve and secured by two screws.

Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked).

Mounted on throttle valves BADL, BBDL & BDDL Ø80 up to Ø200 with seal and Ø200 up to Ø300 without seal, they have an adjustable angle of rotation with mechanical end stops. The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.

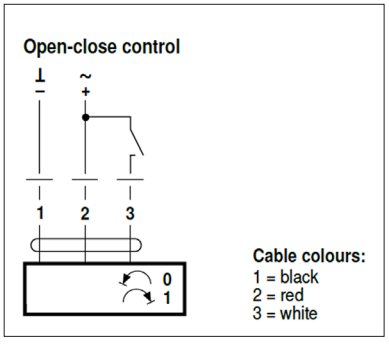
Material
Prewired plastic body on metal base with metal mechanism.

Type
Cable type : 1m, 3 x 0.75 mm^2.
Torque : 40 Nm.
Angle rotation : max. 95º adjustable.
Speed : 150 sec. / 90º.

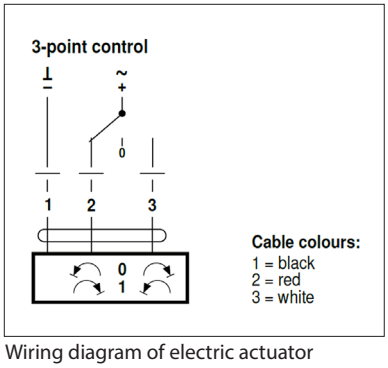
Other information
- nominal voltage : 24V AC/DC or 220V AC - 50/60 Hz
- power consumption : 4W / 6VA
- sound level : 45 dB(A)
- protection class : NEMA 2, UL enclosure type 2
- EMC : 2004/108/EC Directive
- certification : cULus according to UL 60730-30A and UL 60730-2-304 and CAN/CSA E60730-30:02, IEC/EN 60730-30 and IEC/EN 60730-2-304
- protection level : IP 54
- temperature range : -30ºC up to +50ºC
- ambient humidity : 95% non-condensating
- maintenance : maintenance free
- axle requirements : L = ≥25.2 mm square axle

Options
- S2-A position detector

Please state the voltage when ordering:
24 V AC-DC, 220 V AC.



Wiring diagram of electric actuator (open/close)



Wiring diagram of electric actuator (3 point control)

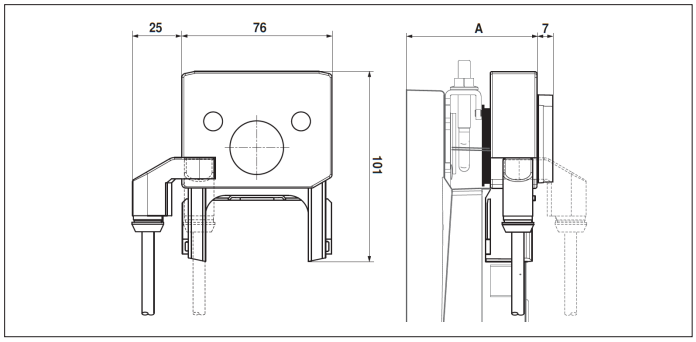


Optional S2-A position detector

Model	Code		Weight
	24V	220V	kg
GM		NDAA000013	1.70

NCED Position detector S2-A for electric throttle valves (Belimo driven)





NCED Position detector S2-A for electric throttle valves
(Belimo driven)
These electric position indicator fit over the Belimo electric actuator LMC, SM & GM range mounted on the electric throttle valves and are used to signal positions or execute switching functions in any angular position.

A form-fit engagement is created between a driver disc and the spindle clamp causing the position to be directly transfered to the trip cams of the indicator. The guiding grooves between the housing ad detector ensure a tight fit.

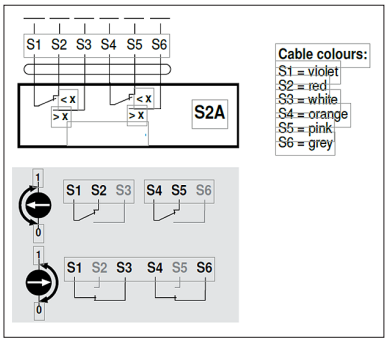
This model has two adjustable switches, an integrated cable and is maintenance free.

Options
- S1-A single switch model
- FNRC models
- different cable length models

Material
Plastic housing, PVC coated copper cable.

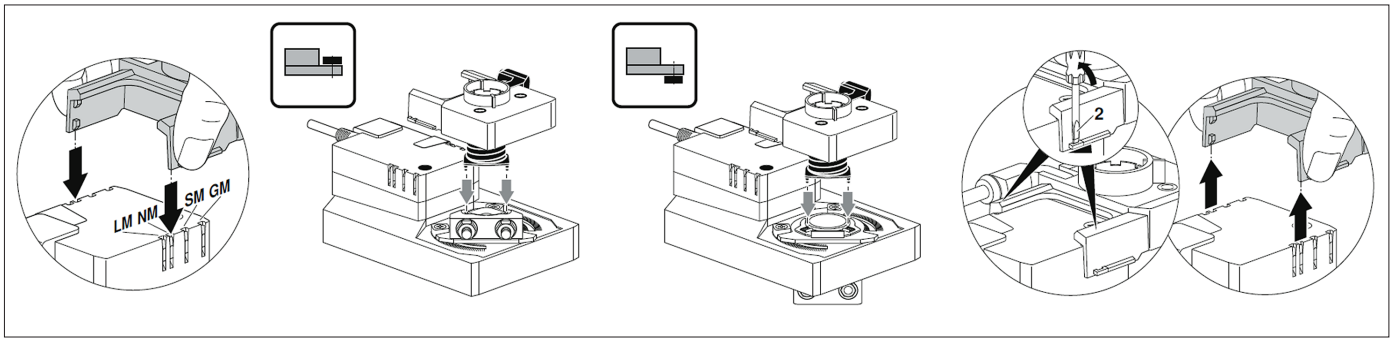
Type
Voltage : 220V AC.
Power : 10 W.
Rated current : 1 mA - 3 A.

Other information
- protection class : completelly insulated
- protection level : IP 54 (NEMA2, UL Enclosure type 2)
- EU directive : 2006/95/EC, low voltage equipment
- certification : IEC/EN 60730-1 and IEC/EN 60730-2-14 according to
  UL 60730-1A and UL 30730-2-14, and
  CAN/CSA E60730-1:02
- temperature range : -30°C up to +50°C
- ambiante humidity : 95%, non-condesating



Wiring diagram of detector

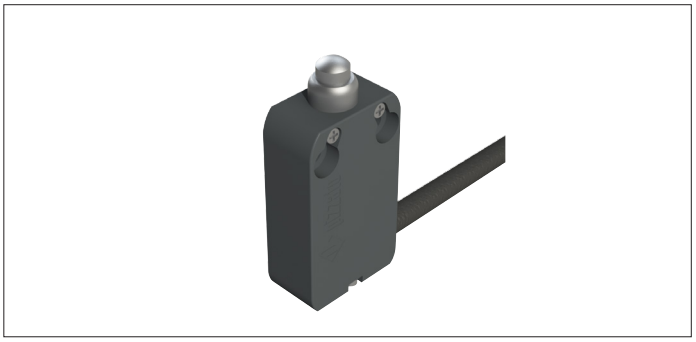
Standard voltage : 220 V AC.

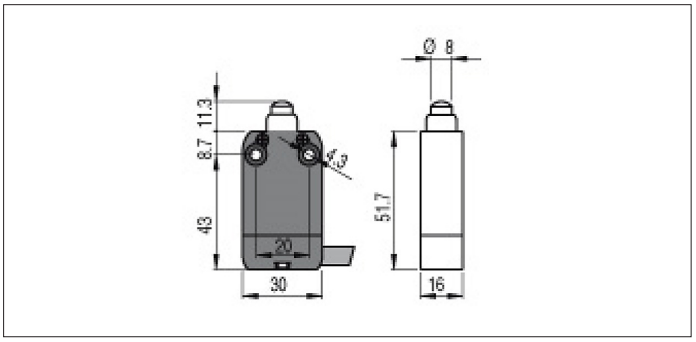


Mounting overview of detector

Code	A (mm) according to actuator model							Weight
	TM..A/LM..A	NM...A	SM...A/SMD..A	LMQ...A	NMQ...A	SMQ...A	NKQ...A	kg
NCED000039	66	69	71	80	83	89	87	0.20

NCED000038 Position indicator for CBDE SL leaf valves





NCED000038 Position indicator for CBDE SL leaf valves
Position indicator to mount on leaf valve so that the installation starts when the lid of the leaf valve is opened.

According to EC Directives 2014/35/EU, 2014/30/EU, 2011/65/EU, IEC 60947-5-1 and ISO EN 14119, ISO EN 12100 and ISO 20653.

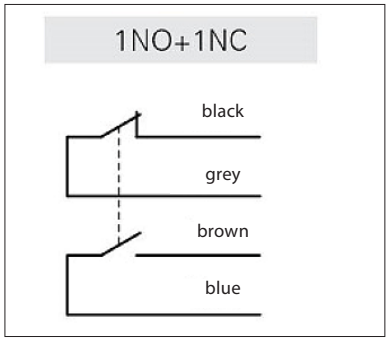
Assembly Instructions
The leaf valve has 2 dedicated slotted holes for assembly of the indicator. Place the indicator on the inside of the support below the lid. Use the given bolts and nuts to assemble the indicator.

Material
Prewired ABS/PE polymer housing with metal push button.

Type
With integrated 2 m - 4 x 0.75 mm² PUR cable.

Other information
- protection level : IP 67 rating
- certification : CE

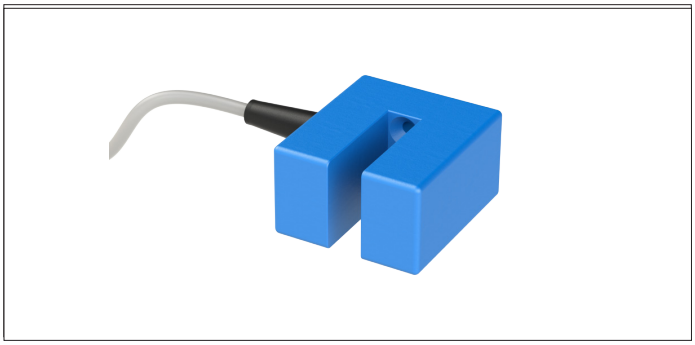
Options
- none

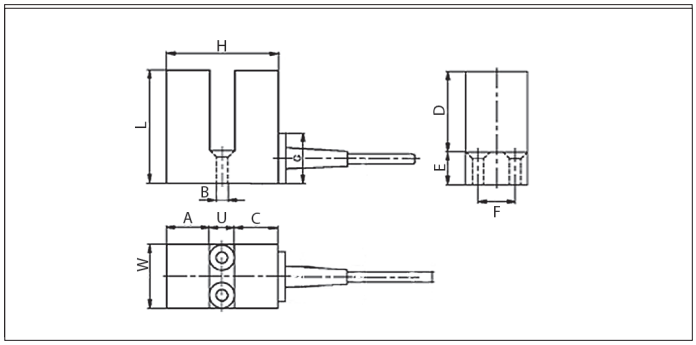


Wiring diagram of position indicator

Operating characteristics	Value
Operating voltage	250 V AC (50Hz) / 24 V DC (with connector)
Operating current	3 A / 2 A (with connector)
Contact block	B11 : 1 NO + 1 NC
Max. actuation frequency	3000 operating cycles/hour
Mechanical endurance	20 million operating cycles
Min. activation force	7 N
Temperature range	-15°C up to +60°C
Protection level	IP 67
Approvals	CE, cULus, IMQ, EAC & CCC

NCEB000003 DU-6 rotation detector for RVA & RVB Rotary valves





DU-6 rotation detector for RVA & RVB rotary valves
Special fork-shaped rotation detector for rotation disks on the front of the rotary valve models RVA and RVB.

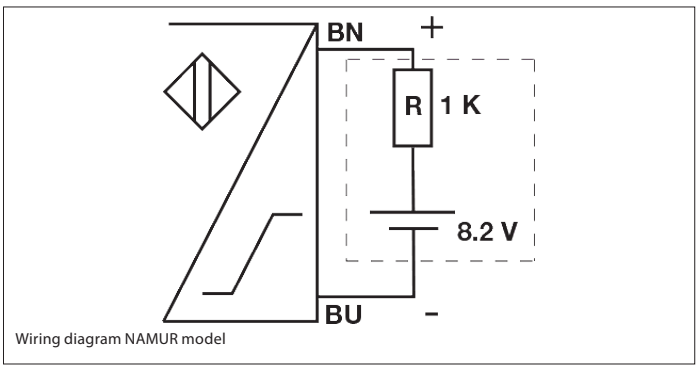
It detects if the rotation disk is turning by measuring the empty/full spaces on the rotation disk surface.

Material
Blue ABS housing.

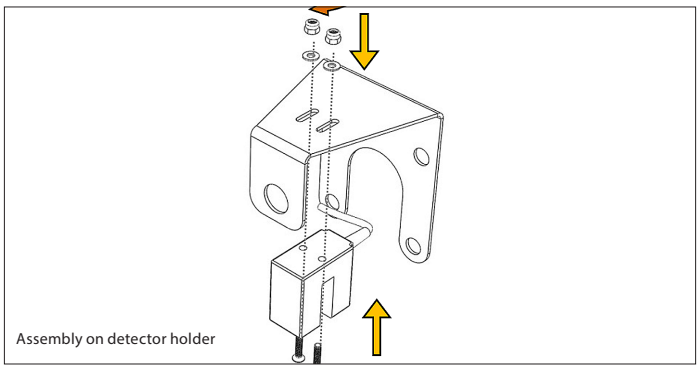
Type
With integrated 2 m grey oil-proof cable (2 wire).
Output: Transistor NAMUR (DIN 19234).

Other information
- rated voltage : 8.2 V DC
- operational current : activation : ≤1 mA, max.: 9,35 mA
- operating cycles frequency : 2000 Hz
- protection level : IP 67 (NEMA 1, 3, 4, 6 & 13)
- temperature range : -20ºC up to +60ºC
- weight : 72 g.

Options
- none

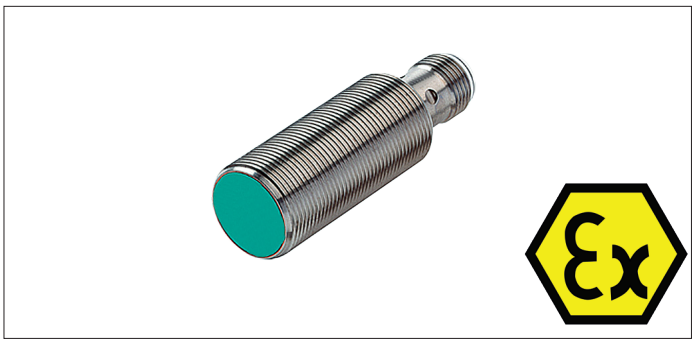


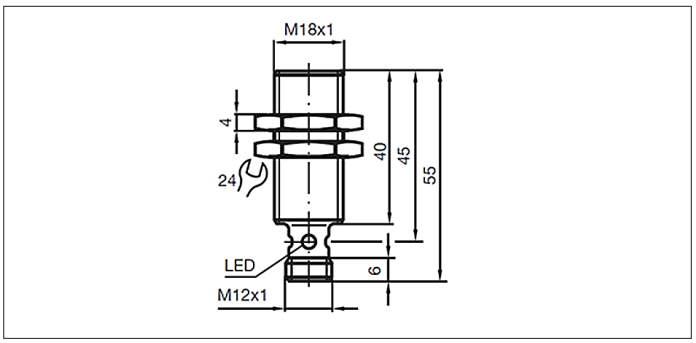
Wiring diagram NAMUR model


Assembly on detector holder

Code	A	B	C	D	E	F	H	L	U	W
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
NCEB000003	10	2.3	10.1	20	10	11	26.8	30	6	16.4

ATEX M18 inductive rotation detector for RVA & RVB Rotary valves





ATEX M18 inductive rotation detector for RVA & RVB rotary valves
Special bolt-shaped inductive rotation detector for rotation disks on the front of the rotary valve models RVA, RVA-X and RVB.

It detects if the rotation disk is turning by measuring the empty/full spaces on the rotation disk surface.

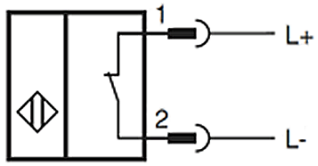
This detector is produced according to the following harmonized directives/standards :
- EN 60947-5-6:2000, IEC 60947-5-6:1999 ; NAMUR compliance,
- NE 21:2007 ; Electromagnetic compatibility,
- Standards EN 60947-5-2:2007, EN 60947-5-2/A1:2012, IEC 60947-5-2:2007, IEC 60947-5-2, AMD 1:2012,
- Usable up to SIL 2 according to IEC 61508.

Material
Stainless steel 1.4305 / AISI 303 with multihole yellow LED.

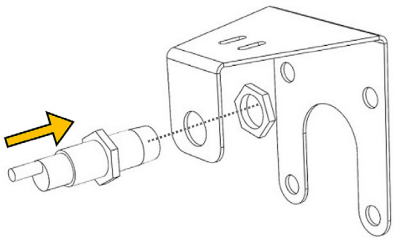
Type
Output: NAMUR (normally closed).

Other information
- nominal voltage : 8.2 V (Ri approx. 1 kΩ)
- opeational current : min. 2.2 mA
- rated operating distance (s_n) : 8 mm
- protection : reverse polarity
- protection level : IP 66 / IP67
- temperature range : -25°C up to +100°C
- weight : 80 g.

Options
- mounting accessories



Wiring diagram



Assembly on detector holder

Model	Code	Weight kg
Rotation detector	NCEB000002	0.10