

GEMÜ B56

Motorized compact flanged ball valve



Features

- High flow rates
- Full-flow bore
- Compact design
- ATEX version available as an option

Description

The GEMÜ B56 3-piece 2/2-way metal ball valve is motorized. It has a plastic actuator housing. A manual override and an optical position indicator are integrated as standard. The seat seal is made of PTFE.

Technical specifications

- **Media temperature:** -20 to 180 °C
- **Ambient temperature:** -20 to 60 °C
- **Operating pressure :** 0 to 40 bar
- **Nominal sizes:** DN 15 to 100
- **Body configurations:** 2/2-way body
- **Connection types:** Flange
- **Connection standards:** ANSI | EN
- **Body materials:** 1.4408, investment casting material
- **Seal materials:** PTFE
- **Supply voltage:** 12 V DC | 230 V AC, 50 Hz | 24 - 240 V AC/DC | 24 V DC
- **Operating time 90°:** 10 to 58 s
- **Protection class:** IP 65, IP 67, IP 68

Technical data depends on the respective configuration



further information
webcode: GW-B56



Product line



Operation				
With bare shaft	●	-	-	-
Manual	-	●	-	-
Pneumatic	-	-	●	-
Motorized	-	-	-	●
Nominal sizes	DN 15 to 100	DN 15 to 100	DN 15 to 100	DN 15 to 100
Media temperature	-20 to 180 °C	-20 to 180 °C	-20 to 180 °C	-20 to 180 °C
Operating pressure *	0 to 40 bar	0 to 40 bar	0 to 40 bar	0 to 40 bar
Connection types				
Flange	●	●	●	●

* depending on version and/or operating parameters

Motorized actuators GEMÜ, J+J, Bernard



	GEMÜ 9428	GEMÜ 9468	GEMÜ J4C	GEMÜ BC
Manufacturer	GEMÜ	GEMÜ	J+J	Bernard Controls
Manufacturer type	9428	9468	J4C	AQ, AQL
Torques	6 to 55 Nm	70 to 200 Nm	20 to 300 Nm	50 to 500 Nm
Duty cycle	100 % (12 V/24 V) 40 % (100 - 250 V)	30 % (ON/OFF ac- tuator) 50 % (control ac- tuator)	75 %	30 % (ON/OFF ac- tuator) 50 % (control ac- tuator)
Heating	No	No	Yes	Yes
Voltage				
100 - 250 V, 50/60 Hz	●	-	-	-
12 V AC, 50/60 Hz	●	-	-	-
12 V DC	●	-	●	-
230 V AC, 50 Hz	●	-	-	●
230 V AC, 60 Hz	-	-	-	●
24 - 240 V AC/DC	-	-	●	-
24 V AC, 50/60 Hz	●	-	-	-
24 V DC	●	●	-	●
Protection class	IP 65	IP 65	IP 67	IP 68
Ambient temperature	-10 to 60 °C	-10 to 60 °C	-20 to 70 °C	-40 to 60 °C
Housing materials				
ABS	-	●	-	-
Aluminium	-	●	-	●
Polyamide (PA6)	-	-	●	-
PP	●	-	-	-
Versions				
Limit switches	●	●	●	●
ON/OFF actuator	●	●	-	●
Optional battery pack	-	-	●	-
Optional on-site control	-	-	-	●
Optional positioner	-	-	●	-
Optional positioning ac- tuator	-	●	●	●
Optional potentiometer	-	●	-	●
Optionally 3 positions	-	-	●	-

Comparison of actuator applications



Range of functions

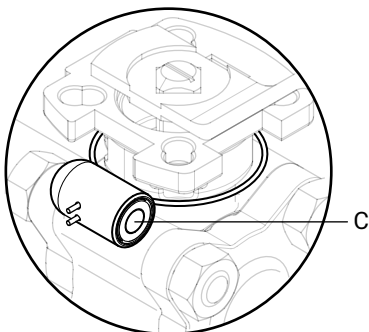
Use in non-aggressive environment (up to C3)	●	●	●	●
Use in aggressive environment (C5)	●	●	●	●
Use in protected outdoor areas	●	●	●	●
Use in unprotected outdoor areas	●	●	●	●
Applications with many/frequent cycle duties	●	●	●	●
Fail-safe option	●	●	●	●
Positioning application	●	●	●	●

Industrial sectors

Chemical processes	●	●	●	●
Surface finishing	●	●	●	●
Water treatment	●	●	●	●
Mechanical engineering	●	●	●	●
Power generation and environmental systems	●	●	●	●
Food processing technology	●	●	●	●
Semiconductor	●	●	●	●
Medical systems	●	●	●	●
Pharmaceutical industry	●	●	●	●

Product description

Construction



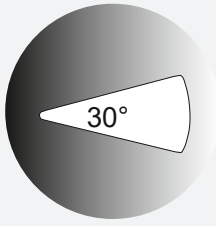
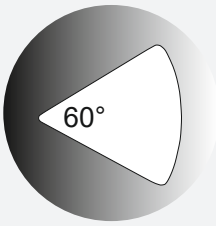
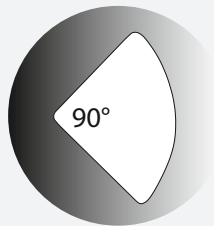
Item	Name	Materials
1	Ball valve body	1.4408 / CF8M
2	Pipe connections	1.4408 / CF8M
3	Mounting flange ISO 5211	1.4408 / CF8M
3a	Actuator housing cover Actuator version 1015 Actuator version 2015, 3035 Actuator version 2070 Actuator version 4100, 4200	PPO (10% glass fibre reinforced) PP (30% glass fibre reinforced) ABS Aluminium
3b	Actuator housing base Actuator version 1015, 2015, 3035 Actuator version 2070 Actuator version 4100, 4200	PP (30% glass fibre reinforced) ABS Aluminium
4	Optical position indicator	PP-R natural
	Seal	PTFE
5	Antistatic unit	1.4408
C	CONEXO RFID chip (see "GEMÜ CONEXO", page 32)	

Pressure-relief hole

Pressure-relief
hole

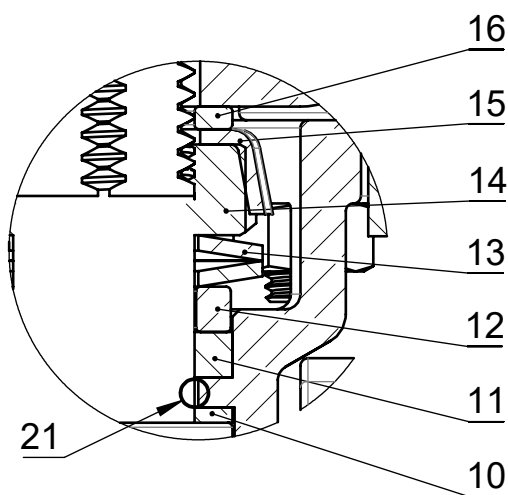


Control ball

Control ball	Code U	Code Y	Code W
			

Note: The control ball cannot be retrofitted to standard 2/2-way bodies at a later date.

The spindle seal system



Item	Name	Material
10	Seal	PTFE
11	V-ring	PTFE
12	Stainless steel sleeve	SS304-1.4301
13	Spring washer	SS304-1.4301
14	Spindle nut	A2 70
15	Cap	SS304-1.4301
16	Washer	SS304-1.4301
21	O-ring (spindle seal)	Viton

Long service life due to triple spindle seal

- Conical spindle seal:

The seal **10** arranged at an angle of 45° effectively prevents the leakage of media when operating the spindle

- O-ring:

Stabilising spindle seal **21** with low wear and long service life

- Pretensioned self-adjusting spindle seal:

The spindle packing consists of several V-rings **11**, a spring washer **13** and a stainless steel sleeve **12**. The spring washer **13** is pretensioned via the spindle nut **14**. The pretension force is distributed to the V-rings **11** via the stainless steel sleeve **12**, thereby preventing the leakage of media. The pretension provides low maintenance and reliable spindle sealing even after a long service life.

Application

- Heating systems
- Beverage industry
- Foodstuff industry
- Chemical industry
- Drinking water installations
- Processing industry
- HVAC

Actuator assignment

GEMÜ actuator

GEMÜ type	Actuator version (code)	Control module (code) ¹⁾	Voltage/Frequency	
			12 V DC (code B1)	24 V DC (code C1)
9428	1015	A0, AE	X	X
9468	2070	00, 0E, 0P	-	X
	4100		-	X
	4200		-	X

1) Control module

Code 00: ON/OFF actuator, relay, not reversible

Code 0E: ON/OFF actuator, 2 additional potential-free limit switches, relay, not reversible

Code 0P: ON/OFF actuator, potentiometer output, relay, not reversible

Code A0: ON/OFF actuator

Code AE: ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)

DN	NPS	Actuator version (code)			
		1015	2070	4100	4200
15	1/2"	X	-	-	-
20	3/4"	X	-	-	-
25	1"	X	-	-	-
32	1¼"	X	-	-	-
40	1½"	-	X	-	-
50	2"	-	X	-	-
65	2½"	-	-	X	-
80	3"	-	-	-	X
100	4"	-	-	-	X

J+J actuator**J+J - Voltage/Frequency**

Voltage/Fre- quency	Code	Actuator version (code)				
		J4C20	J4C35	J4C85	J4C14	J4C30
24 – 240 V AC/ DC	U5	X	X	X	X	X

J+J - Control module

Control module	Code ¹⁾	Actuator version (code)				
		J4C20	J4C35	J4C85	J4C14	J4C30
Open/close	A3	X	X	X	X	X
	AE	X	X	X	X	X
	AE1	X	X	X	X	X
	AE2	X	X	X	X	X
	AP	X	X	X	X	X
	AP1	X	X	X	-	-
Positioner	E1	X	X	X	X	X
	E11	X	X	X	-	-
	E2	X	X	X	X	X
	E22	X	X	X	-	-

1) Control module

Code A3: ON/OFF 3-position actuator, additional potential-free limit switches

Code AE: ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)

Code AE1: ON/OFF actuator, 2 additional potential-free limit switches, BSR battery pack (NC)

Code AE2: ON/OFF actuator, 2 additional potential-free limit switches, BSR battery pack (NO)

Code AP: ON/OFF actuator, potentiometer output, Class A (EN15714-2)

Code AP1: ON/OFF actuator, 2 additional potential-free limit switches, potentiometer output 5 kOhm, Failsafe battery pack (NC), preferred direction adjustable

Code E1: Control actuator, external set value 0-10 VDC

Code E11: Positioner DPS, external set value 0-10V, BSR battery pack (NC)

Code E2: Control actuator, external set value 0/4-20 mA

Code E22: Positioner DPS, external set value 4-20mA, BSR battery pack (NO)

DN	NPS	Actuator version (code)				
		J4C20	J4C35	J4C85	J4C14	J4C30
15	1/2"	X	-	-	-	-
20	3/4"	X	-	-	-	-
25	1"	X	-	-	-	-
32	1¼"	X	-	-	-	-
40	1½"	-	X	-	-	-
50	2"	-	-	X	-	-
65	2½"	-	-	X	-	-
80	3"	-	-	-	X	-
100	4"	-	-	-	-	X

Bernard BC actuator

Bernard Controls BC - Voltage/Frequency

Voltage/Fre- quency	Code	Actuator version (code)				
		BC1L	BC3L	BC7L	BC15	BC25
230 V / 50 Hz	L2	-	-	-	X	X
24 V DC oder 230 V 50/60 Hz	Y5	X	X	X	-	-

Bernard Controls BC - Control modules

Control module (code ¹⁾)	Actuator version (code)				
	BC1L	BC3L	BC7L	BC15	BC25
AB	-	-	-	-	X
AE	X	X	X	X	-
AP	X	X	X	X	X
AT	X	X	X	X	X
E2	X	X	X	X	X
ALS	-	-	-	X	X
ELS	-	-	-	X	X

1) Control module

Code AB: ON/OFF actuator, 2 additional potential-free limit switches, additional potential-free torque switches, Class A (EN15714-2)

Code AE: ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)

Code ALS: ON/OFF actuator, on-site control, 2 additional potential-free limit switches, Basic (Logic ON/OFF), (S4 30% duty, 120 starts/hour, actuator class A/B)

Code AP: ON/OFF actuator, potentiometer output, Class A (EN15714-2)

Code AT: ON/OFF actuator, analogue position feedback, external set value 0/4-20mA, 2 additional potential-free limit switches

Code E2: Control actuator, external set value 0/4-20 mA

Code ELS: Position control, external set value 4-20mA, input and output, on-site control, 2 additional potential-free limit switches, Basic (Logic Positioner), (S4 50% duty, 360 starts/hour, actuator class C)

DN	NPS	Actuator version (code)				
		BC1L	BC3L	BC7L	BC15	BC25
15	1/2"	X	-	-	-	-
20	3/4"	X	-	-	-	-
25	1"	X	-	-	-	-
32	1¼"	X	-	-	-	-
40	1½"	-	X	-	-	-
50	2"	-	-	X	-	-
65	2½"	-	-	X	-	-
80	3"	-	-	-	X	-
100	4"	-	-	-	-	X

Order data

Ball valve with GEMÜ 9428, 9468 actuator

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

Order codes

1 Type	Code
Ball valve, metal, motorized, one-piece body, compact flange	B56

2 DN	Code
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100

3 Body/ball configuration	Code
2/2-way body	D
2/2-way body, V-ball 30° (for Kv value see datasheet)	U
2/2-way body, V-ball 90° (for Kv value see datasheet)	W
2/2-way body, V-ball 60° (for Kv value see datasheet)	Y

4 Connection type	Code
Flange ANSI Class 125/150 RF	39
Flange EN 1092, PN 16/PN40, form B DN 15 to DN 80, flange EN 1092, PN 16, form B DN 100 only	68

5 Ball valve material	Code
1.4408 / CF8M (body, connection), 1.4401 / SS316 (ball, shaft)	37

6 Seal material	Code
PTFE	5

7 Voltage/Frequency	Code
12 VDC	B1
24 VDC	C1

8 Control module	Code
ON/OFF actuator	A0
ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)	AE
ON/OFF actuator, relay, not reversible	00

8 Continuation of Control module	Code
ON/OFF actuator, 2 additional potential-free limit switches, relay, not reversible	0E
ON/OFF actuator, potentiometer output, relay, not reversible	0P

9 Actuator version	Code
GEMÜ actuator, motorized, size 1, operating time 11 s, torque 15 Nm, supply voltage B1, C1	1015
GEMÜ actuator, motorized, size 2, operating time 15 s, torque 70 Nm, supply voltage C1	2070
GEMÜ actuator, motorized, size 4, operating time 20 s, torque 100 Nm, supply voltage C1	4100
GEMÜ actuator, motorized, size 4, operating time 16 s, torque 200 Nm, supply voltage C1	4200

10 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

Order example

Order option	Code	Description
1 Type	B56	Ball valve, metal, motorized, one-piece body, compact flange
2 DN	15	DN 15
3 Body/ball configuration	D	2/2-way body
4 Connection type	39	Flange ANSI Class 125/150 RF
5 Ball valve material	37	1.4408 / CF8M (body, connection), 1.4401 / SS316 (ball, shaft)
6 Seal material	5	PTFE
7 Voltage/Frequency	C1	24 VDC
8 Control module	A0	ON/OFF actuator
9 Actuator version	1015	GEMÜ actuator, motorized, size 1, operating time 11 s, torque 15 Nm, supply voltage B1, C1
10 CONEXO		without

Ball valve with J+J actuator

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

Order codes

1 Type	Code
Ball valve, metal, motorized, one-piece body, compact flange	B56
2 DN	Code
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100
3 Body/ball configuration	Code
2/2-way body	D
2/2-way body, V-ball 30° (for Kv value see datasheet)	U
2/2-way body, V-ball 90° (for Kv value see datasheet)	W
2/2-way body, V-ball 60° (for Kv value see datasheet)	Y
4 Connection type	Code
Flange ANSI Class 125/150 RF	39
Flange EN 1092, PN 16/PN40, form B DN 15 to DN 80, flange EN 1092, PN 16, form B DN 100 only	68
5 Ball valve material	Code
1.4408 / CF8M (body, connection), 1.4401 / SS316 (ball, shaft)	37
6 Seal material	Code
PTFE	5
7 Voltage/Frequency	Code
24-240V AC/DC	U5
8 Control module	Code
ON/OFF 3-position actuator, additional potential-free limit switches	A3

8 Continuation of Control module	Code
ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)	AE
ON/OFF actuator, 2 additional potential-free limit switches, BSR battery pack (NC)	AE1
ON/OFF actuator, 2 additional potential-free limit switches, BSR battery pack (NO)	AE2
ON/OFF actuator, potentiometer output, Class A (EN15714-2)	AP
ON/OFF actuator, 2 additional potential-free limit switches, potentiometer output 5 kOhm, Failsafe battery pack (NC), preferred direction adjustable	AP1
Control actuator, external set value 0-10 VDC	E1
Positioner DPS, external set value 0-10V, BSR battery pack (NC)	E11
Control actuator, external set value 0/4-20 mA	E2
Positioner DPS, external set value 4-20mA, BSR battery pack (NO)	E22
9 Actuator version	Code
J+J actuator, motorized, type J4C, operating time 10 s, torque 20 Nm, heating, IP 67	J4C20
J+J actuator, motorized, type J4C, operating time 10 s, torque 35 Nm, heating, IP 67	J4C35
J+J actuator, motorized, type J4C, operating time 30 s, torque 85 Nm, heating, IP 67	J4C85
J+J actuator, motorized, type J4C, operating time 34 s, torque 140 Nm, heating, IP 67	J4C14
J+J actuator, motorized, type J4C, operating time 58 s, torque 300 Nm, heating, IP 67	J4C30
10 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

Order example

Order option	Code	Description
1 Type	B56	Ball valve, metal, motorized, one-piece body, compact flange
2 DN	15	DN 15
3 Body/ball configuration	D	2/2-way body
4 Connection type	39	Flange ANSI Class 125/150 RF
5 Ball valve material	37	1.4408 / CF8M (body, connection), 1.4401 / SS316 (ball, shaft)
6 Seal material	5	PTFE
7 Voltage/Frequency	U5	24-240V AC/DC
8 Control module	AE	ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)
9 Actuator version	J4C20	J+J actuator, motorized, type J4C, operating time 10 s, torque 20 Nm, heating, IP 67
10 CONEXO		without

Ball valve with Bernard actuator

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

Order codes

1 Type	Code
Ball valve, metal, motorized, one-piece body, compact flange	B56

2 DN	Code
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100

3 Body/ball configuration	Code
2/2-way body	D
2/2-way body, V-ball 30° (for Kv value see datasheet)	U
2/2-way body, V-ball 90° (for Kv value see datasheet)	W
2/2-way body, V-ball 60° (for Kv value see datasheet)	Y

4 Connection type	Code
Flange ANSI Class 125/150 RF	39
Flange EN 1092, PN 16/PN40, form B DN 15 to DN 80, flange EN 1092, PN 16, form B DN 100 only	68

5 Ball valve material	Code
1.4408 / CF8M (body, connection), 1.4401 / SS316 (ball, shaft)	37

6 Seal material	Code
PTFE	5

7 Voltage/Frequency	Code
230V 50Hz	L2
24VDC 85-260VAC	Y5

8 Control module	Code
ON/OFF actuator, 2 additional potential-free limit switches, additional potential-free torque switches, Class A (EN15714-2)	AB
ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)	AE

8 Continuation of Control module	Code
ON/OFF actuator, potentiometer output, Class A (EN15714-2)	AP
ON/OFF actuator, analogue position feedback, external set value 0/4-20mA, 2 additional potential-free limit switches	AT
Control actuator, external set value 0/4-20 mA	E2
ON/OFF actuator, on-site control, 2 additional potential-free limit switches, Basic (Logic ON/OFF), (S4 30% duty, 120 starts/hour, actuator class A/B)	ALS
Position control, external set value 4-20mA, input and output, on-site control, 2 additional potential-free limit switches, Basic (Logic Positioner), (S4 50% duty, 360 starts/hour, actuator class C)	ELS

9 Actuator version	Code
BERNARD actuator, motorized, type AQ1L, operating time 13s, torque 15Nm, 2 additional limit switches, heating, manual override, aluminium housing, RAL5002, IP 67	BC1L
BERNARD actuator, motorized, type AQ, operating time 15s, torque 30Nm, 2 additional limit switches, heating, manual override, aluminium housing, RAL5002, IP 67	BC3L
BERNARD actuator, motorized, type AQ07, operating time 15s, torque 70Nm, 2 additional limit switches, heating, manual override, aluminium housing, RAL5002, IP 67	BC7L
BERNARD actuator, motorized, type AQ15, operating time 30s, torque 150Nm, 2 additional limit switches, heating, manual override, aluminium housing, RAL1014, IP 68	BC15
BERNARD actuator, motorized, type AQ25, operating time 30s, torque 250Nm, 2 additional limit switches, heating, manual override, aluminium housing, RAL1014, IP 68	BC25

10 CONEXO	Code
without	
Integrated RFID chip for electronic identification and traceability	C

Order example

Order option	Code	Description
1 Type	B56	Ball valve, metal, motorized, one-piece body, compact flange
2 DN	15	DN 15
3 Body/ball configuration	D	2/2-way body
4 Connection type	39	Flange ANSI Class 125/150 RF
5 Ball valve material	37	1.4408 / CF8M (body, connection), 1.4401 / SS316 (ball, shaft)
6 Seal material	5	PTFE
7 Voltage/Frequency	Y5	24VDC 85-260VAC
8 Control module	AE	ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)
9 Actuator version	BC1L	BERNARD actuator, motorized, type AQ1L, operating time 13s, torque 15Nm, 2 additional limit switches, heating, manual override, aluminium housing, RAL5002, IP 67
10 CONEXO		without

Ball valve technical data

Medium

Working medium: Corrosive, inert, gaseous and liquid media and steam which have no negative impact on the physical and chemical properties of the body and seal material.

Temperature

Media temperature: -20 to 180 °C

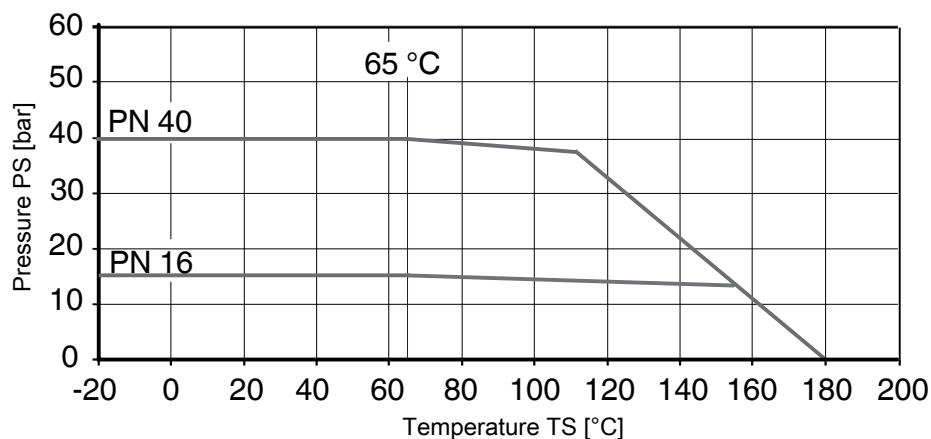
Ambient temperature: -20 to 60 °C
Higher temperatures on request

Storage temperature: 0 to 40 °C

Pressure

Leakage rate: Leakage rate according to ANSI FCI70 – B16.104
Leakage rate according to EN12266, 6 bar air, leakage rate A

Pressure/temperature diagram:



Pressure rating: DN 15 – 50: PN40
DN 65 – 100: PN16

Kv values:

DN	NPS	Kv values
15	1/2"	12.8
20	3/4"	29.1
25	1"	47.8
32	1¼"	2.6
40	1½"	0.2
50	2"	213.7
65	2½"	273.3
80	3"	495.3
100	4"	871.1

Kv values in m³/h

Kv values:**V-ball 30° (code U)**

DN	NPS	Opening angle										
		0	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%
15	1/2"	0	0.085	0.085	0.17	0.255	0.425	0.68	0.935	1.36	1.87	2.21
20	3/4"	0	0.085	0.17	0.425	0.595	0.935	1.53	2.04	2.805	3.825	4.59
25	1"	0	0.085	0.255	0.68	1.105	1.955	2.975	4.335	8.33	7.225	8.5
32	1¼"	0	0.17	0.34	0.935	1.7	3.145	4.675	6.8	8.5	11.05	12.75
40	1½"	0	0.255	0.51	1.36	2.55	4.25	6.375	9.35	11.9	14.45	17
50	2"	0	0.34	1.02	3.23	5.1	8.5	12.75	19.55	26.35	36.55	51
65	2½"	0	0.34	0.85	3.4	6.8	10.2	15.3	23.8	31.45	52.7	63.75
80	3"	0	0.425	1.02	3.4	6.8	11.9	19.55	28.05	39.1	55.25	69.7
100	4"	0	0.51	1.7	5.1	12.75	24.65	40.8	60.35	85	110.5	135.2

Kv values in m³/h

V-ball 60° (code V)

DN	NPS	Opening angle										
		0	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%
15	1/2"	0	0.085	0.085	0.255	0.425	0.765	1.19	1.7	2.805	3.74	5.1
20	3/4"	0	0.085	0.17	0.595	0.85	1.445	2.38	3.4	5.525	7.65	10.2
25	1"	0	0.17	0.34	0.935	1.53	2.89	4.505	6.715	10.46	13.01	17.85
32	1¼"	0	0.17	0.51	1.53	2.55	4.675	8.075	10.88	16.15	22.1	33.15
40	1½"	0	0.34	0.68	2.125	3.4	6.8	11.05	16.15	22.95	34	44.2
50	2"	0	0.34	1.275	3.91	7.65	14.03	22.95	33.15	46.75	70.55	93.5
65	2½"	0	0.34	1.275	4.25	8.5	17.85	28.9	45.05	63.75	87.55	127.5
80	3"	0	0.425	2.125	5.1	11.9	21.25	34	55.25	77.35	108.8	140.3
100	4"	0	0.595	2.55	9.35	21.25	34	50.15	76.5	119.9	180.2	302.6

Kv values in m³/h

V-ball 90° (code W)

DN	NPS	Opening angle										
		0	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%
15	1/2"	0	0.085	0.17	0.34	0.51	0.765	1.275	1.87	3.23	4.59	5.865
20	3/4"	0	0.17	0.34	0.68	1.02	1.7	2.635	3.91	6.8	9.605	11.9
25	1"	0	0.17	0.51	1.53	2.89	4.335	6.885	9.69	13.6	17.85	24.65
32	1¼"	0	0.255	0.68	1.7	4.25	6.8	11.9	16.15	23.8	33.15	46.75
40	1½"	0	0.425	0.765	2.975	5.95	11.05	17	26.35	35.7	53.55	66.3
50	2"	0	0.595	1.7	5.1	10.2	18.7	29.75	38.25	59.5	89.25	114.8
65	2½"	0	0.425	1.445	5.95	11.9	23.8	40.8	59.5	90.1	136	185.3
80	3"	0	0.595	2.975	6.8	15.3	29.75	51	76.5	114.8	174.3	263.5
100	4"	0	0.85	2.975	13.6	34	63.75	106.3	161.5	250.8	375.7	569.5

Kv values in m³/h

Product conformities

Pressure Equipment Directive: 2014/68/EU

Explosion protection: ATEX (2014/34/EU) and IECEx, order code Special version X

ATEX marking: The ATEX marking of the product depends on the respective product configuration with valve body and actuator. It can be found in the product-specific ATEX documentation and the ATEX type plate.

Mechanical data

Torques:

DN	NPS	Breakaway torque
15	1/2"	7
20	3/4"	8
25	1"	10
32	1¼"	14
40	1½"	29
50	2"	58
65	2½"	62
80	3"	120
100	4"	174

Torques in Nm

Weight:

Ball valve

DN	NPS	Weight
15	1/2"	1.3
20	3/4"	2.0
25	1"	2.8
32	1¼"	4.2
40	1½"	5.3
50	2"	6.7
65	2½"	11.9
80	3"	14.9
100	4"	20.4

Weights in kg

Technical data of actuator

GEMÜ 9428, 9468 actuators

Mechanical data

Weight:

GEMÜ 9428

Supply voltage 24 V / 100-250 V	2.4 kg
---------------------------------	--------

Actuator type 9468

Actuator version 2070:	4.6 kg
Actuator version 4100:	11.6 kg
Actuator version 4200:	11.6 kg

Product compliance

Machinery Directive: 2006/42/EU

EMC Directive: 2014/30/EU

Low Voltage Directive: 2014/35/EU

Electrical data

Rated voltage: 12 V / 24 V AC or DC ($\pm 10\%$)
100 – 250 V AC ($\pm 10\%$)

Rated frequency: 50/60 Hz (at AC rated voltage)

Electrical protection class: I (DIN EN 61140)

Power consumption:

Actuator version (code)	Control module (code)	12 V DC (code B1)	24 V DC (code C1)
1015	A0, AE	30	30.0
2070	00, 0E, 0P	-	63.0
4100	00, 0E, 0P	-	105.0
4200	00, 0E, 0P	-	90.0

Power consumption in W

Current consumption:

Actuator version (code)	Control module (code)	12 V DC (code B1)	24 V DC (code C1)
1015	A0, AE	2.2	1.2
2070	00, 0E, 0P	-	2.6
4100	00, 0E, 0P	-	4.4
4200	00, 0E, 0P	-	3.6

Current data in A

Max. switching current:	Actuator version (code)	Control module (code)	12 V DC (code B1)	24 V DC (code C1)
	1015	A0, AE	9.2	3.8
	2070	00, 0E, 0P	-	14.0
	4100	00, 0E, 0P	-	35.0
	4200	00, 0E, 0P	-	35.0

Current data in A

Input signal: 24 V DC, 24 V AC, 120 V AC, 230 V AC
dependent on rated voltage

Duty cycle: Supply voltage 12 V / 24 V: Continuous duty
Supply voltage 100 - 250 V: 40 % duty
Actuator version 2070: Continuous duty

Electrical protection: **GEMÜ 9428**
Supply voltage 12 V / 24 V:
Motor protective system by customer
Supply voltage 100 - 250 V:
Integrated stall and overload protection
plus excess current release T 1A 5x20 mm

GEMÜ 9468

Internal for functional module 0x

Actuator version 2070: MT 6.3 A

Actuator version 4100, 4200: MT 10.0 A

Motor protective system by customer, see "Recommended motor protection"

Recommended motor protection:

GEMÜ 9428

Voltage	12 V DC	24 V DC
Motor protection switch type	Siemens 3RV 1011-1CA10	Siemens 3RV 1011-1BA10
Set current	2.20	1.70

Current data in A

GEMÜ 9468

Motor protection switch type: Siemens 3RV 1011-1FA10

Set current: 4.0 A

Bernard, J+J actuators

Note: For technical data see manufacturer's original datasheets

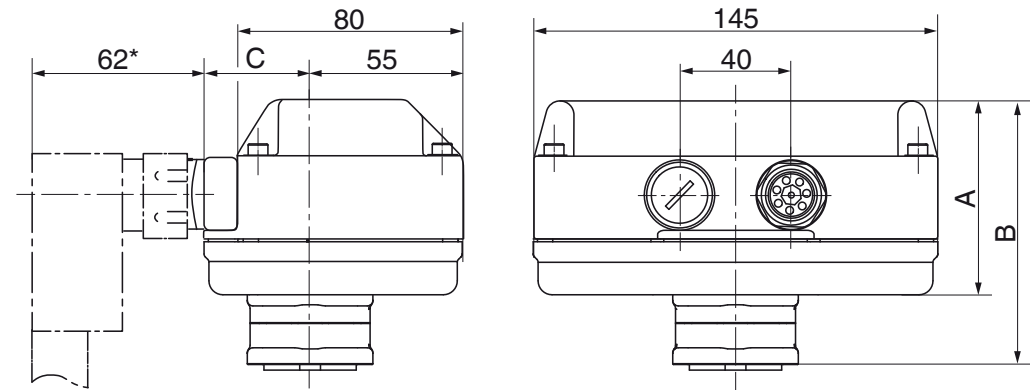
Dimensions

Actuator dimensions

GEMÜ 9428, 9468 actuators

Note on actuator mounting:
Standard mounting orientation – actuator positioned in-line with piping
Only with flanged connections the actuator is mounted across the piping

Actuator version 1015, 2015

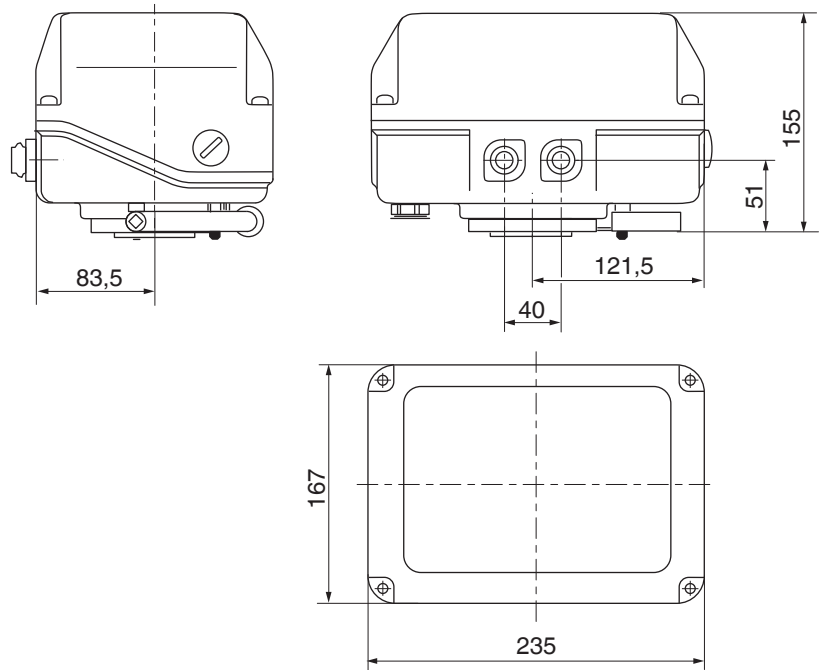


* Standard with supply voltage code O4

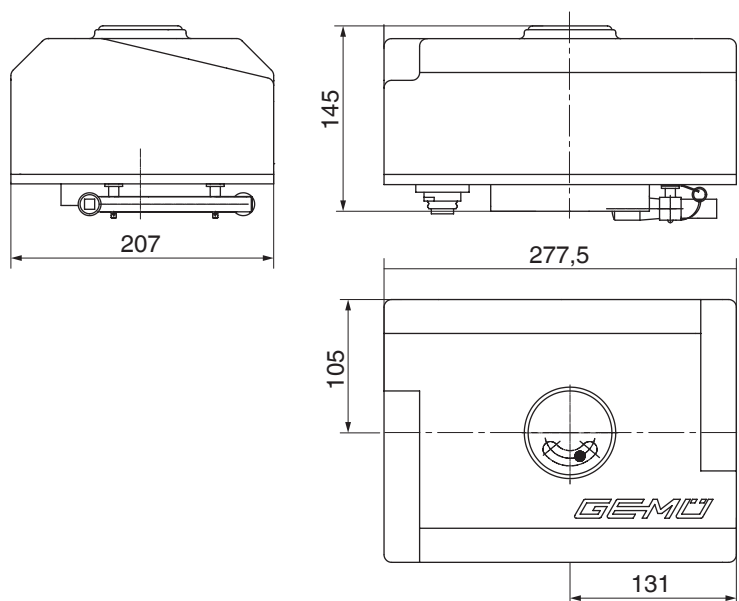
Actuator version	A	B	C
1006, 1015	69.0	94.0	49.0
2006, 2015	96.0	122.0	53.0

Dimensions in mm

Actuator version 2070



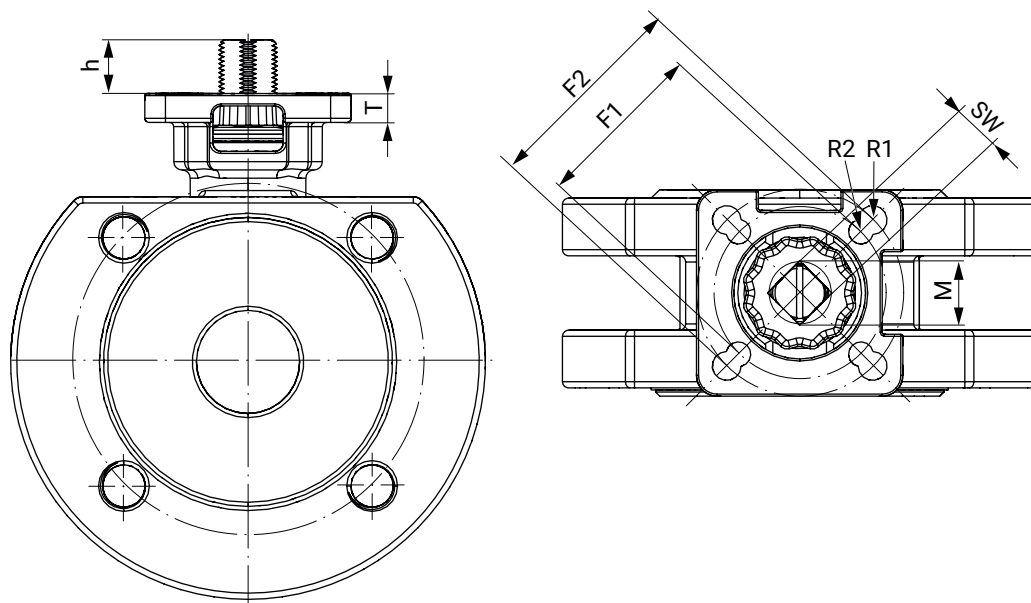
Dimensions in mm

Actuator version 4100, 4200

Dimensions in mm

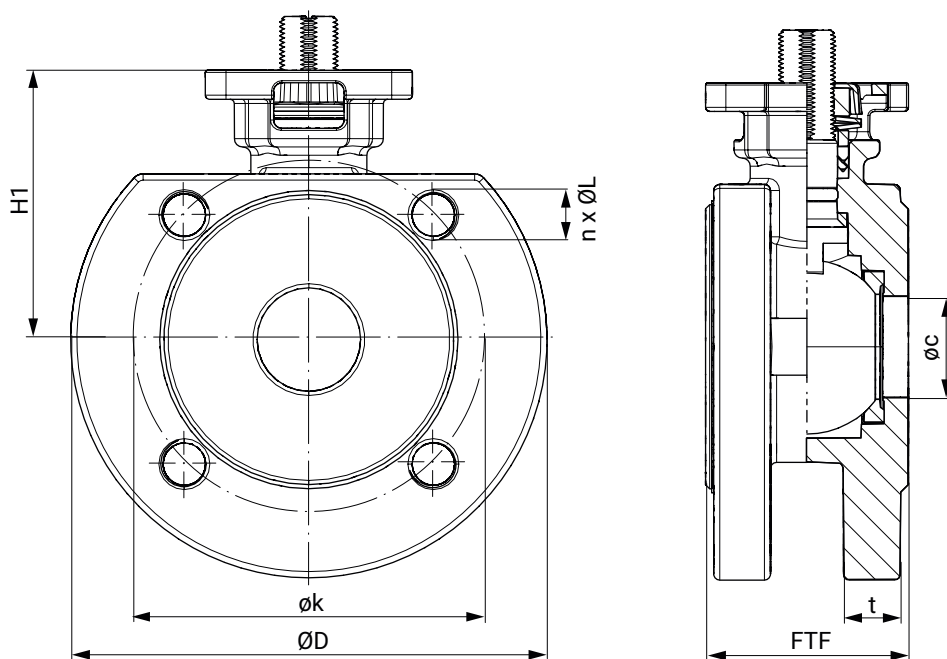
Bernard, AUMA, J+J actuators

For more detailed information on third-party actuators, refer to the manufacturers' documentation

Ball valve**Actuator flange**

DN	G	F1	R1	F2	R2	SW	h	T	M
15	1/2"	36.0	3.0	42.0	3.0	9.0	9.5	5.5	M12
20	3/4"	36.0	3.0	42.0	3.0	9.0	7.5	5.5	M12
25	1"	42.0	3.5	50.0	3.5	11.0	13.0	7.0	M14
32	1¼"	42.0	3.5	50.0	3.5	11.0	13.0	6.5	M14
40	1½"	50.0	4.5	70.0	3.5	14.0	15.0	7.5	M18
50	2"	50.0	4.5	70.0	3.5	14.0	16.0	8.5	M18
65	2½"	50.0	4.5	70.0	3.5	17.0	18.0	8.5	M22
80	3"	70.0	5.5	102.0	4.5	17.0	18.0	10.5	M22
100	4"	102.0	5.5	125.0	4.5	17.0	18.0	10.5	M22

Dimensions in mm

Body dimensions

DN	Øc	ØD	Øk	t	FTF	H1	n x ØL
15	15.0	82.0	65.0	14.0	42.0	48.5	4 x M12
20	20.0	98.0	75.0	14.0	44.0	54.0	4 x M12
25	25.0	115.0	85.0	14.0	50.0	65.0	4 x M12
32	32.0	140.0	100.0	16.0	60.0	78.0	4 x M16
40	38.0	150.0	110.0	15.0	69.0	85.0	4 x M16
50	50.0	165.0	125.0	16.0	82.0	93.0	4 x M16
65	65.0	185.0	145.0	15.0	103.0	107.0	4 x M16
80	76.0	200.0	160.0	17.0	119.0	119.0	8 x M16
100	100.0	220.0	180.0	17.0	150.0	132.0	8 x M16

Dimensions in mm

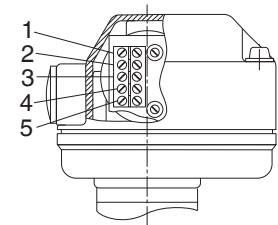
Electrical connection

Connection and wiring diagram – actuator version 1015

Control module A0/AE

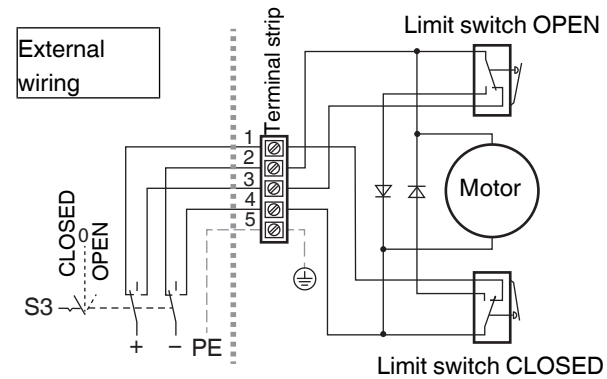
12 V DC (code B1) / 24 V DC (code C1)

Assignment of the terminal strips



Item	Description
1	Uv+, direction of travel CLOSED
2	Uv-, direction of travel CLOSED
3	Uv+, direction of travel OPEN
4	Uv-, direction of travel OPEN
5	PE, protective earth conductor

Connection diagram



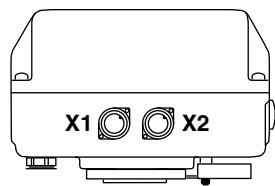
S3	Actuator
CLOSED	Direction of travel CLOSED
0	OFF
OPEN	Direction of travel OPEN

Connection and wiring diagram – actuator version 2070, 4100, 4200

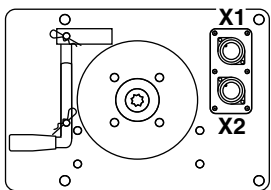
Control module A0

24 V DC (code C1), 120 V AC (code G4) and 230 V AC (code L4)

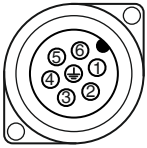
Position of the connectors



Actuator version 2070



Actuator version 4100, 4200

Electrical connection

Plug assignment X1

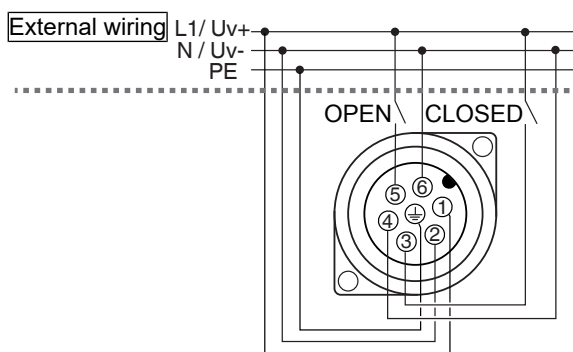
Pin	Description
1	L1 / Uv+, supply voltage
2	N / Uv-, supply voltage
3	L1 / Uv+, direction of travel CLOSED
4	N / Uv-, direction of travel CLOSED
5	L1 / Uv+, direction of travel OPEN
6	N / Uv-, direction of travel OPEN
	PE, protective earth conductor

N/L- signals in the unit are separated.

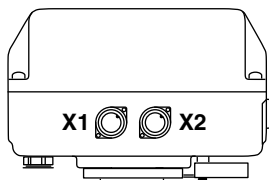
The potential must be assigned by the user.

When the OPEN and CLOSED switches are operated simultaneously the actuator moves in the "CLOSED" direction.

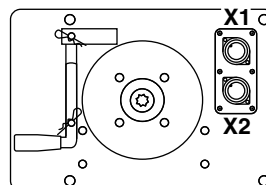
Pins 2, 4 and 6 can be connected in the connector plug, so you can also use a 5-wire cable.

Connection diagram**Control module AE**

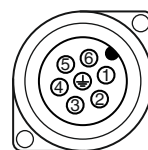
24 V DC (code C1), 120 V AC (code G4) and 230 V AC (code L4)

Position of the connectors

Actuator version 2070



Actuator version 4100, 4200

Electrical connection

Plug assignment X1

Pin	Description
1	L1 / Uv+, supply voltage
2	N / Uv-, supply voltage
3	L1 / Uv+, direction of travel CLOSED
4	N / Uv-, direction of travel CLOSED
5	L1 / Uv+, direction of travel OPEN
6	N / Uv-, direction of travel OPEN
	PE, protective earth conductor

Plug assignment X2

Pin	Description
1	Change-over contact limit switch CLOSED
2	Make contact limit switch CLOSED
3	Break contact limit switch CLOSED
4	Break contact limit switch OPEN
5	Make contact limit switch OPEN
6	Change-over contact limit switch OPEN
	PE, protective earth conductor

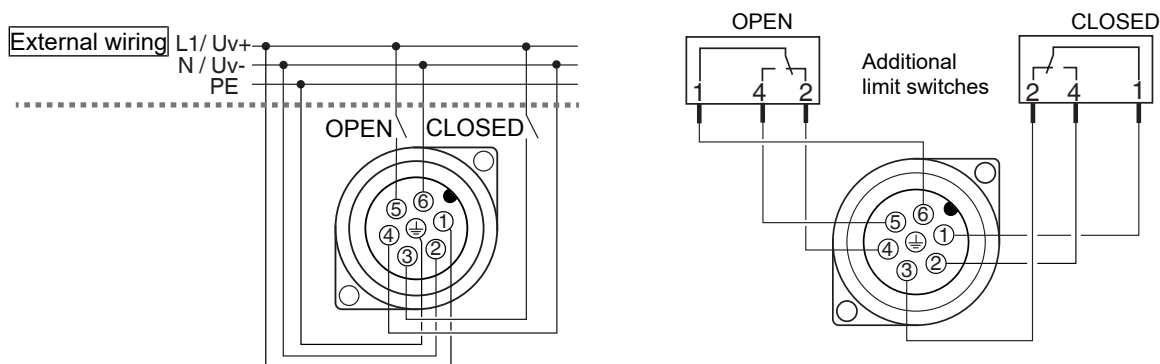
N/L- signals in the unit are separated.

The potential must be assigned by the user.

When the OPEN and CLOSED switches are operated simultaneously the actuator moves in the "CLOSED" direction.

Pins 2, 4 and 6 can be connected in the connector plug, so you can also use a 5-wire cable.

Connection diagram



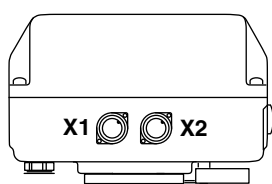
Connection assignment X1

Connection assignment X2

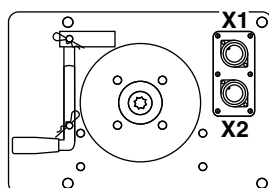
Control module 00

On/Off actuator with relay (code 00), 24 V DC (code C1)

Position of the connectors

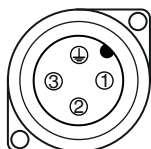


Actuator version 2070



Actuator version 4100, 4200

Electrical connection



Plug assignment X1

Pin	Description
1	L1 / Uv+, direction of travel CLOSED
2	L1 / Uv+, direction of travel OPEN
3	N / Uv-, neutral conductor

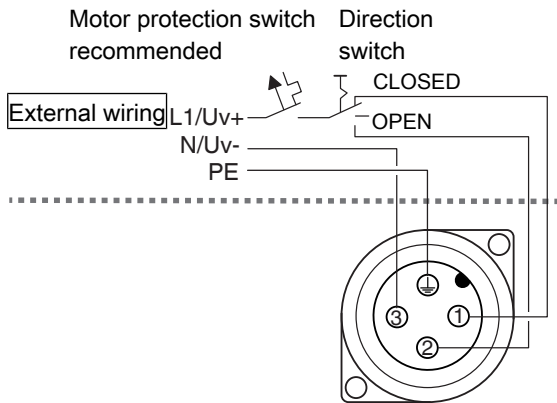
Pin	Description
	PE, protective earth conductor

N / L- signals in the unit are separated.

The potential must be assigned by the user.

When the OPEN and CLOSED switches are operated simultaneously the actuator "CLOSES".

Connection diagram

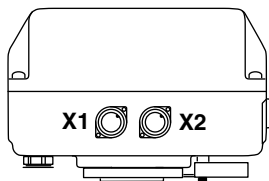


Connection assignment X1

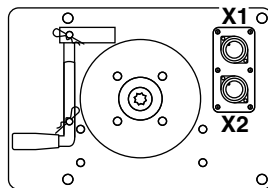
Control module 0E

On/Off actuator with 2 additional potential-free limit switches, with relay (code 0E), 24 V DC (code C1)

Position of the connectors

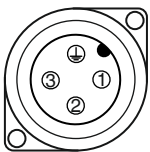


Actuator version 2070



Actuator version 4100, 4200

Electrical connection



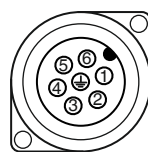
Plug assignment X1

Pin	Description
1	L1 / Uv+, direction of travel CLOSED
2	L1 / Uv+, direction of travel OPEN
3	N / Uv-, neutral conductor
	PE, protective earth conductor

N / L- signals in the unit are separated.

The potential must be assigned by the user.

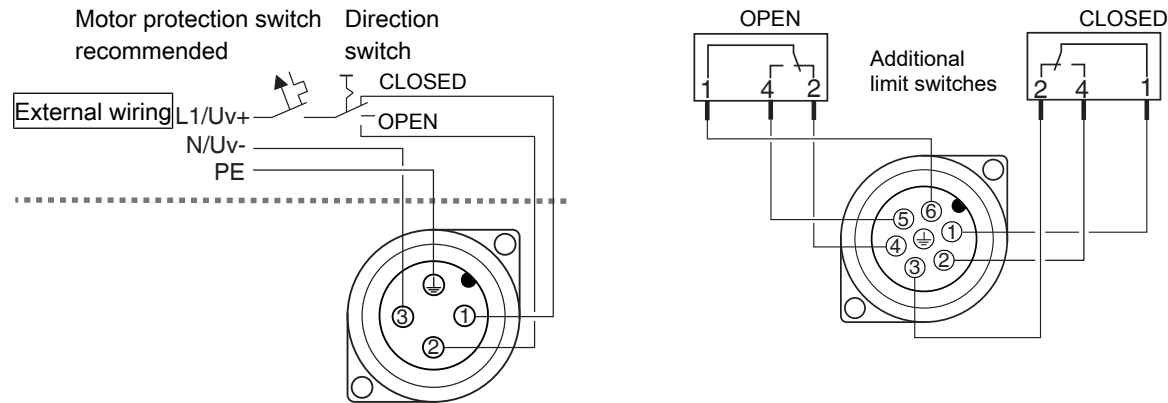
When the OPEN and CLOSED switches are operated simultaneously the actuator "CLOSES".



Plug assignment X2

Pin	Description
1	Change-over contact limit switch CLOSED
2	Make contact limit switch CLOSED
3	Break contact limit switch CLOSED
4	Break contact limit switch OPEN
5	Make contact limit switch OPEN
6	Change-over contact limit switch OPEN
	PE, protective earth conductor

Connection diagram



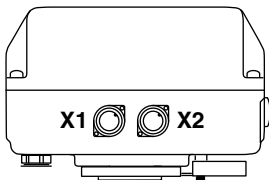
Connection assignment X1

Connection assignment X2

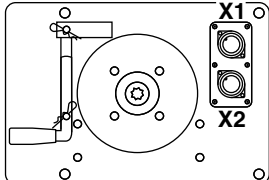
Control module 0P

On/Off actuator with potentiometer output, with relay (code 0P), 24 V DC (code C1)

Position of the connectors

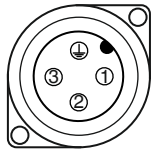


Actuator version 2070



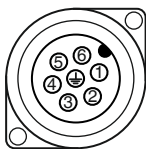
Actuator version 4100, 4200

Electrical connection



Plug assignment X1

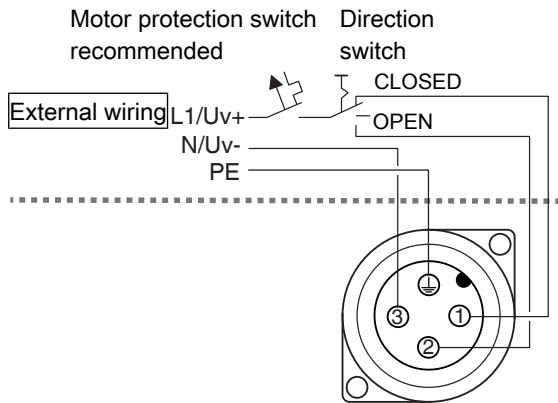
Pin	Description
1	L1 / Uv+, direction of travel CLOSED
2	L1 / Uv+, direction of travel OPEN
3	N / Uv-, neutral conductor
⊕	PE, protective earth conductor



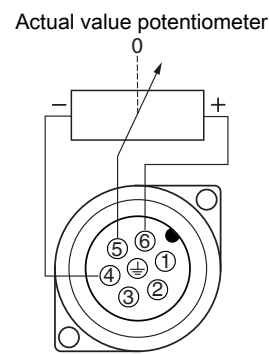
Plug assignment X2

Pin	Description
1	n. c.
2	n. c.
3	n. c.
4	Us-, actual value potentiometer signal voltage minus
5	Us -, actual value potentiometer signal output
6	Us+, actual value potentiometer signal voltage plus
⊕	PE, protective earth conductor

N / L- signals in the unit are separated.
The potential must be assigned by the user.
When the OPEN and CLOSED switches are operated simultaneously the actuator "CLOSES".

Connection diagram

Connection assignment X1



Connection assignment X2

GEMÜ CONEXO

The interaction of valve components that are equipped with RFID chips and an associated IT infrastructure actively increase process reliability.



Thanks to serialization, every valve and every relevant valve component such as the body, actuator or diaphragm, and even automation components, can be clearly traced and read using the CONEXO pen RFID reader. The CONEXO app, which can be installed on mobile devices, not only facilitates and improves the "installation qualification" process, but also makes the maintenance process much more transparent and easier to document. The app actively guides the maintenance technician through the maintenance schedule and directly provides him with all the information assigned to the valve, such as test reports, testing documentation and maintenance histories. The CONEXO portal acts as a central element, helping to collect, manage and process all data.

For further information on GEMÜ CONEXO please visit:

www.gemu-group.com/conexo

Ordering

GEMÜ Conexo must be ordered separately with the ordering option "CONEXO" (see order data).



GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Straße 6–8, 74653 Ingelfingen-Criesbach, Germany
Phone +49 (0) 7940 1230 · info@gemue.de
www.gemu-group.com