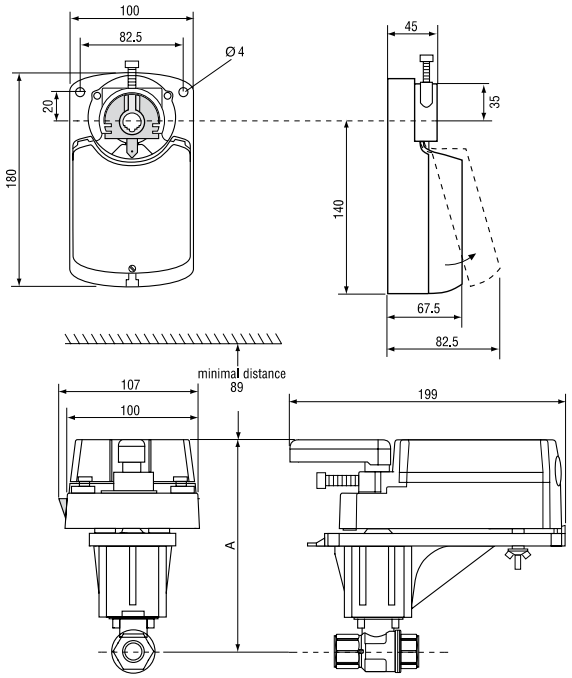
BMS1.1(S)
Proportional Ball Valves Actuator AC/DC 24 V

Application
These electric actuators are designed for operating JOVENTA JV Ball Valves, by the means of the ZAK 2 linkage Kit.

Features
- DC 0(2)...10 V or 0(4)...20 mA control signal
- Up to 5 actuators in parallel operation possible
- Plug-in terminal block connection
- Simple mount on valves with ZAK2 linkage kit
- Selectable direction of rotation
- Manual release button
- 2 adjustable auxiliary switches
- Automatic shut-off at end position (overload switch)



Type	A
DN15	160
DN20	160
DN25	162
DN32	173
DN40	177
DN50	182

Dimensions in mm

Ordering Codes

Codes	Descriptions
BMS1.1	AC/DC 24 V with cable
BMS.1S	AC/DC 24 V, with 2 auxiliary switches and cable

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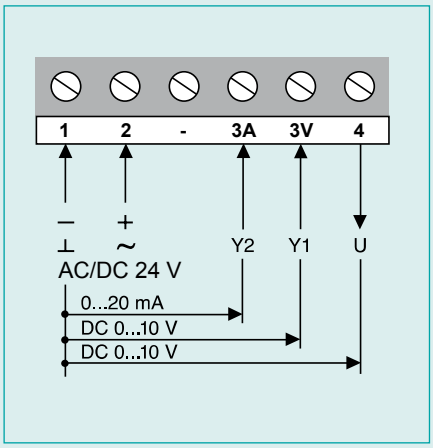
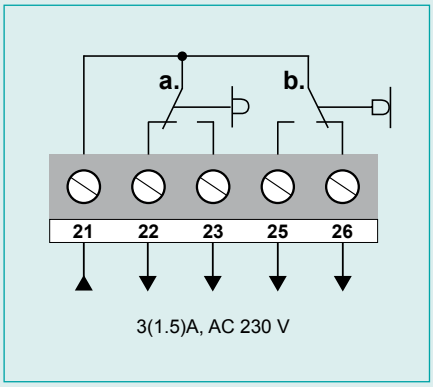
Wiring Diagram



Auxiliary Switches (S)



Setting the Control Signal

Control signal Y1	DC 0...10 V
Input resistance	Ri 250 kΩ
Control signal Y2	0...20 mA
Input resistance	Ri 388 Ω
Position signal U	DC 0...10 V
Load resistance	> 50 kΩ

By switching microswitch **d** to ON position, the control signal Y1 or Y2 will be adapted to the chosen angle of rotation.

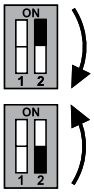
By switching microswitch **c** the direction of rotation can be changed.

Microswitch **d**
Self-adapting

DECTIVATED

ACTIVATED

Microswitch **c**



Setting Span and OFFSET

The potentiometers **O** and **S** help to match control signals Y1 and Y2 to any make of controller.

Example 1

Control signal Y1 working between DC 2...10 V

Setting: Starting point **O** = 2
working range **S** = 8

Example 2

Control signal Y2 working between 6...18 mA

Setting: Starting point **O** = 3
Working range **S** = 6

Start point **O**

Scale O	0	1	2	3	4	5	6	7	8
for Y1 (VDC)	0	1	2	3	4	5	6	7	8
for Y2 (mA)	0	2	4	6	8	10	12	14	16

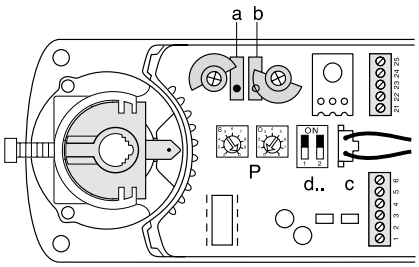
Working range **S**

Scale S	2	3	4	5	6	7	8	9	10
for Y1 (VDC)	2	3	4	5	6	7	8	9	10
for Y2 (mA)	4	6	8	10	12	14	16	18	20

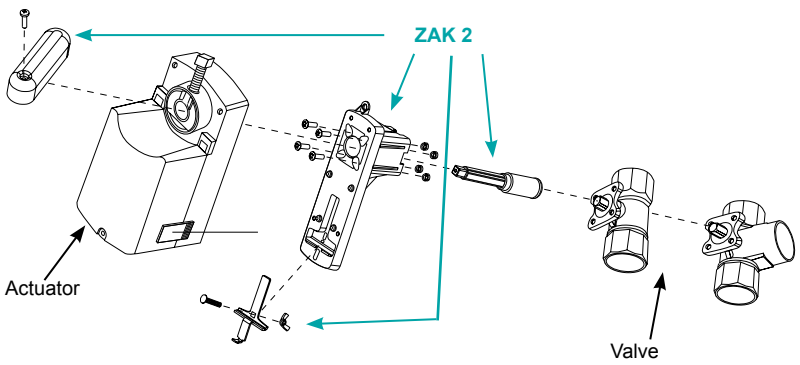
Setting the auxiliary switches

Factory setting
Switch **a** at 10°
Switch **b** at 80°

The switching position can be manually changed to any required position by turning the ratchet



Mounting Instruction onto Ball Valve



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Technical Specifications

Actuator	BMS1.1(S)
Torque	8 Nm
Running Time OPEN	30 s
Running Time CLOSE	30 s
Supply Voltage	AC/DC 24 V
Frequency	50-60 Hz
Power Consumption	
- Running	2.5 W
- At end position	0.3 W
Dimensioning	6.0 VA / 3.6 A @ 2 ms
Working area Y	Adjustable
Control Signal Y1	DC 0(2)...10 V
Input resistance Y1	Ri 250 Ω
Control signal Y2	0(4)...20 mA
Input resistance Y2	Ri 388 Ω
Position signal U	DC 0...10 V
Load resistance	>50 kΩ
Angle of rotation/Working range	90° (93°mech.)
Angle of rotation/Limitation	None
Auxiliary Switches	2 x SPDT
- S1 setting range	5°...85° < adjustable
- S2 setting range	
Cable	1.0 m halogen-free
- Motor	5-Wire 1-2-4-5-6
- Switches	5-Wire 21-22-23-24-25
Life time	60.000 rotations
Noise level	45 dB (A)
Protection Class	II
Degree of Protection	IP 54
Mode of Action	Type 1
Ambient conditions	
- Operating temperature	–20...+50 °C
- Storage temperature	–30...+60°C
- Humidity	5...95% r.F. no condensed
Weight	1.1 Kg
Service	Maintenance-free
CE Compliance	Johnson Controls, Inc., declares that these products are in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC.

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Building Efficiency

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