

# BA SERIES BALL VALVE ACTUATOR

**2 Point & 3 Point Control  
5 Nm**



**High Neck  
Ball Valve Actuator**



**Low Neck  
Ball Valve Actuator**

## BA...05 (S1) SERIES

BA series standard valve actuators are especially designed and produced for applications in the HVAC systems. Our wide range of standard valve actuators has been developed to operate and position ball valves of different sizes.

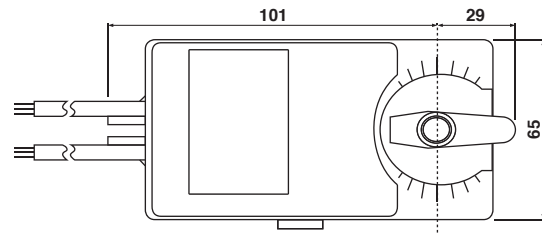
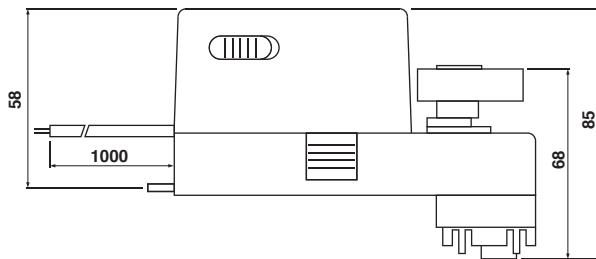
### PRODUCT FEATURE

- Torque 5 Nm
- Valve size DN15(1/2") / DN20(3/4") / DN25(1") / DN32(1 1/4")
- Power supply AC/DC 24 V and AC 230 V
- Shaft dimensions - □ 9.0 mm (fixed)
- Selectable direction of rotation of reversing actuator
- Actuator with 1 m cable connection
- Optional 1 Adjustable SPDT auxiliary switch
- Available in high neck and low neck

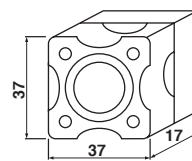
### MODEL SELECTION TABLE

MODEL / TYPE	TORQUE	POWER SUPPLY	RUNNING TIME	AUXILIARY SWITCH
BA 1-05 LN	5 Nm	AC/DC 24 V ± 10%	70...100 sec	-
BA 1-05 HN	5 Nm	AC/DC 24 V ± 10%	70...100 sec	-
BA 1-05S1 LN	5 Nm	AC/DC 24 V ± 10%	70...100 sec	1 x SPDT (Adjustable)
BA 1-05S1 HN	5 Nm	AC/DC 24 V ± 10%	70...100 sec	1 x SPDT (Adjustable)
BA 2-05 LN	5 Nm	AC 230 V ± 10%	70...100 sec	-
BA 2-05 HN	5 Nm	AC 230 V ± 10%	70...100 sec	-
BA 2-05S1 LN	5 Nm	AC 230 V ± 10%	70...100 sec	1 x SPDT (Adjustable)
BA 2-05S1 HN	5 Nm	AC 230 V ± 10%	70...100 sec	1 x SPDT (Adjustable)

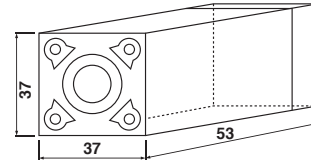
## DIMENSION (mm)



For Low Neck:



For High Neck:



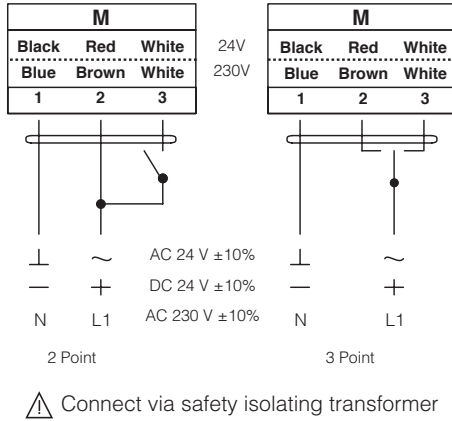
## TECHNICAL SPECIFICATION

MODEL NUMBER	BA 1-05 (S1)	BA 2-05 (S1)
TORQUE	5 Nm	5 Nm
VALVE SIZE	DN15(1/2") / DN20(3/4") / DN25(1") / DN32(1 1/4")	DN15(1/2") / DN20(3/4") / DN25(1") / DN32(1 1/4")
SHAFT DIMENSION	□ 9.0 mm (fixed)	□ 9.0 mm (fixed)
POWER SUPPLY	AC/DC 24 V ± 10%	AC 230 V ± 10%
FREQUENCY	50...60 Hz	50...60 Hz
CONTROL SIGNAL	2 & 3 point control	2 & 3 point control
POWER CONSUMPTION		
● OPERATING	4.0 W	4.0 W
● END POSITION	2.0 W	2.0 W
FOR WIRE SIZING	14.0 VA	14.0 VA
ELECTRICAL CONNECTION	1 m Cable	1 m Cable
AUXILIARY SWITCH RATING	3 (1.5) A, AC 250 V	3 (1.5) A, AC 250 V
PROTECTION CLASS	Class III ⚡	Class II ⚡
ANGLE OF ROTATION	90° (95° mechanical)	90° (95° mechanical)
WEIGHT	< 0.8 Kg	< 0.8 Kg
LIFE CYCLE	60,000 Rotation	60,000 Rotation
SOUND LEVEL	40 dB	40 dB
IP PROTECTION	IP54	IP54
OPERATING TEMPERATURE	-20°...50° as per IEC 721-3-3	-20°...50° as per IEC 721-3-3
NON-OPERATING TEMPERATURE	-30°...+60° C / IEC 721-3-2	-30°...+60° C / IEC 721-3-2
AMBIENT HUMIDITY	5%...95% rH non condensing / EN	5%...95% rH non condensing / EN
MAINTENANCE	Maintenance Free	Maintenance Free
MODE OF OPERATION	Type I / EN 60730-1	Type I / EN 60730-1
EMC	CE & ISO 9000 EN / EEC	CE & ISO 9000 EN / EEC

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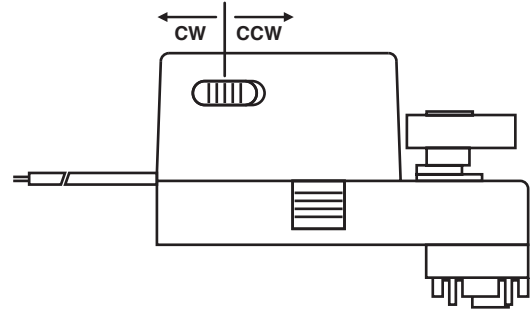
## WIRING DIAGRAM BA...05 (S1) POWER SUPPLY AC/DC 24V / AC 230V



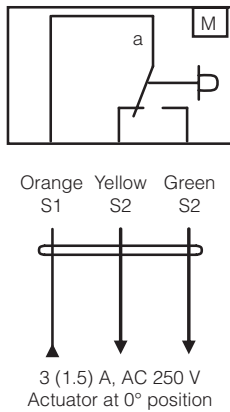
## DIRECTION OF ROTATION BA...05 (S1)

Default factory setting: CCW.

Direction of rotation can be change by toggling between CW/CCW switch on the actuator's housing.



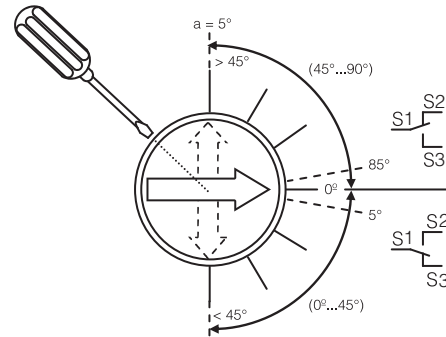
## WIRING DIAGRAM BA...05 (S1) AUXILIARY SWITCH



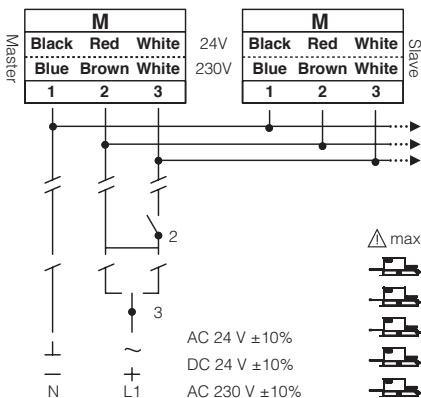
## AUXILIARY SWITCH BA...05 (S1)

Switch **a** factory-set at 5°.

The auxiliary switch can be optimally adjusted between 0°...90°.

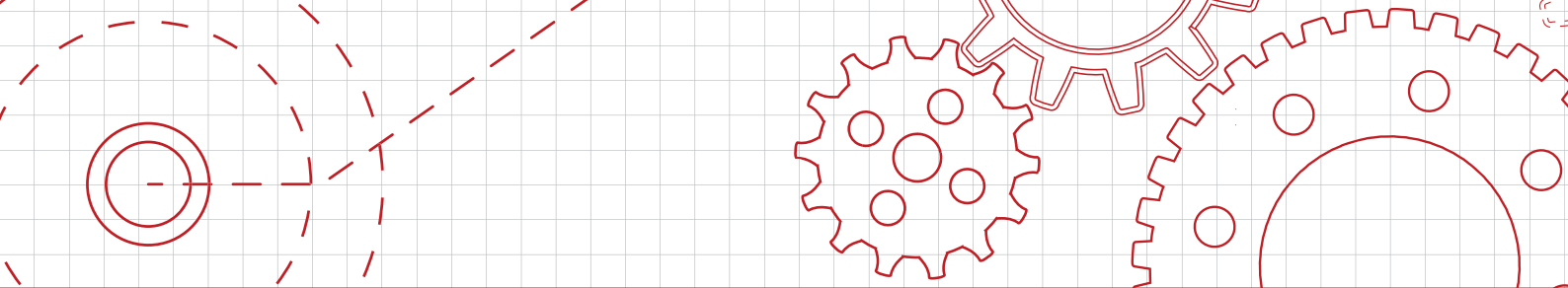


## WIRING DIAGRAM BA...05 (S1) PARALLEL CONNECTION



## REMARK

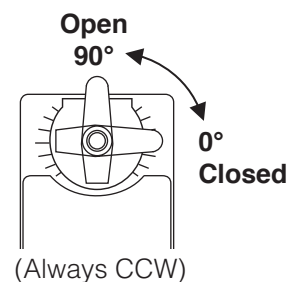
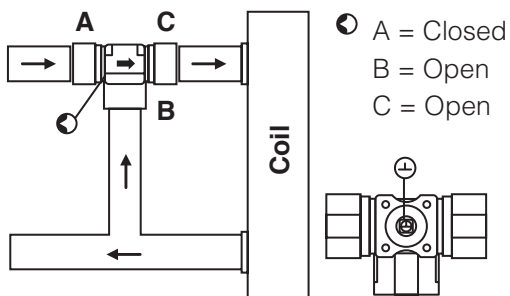
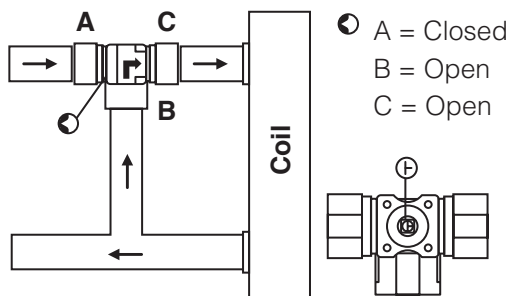
Parallel connection of BA...05 (S1) actuators are limited to 5. Power consumption must be observe.



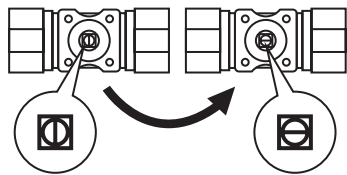
### MIXING CLOSED

### MIXING OPEN

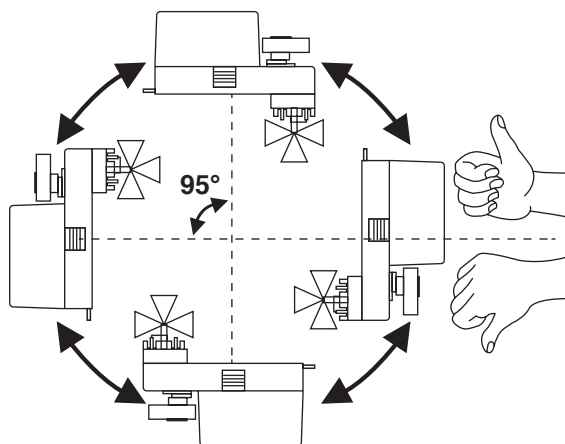
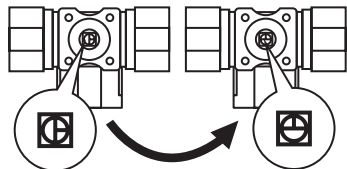
### ACTUATOR POSITION



#### 2-way Closed 2-way Open



#### 3-way Closed 3-way Open



## IMPORTANT REMARK

For special requirement, consult your local Swisotec's representative.

This actuator includes electrical and electronic components and may not be disposed as household garbage. Please consider the local valid legislation.

AC / DC 24 V: Connect via safety isolating transformer.  
 AC 230 V: To isolate from the main power supply, the system must incorporate a device which disconnects the phase conductor (with at least a 3mm contact gap.)

The performance specifications are nominal and conform to acceptable industry standards. Swisotec shall not be liable for damages resulting from misapplication or misuse of its products.