SBA03 SERIES BALL VALVE ACTUATOR

DESCRIPTION

SBA03 series ball valve actuator is using bi-directional motor. Matching with SBV series ball valve, it is mainly used in central air-conditioning system, heating system, water treatment, and production industry to control the flow of chilled/hot medium

CHARACTERISTIC

- Bi-directional AC motor
- Apply to valves of DN15 to DN25
- Fire retardant engineering plastic, measure up UL94V-0 standard
- Integrate with on-off switch at the end of stroke for longer motor life
- With manual switch and position indicator
- Floating type or Modulating type (with internal PCB)
- Detachable design, easy to install and maintain
- Good heat insulation design to avoid overheating inside of actuator
- Reliable and high safety requirement level
- 0(2)~10V dc or 0(4)~20mA dc control input signal, proportional control.
- 0~10V feedback signal.

MODEL SELECTION

SBA 03 - XXX X

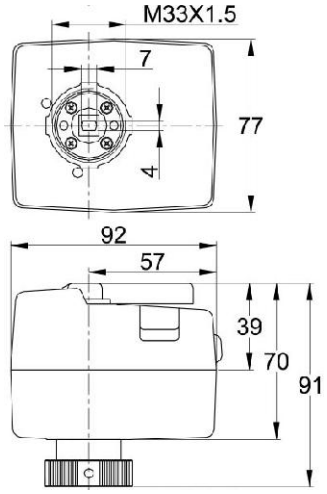
PRODUCT CODE
Ball valve actuator

SERIES
03--The third series
ball valve actuator

VOLTAGE
024--24VAC 110--110VAC
120--120VAC 220--220VAC
230--230VAC

ADDITIONAL FUNCTION
E--Modulating control, with0--10V
feedback signal (Only for 24V)

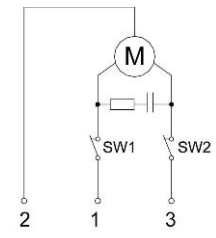
DIMENSIONS



SPECIFICATIONS AND DATA

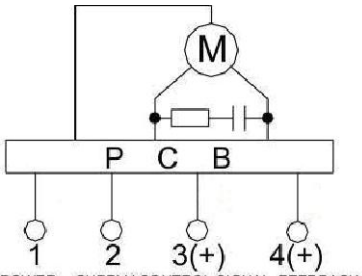
MODEL		SBA03-024E	SBA03 -024	SBA03 -110	SBA03 -120	SBA03 -220	SBA03 -230	SBA03 -240
POWER SUPPLY		24Vac	24Vac	110Vac	120Vac	220Vac	230Vac	240Vac
POWER CONSUMPTION		4VA	3VA			5VA		
CONTROL SIGNAL		0(2)~10V dc (input impedance: 200KΩ) or 0(4)~20mA dc (input impedance: 500Ω)	3 point floating signal					
FEEDBACK SIGNAL		0~10Vdc (1mA)	—					
DEFAULT SETTING		Input signal: 0~10Vdc; Mode: DA	—					
CURRENT FREQUENCY		50/60Hz						
TORQUE		≥4Nm						
OPERATION TIME		≈45s (50Hz, 90 °)						
MAXIMUM ANGLE		90°＜limiter≤95°						
CONNECTING WIRES		0.5~1 mm^2						
MATERIAL	COVER	Fire-retardant ABS engineering plastic						
	CHASSIS	Fire-retardant Reinforced nylon PA6-110						
	GEAR	POM (polyoxymethylene) + Brass HPb59-1 + iron-base powder metallurgy						
OPERATION TEMP.		-5~+50℃						
STORAGE TEMP.		-30~70℃						
IP CLASS		IP54						

WIRING



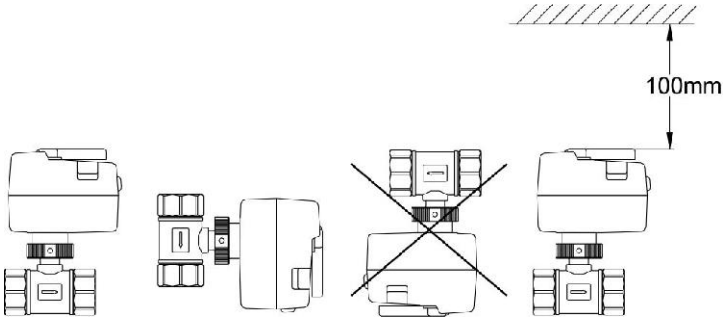
POWER SUPPLY	ROTATE TO
1-2	0°
2-3	90°

PCB WIRING

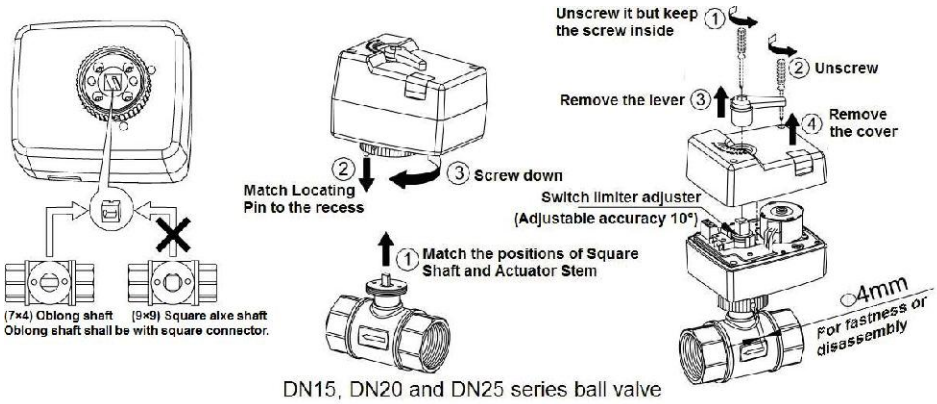


INPUT CONTROL SIGNAL		ACTUATOR ROD
DA	RA	
INCREASE	DECREASE	TO 90°
DECREASE	INCREASE	TO 0°

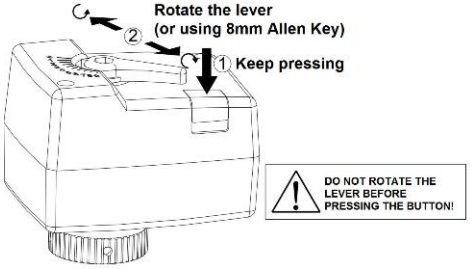
INSTALLATION INSTRUCTION



INSTALLATION INSTRUCTION



MANUAL SWITCH



PCB SETTING

1. **Calibration mode:** After power is on, set JP1 switch “4” to position “ON” as request (refer to the below diagram) , then press SW1 calibration/reset button, power LED is flashing during calibration, and the

actuator stem is rotating till to the end (has reached the end position of ball valves). Afterward the stem will rotate back to initial position. Power LED will stop flashing after the calibration mode is over. MCU will keep the position data in memory even power is off.

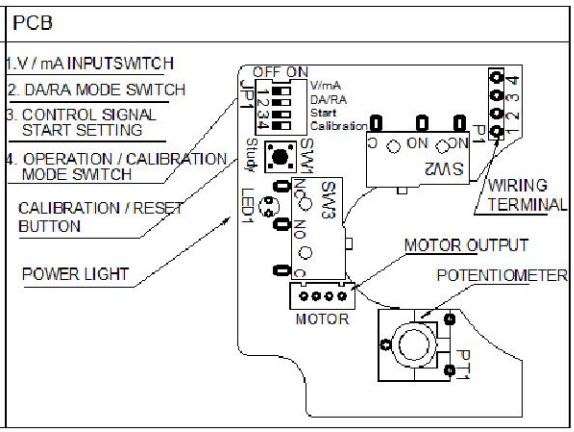
Then JP1 switch “4” is need to set to “OFF” after calibration is finished and back to operation mode. If this JP1 switch”4” is forgotten to set to “OFF” during operation, the actuator will operate as usual, but it will go through the calibration mode every time when power is on

2. **Operation mode:** When power is on, the actuator will work according to the control signal.
3. **Calibration/operation mode shift:** If user needs to switch calibration/operation mode, make sure the JP1 has been set correctly, then press SW1 calibration/reset button. Don’t need to cut off power.

JP1 SWITCH SETTING

MODE SWITCH \ CTRL SIGNAL		0~10V DC	2~10V DC	0~20mA DC	4~20mA DC	DEFAULT SETTING
OPERATION MODE	DA	OFF ON 1 2 3 4	OFF ON 1 2 3 4	OFF ON 1 2 3 4	OFF ON 1 2 3 4	OFF ON 1 2 3 4
	RA	OFF ON 1 2 3 4	OFF ON 1 2 3 4	OFF ON 1 2 3 4	OFF ON 1 2 3 4	
CALIBRATION MODE	DA	OFF ON 1 2 3 4	OFF ON 1 2 3 4	OFF ON 1 2 3 4	OFF ON 1 2 3 4	
	RA	OFF ON 1 2 3 4	OFF ON 1 2 3 4	OFF ON 1 2 3 4	OFF ON 1 2 3 4	

PCB



Note: It is strongly recommended that JP1switch should be set on operation mode in normal use