

# SBA05 SERIES BALL VALVE ACTUATOR

## DESCRIPTION

SBA05 series ball valve actuator is using bi-directional motor. Matching with SBV series flange cast iron 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
- Easy & flexible installation
- Position feedback auxiliary switch for option
- Die-casting aluminum alloy chassis, fireproof ABS engineering plastic, measure up UL94V-0 standard
- Pass reliability and safety test
- Built-in limiter for power saving and longer motor life
- Suitable for DN65-DN100 flanged cast iron ball valve
- 0(2)~10V DC or 0(4)~20mA DC control input signal, proportional control. 0~10V feedback for option.

## SBA05 SERIES MODEL SELECTION

SBA 05 - XXX X

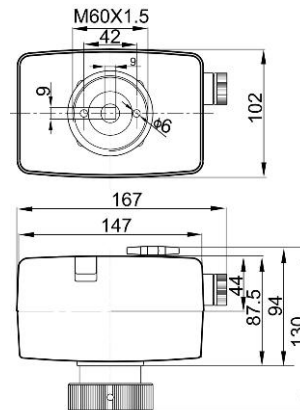
PRODUCT CODE  
Ball valve actuator

SERIES  
05—The fifth series  
ball valve actuator

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

ADDITIONAL FUNCTION  
E—Modulating control, with 0~10V  
feedback signal (Only for 24V)

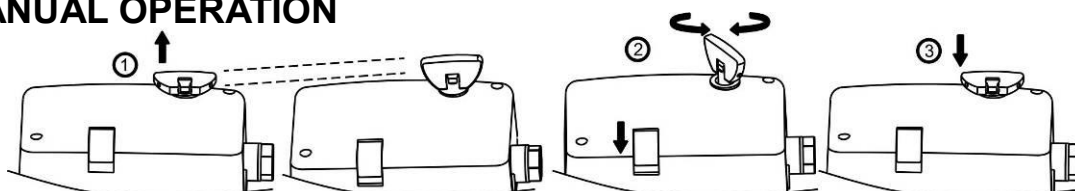
## DIMENSIONS



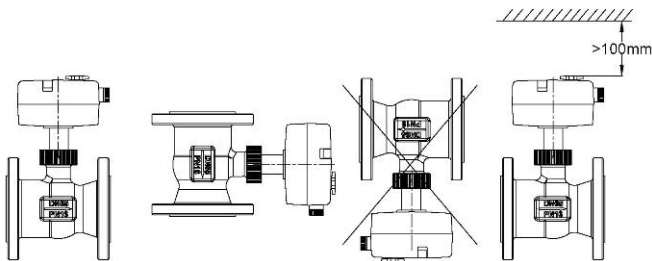
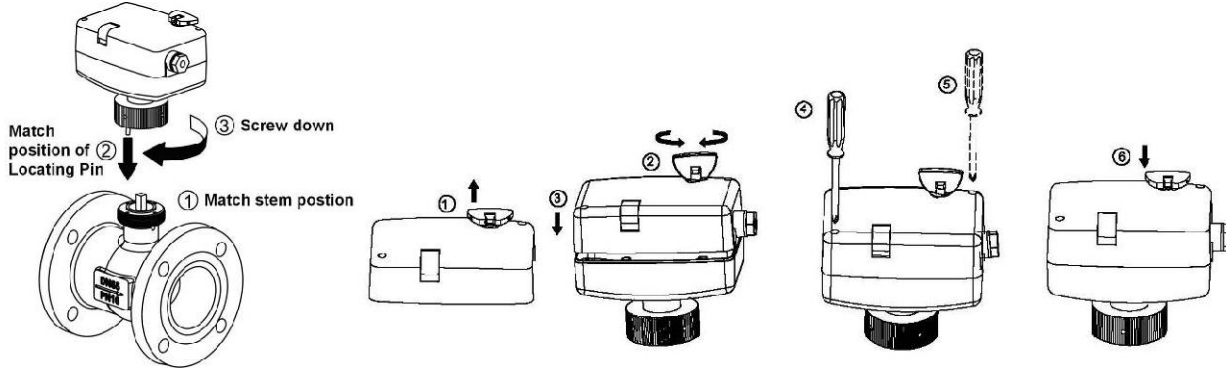
## SPECIFICATIONS AND DATA

MODEL	SBA05-024E	SBA05-024	SBA05-110	SBA05-120	SBA05-220	SBA05-230	SBA05-240
POWER SUPPLY	24VAC	24VAC	110VAC	120VAC	220VAC	230VAC	240VAC
POWER CONSUMPTION	Load 5.5VA	Load 4.5VA		Load 8.5VA			
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: 0~10VDC; Mode: DA	—					
CURRENT FREQUENCY	50/60Hz						
TORQUE	≥25Nm						
OPERATION TIME (0~90°)	160s (50Hz) / 133s (60Hz)						
ROTATABLE ANGEL	90° < Limiter ≤ 95°						
CONNECTING WIRES	0.5~1 mm <sup>2</sup>						
MATERIAL	HOUSING	Fireproof ABS engineering plastic					
	CHASSIS	Die-casting aluminum alloy					
	GEAR	POM (polyoxymethylene) + steel					
OPERATION TEMP.	-5~+50℃						
STORAGE TEMP.	-30~+70℃						
IP CLASS	IP54						

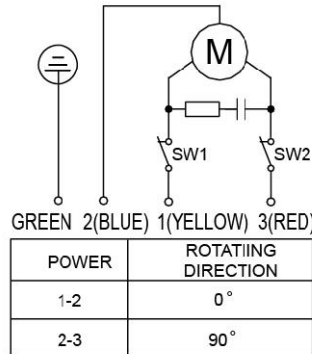
## MANUAL OPERATION



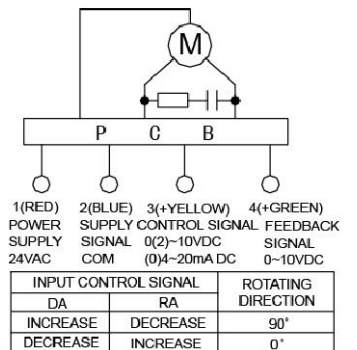
# INSTALLATION



## WIRING



## PCB SETTING

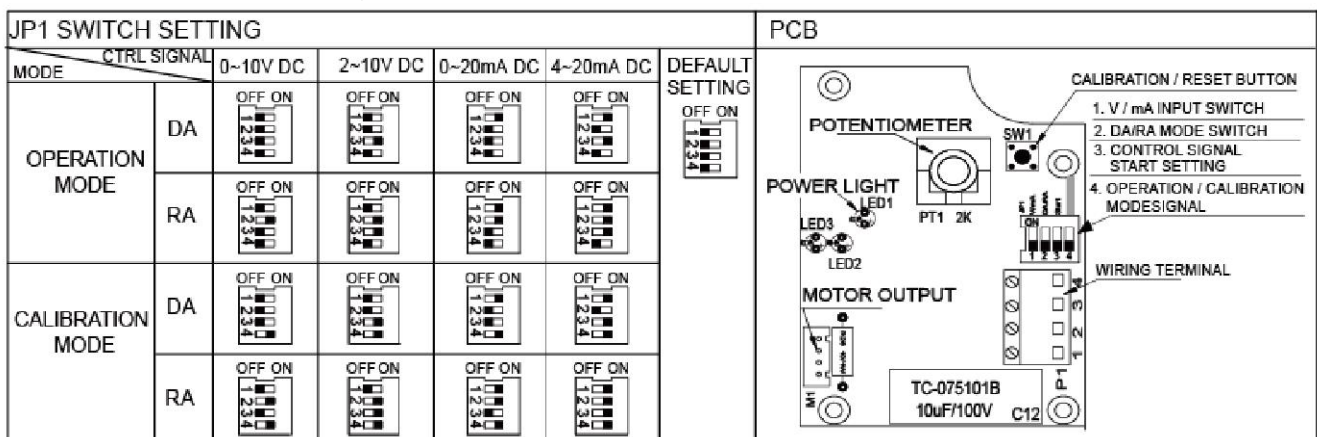


## WARNING:

- Cut off power supply when repairing or maintaining.
- Do not connect or disconnect wire when power is on.
- Please install the actuator cover properly when the actuator is working.

## PCB SETTING

- 1. Calibration mode:** After power is on, set JP1 switch "4" to position "ON" as request (refer to the below JP1 switch setting 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 needed to set to "OFF" after the 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.



Note: It is strongly recommended that JP1 switch should be set on operation mode in normal use.