

## DESCRIPTION

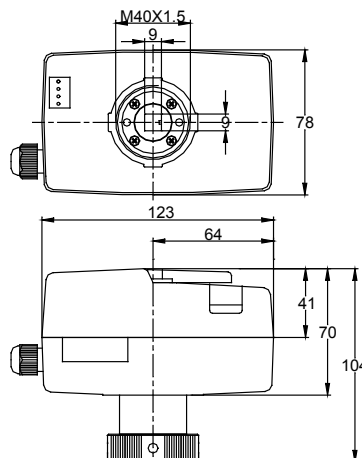
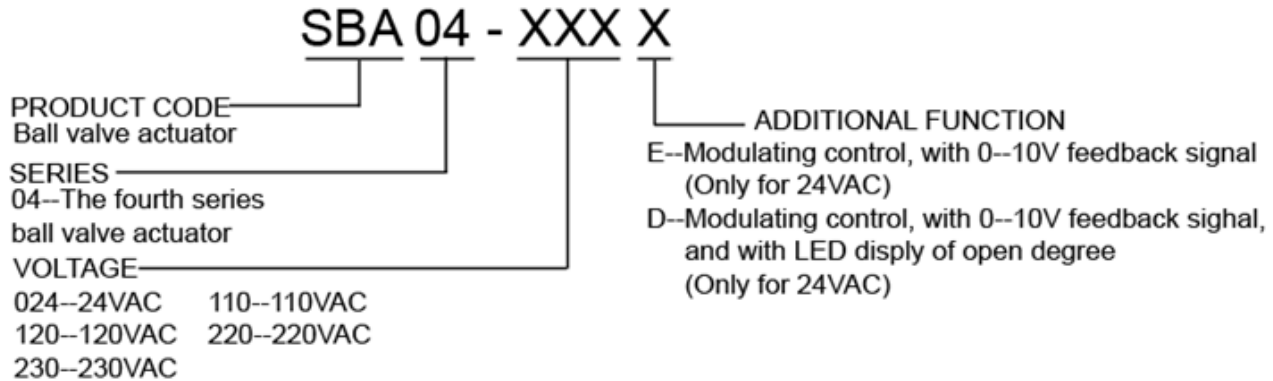
SBA04 series ball valve actuator is using bi-directional motor. Matching with SBV series ball valve, it is mainly used in central air-conditioning system, heating system, water treatment, and production industry to control the flow of chilled/hot medium



## CHARACTERISTIC

- Bi-directional AC motor
- Apply to valves of DN32 to DN50 (can be also apply to valves of DN15-25 as per request)
- Fire-retardant ABS engineering plastic, measure up UL94V-0 standard
- With manual switch and position indicator
- Floating type or modulating type (with internal PCB)
- Detachable design, easy to install and maintain
- Fluid temperature and ambient temperature are hard to reach inside of actuator
- High reliable and safety requirement level
- Actuator manual handle can be disassembled to install on the valve stem for opening or close the valve
- 0(2)~10V dc or 0(4)~20mA dc control input signal, proportional control
- 0~10V feedback signal
- With LED open degree display for option

## MODEL SELECTION

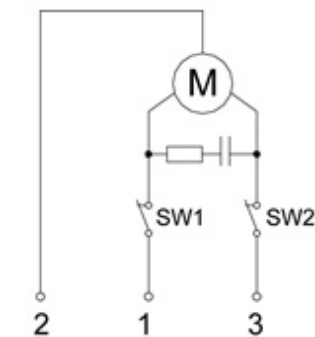


## SPECIFICATIONS AND DATA

MODEL	SBA04-024E	SBA04-024D	SBA04-024	SBA04-110	SBA04-120	SBA04-220	SBA04-230	SBA04-240
POWER SUPPLY	24Vac	24Vac	24Vac	110Vac	120Vac	220Vac	230Vac	240Vac
POWER CONSUMPTION	4VA	4.5VA	3VA			5VA		
OPEN DEGREE DISPLAY	N/A	Yes	N/A					
CONTROL SIGNAL	0(2)~10V dc ( input impedance: 200K $\Omega$ ) or 0(4)~20mA dc ( input impedance: 500 $\Omega$ )		3 point floating signal					
FEEDBACK SIGNAL	0~10Vdc (1mA)		—					
DEFAULT SETTING	Input signal: 0~10Vdc; Mode: DA		—					
CURRENT FREQUENCY	50/60Hz							
TORQUE	$\geq 5\text{Nm}$							
OPERATION TIME	$\approx 50\text{s}$ (50Hz, 90°)							
MAXIMUM ANGLE	$90^\circ < \text{limiter} \leq 95^\circ$							
CONNECTING WIRES	0.5~1 mm <sup>2</sup>							
MATERIAL	COVER	Fireproof ABS engineering plastic						
	CHASSIS	Fireproof Reinforced nylon PA6-110						
	GEAR	POM (polyoxymethylene) + Brass HPb59-1 + iron-base powder metallurgy						
OPERATION TEMP.	-5~+50°C							
STORAGE TEMP.	-30~70°C							
IP CLASS	IP54							

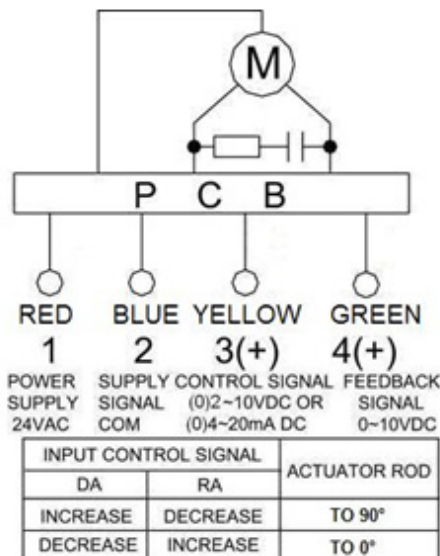
## Wiring Diagram

### WIRING

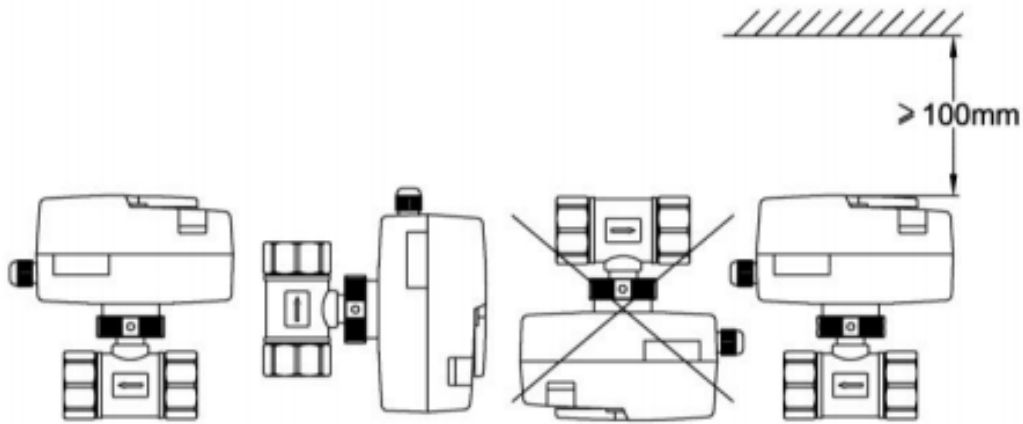


POWER SUPPLY	ROTATE TO
1-2	0°
2-3	90°

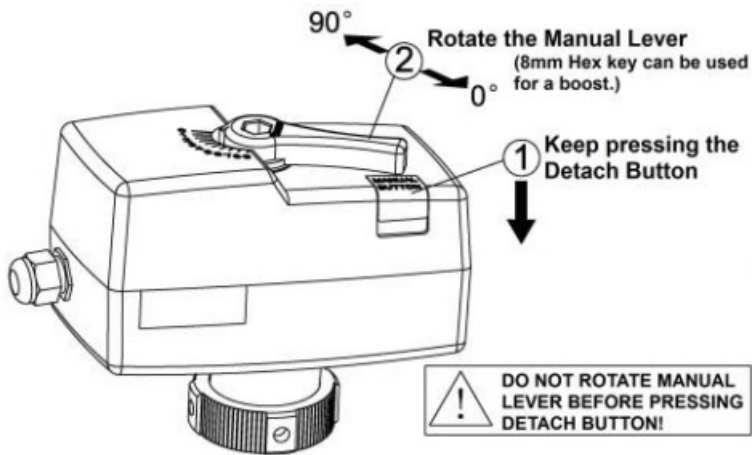
### PCB WIRING



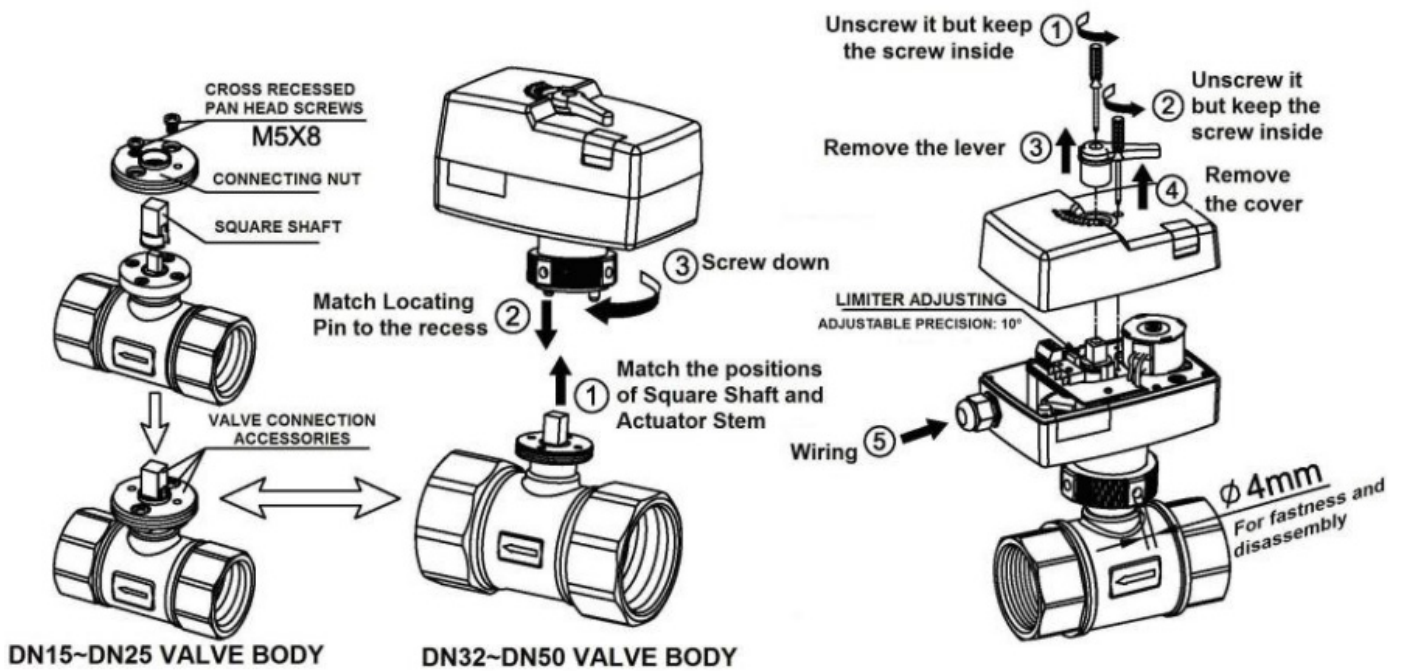
# INSTALLATION INSTRUCTION



## MANUAL SWITCH



## ACTUATOR INSTALLATION



## 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 needed 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.

JP1 SWITCH SETTING					PCB	LED DISPLAY
MODE	CTRL SIGNAL	0~10V DC	2~10V DC	0~20mA DC		
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	
	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
<p>1. V / mA INPUT SWITCH</p> <p>2. DA / RA MODE SWITCH</p> <p>3. CONTROL SIGNAL START SETTING</p> <p>4. OPERATION / CALIBRATION MODE SWITCH</p> <p>CALIBRATION / RESET BUTTON</p> <p>POWER LIGHT</p>