

TPBA04 SERIES BALL VALVE ACTUATOR

DESCRIPTION

TPBA04 series ball valve actuator is using bi-directional motor. Matching with TPBV 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
- Application for valves of DN15 to DN50
- Fireproof ABS engineering plastic
- With manual switch and position indicator
- On/off type or floating (PID adjusting) type
- 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



MODEL SELECTION

T P B A 0 4 - X X X X X

PRODUCT CODE

Ball valve actuator

SERIES CODE

04-The fourth series

ball valve actuator

ADDITIONAL CODE

E-With internal PCB(only for 24Vac)

D-With internal PCB and LED open degree display(only for 24Vac)

POWER SUPPLY

024--24VAC

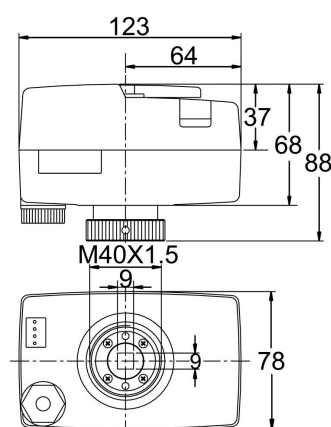
110--110VAC

120--120VAC

220--220VAC

230--230VAC

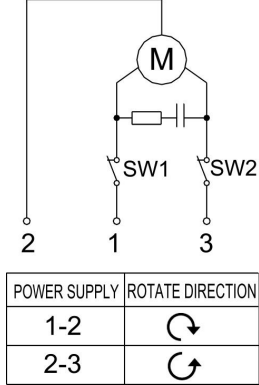
240--240VAC



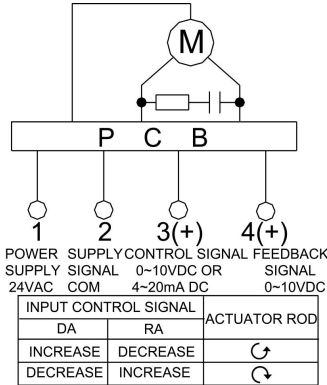
SPECIFICATIONS AND DATA

MODEL		TPBA04-024E	TPBA04-024D	TPBA04-024	TPBA04-110	TPBA04-120	TPBA04-220	TPBA04-230	TPBA04-240
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 or 0(4)~20mA dc		—					
DEFAULT SETTING		Input signal: 0~10Vdc; Mode: DA							
CURRENT FREQUENCY		50/60Hz							
TORQUE		≥5Nm							
OPERATION TIME		≈50s (50Hz, 90 °)							
MAXIMUM ANGLE		90°<limiter≤95°							
CONNECTING WIRES		0.5~1 mm ²							
MATERIAL	COVER	Fireproof ABS engineering plastic							
	CHASSIS	Fireproof Reinforced nylon PA6-110							
	GEAR	POM (polyoxymethylene) + Fireproof Reinforced nylon PA6-230 + Brass HPb59-1							
OPERATION TEMP.		-5~+50℃							
STORAGE TEMP.		-30~70℃							
IP CLASS		IP54							

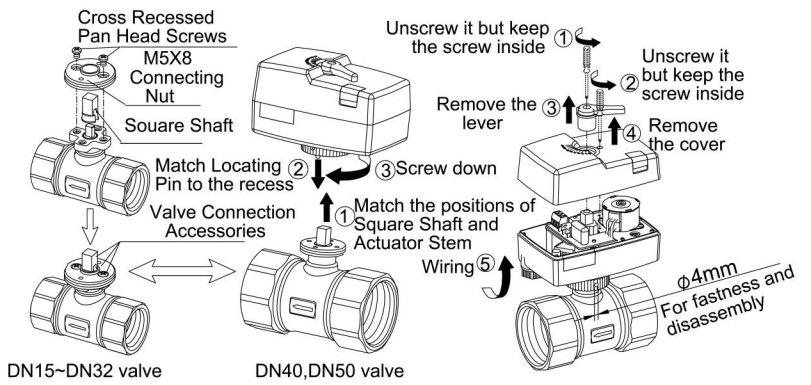
WIRING



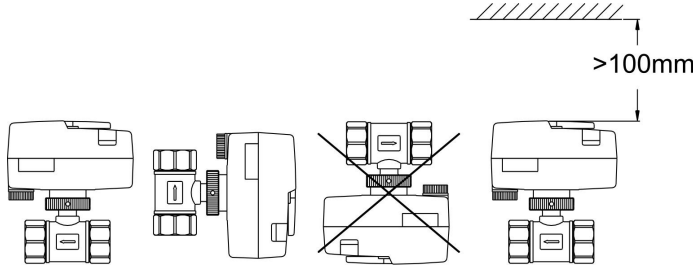
PCB WIRING



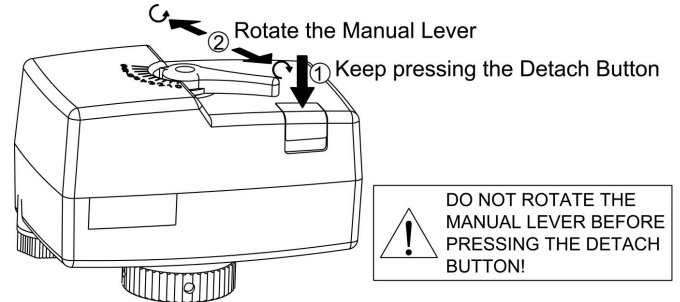
INSTALLATION INSTRUCTION



INSTALLATION INSTRUCTION



MANUAL SWITCH




















WARNING:

- Cut off power supply when repairing or maintaining.
- Do not connect or disconnect wire when power is on.

PCB SETTING

- Study status:** After power is on, set JP1 switch as request (refer to the following list). First, switch "4" of JP1 to position ON, then press SW1 STUDY/REPOSITON button, buzzer will sound every 5 seconds, and the actuator stem is going down (opening valve) until gears are blocked (has reached the maximum stroke). Then the stem will go upward until gears are blocked again (has been in the initial position). Buzzer will make a long sound to indicate the study status is over. MCU will keep the data in memory even power is off. Then switch "4" of JP1 back to position OFF to transform to running status. If this step is missed, the actuator will operate as usual, but it will go through the study status every time when power is on.
- Running status:** The actuator will return to fully closed position every time when power is on. It will close the valve at first, and then the buzzer will make a long sound to indicate the actuator is ready for control signal.
- Study/running status shift:** If user needs to switch study/running status, make sure the JP1 has been set correctly, then press SW1 STUDY/REPOSITON button. Don't need to cut off power.

JP1 SWITCH SETTING						PCB DIAGRAM	LED DISPLAY
CONTROL SIGNAL		0~10V DC	2~10V DC	0~20mA DC	4~20mA DC		
STATUS SWITCH						DEFAULT SETTING 	
RUNNING STATUS	DA						
	RA						
STUDY STATUS	DA						
	RA						

STUDY/REPOSITION BUTTON

1:V/mA CONTROL SWITCH

2:DA/RA SWITCH

3:CTRL SIGNAL START SETTING

4:RUNNING/STUDY STATUS SWITCH

PERCENTAGE OUTPUTLED DISPLAY

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OPEN PERCENTAGE DISPLAY

OPERATING DIRECTION INDICATOR LIGHT

NOTICE: We strongly recommend that JP1 switch should be set on running status in normal use.

If power supply is switched from 50Hz to 60Hz, please operate Study/running status shift again. For a fully function of the actuator, Please indicate current frequency of local power in orders.