

## BFBS Series Controllers

### Summarize:

BFBS series controllers equipped with electric actuators can be used to control valves depend on a 4~20mA inputting signal. They ensure the correct valve position by comparing the control current output by PLC system and the valve position current. And BFBS controllers have the same function as BFAS ones in manual mode.

### Characteristics:

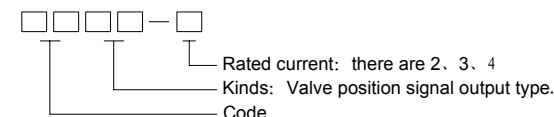
1. Digit display the valve position and input signal, auto-set the zero and full.
2. Press reminds function; Sound and light alarm (with silence function) to over torque and failure protection (such as over current, motor overheated, motor stall, etc.)
3. Flash hints the working process both in open and close direction.
4. LED display the full open/close position, local/remote, and failure/protection.
5. Auto regulating the valve position according to the input signal.
6. The valve can be set to beyond torque when open it in the full close position with the max. torque (this can trouble shoot the sticking by long time unused) and can be set to beyond travel when close it not in the full close position with the max. torque.
7. Overall & mounting dimensions and external circuit wiring are compatible with the old products.

### Technique data:

1. Power voltage: 220V/50Hz(single phase), 380V, 50Hz, 3 phase 4 line.
2. Control power supply: Refer to the list.
3. Input signal: 4~20mA, Input impedance:  $\leq 200$ .
4. Output signal: 4~20mA, Load capacity:  $\geq 250$ , passive signal for full open, full close, over torque, overheated, remote control.
5. Working environment:
  - ✧ Environment temperature:  $-10 \sim 40^{\circ}\text{C}$
  - ✧ Relative humidity: less than 80% ( $20 \pm 5^{\circ}\text{C}$ )
  - ✧ Apply to circumstances without strong corrosive and explosive medium.
6. Sensitivity and dead zone: Automatic regulating.
7. Dimensions: Refer to the drawing.  
Dimensions of the mounting hole:  $152 \pm 1\text{mm} \times 76 \pm 1\text{mm}$ ;

### Model:

Model	Rated power (W)	Rated current (A)	Weight (kg)
BFBS -2	$120 \leq P \leq 1100$	$1 \leq I < 5$	3
BFBS -3	$1100 < P \leq 2200$	$5 \leq I < 10$	3
BFBS -4	$3000 \leq P \leq 4000$	$10 \leq I < 16$	3



### Panel layout

Indicator: Digital display.

Keystrokes:

Shift (Local/Remote)

Open (Open the valve)

Close (Close the valve)

Stop (Stop the valve operation)

Indicator light: LED display.

Open: Display the valve opening in place.

Close: Display the valve closing in place.

Local /Remote:

Red shows the local state, green shows the remote state.

Torque./Protect:

Red is for over-torque, green is for control circuit fault.

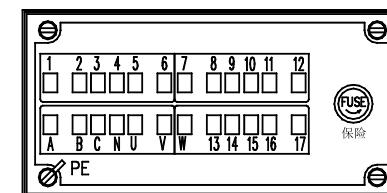
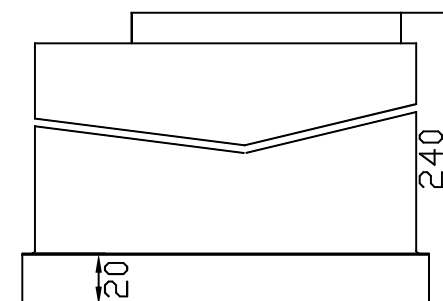
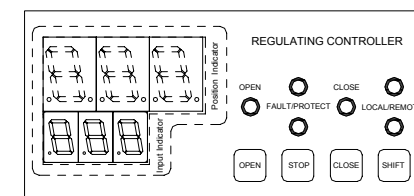
- Overall dimensions: Refer to the drawing.

Dimensions of the hole:

$152^{+1} \times 76^{+1}\text{mm}$ .

- The back panel:

For electrical connection.



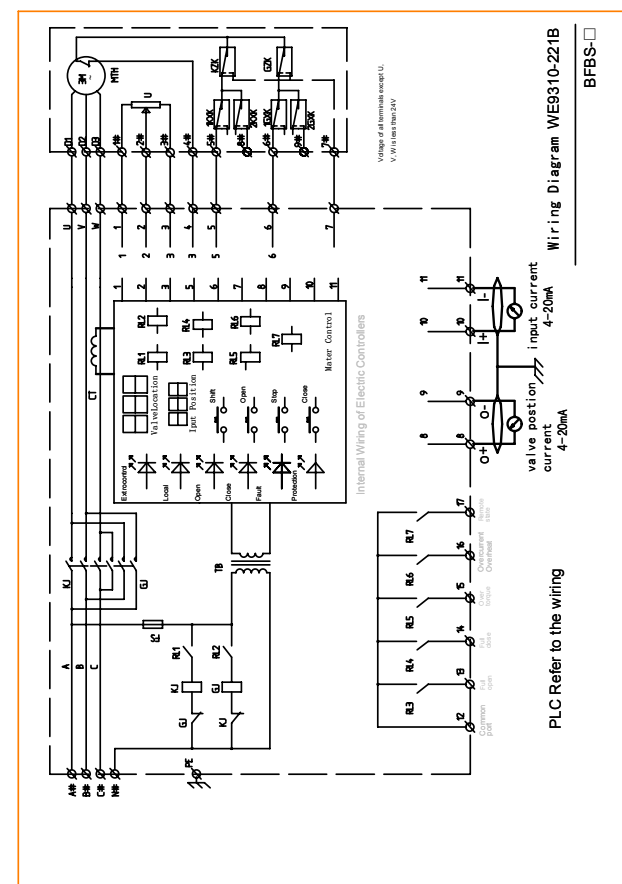
## ● Installation and adjustment:

## ■ Principles:

- I. Installation must only be carried out by an electrician who possess operating certificate in accordance with the applicable electrical engineering rules.
- II. Laypeople don't dismantle the case with high voltage.

1. The mechanical parts of actuators have been adjusted and work well. Please refer to relevant instruction manual for the adjustment.
2. Install the controller according to the drawing.
3. Please connect the terminals of controller and actuator referring to the wiring diagram. The anode of inputting control current connects terminal 10, and the cathode connects terminal 11. The anode of ampere meter connects terminal 8, and the cathode connects terminal 9.
4. Connect three-phase supply to terminals A, B, C, and N.
5. Check to ensure the proper connection, then manual operates the valve to about 50% opening. Turn power on and check if the controller is in "Local" state, if not please press **Shift**.
6. Press **Open**, one possibility if the rotating direction is right, the actuator will run to the full open position with **Open** flashing, then the **Open** lights, the indicator will automatically set to 100%. Press **Close**, the actuator will run to the full close position with **Close** flashing, and then the **Close** lights, the indicator will automatically set to 0%. another possibility If the direction is wrong, should immediately press the **Stop** button and turn it off, cut off power supply, correcting the power phase sequence, According to the above method to adjust again.
7. Auto run: Set the controller in "remote" state, and the actuator should operate with the input signal. Thus the adjusting is complete.
8. Press **Stop** during running, the actuator will stop in the instant position. Press **Stop** during idle state will eliminate noise.
9. An air switch is provided with every controller.

## ● Wiring diagram:



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