
Operating Manual for LHZ Regulated Actuators

V1.1



- 1、 Four LED: White light, yellow light, green light and red light
White light: M/A indicator, white light always on [remote mode], white light off [local mode], switch through M/A key;
Yellow light: Press the key to prompt the light, which lights up for about 0.5 seconds and goes out;
Red light: the valve closing indicator, the red light flashing when closing the valve, and the red light is always on when it is fully closed;
Green light: Valve opening indicator, the green light flashing when opening the valve, and the green light is always on when it is fully open;
Red and green lights flashing at the same time: alarm
- 2、 Three-way keys: M/A key, UP key and DOWN key

M/A key function:

- In the main interface, press the M/A key for about 0.5 seconds to release and switch the remote/local mode;
- In the local mode of the main interface, press the M/A key for 3 seconds until the yellow light is on and released, and enter the menu;
- Menu interface, M/A key for confirmation or save function;

UP key function:

- In the remote mode of the main interface, press the UP key to switch between the percentage display of the valve position and the thousandth ratio display of the input signal, and automatically return to the percentage display of the valve position without operation for 30 seconds;
- Menu interface, the UP key is up or add functions;

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- In the local mode of the main interface, menu P02 (close limit setting), menu P03 (open limit setting), the UP key is the valve opening function, and the short press is the valve opening inching mode. Press the UP key for 3 seconds until the yellow light goes out and releases it, which changes into the open valve holding mode. Press the UP key or the DOWN key in the holding state, and the actuator stops at the current position;

DOWN key function:

- In the remote mode of the main interface, press the DOWN key to switch between the valve position percentage display and the input signal sampling value display, and automatically return to the valve position percentage display without operation for 30 seconds;
- Menu interface, DOWN key is down or reduce function;
- In the local mode of the main interface, menu P02 (close limit setting), menu P03 (open limit setting), the UP key is the valve opening function, and the short press is the valve closing inching mode. Press DOWN key for 3 seconds until the yellow light goes out and then loosens, it will become a closed valve holding mode. Press UP key or DOWN key in the holding state, and the actuator will stop at the current position;

M/A + UP key combination function:

- In the local mode of the main interface, press the M/A + UP key combination for about 3 seconds until the yellow light is on and released, and the actuator will automatically calibrate the limit, first close the limit calibration, then open the limit calibration.

UP + DOWN key combination function:

- In the local mode of the main interface, press the UP + DOWN key combination for about 0.5 seconds to release, and switch between the valve position percentage display and the valve position sampling value display;
- Menu interface, UP + DOWN key combination for the return function;

3、Adjustment of switch limit potentiometer

Close limit: the sampling value range of potentiometer is 90 ± 15 ;

Open limit: the sampling value range of potentiometer is 910 ± 15 ;

Note: When setting the limit, the potentiometer sampling value is out of range, which may damage the potentiometer!

4、Main interface display

- Power-on is automatic remote mode (white light is always on), showing the percentage of valve position. Press the UP key and DOWN key to switch to the thousandth ratio display of input signal and the sampling value display of input signal respectively;
- Press M/A key to switch to local mode (white light goes out) to display the percentage of valve position, and press UP + DOWN key combination to switch the display of sampling value of valve position;
- When there is an alarm, the alarm information and the valve position percentage are displayed alternately, with an interval of 1 second. See Table 1 for alarm information.

Table 1 alarm

Alarm No.	Alarm name
Er3	Motor stall or starting timeout
Er4	Parameter memory alarm
Er5	Potentiometer or encoder fault
Er6	Valve position over limit
Er7	Signal loss
Er8	Error in signal calibration (signal high and low order scale is reversed or the difference between high and low order is too small)

5、Menu display

- The main interface is in local mode (white light goes out), press for 3 seconds until the yellow light is released, and enter the menu;
- Menu P01-P13 see Table 2, press the UP key or DOWN key to select, and press the M/A key to enter the relevant menu settings after selection;
- Enter the menu setting interface, press the M/A key to save, the menu item flashes to indicate that the save is successful, and press the UP + DOWN key combination to return;
- Under the menu interface, return to the main interface without any operation in 30 seconds;

Table 2 Menu

Menu	Menu name	Option configuration	Modification instructions
P01	Valve closing direction	CC (clockwise)	Press UP key, DOWN key to modify, press M/A key to save
		AC (counterclockwise)	
P02	Fully close limit	XXX (Valve Position Value)	Manually or press the UP and DOWN keys to switch to the required fully close position, and press the M/A key to save
P03	Fully open limit	XXX (Valve Position Value)	Manually or press the UP or DOWN keys to switch to the required fully open position, and press the M/A key to save
P04	Dead zone	0.3% (range 0.1 ~ 9.9)	Press UP key, DOWN key to modify, press M/A key to save
P05	Signal loss action	OP (fully open)	Press UP key, DOWN key to modify, press M/A key to save
		St (Stop Current Position)	
		CL (fully Close)	
P06	Low point calibration of input signal	186	Enter 4mA and press M/A to save
P07	High point calibration of input signal	933	Enter 20mA and press M/A to save
P08	Low point calibration of	195	Press UP key, DOWN key to modify

	feedback signal		until output 4mA, press M/A key to save
P09	High point calibration of feedback signal	983	Press UP key, DOWN key to modify until the output 20mA, press M/A key to save
P10	Signal inversion	No (4mA for fully close)	Press UP key, DOWN key to modify, press M/A key to save
		YES (4mA for full open)	
P11	Filtering times of input signal	10 (range 5 ~ 100)	Press UP key, DOWN key to modify, press M/A key to save
P12	Software version	b1.0	Can't be modified, press the return key to exit
P13	Restore default	dEF	Press the M/A key to restore the default settings