



STANDARDS

- TUV/CE certified
- Rated voltage: AC230V, AC/DC24V, DC12V
- Rate torque: 80N.m
- Control signal & position feedback: 4-20ma, 0-20mA, 0-5V, 1-5V, 0-10V, 0-135 ohm, 2-10V
- Position accuracy: $\pm 1\%$ (set by software)

J Flow Controls JFE-T110 Series Intelligent Wireless Actuator

FEATURES & BENEFITS

- 1.3" OLED screen, no visual dead angle, bright, energy saving and eco-friendly
- Original valve adjustment mode
- 24VAC/VDC and 12VAC/VDC 100% duty, NEMA 4, 4X
- Password protected option
- PROFIBUS and WIFI enabled to send signal to open and close actuators
- High performance brushless motor
- Overload and overheat protection
- High speed / fail safe bus modulating valve
- Can adjust running speed in real time
- 16 high-performance microcontrollers, 12 high-precision AD conversion, built-in unique algorithm, eliminate mechanical hysteresis, greatly reduce valve position error
- Hex wrench manual override
- Possible to change the Bus-ID address and BAUD rate automatically, communication frequency band, attention gain and other parameters

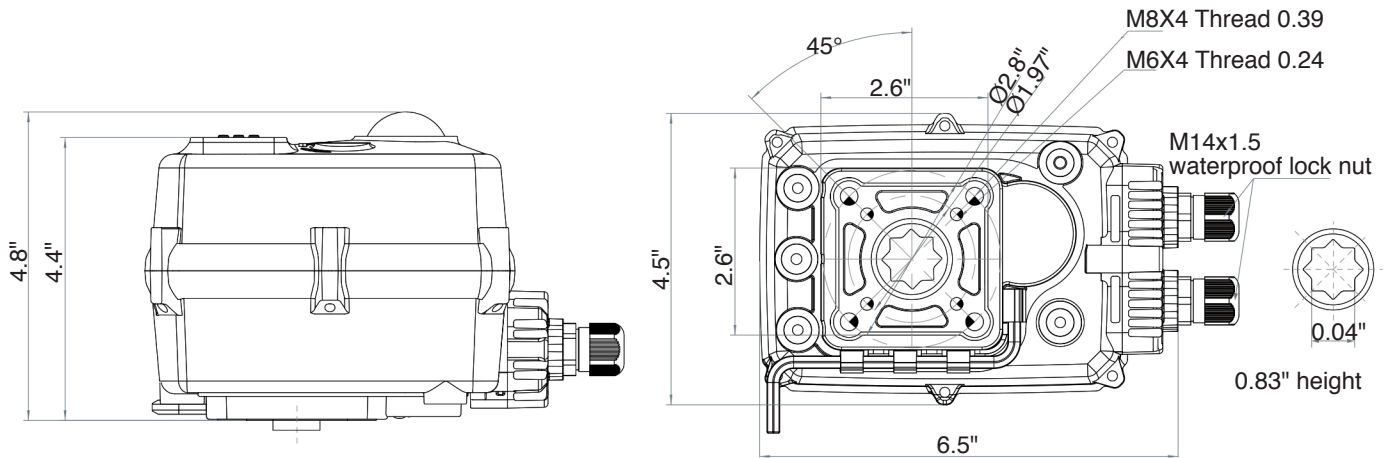
JFE-T110 Series Intelligent Wireless Actuator

TECHNICAL DATA

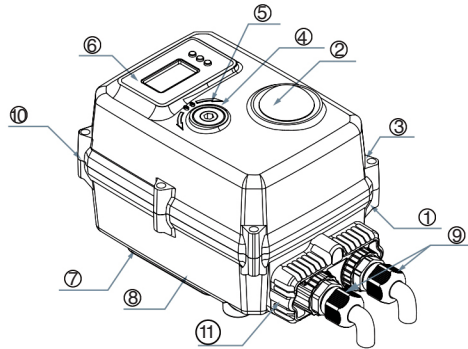
Electrical data	Rated voltage	AC230V50/60HZ		AC/DC24V
	Rated voltage range	AC95-265V/DC100-300V		AC18-26V/DC22-32V
	Power consumption	100W@running 2.1W@keep		100W@running 2.1W@keep
	Peak current	0.26A@5ms@AC230V	0.52A@KT@5ms@AC230V	4.5A@5ms@DC24V
		0.52A@5ms@AC110V	1.10A@KT@5ms@AC110V	10A@KT@5ms@DC24V
	Fuse	2A	5A@KT	15A
Functional data	Connecting cable	Connector: 9P-5.08-500V x (0.5-1.5)mm ² / 10P-(0.3-0.5)mm ²		
	Rated torque	80Nm@rated voltage		
	Angle of rotation	90±2°		
	Max angle of rotation	330±5°		
	Manual operation	Matching hexagon wrench, using at power cut		
	Running time	About 10s		
	Operating mode	S3-70% (loading ≤85% rated torque)		
	Sound power level	Max 65dB(A)		
Working conditions	Position indicator	Mechanical and screen		
	Electricity safety level	I Type (ground protection)		III Type (ground protection)
	Inflaming retarding level	1.6mmHB/UL94 test method		
	Enclosure	IP67 As per EN60529/GB4208-2008 (all directions)		
		F type can add dehumidifying heater		
	Insulation resistance	100M Ω / 1500VDC		100M Ω / 500VDC
	Withstand voltage	1500VAC@1Min		500VAC@1Min
	Medium temperature	≤80° can install with actuator directly		
		>80° need to install bracket or heat radiation stand		
	Working environment	Indoor or outdoor; if exposed to the rain or sunshine		
		Need to install protective device for the actuator		
	Explosion-proof level	! Not explosion proof products. Do not use in flammable & explosive environments		
	Ambient temperature	14°F to 140°F (ABS); Custom options -4°F to 140°F		
	Non-operation temp	≤-40°F or ≥176°F		
	Ambient humidity	5-95% RH non-condensing		
	Shock resistance	≤300m/s ²		
	Vibration	10 to 55 Hz, 1.5 mm double amplitude		
	Installation notes	360° any angle. The need for manual operation or the wiring space		
	Maintenance	Free maintenance		
	Certification	CE		
Dimensions/weight	Dimensions	See dimensions		
	Connection standard	ISO5211 F05, F07		
	Output axis specification	Female octagonal		
	Hole deepness	≤0.79" (Female octagonal)		
	Weight	ABS material 4.9 lbs		

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DIMENSIONS



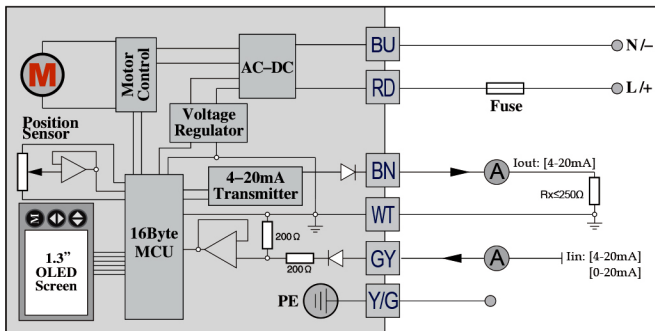
PARTS



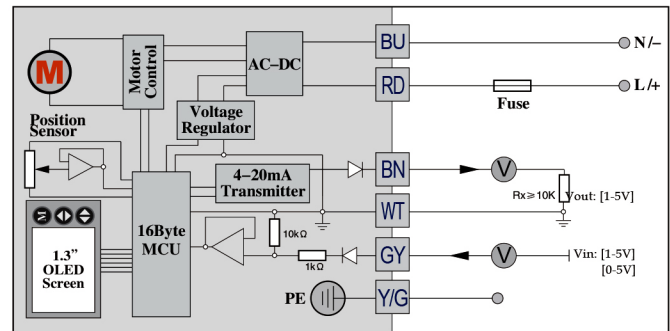
No	Parts Name	Materials	No	Parts Name	Materials
1	Actuator	ABS	7	Wrench fixed	ABS
2	Indicator	TransparentAS	8	Hexagon wrench	Tool steel
3	Screwx4	304	9	Waterproof cable connector	NiLon
4	Manual shaft	304	10	Seal part between up and down cover	NBR
5	Oil seal	NBR	11	Terminal cover	ABS
6	Label	PVC			

WIRING DIAGRAMS

4-20mA / 0-20mA



0-5V/1-5V / 0-10V / 2-10V



Control instructions - [No Alert/ 7-core] :

- 1 [RD][BU] are power supply.
- 2 [GY][WT][BN] are Control input and feedback output.
- They are forbidden to connect the power supply, otherwise it will damage the control module.
- 3 Make sure voltage practicable range, ■ otherwise it will damage the control module.
- 4 [GY] is feedback current input: 4-20mA, 0-20mA, 0-5V, 0-10V, 2-10V, input impedance refers to relevant wiring diagram.
- 5 [BN] is control current output 4-20mA, 0-20mA, 0-5V, 0-10V, 2-10V.
- 6 $V_{out}=I_{out} \times R_x$,
 ΔR_x is recommended to use low TCR resistor.
 Δ recommended $V_{out}=5V, R_x=250\Omega/0.25V$.
- 7 ■ For "4-20mA/1-5V/2-10V" control, from "user setting", user can set no control signal valve to full-open, full-close or keep. For other control (0-20mA, 0-10V, 0-5V), such setting is invalid.
- 8 When actuator is stuck or other working failures, output failure signal.
 Contactor loading capacity: 0.1A/DC24V, 50mA/230V.

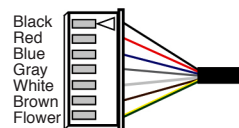
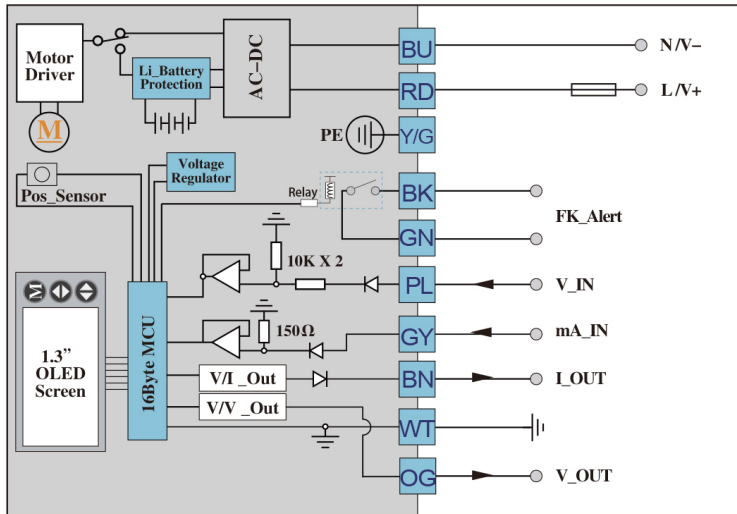


Figure 1 (7 wiring diagram)

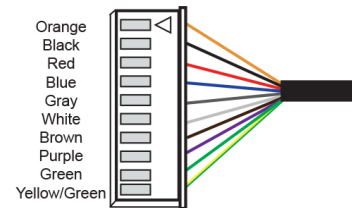
WIRING DIAGRAMS



Through menu can choose input way Voltage or Current,same can choose 0-5V,0-10V,2-10V,1-10V,or 0-20mA,4-20mA.

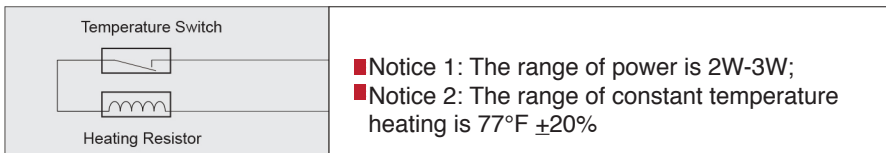
With alarm signal output function –wiring instruction

- 1、**BU****RD** are power supply, **BK****GN** are alarm signal output
- 2、**PL****GY****BN****WT****OG** are control and feedback .They are forbidden to connect the power supply directly, otherwise it will damage the control module.
- 3、Please confirm the votage before using,otherwise it will damage the control module.
- 4、**PL** Input Votage: 0-5V, 1-5V, 0-10V, 2-10V, input impedance refers to relevent wiring diagram
- 5、**GY** Input Current: 0-10mA, 2-10mA, 0-20mA, 4-20mA, input impedance refers to relevent wiring diagram
- 6、**BN** Output feedback current: 4-20mA , through menu can set the voltage range.
- 7、**OG** Output feedback voltage: 0-10V , through menu can set the current range.
- 8、RX:
 - $\Delta V_{out}=I_{out} \cdot R_x$
 - ΔR_x is recommended to use LowTCR resistor
 - $\Delta V_{out} \leq 8V$,so $R_x \leq 400 \Omega$ (recommended $V_{out}=5V$, $R_x=250 \Omega/0.25W$) .
- 9、■ For "4-20mA/1-5V/2-10V" control, from "user setting", user can set no control signal valve to full-open. full-close or keep.For other control(0-20mA,0-10V,0-5V),such setting is invalid.
- 10、Once actuator is struck or other working failures ,the screen will show alarm information although not alarm signal .Notice the contactor loading capacity is :0.1A/DC24V,50mA/230V
- 11、Loading capacity $\geq 10K \Omega$ when output is 0-10V ,the length of wire and resistor will affect the accurary ,please use the littler wire resistor.



10 wiring diagram

WIRING DIAGRAMS



MOUNTING INSTRUCTIONS

Notice

1. When assembling with valve, it's suggested to use spring washer with flat washer in order to fasten the screw and nut.
2. It's recommended to use 704 silica gel or instant cement instead of anaerobic adhesive and UV glue.
3. Keep the actuator housing away from organic solvents, such as: kerosene, butane, trichloroethane, etc or the housing may crack.

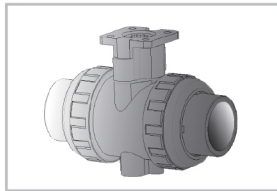
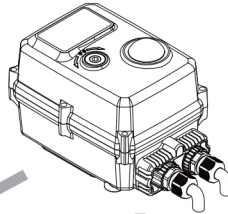


Diagram 1 (with bracket)

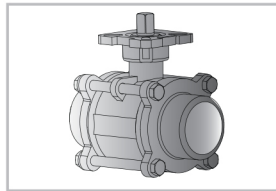


Diagram 2 (direct mount)

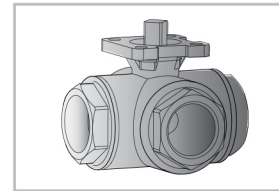


Diagram 3 (direct mount)

Diagram 1: UPVC plastic ball valve and bracket assembly

Diagram 2: 3 piece stainless steel ball valve assembly

Diagram 3: 3 piece stainless steel 3 way ball valve assembly

INSTALLED VALVE TECHNICAL REQUIREMENTS

Valve type	Recommend install condition
Wafer butterfly valve	Actuator rate torque ≥ 2 times valve max torque
Flange butterfly valve	Actuator rate torque ≥ 1.7 times valve max torque
Metal ball valve	Actuator rate torque ≥ 1.7 times valve max torque
Plastic ball valve	Actuator rate torque ≥ 1.5 times valve max torque

1. If the ball valve is out of operation for a long time, and the torque value of first on or off is the max torque
2. When installing a direct mount model valve, the hole deep is ≤ 0.79 in. It requires cutting if the output shaft is longer than 0.79in.
3. Pay attention to the following items if you install the bracket and coupling by yourself:
 - The intensity of the bracket should meet the using requirements: the bracket twisting extent < 0.0079 in the process of on or off
 - The parallelism of the bracket < 0.020
 - When processing the shaft hole at both ends of the coupling, it is necessary to ensure the accuracy and concentricity. The purpose is to make sure the mechanical hysteresis $< 10^\circ$, otherwise it will cause the actuator to work incorrectly.
4. The screw should be installed with a spring washer and flat washer and we suggest you daub some glue cement around the screw in case of the screw loosening.
5. After installation, the user should switch the valve on and off one time with handle device first. Modifying the valve after makes sure it works well.

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COMMON FAILURES & PROCESSING METHODS

	Fault Phenomenon	Fault Cause	Processing Methods
1	Actuator not working	Power not connected	Connect power
		Voltage below level or incorrect	Check whether voltage is within the normal range
		Overload protection of motor after 3S	Check whether valve is stuck or torque value is too large
		Terminal loose or poor contact	Check and correctly connect terminal
		Starting capacities poor run	Contact the manufacturer for repair
2	No feedback signal	Line barrier of user acquisition signal	Connect user acquisition signal
		4-20mA deviation is too big	Adjust the reference value
		4-20mA transducing circuit damage	Contact manufacturer for repair
3	Actuator not fully closed	Use feedback signal to control actuator	Receive feedback signal doesn't mean actuator is fully closed, so do not cut power off
		Return difference increased due to abrasion between actuator and valve rod	Adjust valve - off position to realize deviation by the menu or contact manufacturer for repair
4	Actuator interior water ingress	OD of incoming line cable is non-standard	Adjust valve-off position to realize deviation by the menu or contact the manufacturer for repair
		Waterproof treatment of incoming line incomplete	Contact manufacturer for repair
		Actuator lens worn out	
		Screws on connection cover/head cover/side cover loose	

WORKING ENVIRONMENT

- Indoor and outdoor are both options
- Not explosion-proof products. Do not use in flammable and explosive environments
- You need to install protective devices for the actuator if it is exposed to rain or sunshine
- Pay attention to the ambient temp
- When installing, consider the reserved space for wiring and repairing
- When power is one, do not dismantle actuator and valve or connect wiring

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