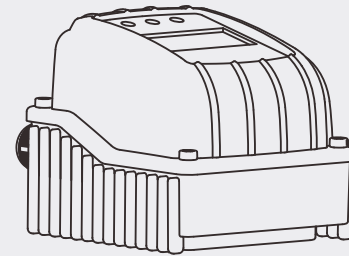
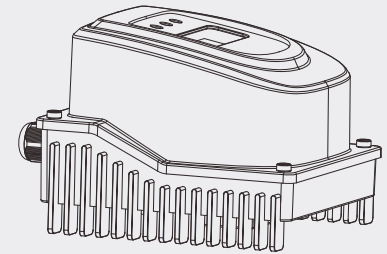


Variable Frequency Pump Controller

EIC Series



EIC-5



EIC-6

Catalogue

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5. System Start

Once the setting is completed, EIC can be started after power on for 3 seconds with the power indicator light on. The system pressure is shown when LCD displays for 3 seconds.



Do not let the pump run for a long time when it is connected to the power for the first time, or it will damage the current transformer due to overheating. Be sure to prime the pump full with water before connecting to EIC.

6. Functional Description

6.1 LCD Display

The screen can display real-time working pressure and frequency.
Flow Display: dynamic display of the flow as the following



With flow



Without flow

6.2 Shut-down without water

When the system is in normal operation with tap on, EIC will gradually stop the pump when there is no flow through the unit to avoid any dry-running.

6.3 Shut down for leakage

Alarm will be initiated after three times of continuous leak detection.

6.4 Power reset

Detect for starting every 24 hours.

6.5 Overload Protection

6.6 Overvoltage (under-voltage) Protection

6.7 Common Trouble-shooting and Solutions

Screen Display	Reasons	Solutions
E1	Overvoltage or under-voltage	Restore input voltage to normal for 2 seconds.
E2	Lack phase (over-current)	
E3	Open circuit of sensor	Properly connect the adapter of pressure sensor
E4	Short circuit of sensor	Replace the pressure sensor
E5	Short circuit of IPM module	
E6	Communication failure of serial port	Restore input voltage to normal for 2 seconds.
E7	Leakage	Check the pipeline

4. Menu Setting

4.1 Control Panel

There are three buttons and three lights on EIC menu:



	The pressure value is flashing when you touch the display screen with the power on. Set a constant pressure value then it will restart 3 seconds after setting. Press the button for three seconds to shut it down.
	Each time you press this button, the parameter value increases accordingly.
	Each time you press this button, the parameter value decreases accordingly.
	Press both two buttons to enter the menu for current frequency checking. Press "SET" button to check the pressure.
	Press these three buttons at the same time to enter the setting menu.

00	Pressure sensor capacity	10bar or 20bar	Default 10bar	
01	Selection of motor's Working frequency	50Hz and 60Hz	Default 50Hz	
02	Carrier frequency	5-16KHZ	Default 10KHZ	
03	Decimal point 0	4-12 figures	Default 7 figures	
04	Proportional P	1-99	Default 20	The higher value, the sooner start
05	Integral I	1-99	Default 40	The higher value, the poorer stability
06	Differential D	0-50	Default 10	The higher value, the higher sensitivity
07	Dry-run deviation	0.2-1bar	Default 0.2	The higher value, the sooner stop
08	Time of dry running	20-60	Default 30 seconds	
09	Restart time from dry running	30-90	Default 60min	

1. Introduction & Applications

EIC-6 series, the modular designed product, is an AC frequency pump controller. It can be installed on the motor shell of majority pumps on the market through adapter plate. The total aluminum base enables full heat dissipation of heating components, which improves product reliability and service life. The design of all-touch keys enhances its technological modernity.

The controller detects the pipeline pressure by the pressure sensor and adjusts motor speed combining PID operation. Motor's soft start and the change of motor's rotation speed are able to prolong motor's service life and reduce energy consumption.

Classic Applications :

- Family housing
- Apartment
- Holiday housing
- Farm
- Supply of well water
- Irrigation in greenhouse and garden; agricultural irrigation
- Rainwater recycling
- Industrial plant

2. Technical Parameters

- Input ----- Single phase 220V $\pm 10\%$
- Output ----- Three phase 220V $\pm 10\%$
- Motor Connection----- Delta connection 220V
- Max. Power----- 0.75kw(EIC-5)/1.1Kw (EIC-6)
- Constant pressure range----- 1.0 bar -3 bar
- Sensor thread----- G1/4"male thread
- Frequency range--- 10HZ-60HZ
- Protection grade----- IP 54
- Ambient temperature ----- $-15^{\circ}\text{C} \sim 45^{\circ}\text{C}$
- Ambient humidity----- Less than 90%

3. Installation

3.1 Pipe Connection

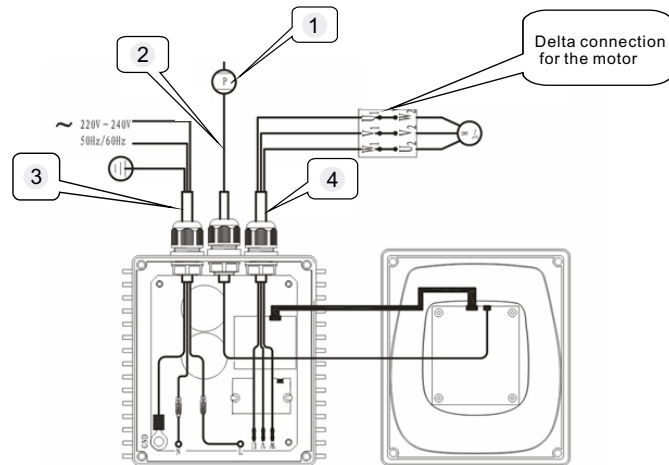
In order to have a stable system operation, the one-way check valve and pressure tank shall be equipped on the pipe. The pressure sensor must be connected to the one-way check valve at pump's outlet side.

3.2 System Connection

3.2.1 Power Connection

Standard Configuration & Connection:

- ① Pressure sensor
- ② Connection line for the sensor
- ③ Power line
- ④ Motor line



CAUTION: RISK OF ELECTRIC SHOCK

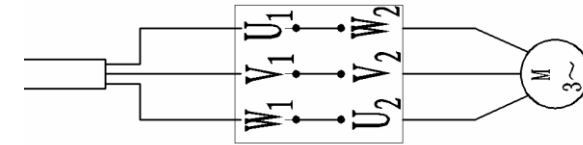
With regard to any installation and maintenance, disconnect the power connection and open the cover two minutes later.



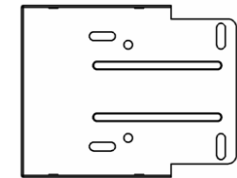
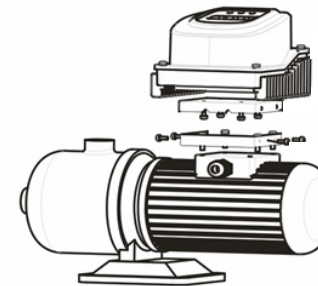
Please ensure that the rated voltage and frequency conform to EIC requirements.

3.2.2 Pump Connection

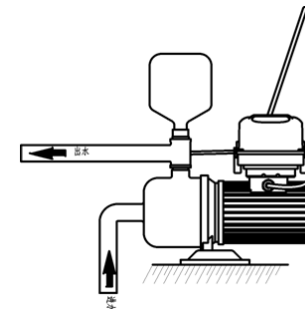
- Requirements of rated value of pump's motor: motor's input voltage: 220V, three-phase, 50/60Hz, power $\leq 0.75\text{Kw}$ (EIC-5)/ 1.1Kw (EIC-6)
- The EIC unit is pre-wired with a 3-wire-cable (marked as U.V.W) for pump connection and a suggested connection is shown as the following figure.



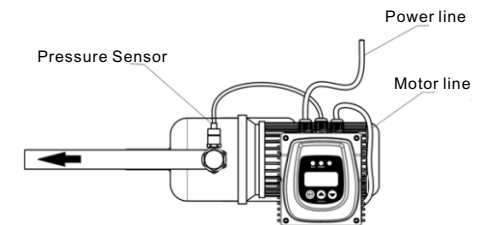
- EIC is fixed to the pump via an adapter plate, which can be made according to customer's pump model.



Adapter Plate



Installation Drawing



Line Connection