FI Series Manual (1.0)

Please read this instruction manual in detail and keep it properly before use

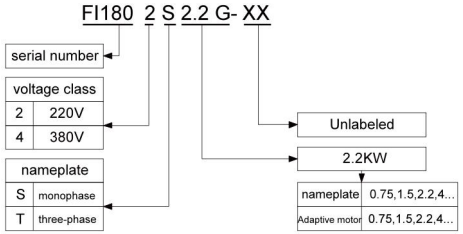
1、summary

This document is intended to help users quickly understand the basic information of the product and complete the basic installation, wiring and commissioning accordingly. For more detailed information, please contact this product dealer.

warning against danger
1. Wiring and power-on operation must be carried out by professional personnel.
2. Wiring, the power supply must be cut off before power distribution operation; 5 minutes after power failure.
3, R, S, T / L, N are input power terminals, U, V, W are output terminals of the motor, it is forbidden to connect the power line to the UVW terminal, otherwise the controller will be damaged.
4. The controller grounding terminal shall be reliably grounded.

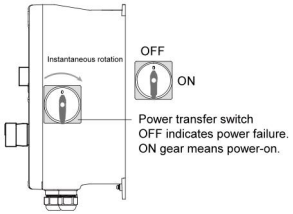
2. FI110 / FI180 / FI310 Product Introduction (take FI180 for example)

2.1 Model description



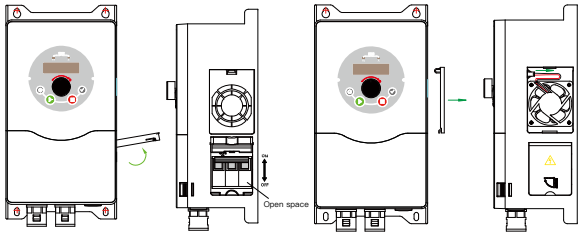
2.2 Switch description

2.2.1 (FI110)



2-gear power supply (standard)

2.2.2 (FI180)

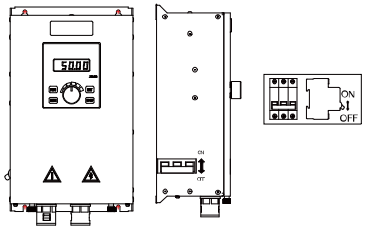


Switch power supply: open the cover, open the handle and turn on the power supply; pull down the handle and turn off the power supply;

Change the fan: open the net cover, unplug the fan line to plug the terminal, you can take out the fan;

Note: When shutdown, press the stop key to shut down, and then pull the fan after stabilizing. It is not recommended to pull down and stop the fan in operation, so as not to damage the controller by the arc due to the surge pull.

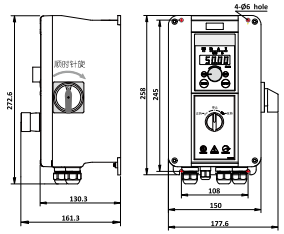
2.2.3 (FI310)



Circuit breaker switch (pull up off, pull down off)

2.3 Product size (in mm)

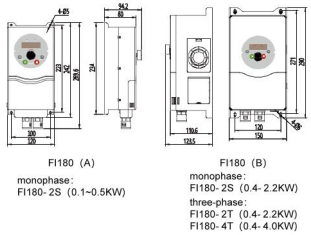
2.3.1 (FI110) Outline Size: 161.3 * 258 * 177.6 Installation size: 108 * 245 * M6



(Plastic-shaped shell structure)

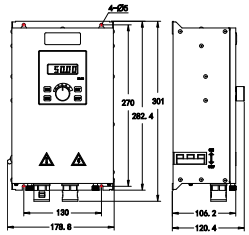
2.3.2 FI180 (A) Outline Size: 120 * 269.6 * 94.2 Installation size: 100 * 223 * M5

FI180 (B) Size: 123.5 * 150 * 290 Size: 120 * 271 * M6



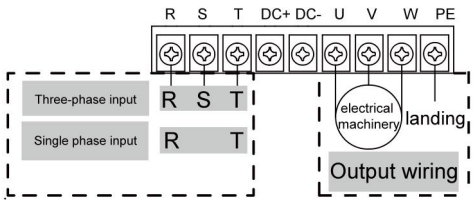
(Plastic-shaped shell structure)

2.3.3 (FI310) Overall dimension: 178.8 * 282.4 * 120.4 Installation size: 130 * 270 * M5



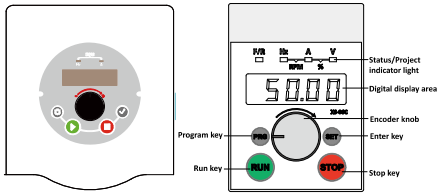
(metal construction

2.4 Terminal wiring of the main loop and control signal terminal wiring



Note: (FI180 single-phase input is LN, FI110 / FI310 single-phase input is RT)

2.5 Operation panel



FI180/FI110/FI310

Introduction to the keyboard key function

FI180	FI110 FI310	key name	Function key introduction
	PRG	Programming key	Primary menu enter or exit, programming mode switch
	RUN	Run the key	In the keyboard operation mode, start the frequency converter
	STOP	break key	In the keyboard operation mode, stop the frequency converter After the inverter fails and troubleshooting, press this key to reset
	SET	Confirm the key	Enter the menu screen successively, confirm and save the parameters
		Potential knob	The left rotation value decreases, while the right rotation value increases Move one character (or digits) to the right per press

3. Commissioning steps and parameters

Step serial number	Function code	set value	function declaration
1	P0.13	1	Restore the parameters related to the factory and industrial fans
2	P0.04	Motor determination	Input motor rated frequency
3	P0.05	Motor determination	Input the upper frequency or maximum speed of the motor requirement
4	P0.10	0	If the motor is reversed, it can be set to 1 to achieve the purpose of changing the motor steering without changing the motor wiring
5	P0.11	12.0kHz	Carrier frequency above 3Hz (such as the motor electromagnetic noise can be added up, generally about 12K)
6	P2.03	Motor determination	Input motor rated frequency
7	P2.04	Motor determination	Rated rotation speed of the input motor
8	P2.06	Motor determination	Input motor rated current

4. Fault diagnosis and handling methods

Fault code description and countermeasures

Fault code	Fault name	Possible cause	processing method
E001	Accelerate over current	1. The acceleration time is too short 2. Output grounding or short circuit 3. No motor under the vector control mode 4. Mutation load during acceleration 5. Excessive manual torque increase or improper V / F curve setting 6. Low voltage 7. The selection of frequency converter is too small	1. Longer acceleration time 2. Check the insulation of the motor and the cables. 3. Identify the parameters of the motor 4. Check the load 5. Reduce the torque increase value or modify the V / F curve value 6. Check the power supply voltage or check the bus bar voltage value 7. Choose the frequency converter with a larger power level
E002	Slow down over current	1. The deceleration time is too short 2. Output grounding or short circuit 3. No motor under the vector control mode 4. There is a mutation load during the deceleration process 5. Excessive manual torque rise or improper V / F curve setting 6. Low voltage	1. Longer deceleration time 2. Check the insulation of the motor and the cables. 3. Identify the parameters of the motor 4. Check the load 5. Reduce the torque increase value or modify the V / F curve value 6. Check the power supply voltage or check the bus bar voltage value
E003	Constant speed over current	1. Output grounding or short circuit 2. No motor under the vector control mode 3. There is a mutation load during the operation 4. Low voltage 5. The selection of frequency converter is too small	1. Check the insulation of the motor and the cables. 2. Identify the parameters of the motor 3. Check the load 4. Check the power supply voltage or check the bus bar voltage 5. Choose the frequency converter with a larger power level
E004	Accelerated overvoltage	1. The input voltage is too high 2. The acceleration time is too short 3. There is an external force dragging the motor in the acceleration process 4. No brake unit and brake are installed resistance	1. Adjust the voltage to the normal range 2. Increase the acceleration time 3. Check the load 4. Install the brake unit and the brake resistance
E005	Slow down over voltage	1. The input voltage is too high 2. The acceleration time is too short 3. There is an external force dragging the motor in the acceleration process 4. No brake unit and brake resistance are installed	1. Adjust the voltage to the normal range 2. Increase the acceleration time 3. Check the load 4. Install the brake unit and the brake resistance
E006	Constant speed overvoltage	1. The input voltage is too high 2. There is an external force dragging the motor during the operation process	1. Adjust the voltage to the normal voltage 2. Adjust the load or install the brake unit and the brake resistance
E007	Control power failure	1. The input voltage is not within the range specified in the specification 2. The relay does not suck	1. Adjust the voltage within normal range
E008	Underpressure failure	1. Low input voltage or poor contact contact 2. Bus voltage is abnormal 3. The relay or contactor do not engage 4. Abnormal control board	1. Check the input power supply voltage 2. Check the bus voltage value 3. Seek technical support or replace the contactor 4. Seek technical support
E010	Input the missing phase	1. Three-phase input power supply is phase deficiency 2. Drive board is abnormal	1. Check the power supply 2. Seek technical support
E011	Output lack of phase	1. The lead from the frequency converter to the motor is abnormal 2. The three-phase output imbalance or phase absence of the frequency converter 3. Drive board is abnormal 4. Abnormal module	1. Check the motors and cables 2. Seek technical support 3. Seek technical support 4. Seek technical support
E012	Short circuit to ground	1: Motor short-circuit to the ground 2: Misactions	1: Check the motor and the cable 2: PC.07 to 0, turn off function
E014	converter overload	1. Excessive load or motor blockage 2. The selection of frequency converter is too small 3. The motor is not self-learned	1. Check the load and the mechanical condition 2. Replace the frequency converter with a large power level 3. Change the control mode to V / F (PO.00=1) Reboot. Or to rotate the motor from self-learning.
E015	Motor overload	1. Protection parameter: PC.01 Setting is appropriate 2. Excessive load or motor blockage 3. The selection of frequency converter is too small	1. Set the parameters correctly 2. Check the load and mechanical conditions 3. Replace the frequency converter with a large power level
E016	The module overheating	1. The ambient temperature is too high 2. The air duct is blocked 3. The fan is damaged 4. Damaged module superheating device	1. Improve the ambient temperature 2. Clean the air duct 3. Replace the fan 4. Seek technical support
E018	External equipment failure	Enter the signal of the external failure through the multifunctional digital terminal X	Reset the operation
E021	Current detection failure	1. Current Hall detects the damage 2. Drive board failure	1. Check whether the Hall sensor and the plug cable are loose 2. Seek technical support
E026	Motor identification failure	1. Improper setting of the motor parameters 2. Parameter identification time is too long	1. Reset the motor parameters 2. Check whether the frequency converter is well connected to the motor
E028	Rapid flow limit failure	1. Excessive load or motor blockage 2. The selection of frequency converter is too small 3. The motor is not self-learned	1. Check the motor and the load 2. Self-identify the motor parameters 3. Change the control mode to V / F (PO.00=1) Reboot. Or to rotate the motor from self-learning.