

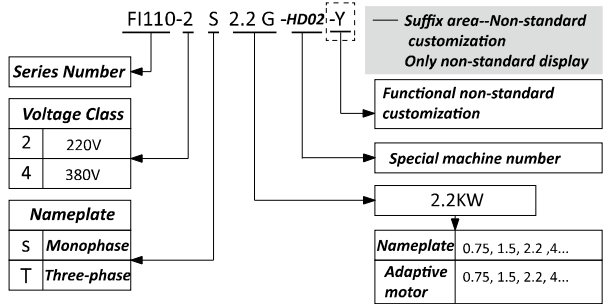
# USER Manual (v1.1)

## Chapter 1

The FI110 is a multifunctional and practical industrial fan controller developed by our company. It features high protection, easy operation, and stable performance. It supports fast power on/off and is compatible with various communication and control modes.

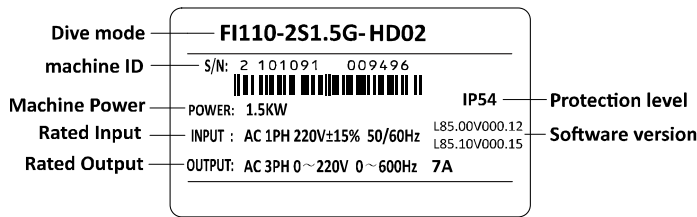
## Chapter 2 product information

### 2.1 Designation rules

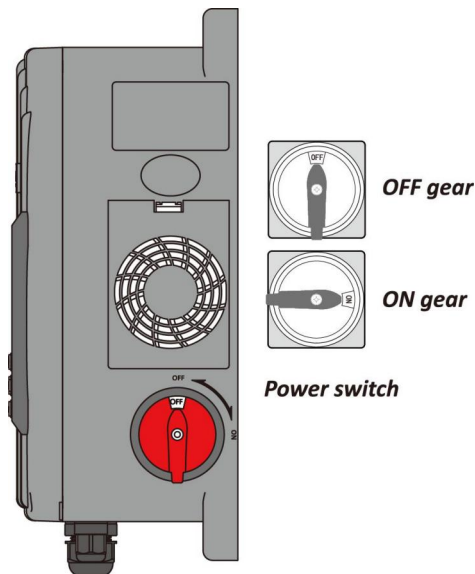


Note: The suffix area of the model number only displays the configuration with optional options, and no suffix is required for standard configuration.

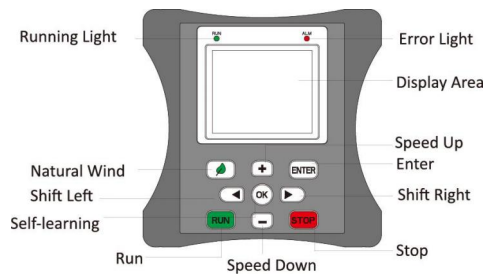
### 2.2 Nameplate of the FI110



### 2.3 Description for power switch



### 2.4 Operation panel

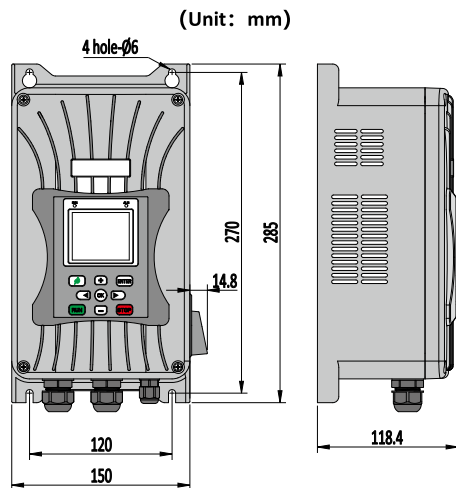


#### Introduction to keyboard key functions

	Natural Wind Key	<ul style="list-style-type: none"><li>The primary interface is the natural wind key, and the other interface is the return key</li></ul>
	increase speed	<ul style="list-style-type: none"><li>The initial interface speed is increased by 5 revolutions, and the other interfaces are moving up keys</li><li>Press in natural wind mode to exit natural wind mode.</li></ul>
	Confirm/Menu Key	<ul style="list-style-type: none"><li>Confirm, menu key</li></ul>
	Shift Left / Timer Key	<ul style="list-style-type: none"><li>The initial interface presses for five seconds to switch and move the key left</li></ul>
	OK KEY	<ul style="list-style-type: none"><li>Press and hold to enter self-learning mode</li></ul>
	Shift Right / Long Press for Forward-Reverse Switching	<ul style="list-style-type: none"><li>Press and hold the initial interface for 15 seconds to turn to switch, and the other interfaces are the right move key.</li></ul>
	RUN	<ul style="list-style-type: none"><li>move; be in motion; run; working; circulate</li></ul>
	Down Key / Speed Decrease	<ul style="list-style-type: none"><li>The initial interface decreases by five turns and moves the key down</li><li>Press in natural wind mode to exit natural wind mode.</li></ul>
	STOP	<ul style="list-style-type: none"><li>STOP</li></ul>

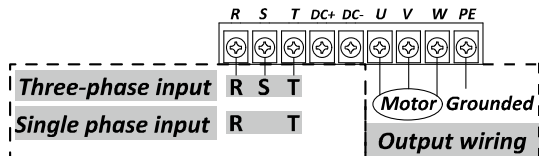
## Chapter 3 Product installation

### 3.1 Product Size



### 3.2 Main circuit terminal wiring

#### 3.2.1 Single-phase power supply/three-phase power supply wiring (standard with power on-off switch)



Three-phase & single-phase AC power wiring diagram

Application model:

Single phase: FI110-2S(0.75 ~ 2.2)G

Three-phase: FI110-2T(0.75 ~ 2.2)G FI110-4T(0.75 ~ 4.0)G

FI110-5T(0.75 ~ 4.0)G

Single-phase wiring:

Terminal marking	name	description
<b>R T</b>	Single-phase AC power input terminal	Connecting to single-phase AC power
<b>U V W</b>	Inverter output terminal	Connecting a three-phase motor
<b>PE</b>	Ground terminal	Inverter ground terminal

Three-phase wiring:

Terminal marking	name	description
<b>R S T</b>	three-phase AC power input terminal	Connecting to three-phase AC power
<b>U V W</b>	Inverter output terminal	Connecting a three-phase motor
<b>PE</b>	Ground terminal	Inverter ground terminal

## Chapter 4 Debugging steps and parameters

Step number	Function code	Set value	Function Description
1	P0.13	1	restore factory defaults
2	P0.04	determined by the motor	Enter the rated frequency of the motor
3	P0.05		Enter the upper limit frequency or maximum speed of the motor demand operation
4	P0.10	0	If the motor is in the reverse direction, it can be set to 1 to achieve the purpose of changing the direction of the motor without changing the motor wiring.
5	P0.11	12.0kHz	The carrier frequency above 3Hz (if the electromagnetic noise of the motor is large, it can be increased, generally around 12K)
6	P2.03	determined by the motor	Enter the rated frequency of the motor
7	P2.04		Enter the rated speed of the motor
8	P2.06		Input motor rated current

## Chapter 5 Fault diagnosis and treatment method

### Fault code description and countermeasures

Code	Display	Possible Causes	Solutions
<b>E001</b>	Overcurrent during acceleration	1: The output circuit is grounded or short circuited. 2: Motor auto-tuning is not performed. 3: The acceleration time is too short. 4: Manual torque boost or V/F curve is not appropriate. 5: The voltage is too low. 6: The startup operation is performed on the rotating motor. 7: A sudden load is added during acceleration. 8: The AC drive model is too small power class.	1: Eliminate external faults. 2: Perform the motor auto-tuning. 3: Increase the acceleration time. 4: Adjust the manual torque boost or V/F curve. 5: Adjust the voltage to normal range. 6: Select rotational speed tracking restart or start the motor after it stops. 7: Remove the added load. 8: Select an AC drive of higher power class.
<b>E002</b>	deceleration overcurrent	1. The deceleration time is too short 2. The output of the inverter is grounded or short-circuited 3. There is no parameter identification for the motor in the vector control mode 4. There is a sudden load during deceleration 5. The manual torque rise is too large or the V/F curve is not set properly 6. Low voltage	1. Increase the deceleration time 2. Check the insulation of the motor and cables. 3. Parameter identification of the motor 4. Check the load 5. Reduce the torque boost value or modify the V/F curve value 6. Check the power supply voltage or check the bus voltage value

<b>E003</b>	Constant speed overcurrent	1. The output of the inverter is grounded or short-circuited 2. There is no parameter identification for the motor in the vector control mode 3. There is a sudden load during operation 4. Low voltage 5. Inverter selection is too small	1. Check the insulation of the motor and cables. 2. Parameter identification of the motor 3. Check the load 4. Check the power supply voltage or check the bus voltage 5. Use a frequency conversion with a larger power level device
<b>E004</b>	Accelerating overvoltage	1. The input voltage is too high 2. The acceleration time is too short 3. During the acceleration process, there is an external force that drives the motor to run 4. The braking unit and braking resistor are not installed.	1. Adjust the voltage to the normal range 2. Increase the acceleration time 3. Check the load 4. Install braking unit and braking resistor
<b>E005</b>	deceleration overvoltage	1: The input voltage is too high. 2: An external force drives the motor during acceleration. 3: The acceleration time is too short. 4: The braking unit and braking resistor are not installed.	1: Adjust the voltage to normal range. 2: Cancel the external force or install a braking resistor. 3: Increase the acceleration time. 4: Install the braking unit and braking resistor.
<b>E006</b>	Constant speed overvoltage	1. The input voltage is too high 2. During the operation, there is an external force that drives the motor to run	1. Adjust the voltage to the normal voltage 2. Adjust the load or install braking unit and braking resistor
<b>E007</b>	control power failure	1. Input voltage not within specification 2. The relay does not suck	1. Adjust the voltage to within the normal range
<b>E008</b>	Undervoltage fault	1. The input voltage is low or the contacts are in poor contact 2. The bus voltage is abnormal 3. The relay or contactor does not pull in 4. The control board is abnormal	1: Reset the fault. 2: Adjust the voltage to normal range. 3: Contact the agen.
<b>E010</b>	input phase loss	1. Phase loss of three-phase input power 2. The driver board is abnormal	1: Eliminate external faults
<b>E011</b>	output phase loss	1. The lead wire from the inverter to the motor is abnormal 2. The inverter output three-phase unbalanced or lack of phase 3. The driver board is abnormal 4. Module exception	1: Eliminate external faults. 2: Check whether the motor three-phase winding is normal.
<b>E012</b>	Short circuit to ground	The motor is short circuited to the ground.	Replace the cable or motor.
<b>E014</b>	AC drive overload	1: The load is too heavy or locked- rotor occurs on the motor. 2: The AC drive model is of too small power class.	1: Reduce the load and check the motor and mechanical condition. 2: Select an AC drive of higher power class.
<b>E015</b>	Motor overload	1: PC.01 is set improperly. 2: The load is too heavy or locked- rotor occurs on the motor. 3: The AC drive model is of too small power class.	1: Set PC.01 correctly. 2: Reduce the load and check the motor and the mechanical condition. 3: Select an AC drive of higher power class.
<b>E016</b>	Module overheat	1. The ambient temperature is too high 2. The air duct is blocked 3. The fan is damaged 4. Module overheating device damage	1. Improve the ambient temperature 2. Clean the air duct 3. Replace the fan 4. Seek technical support
<b>E018</b>	External device failure	Input external fault signal through multi-function digital terminal X	reset operation
<b>E021</b>	Current detection failure	1. Current Hall detection damage 2. Drive board failure	1: Replace the faulty current sensor. 2: Replace the faulty drive board.
<b>E026</b>	Motor identification fault	1. Improper setting of motor parameters 2. The parameter identification time is too long	1. Reset the motor parameters 2. Check whether the inverter is connected to the motor
<b>E028</b>	Fast current limit fault	1. Excessive load or motor stall 2. Inverter selection is too small 3. The motor is not self-learning	1. Check the motor and load 2. Self-identification of motor parameters 3. Change the control mode to V/F (PO.00=1) and restart. or right The motor performs rotation self-learning.