15A AHF

WIFI interface operation

1 Quick user manual

The standard model of Sinexcel 15A active power filter does not contain large monitoring module. WIFI is used for device commissioning and parameter review. As for ordinary use site, it can be used after connecting power cables and CT. The specific operation steps are as follows:

(1) Close disconnecting switch between power grid and active power filter to electrify the machine.

(2) Turn on WIFI of mobile phone, tablet and PC and add the hotspot. The hotspot name is "PQ+6 random letters" (e.g.: PQ42a076), as shown in Fig. 4-1. The initial password of the hotspot is 08080808.

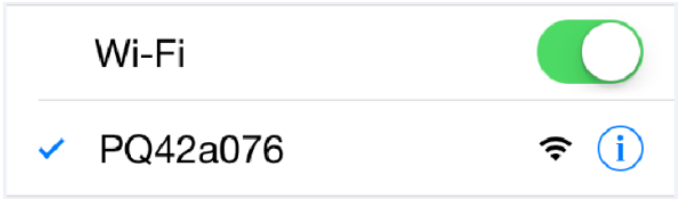

Fig. 4-1 WIFI hotspot of Sinexcel AHF

(3) Open the browser and enter "192.168.1.1" in "Address Search", as shown in Fig.4-2. Click "Search" to enter the login interface.

Fig. 4-2 Enter IP address

(4) In the login interface, enter "admin" in "username" and enter "08080808" in "password", as shown in Fig.4-3. Click "Login".

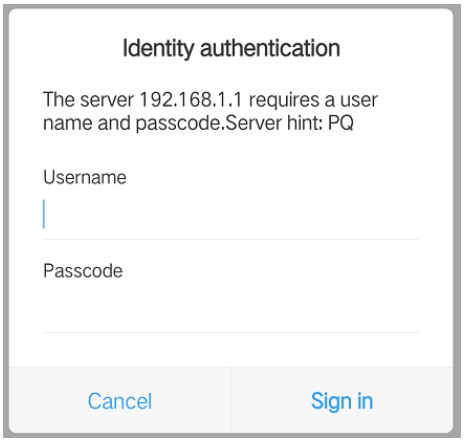

Fig. 4-3 Enter login name and password

(5) After WIFI connection, enter the operation interface to review power grid voltage, power grid current, load current, compensation current and other data, as shown in Fig. 4-4. Refer to Table 4-1 for detailed menu information.

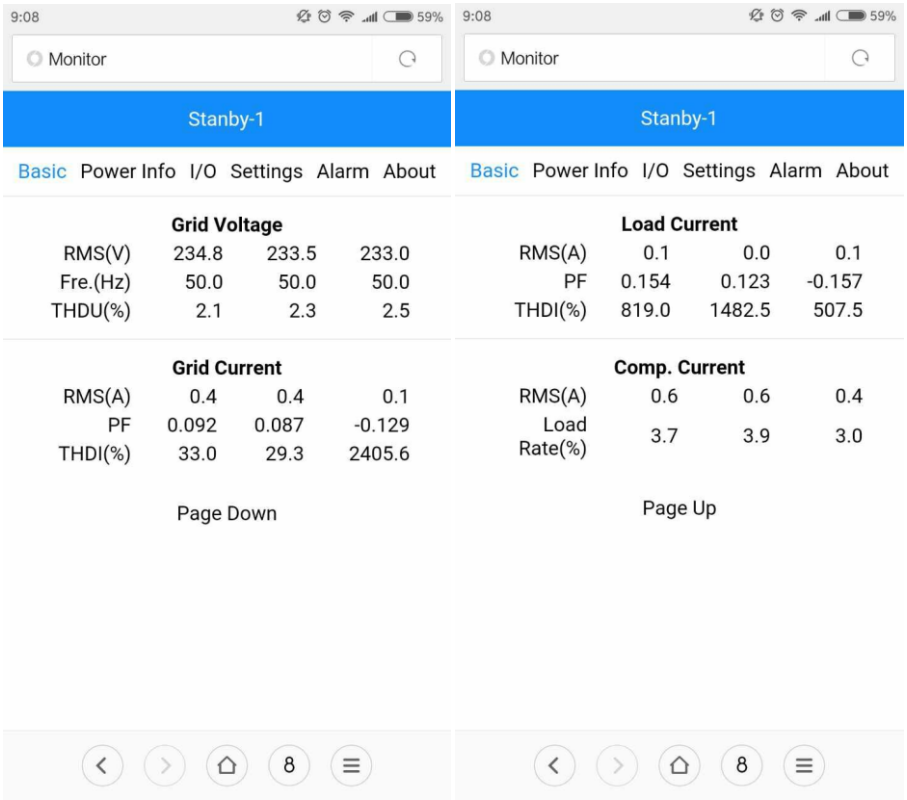

Fig. 4-4 Monitoring interface

In “Setting” menu, you can review “Compensation rate”, “Operation mode”, “Salve quantity” and “Total capacity” etc., as shown in Fig.4-5. In the last page, you can review “Description of some parameters setting”, as shown in Fig. 4-6. Different function combinations refer to different meanings and have different priorities. For example, Q+B+ H means that AHF compensates reactive power first, three-phase imbalance second and harmonics third. Auto-aging mode customers cannot select it and use it based on AHF delivery. As for operation mode, AHF has been set upon delivery. So, customers do not need to set it again.

Click “Start” in the setting menu and click “OK”. When the page will display “monitoring sending succeeded! return”, “Start” command can be sent successfully, as shown in Fig. 4-7.

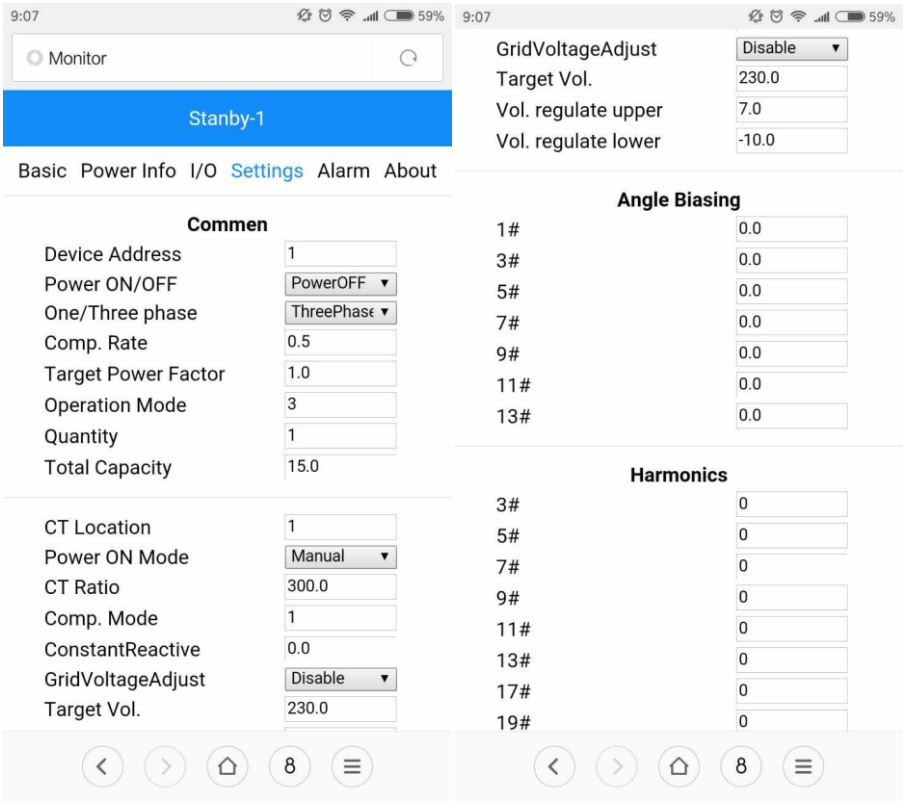

Fig.4-5 Setting interface

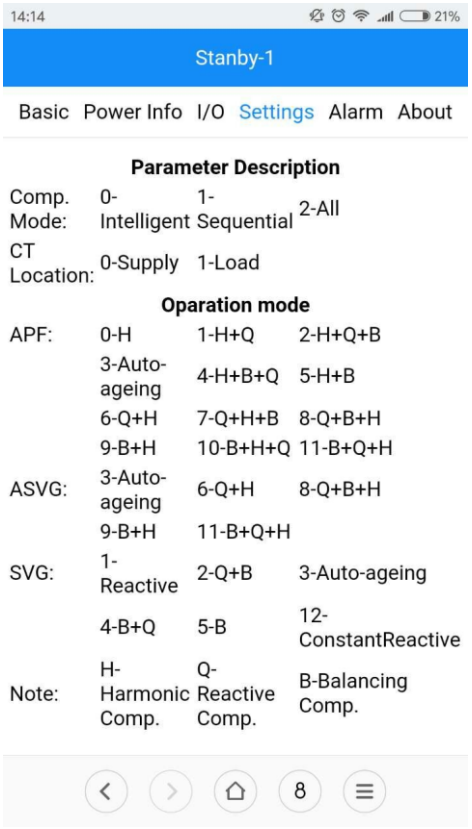

Fig. 4-6 Description of some parameter setting

Fig.4-7 Interface of monitoring sending success

Table 4-1 Menu description of AHF

Option	Item	Description and definition
Review data	3-phase power grid voltage	Review the effective value of phase voltage
	Compensation current	Review the compensating phase current of AHF
	Current in power grid side	Review the phase current of power grid
	Current in load side	Review the phase current of load
	Power factor in power grid side	Review power factor in power grid side
	Power factor in load side	Review power factor in load side
Review status	Warning information	Display the current fault information
	Operation state	Normal: AHF runs normally; stop: AHF is in a standby state; fault: AHF runs in fault.

Table 4-1 Menu description of AHF (continued table)

Option	Item	Description and definition
Setting	CT ratio	Set external CT Ratio, e.g. 150:5 etc.
	Total capacity	Set the actual capacity of the system
	CT location	CT is installed in power grid side or load side.
	Startup mode	Set manual startup or automatic startup
	Single/3-phase selection	3-phase for 15A machine
	Compensation rate	It is commissioned by the factory for further use. Customer does not need to set it.
	Target power factor	Set the expected power factor
	Operation mode	Harmonics, reactive power, imbalance, auto-aging
	Reactive power	15A does not have this function. It is set as 0.

	Regulation of power grid voltage	15A does not have this function. It is set as “forbidden”.
Startup and shutdown	Send power on, power on, clear fault reset and return commands	

2 Electrification steps

After the machine is fixed, please confirm whether the electrical connection of AHF is completed. Electrification can be conducted after the electric connection of AHF has no error.

(1) Ensure that all input distribution switches of AHF are cut off. These switches should be pasted with warning labels so as prevent others from operating them.

(2) Ensure that 3-phase wiring terminals of AHF are connected correctly (**It is necessary to check whether the N wire is connected correctly, otherwise the equipment will be damaged directly)**. CT wiring is matched with each phase, and each wiring point complies with the installation standard so as to prevent any danger caused by electric shock.

(3) Protective earth wire and other necessary grounding cable are connected to the grounding point PE of AHF so as to prevent any danger caused by housing electrification.

2.1 Startup steps

After AHF is electrified and inspected, the machine can be started after being commissioned by an engineer. The steps are as follows:

(1) Close disconnecting switch between electric supply and AHF.

(2) After normal electrification, the indicator light flickers in a standby state. User selects start sending command to start the system via WIFI or centralized monitoring setting interface. During AHF operation, the indicator light is always on.

2.2 Shutdown steps

There are two modes to shut down the device: One is to directly disconnect the isolating switches of AHF and power grid. This mode is a complete shutdown mode. After it is shut down, the system will be not electrified. System maintenance can be carried out. The other is to enter WIFI startup and shutdown interface. Click shutdown key to power off the machine. In this shutdown mode, only power component is closed in the system. As the system busbar and auxiliary power are still electrified, relevant control system is still in a standby state. In this shutdown mode, machine maintenance or housing opening will be not allowed.

3 Description of warning information

Table 4-2 Description of warning information of 15A AHF

Fault type	Description

Auxiliary power fault	Auxiliary power voltage is lower than the set value. Within valid 8us of auxiliary power supply, CPLD will directly lock IGBT trigger pulse.
Over-temperature of inverter	If the temperature of inverter substrate exceeds 100 ℃, the inverter will stop running.
CT ratio setting fault	The current is more than 1.5 times of rated current of external CT, and phase sequences of CT are connected reversely.
Inverter overload fault	Output current is more than 150% rated current.
System faults	DC bus voltage is abnormal.
Read fault of machine capacity	The machine capacity is not equal to 15A.
EPO fault	Report EPO fault.
Input frequency abnormal	AC input frequency is not within 45Hz~63Hz.
Input voltage abnormal	The input voltage is not within 138V ~ 265V.
Software version fault	DSP software does not match with CPLD software.
Controller parameter setting fault	1) At CT position, the parallel capacity is more than unit capacity. 2) The machine capacity is more than the parallel capacity. 3) The machine capacity is not equal to 15A. 4) The input voltage grade is not equal to 380V.

4 Fault handling

Classification of mechanical faults:

(1) Faults caused by user's wrong use such as reverse connection of CT wires, wrong connection of phase sequences of power wires or parameter setting error: During startup for commissioning, this kind of faults can be found by observing the data. If the compensation effect is poor and there is no warning information, please contact service engineer of Sinexcel.

(2) LCD displaying alarm information: Please directly contact service engineer of Sinexcel.

(3) No response of electrified machine: Please directly contact service engineer of Sinexcel.