

Special Statement

- Forbid to copy the full content or part of the content of the user manual without any authorization.
- If any contents in the manual changed, it will be not noticed specially
- Our company will try our best to make sure all of the contents in the manual are correct, if you find any mistakes or missing in it, please contact us.
- Our company will be not with responsibility for any direct or indirect loss caused by using this manual.

Notices

- The performance of the rectifier is closely linked with the operation environment, so please pay attention to this when installation.
- This manual provides the operation instructions for SMA series rectifier, the users should read it before operation.
- Sign "*" means these parts of functions are customized functions, it is only suitable for parts of rectifiers who choose to make it.

※ Below signs mean the parts of content are important, please notice.

WARNING If ignore, it may cause hurt or serious death, so the users should observe the instructions.

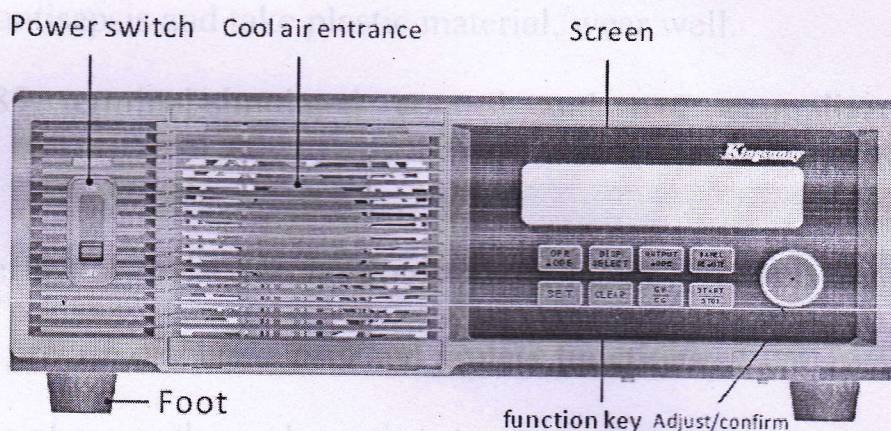
NOTICE If ignore, it may cause hurt or equipment damage due to uncorrective operation, so the users should observe the instructions.

LIMIT It means forbid operating, if operate the equipment incorrectly, it may cause equipment damage or faults or affect the product quality.

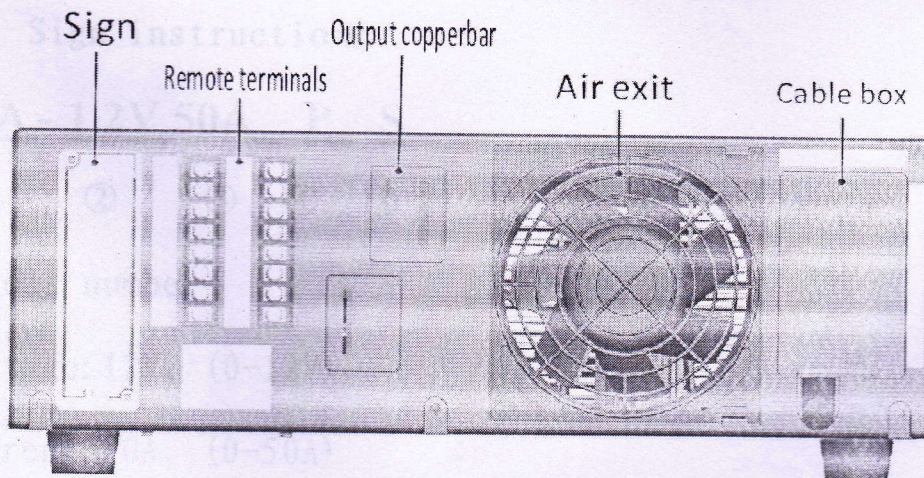
ONE、 Product profile

SMA series intelligent switching rectifier is one of the newest switching rectifiers of our company. It has the advantages of full position antiseptis, multi-waves output, multi-functions to meet the requirements of different users' process. It also has the features of panel control, remote control, PLC analog signal control, RS485 digital signal control, LED display. This type of power supply is easy for installation, maintenance, operation.

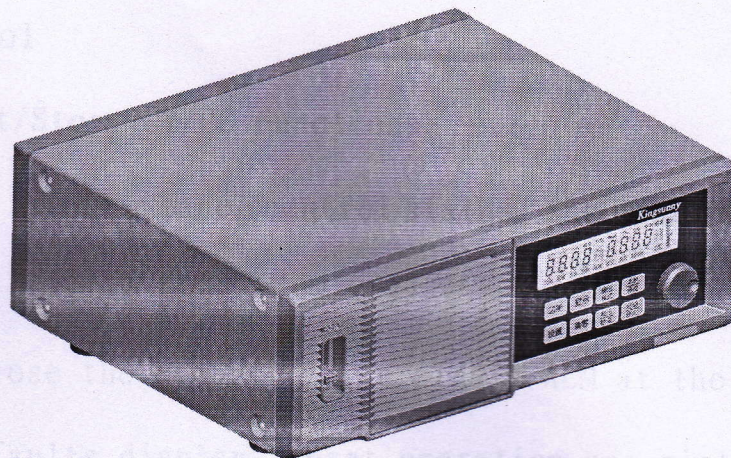
1. 1 Front panel :



1. 2 Back panel:



1. 2 Side view



Two、 Main features

- Full antiseptic and take plastic material, wear well.
- RS485 terminal/simulated control and n+1 centralized monitor operation.
- Power factor revised technology, power factor > 0.9 ;
- High precise display, alarm and protect functions.
- Single phase or three phases input

Three、 Specification

3. 1 Sign instructions

SMA - 12V 50A _ P S

① ② ③ ④ ⑤

- ① Series number
- ② Voltage: 12V、 (0-12V)
- ③ Current: 50A、 (0-50A)

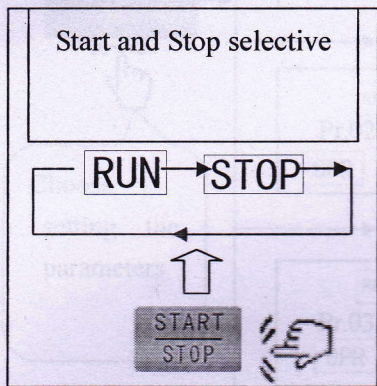
④ P: smooth wave form output

⑤ S: panel control

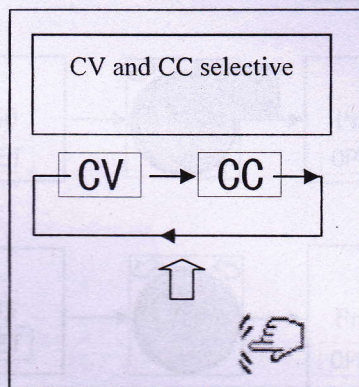
Four. Rectifier Start/Stop, CV/CC functions

When the rectifier is under panel control status, the user can change the output states through the below keys, see picture 1, 2.

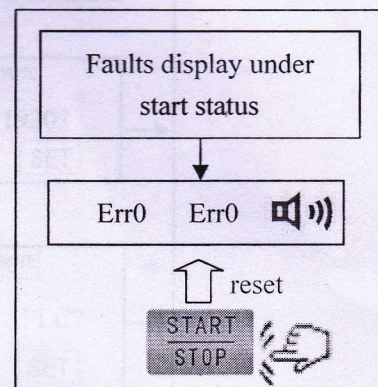
Rectifier faults: Close the connection terminals ALM at the rear of the rectifier when faults display, reset operation, see picture 3.



Picture 1



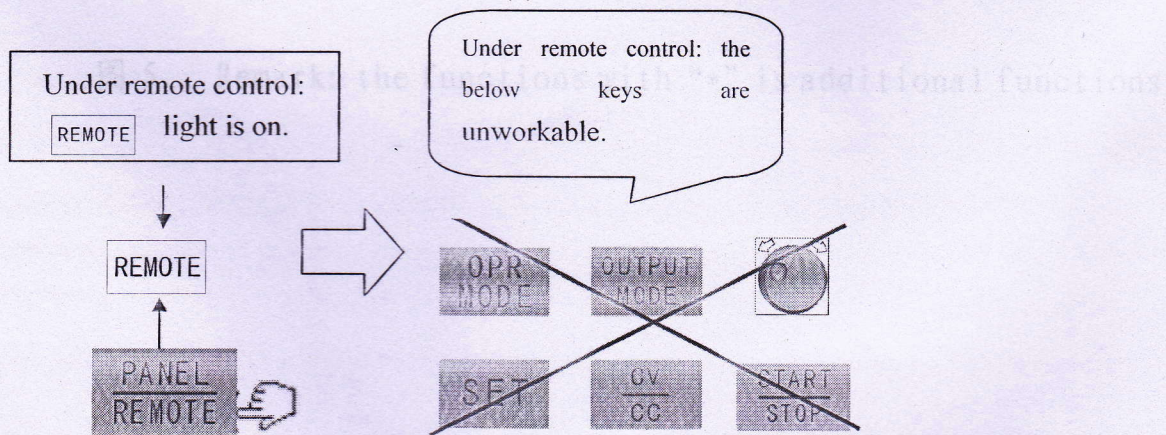
Picture 2



Picture 3

Five. Panel control/Remote control

See the below drawing:



Six. Remote control setting:

Remote control parameters setting include: Pr.01 is RS485 station number setting: 0~31. Pr.02 is RS485 baud rate setting: 9600 bps and 19200bps. Pr.03* is remote terminals selection.

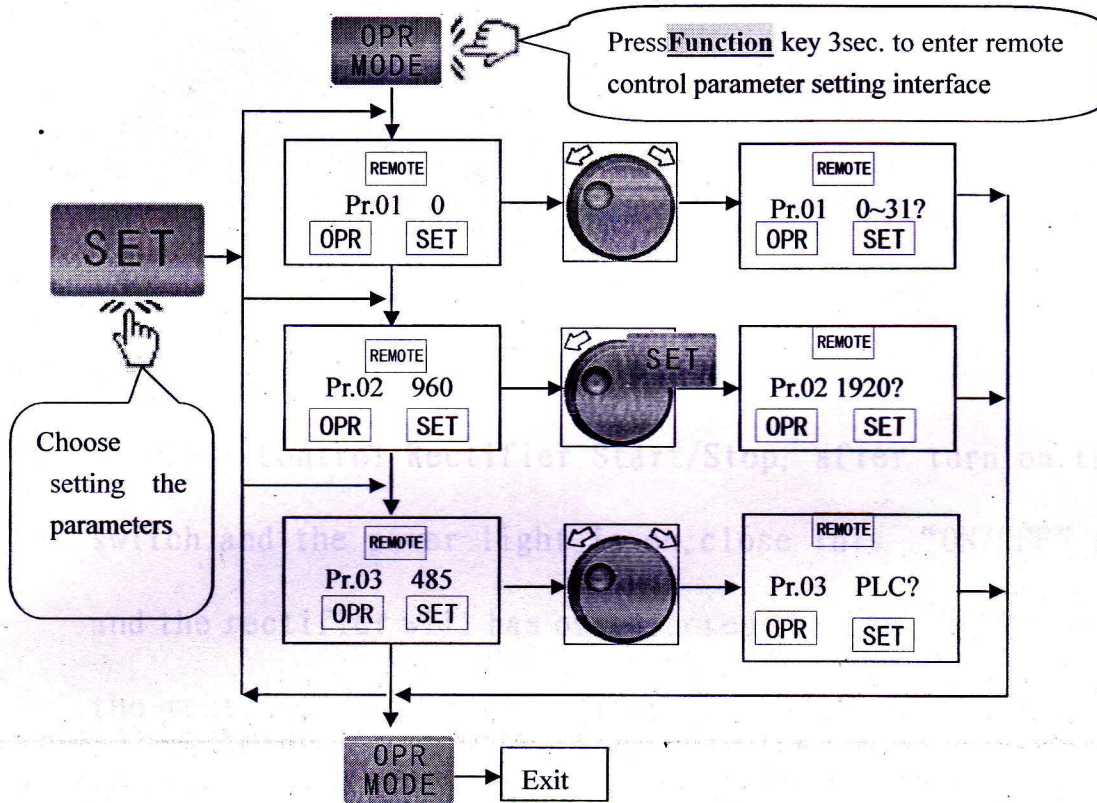
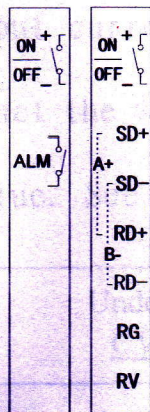


图 5 Remark: the functions with "*" is additional functions.

Seven. Rectifier Back panel terminals instructions

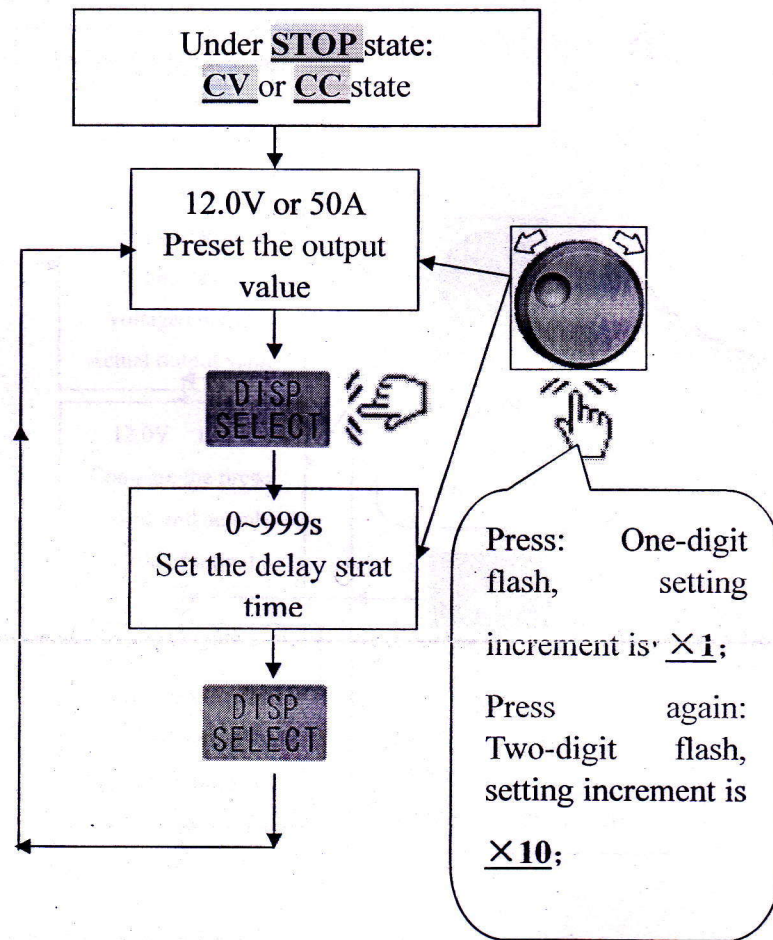


Functions instructions:

1. "ON/OFF": Control Rectifier Start/Stop, after turn on the power switch and the power light is on, close this "ON/OFF" terminal and the rectifier will has output, open the "ON/OFF" terminal and the rectifier will stop output.
2. The four terminals of "SD+", "SD-", "RD+", "RD-" are for RS-422 communication line;
3. A+/B- is RS-485 communication line, "RG": RS-485 communication earth line; "RV": RS-485 communication 5V power supply;

Seven. Rectifier output preset functions

When the rectifier is under stop state, the user can preset the output voltage value, output current value and Delay strat time .Under CV state, the user can set the voltage value, under CC state, the user can set the current value. See the below picture:



Eight、Rectifier monitor function

When the rectifier is under Start state, the actual voltage value and current value will show on the meters. The user can compare the preset value and actual value of output and delay start time through the key of "Display". See picture 7 (for example under CV state)

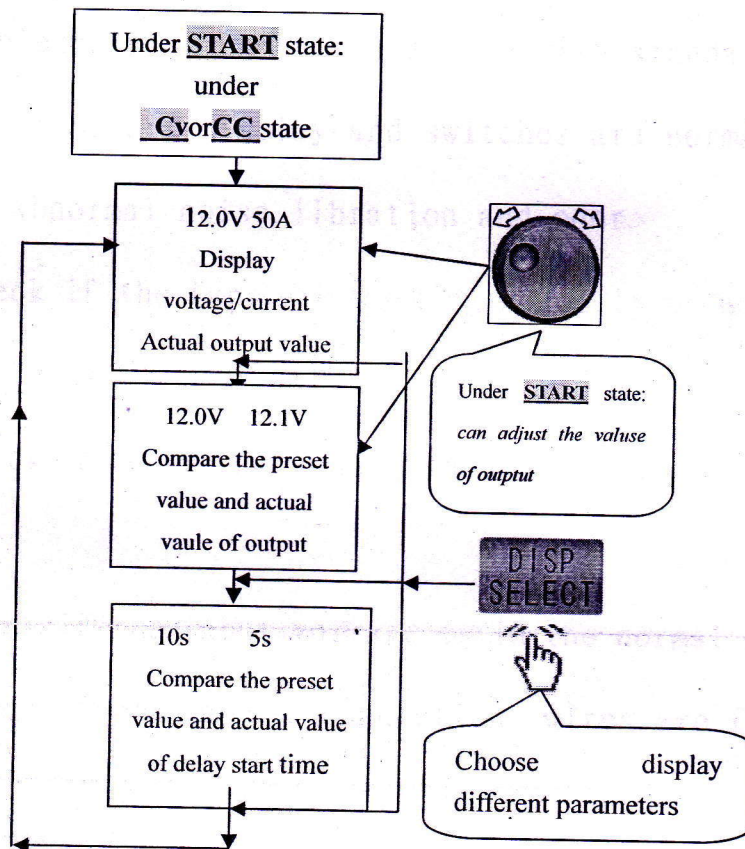
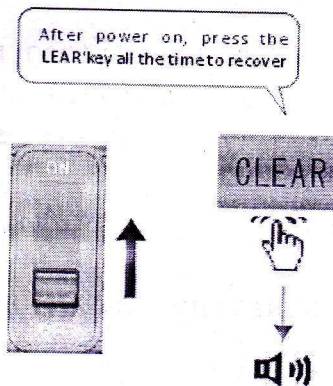


图 7

Nine、Return back to original setting



Remark: The communication ID and baud rate are same after clear

Ten. Rectifier maintenance

10.1. Rectifier daily check

When the rectifier is under operation, do not take down the case, check the rectifier by eyes:

1. Operation performance is accord with the standard process criterion.

2. Ambience Environment is accord with standard criterion.

3. Panel meters display and switches are normal

4. No abnormal noise, libration and odor.

5. Check if the fans are working normally or not and if the fan paths are vent well or not?

6. Check if the output copper bars are over-heat or change color or not?

7. Check if the input voltage is in the normal operation range?

8. Check if the output connection wires are firm?

10.2. Maintenance

1. Check if the potentiometer, power switch have chemical cumulation or not? The installed position between rectifiers and tanks is in reason, if possible, install it in a insulated enviroment from cauterization. If necessary, have a professional to clean the deposit on the entrance and cover, make sure the entrance vents well and keep cool air.

2. Suggest having a professional to clean the inside of the rectifier one time each year. Make sure turn off the power when do the cleaning. Wait for 30minutes and then can open the cover, take a nonmetal brush to clean the cover, fans , radiator and the aggradation inside the rectifier.
3. Suggest having a professional to test the creepage safe in a certain period, make sure the case is well earth.

10.3. Common faults elimination

Faults	Check	Eliminated method
1. The power light is not on after power on	If the rectifier is well connected to the AC power, if the power switch is turned on, if loss one of the phase	Well connect the AC power and turn on the power switch
2. Power light and fans are normal, but the meters display 0000	If the START/STOP switch is at START position and the potentiometer is on the minimum position	If the START/STOP switch is at the START position and the rectifier does not work, please turn on the START switch again
3. The same load and the voltage is fixed, but the current value falls in a certain time	If the chemical thickness in the tank is in a normal range	Feed or clean the tank in Timing and ration
4. There is no current output suddently during operation, but the output voltage is normal.	If the connection line between the rectifier output copper bars and the tank is cut or fuse.	Change or reconnect the line

SMA series rectifier installation, operation, maintenance manual

5. There is no current output suddenly during operation, but the protect light is flicker	1. Check if the operation environment is too high or the fans are abnormal	Get rid of the faults of the fan and improve the air condition
	2. Check If the rectifier is instant over-current protection.	Restart the rectifier and then see if the rectifier can work normally.
	3. If the input voltage is normal or not, if it is over-voltage, short of voltage, loss the phase?	If there is no faults of power supply, restart the rectifier again.
	4. Check if the rectifying tube of the rectifier is short circuit or not?	Change a new rectifying tube
	5. Check the power parts (IGBT or V-MOS) is damaged or not? If the input rectifying module is damaged or not?	Change a same part and check if the driver circuit is damaged or not? If yes, change it.
6. Under CC state, the output voltage goes to the Max. value when the potentiometer is at a smaller value position	<ol style="list-style-type: none"> 1. If the load is well connected or not? 2. If it is no load? 	It is normal when no load, connect the load well when with load, adjust the output